

2011 Annual Report

of the Government of the Northwest Territories under the BHP Billiton, Diavik and De Beers Socio-economic Agreements



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?ERIHTŁ'ÍS DËNE SÚŁINÉ YATI T'A HUTS'ELKËR XA BEYÁYATI THE?Ą ?AT'E, NUWE TS'ËN YÓŁTI.

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Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

To request a translation, please call the Department of Industry, Tourism and Investment at (867) 920-8935.

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Part 1. Introduction

Background Information

This report is prepared in fulfillment of a commitment made by the Government of the Northwest Territories (GNWT) in the Socio-Economic Agreements (SEAs) that it has with mining companies in the Northwest Territories (NWT). At this time there are SEAs for three operating mines. These are the BHP Billiton Canada Inc. (BHP)ⁱ Ekati Mine, the Diavik Diamond Mine, and the De Beers Snap Lake Mine.

SEAs are follow-up programs to environmental assessments. In an environmental assessment, a developer must predict what effect its mine may have on the people and communities of the NWT. Appendix A shows the effects that each developer originally predicted. Under the SEAs, we monitor the effects of the mines to see how accurate those predictions were. Each SEA follows up on the steps each developer said it would take to manage and avoid negative effects.

Purpose of this Report

The main task of this report is to see if, and how, mine activity may be affecting the NWT and its communities. The report looks at about 22 socio-economic areas to see how much each changed between 1996 before the first mine became operational and 2011. Changes in the socio-economic areas are summarized in the chart on pages 3, 4, 7 and 8.

Parts of this Report

This report has six parts:

Part 1 of this main report has introductory and background material that helps to understand the rest of the report.

Part 2 is a chart that lists the changes that seem related to mine development in the NWT. These changes may be due to the mines alone or due to the mines combined with other events.

Part 3 provides charts that show the trends for a number of socio-economic indicators. Part 3 also provides possible reasons for these trends.

Part 4 describes some of the terms used in this report in more detail.

Appendix A shows the predictions each mine developer made before its mine was approved. It shows what the developer thought might happen to the NWT and its communities.

Appendix B lists key events that have happened in the NWT since 1997. Knowing what other events were taking place in this time helps us to understand what events (other than the mines) may have caused changes in the reported socio-economic areas we look at.

Appendix C has data tables and is on the compact disk attached to this report. It includes data for all indicators shown in Part 3 of this report and some additional data. It also includes the population data that was used to compute each rate in the report.

Communities this Report Tracks

This report looks at the city of Yellowknife and at seven smaller NWT communities. The seven smaller communities are Behchokò, Detah, Gamètì, Łutselk'e, N'dılo, Wekweètì, and Whatì. When the smaller communities are grouped, they are called the Small Local Communities (SLCs).



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Choice of Indicators

An indicator is data that we can use to measure change. For example, the developers predicted that mining can lead to more violence, and we want to know if this is happening. The "Police-Reported Violent Crimes" indicator can be used for this.

After public consultation a set of indicators was developed which relate to the possible effects we may see from mining. That set of indicators was negotiated into the SEAs. There have been some changes over time but the basic list of indicators applies broadly to all mine development. The list includes a mix of objective and subjective indicators. ⁱⁱ

The GNWT promotes and supports the sustainable use and development of natural resources to protect, conserve and enhance the environment of the NWT for the social and economic benefit of all residents. Using the GNWT Sustainable Development Policy 53.02 the GNWT looks at sustainable economic development through the lens of a five-point framework. The five groups are:

- 1. community, family and individual well-being;
- 2. cultural well-being and traditional economy;
- 3. non-traditional economy;
- 4. net effect on government; and
- 5. sustainable development.

The table below and on the next page lists the indicators required under the SEAs with mines in the NWT, grouped under the five-point framework.

ВНР	Diavik	De Beers	Page Number			
Community, Family & Indi	Community, Family & Individual Well-Being					
number of potential years of life lost			9			
number of injuries	age standardized injuries	age standardized injuries	10			
number of suicides			12			
number of communicable diseases	communicable diseases (sexually-transmitted infections ⁱⁱⁱ , tuberculosis)	communicable diseases (sexually-transmitted infections, tuberculosis)	13			
number of teen births			15			
	single-parent families (also referred to as lone-parent families)	lone-parent families	16			
number of children receiving services. iv	children in care	children in care ⁱ	17			
number of complaints of family violence	number of women and children referred to shelters	number of women and children referred to shelters	18			

ВНР	Diavik	De Beers	Page Number	
number of alcohol- and drug- related crimes	police-reported crimes, according to the following categories: violent, property, drug-related,	police-reported crimes, according to the following categories: violent, property, drug-related,	20	
number of property crimes	other	other		
housing indicators			24	
Cultural Well-Being & Trad	ditional Economy			
	ratio of home language use to mother tongue, by major age groups	ratio of home language use to mother tongue, by major age groups	27	
	percentage of workforce-aged group engaged in traditional activities	percent of workforce-aged group engaged in traditional activities	28	
Non-Traditional Economy				
	average income	average income	31	
average income of residents	proportion of high income earners	proportion of high income earners	31	
number of social assistance cases ^v	social assistance cases ^v	income support cases ^v	32	
employment levels and	employment	employment	33	
participation	participation rate	employment participation rate	34	
high cohool completion	number of people 15 years and older with less than Grade 9	number of people 15 years and older with less than Grade 9	35	
high school completion	number of people 15 years and older with a high school diploma	number of people 15 years and older with a high school diploma	35	
	registered businesses, bankruptcies and start-ups	registered businesses, bankruptcies and start-ups	37	
Net Effect on Government				
	net effects on government of the project		38	
Sustainable Development				
	secondary industry data and initiatives		39	

Data Sources

The data used for the indicators in this report has come from a few sources. Federal and territorial government departments and agencies collect some types of data. For example, the Royal Canadian Mounted Police (RCMP), nurses and doctors all collect data as part of their jobs. Government regularly collects other data as well, such as information about high school graduation.

The rest of the data comes from surveys. The NWT Bureau of Statistics does a Community Survey every five years. The last Community Survey took place in 2009 and the next survey will be conducted in 2014. These surveys try to record data in the areas of most concern for people in the NWT. As well, Statistics Canada does a census across Canada every five years. The last census took place in 2011, but not all of the data is released to the public yet, more data will be available in 2013. Other surveys like the 2005 Community Impact Survey are also done at times. Due to the dates surveys are conducted and the lag time before survey data is released, not all data in the report is current to present day.

Both N'dilo and the North Slave Métis Alliance are communities under the SEAs. However, data is not always available for these groups. Appendix C includes any data that are available for those communities. The data source for each indicator is shown below each graph in Part 3 and below each table in Appendix C. Appendix C includes all data that was used in this report and some extra data. vi

How Indicators Are Reviewed

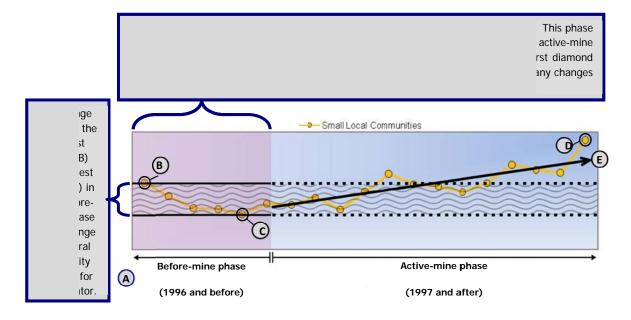
This section of the report describes the steps we take to analyse trends. It explains:

- 1. How the data is graphed;
- 2. How we see if a change has occurred that is something other than a normal change;
- 3. How we analyse whether the mines or other events may have led to that change.

Step 1

An indicator's data set is graphed for as many years as data can be found. The data has been adjusted to account for the creation of Nunavut.

Mine work on the first of the three mines started in early 1997, so any data from 1996 and before is from the "before-mine phase." If there is data from this phase it is shown on the left, as the purple-shaded side of each graph (see Figure 2 below). Any data from 1997 or later is from the "active-mine phase" and is shown on the right, blue-shaded side of each graph.



Step 2

The space between the highest and lowest data points in the before-mine phase is found (shown as A in Figure 2). It will form the shape of a long rectangle going across the whole graph. The top line of this rectangle shows the highest point that was ever seen in the before-mine phase for that indicator. The bottom line shows the lowest point that was ever seen in the before-mine phase. This is the indicator's 'range of natural variability'. In Figure 2, the 'range of natural variability' for the before-mine phase is shown carrying through into the active-mine phase as a broken line.

Indicator data often goes up or down. It can follow a natural cycle. Looking at this natural range helps us see if there have been any unusual changes in the Small Local Communities since the mines opened. It helps answer the question, 'Are we seeing anything that we did not see before the first mine began in 1997'? If highs and lows in the data since 1997 are no higher or lower than before the mines started, then it is not likely the mines have influenced the data.

Step 3

Next, the overall change in the active-mine phase for each indicator is found. This is a general line drawn along the data points (arrow-line E in Figure 2). This is a trend line and shows the direction of changes, up or down. When there are no overall changes, this trend line will be flat. In the example above, the arrow trend line (E) is showing an upward change.

Step 4

If there is a trend in the data for the SLCs or for Yellowknife, the next step is to ask if this is:

- 1. a new trend, or one we were already seeing before the mines;
- 2. a trend that we are also seeing in other parts of the NWT; or
- 3. similar to a trend being seen across Canada (if Canada wide data is available).

If we are seeing the same trend in SLCs or Yellowknife that we are seeing in other places, then the mines are likely not influencing the data. Changes are more likely happening because society is changing.

Step 5

If the data are showing a trend that may be influenced by mining, GNWT departments look at different information to understand who or what may be causing the trend. This includes considering what other events could explain the changes being seen. For example, changes in the way data are collected can cause a trend line to go up or down. New government policies, programs or legislation could influence a trend.

Appendix B is a table listing events that took place between 1997 and 2011 that might have influenced data for the SLCs. The table shows events for major:

- job shocks felt in the NWT;
- changes to government programs, services, policies or legislation; or,
- other social events.

Step 6

The analysis for each indicator is summarized and reported in Part 3.

Part 2. Possible Effects of Mine Activity

Sometimes the data and analysis indicate that mine activity is influencing what we see in the SLCs. The table below lists those indicators that the mines may be influencing. The changes they show may be due to the mines alone or to the mines in combination with other events.

Red arrows (\uparrow / ψ) show changes viewed as negative. Green arrows (\uparrow / ψ) show changes most people would see as positive. If there was no significant change then (/) was used is used.

INDICATOR SHOWING	TYPE OF EFFECTS AND WHERE				
INDICATOR SHOWING POSSIBLE EFFECTS	SMALL LOCAL COMMUNITIES	YELLOWKNIFE			
Community, Family & Individual Well-Being	Community, Family & Individual Well-Being				
Graph 1: Potential Years of Life Lost	Ψ.	/			
Graph 2: Physician diagnosed injuries	Ψ	Ψ			
Graph 3: Nurse diagnosed injuries	V	Y			
Graph 4: Suicides	/	/			
Graph 5: Sexually Transmitted Infections	^	^			
Graph 6: Teen Births	Ψ	/			
Graph 7: Single-parent Families	^	^			
Graph 8: Children Receiving Services	^	/			
Graph 9: Spousal Assault	^	/			
Graph 10: Admission of Women and Children to Shelters	^	/			
Graph 11: Total Crime	^	^			
Graph 12: Violent Crimes	^	^			
Graph 13: Property Crimes	^	^			
Graph 14: Federal Statute (Drug) Crimes	^	^			
Graph 15: Other Criminal Code Crimes	^	^			
Graph 16: Home Ownership	/	^			
Graph 17: Crowding	Ψ	/			
Graph 18: Households in Core Need	Ψ	^			
Cultural Well-Being and Traditional Economy					
Graph 19: Language	V	Ψ			
Graph 20: Trapping	^	Ψ			
Graph 21: Hunting or Fishing	^	Ψ			
Graph 22: Eating Country Foods	^	/			

INDICATOR SHOWING	TYPE OF EFFEC	TYPE OF EFFECTS AND WHERE			
POSSIBLE EFFECTS	SMALL LOCAL COMMUNITIES	YELLOWKNIFE			
Non-Traditional Economy	Non-Traditional Economy				
Graph 23: Average Income	^	^			
Graph 24: Wage Disparity	^	^			
Graph 25: Income Assistance	Ψ	/			
Graph 26: Employment	^	/			
Graph 27: Unemployment	Ψ	/			
Graph 28: Participation	^	/			
Graph 29: People with High School or Greater	^	^			
Graph 30: People with less than Grade 9	Ψ	V			
Graph 31: Number of Businesses	/	Ψ			

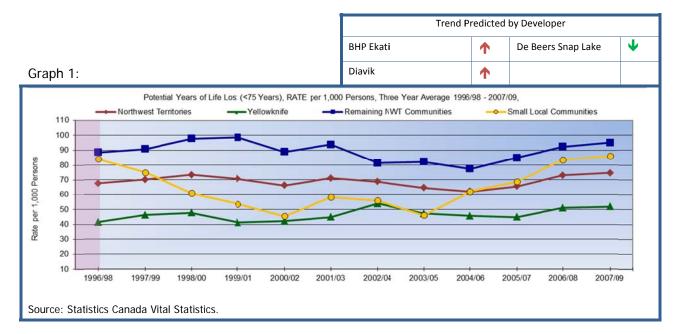
Part 3. Findings

Health and Families

Potential Years of Life Lost (PYLL)

PYLL shows early deaths^{vii}. PYLL helps show the health, well-being, and lifestyle choices that people are choosing.

There can be large changes in PYLL rates from one year to the next. To offset this so that we can see the trends more clearly, PYLL is shown as a three-year average.



What we are seeing

SLCs – before the mines began, the PYLL rate was going down sharply. Since the mines began, that trend has continued over time. At this time mining does not seem to have had an effect.

Yellowknife – the PYLL rate has been both higher and lower than in the pre-mine period. It seems to follow a natural cycle that is unrelated to the mines.

Possible reasons for change

The down moving rate in the SLC could be due to better standards of living or better access to health services.

Injuries

This indicator measures the number of people who have been said by a doctor or nurse to have been injured. Injuries include broken bones and severe burns. They also include cuts or bruises and poisonings. One person can have more than one injury per year. VIII

Keeping track of injuries tells us if more reckless actions or violence are taking place. These changes can happen when a society goes through lots of changes quickly.

This report shows age-standardized injuries. This lets us look at groups made up of people of different ages and compare those groups over time. For instance, one community may have more young people than another. Young people tend to have more injuries than older people. ix

Nurses diagnose most injuries in communities other than Yellowknife. The way nurses record injuries changed in 2000. Due to this change, data reported by nurses cannot be compared between the before-mine and active-mine phases.

Trend Predicted by Developer BHP Ekati De Beers Snap Lake Graphs 2 and 3: Physician Diagnosed Injuries and Poisonings - Age Standardized Rate Per 1,000, 1994/95-2011/12 ----Remaining NWI Communities Northwest Territories Small Local Communities 360 310 Per 1,000 210 160 110 60 1994/95 1995/96 1996/97 1997/98 1998/99 1999/00 2000/01 2001/02 2002/03 2003/04 2004/05 2005/06 2005/07 2007/08 2008/09 2009/10 2010/11 2011/12 Source: Department of Health and Social Services, Medicare. 345 325 305 285 음265 음 °245 225 205 185 2000/01 2001/02 2002/03 2003/04 2005/06 2006/07 2004/05 Source: Department of Health and Social Services, Health Suite

What we are seeing

SLCs – the rate of injuries has not really changed since 1999/2000. However, most people who are injured in SLCs are seen by nurses. As there are no data from before 1996 to compare, we cannot say whether mining has influenced the rate of injuries.

Yellowknife – in the active-mine phase, the trend has been going down. It was going down slightly before the mines began and has gone down faster since 1996.

Possible reasons for change

The lower rate for injuries in Yellowknife may be due to the success of injury and poison prevention efforts. These efforts include the mine safety programs.

Suicides

Suicide is often linked to social issues. It can also be linked to mental health problems. These include depression, divorce or separation, and drug abuse. The data below show actual deaths and does not show people who try to commit suicide.

Three-year averages are used, to smooth out the year-to-year changes seen with small numbers. Readers should still view the trend lines with caution. In some areas there may be only two or three suicides in a given three-year phase. This makes it hard to judge these data and any trends they may show.

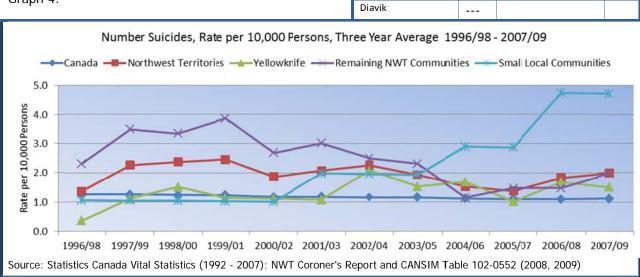
BHP Ekati

Trend Predicted by Developer

De Beers Snap Lake

1





What we are seeing

SLCs – the rate of suicides had been going down in the pre-mine period. The overall trend since 1995/1997 has been rising. In 2004/2006 the rate of suicide in SLCs became higher than it had been in the pre-mine phase. Since 2003/2005, it has been higher than in Yellowknife.

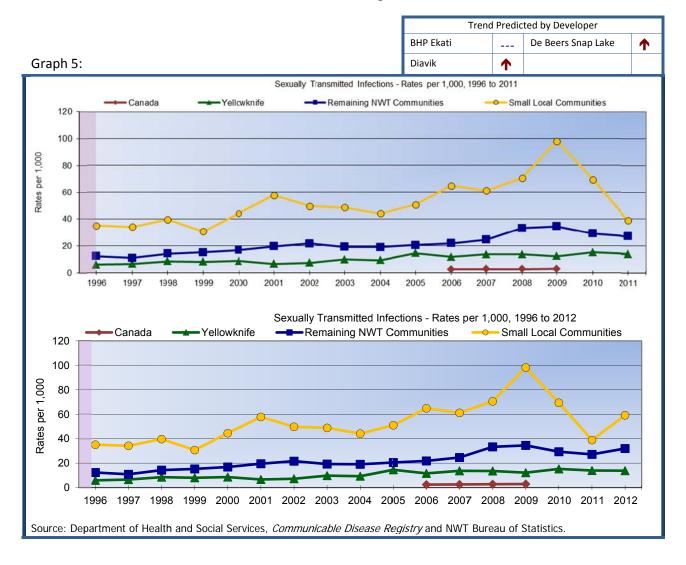
Yellowknife – for much of the time since 1996 the rate in Yellowknife has been no higher or lower than it was in the before-mine phase. However, it had been going down until 1996/1998 and has tended to go up since then.

In other small and regional communities in the NWT, the rate has been going down since 1999/2001. The rate of suicides in Canada has also been has been going down. It is possible there is a link between mining and the rates in SLCs and in Yellowknife. However, there are too little data to say this with certainty.

Sexually Transmitted Infections

Sexually transmitted infections (STIs) can affect people's health and well-being. STIs can cause damage to the body which can stop people from being able to have children. Risky sex and other acts can increase the chance of getting an STI. This report includes data on some of the most common STIs.^x

People who are infected with chlamydia and gonorrhea may go untreated because these STIs may not show any signs for a long time. It is for this reason that they can spread quickly through a community. Unemployment, low education levels, lack of suitable housing and isolation can also be factors that increase STI rates. Social factors such as violence and drug abuse also affect STI rates.



What we are seeing

SLCs – in the active-mine phase, the SLC trend has been going up. Since 2006, the rate has been higher than at any time in the before-mine phase. The rate is going up across the NWT. It is going up more quickly in the SLCs. There may be a link between mining and the rate of STIs.

Yellowknife – until 2005, the rate in Yellowknife was no higher or lower than it was in the before-mine

phase. The rate has gone up (and gone up more quickly) in other parts of the NWT. It has also gone up in Canada. The Yellowknife rate is likely not influenced by the mines.

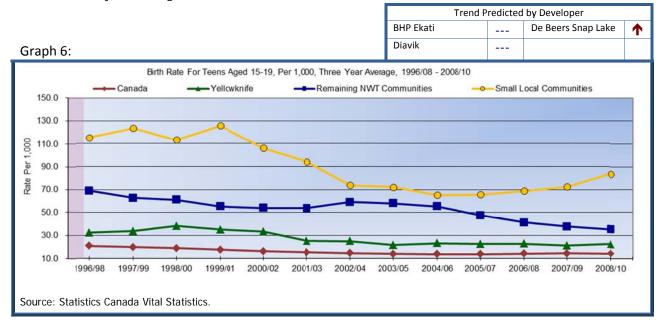
Possible reasons for change

In the middle of 2008 there was an outbreak of syphilis in the NWT. This STI was once nearly gone. There had been only four cases in the ten years before this outbreak. There have been outbreaks in Alberta over the last few years that began in Calgary and Edmonton and then spread into northern Alberta. It is likely that the NWT outbreak came from Alberta.

Mine employment has influenced who people from the SLCs come into contact with. As well, the amount of free time for parents has changed due to new work schedules or mine jobs. This may mean children are getting less care from their parents in certain ways. Youth are more affected by STIs compared to other age groups. Youth and young adults between the ages of 15 to 29 have the highest rates of STIs. Parents being away from home more because of new jobs may have led to an increase in STIs. Higher incomes from mine jobs have also made it easier for people to abuse alcohol and drugs more. Greater abuse means people are more likely to do risky activities.

Teen Births

Some teen mothers may be mature enough for the demands of raising a child and others may not be. Stress and lack of maturity may affect the well-being of both the child and parents. Teen mothers are also more likely to be single.



What we are seeing

SLC – the rate of teenage births was steady in the before-mine phase. After that, it dropped quickly until 2002/2004. It went down more quickly than in the rest of the NWT or Canada. Mines may be part of the reason for this change.

Yellowknife – in the active-mine phase, the Yellowknife rate has also been going down. Except for a peak in 1998/1999, the drop in the Yellowknife rate has mirrored the drop in the Canadian rate. It is unlikely that the mines have influenced the rate of teen births in Yellowknife.

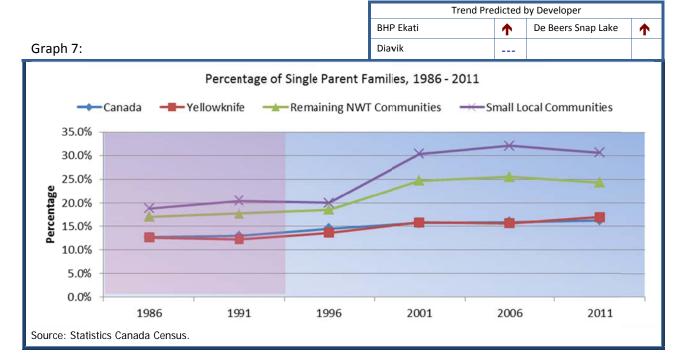
Possible reasons for change

Dropping rates may be due to many reasons. More planned parenting and use of birth control could be reasons. More teens may be pursuing education. The chance for employment at a mine may mean women are more likely to get a job after their schooling now, rather than start their family as soon as they leave school.

Single-Parent Families

Single-parent families have a lot of stress compared to two-parent families. They can suffer from social problems and often have problems with money and finding jobs. They may also need more services and support compared to other families.

These families can also affect the NWT economy and its growth. This can happen when parents cannot work because they cannot find daycare.



What we are seeing

SLCs – the rate of single-parent families had been steady before the mines. It went up quickly after 1996. It is still going up. The rate in other small and regional communities has also gone up but not as quickly. In the communities, people are also telling us that they see more divorces since the mines began. There is likely a link between this rate and mining activity.

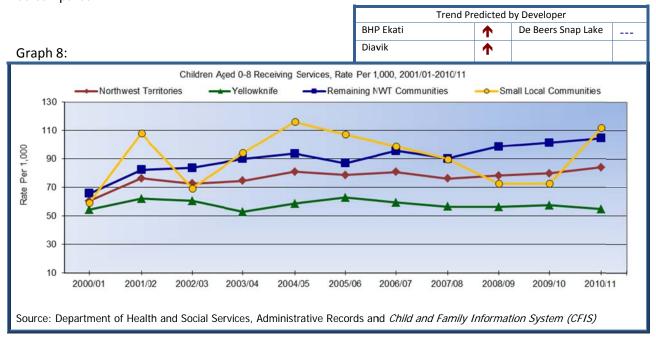
Yellowknife – the Yellowknife trend has also been going up, but not as much. The rate is higher than in the before-mine phase. These changes are much like those seen across Canada. The mines do not seem to have influenced the Yellowknife rate.

Possible reasons for change

Being away from home to work at a remote mine site can cause stress in a family. A combination of having new chances for employment and changes to the NWT *Protection Against Family Violence Act* in 2005 which made it possible to get emergency protection orders may give some people choices they did not have before.^{xiii}

Children Receiving Services

Child welfare policy was changed in the late 1990s. In 1998, the *Child and Family Services Act* created a new choice for children at risk. Now a child welfare worker can work with the child and family in their home. They can make a "plan of care" promise. The new Act lets parents get help for their children or family and not give up their parental rights. This means the before-mine and active-mine phases cannot be compared.



Possible reasons for change

Changes in the number of child welfare workers can affect the number of children getting help. Public and staff awareness can also affect reporting.

SLCs are prone to seeing spikes in their rates. For example, if in a small community four or five children from one house are receiving services, this could cause the rate for that community to spike very high if there are not many people in that community. Five children in a small community can show as a big change.

Family Violence

A study by Statistics Canada shows many factors increase family violence. Factors could include people being without work, social isolation, alcohol abuse, younger couples and common-law unions. Many of these factors are more common in the North.xiv

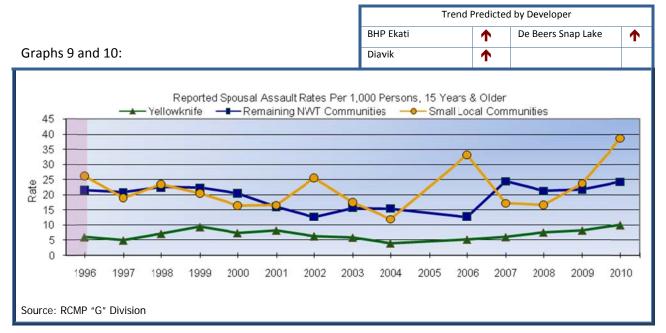
Family violence is a serious problem in the NWT. Research says that both men and women experience and commit family violence, although women tend to experience violence more often and more severely. Getting a good picture of actual levels of family violence in the NWT or Canada is not easy. This is because:

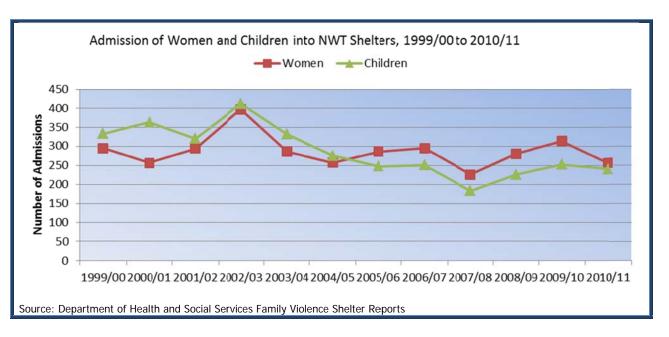
- Violent *Criminal Code* offences are reported as spousal assault only if the victim and offender are known to be spouses.
- Some victims do not report family violence out of fear or loyalty. Research tells us a woman may be abused many times before she reports it to the police.

Emergency shelters are places where victims of family violence can temporarily find refuge. Shelter data shows how much a shelter in a community is used. The data sets do not show how many times any one person may have used a shelter. The data also does not tell us the home community of the women and children who use a shelter. Some communities do not have emergency shelters.

The indicators tracked in this report only show a partial picture. Police-reported spousal assaults, as well as data about shelter use and the number of applications for emergency protection orders, help give some measure of family violence in the NWT. Front-line workers suggest that many victims do not use shelters. They also suggest that victims do not believe the justice system can protect them.^{xv}

In order to see changes in family violence in this report, we look at data for both spousal assault and shelter use.





What we are seeing

SLCs – when the mines first began, the rate of spousal assault was going down. Since then, it peaked in 2002, 2006 and 2010. In 2006 and 2010 the rate of reported spousal assaults was greater than in the before-mine phase. Those rates were also higher than the rate for other small and regional communities in the NWT. Mine activity may or may not be a factor in the rate of reported spousal abuse in SLCs.

Yellowknife – The trend seems to be flat with some peaks and valleys. This could be part of a natural pattern. There are no data for the period before 1996. At this time there is no reason to conclude that mining activity is influencing the rate of spousal assault in Yellowknife.

Shelter use has gone up since 2007/2008. Before-mine and active-mine phases cannot be compared. This is because there are only shelter data from 1999 and onward.

Possible reasons for change

An increase or decrease in the number of reports of family violence can be due to many things. An increase in reported cases could be due to more police in the SLCs. Better social awareness and support for victims can also mean more victims will be more likely to report. Barriers may prevent victims from coming forward.

Changes in shelter use can also be due to many reasons. They include the status and reputation of a shelter and the kinds of services and programs the shelter provides.

Crime

The communities of Detah, N'dilo, Gamètì and Wekweètì do not have RCMP stations at this time. Gamètì is patrolled out of Behchokò. The others are patrolled out of Yellowknife. Whatì has its own detachment staffed by two RCMP members. In communities without RCMP detachments criminal incidents are reported as if they occurred in the community with the detachment that provides policing services. For instance, Gamètì crimes would show as part of the Behchokò data.

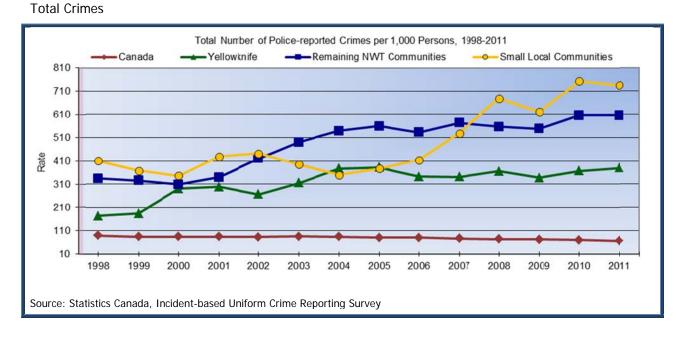
Changes in the way the RCMP collect and classify some types of crimes has affected the rates that are reported for the NWT. There was a change in Yellowknife RCMP reporting between 1999 and 2000. A similar change in RCMP reporting took place between 2000 and 2002 in the rest of the NWT. Some crimes that used to be reported as territorial offences (including *Liquor Act* offences) were now Other *Criminal Code* crimes (such as Mischief or Disturbing the Peace). This change caused an increase in the rates for the different reported crimes under the *Criminal Code*.

Crime rate increases in the NWT are strongly driven by Other *Criminal Code* offences. These include mischief and disturbing the peace. These tend to be linked with alcohol abuse.

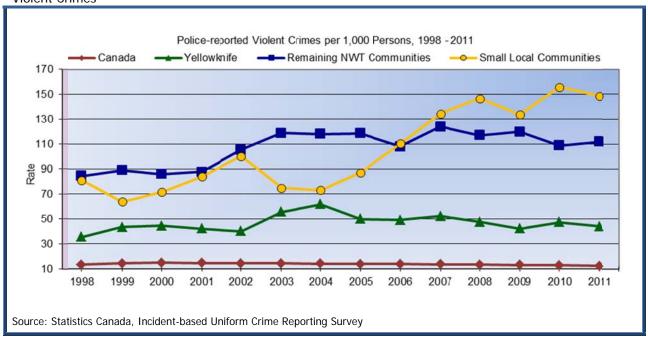
Increased crime has an impact on police services and many other parts of the justice system as well. More violent crime could demand different and more resources for policing and corrections. These crimes can also lead to a need for more shelters, social workers and health and community services.

Trend Predicted by Developer (Crime)				
BHP Ekati				
Diavik	↑			

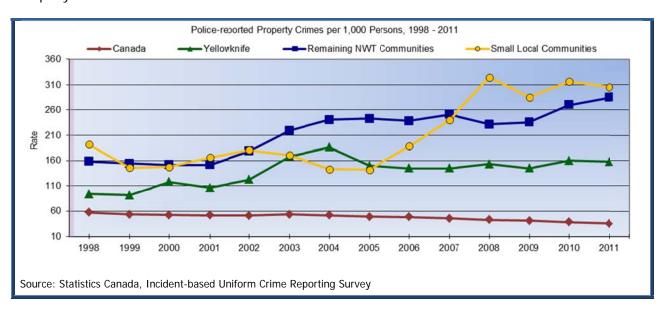
Graphs 11, 12, 13, 14 and 15:



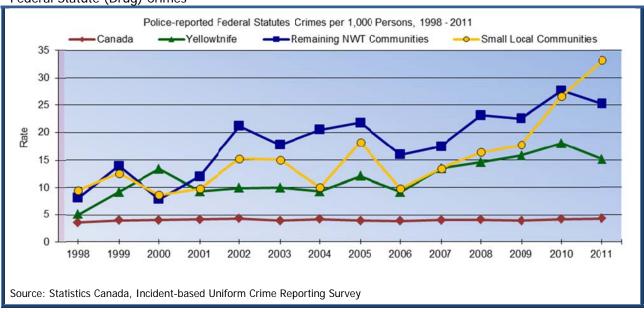
Violent Crimes



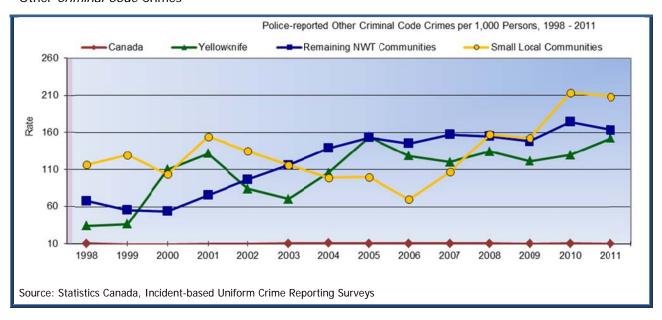
Property Crimes



Federal Statute (Drug) Crimes



Other Criminal Code Crimes



What we are seeing

SLCs – the rate of violent crime has nearly doubled since 1998. Property crime has increased dramatically since 2005. Federal statute (drug) crime had high variability until 2006 and since then has increased steadily. Other *Criminal Code* offences were declining until 2006 and since then have been steadily increasing reaching a high in 2010.

Yellowknife – violent crime in Yellowknife is no higher or lower than it was before 1998. Property crime has remained relatively stable, with slight decreases since 2004 following the Canadian trend. Federal statute (drug) crime has been going up in the NWT but decreasing across Canada. The rate for other *Criminal Code* offences showed variability until 2007 and since then has remained relatively stable. Since 2007, the rate of other *Criminal Code* offences in Yellowknife has been higher than it was since 2008.

Possible reasons for change

There are many factors both social and economic that affect crime trends. In the NWT, lifestyle choices, housing, addictions, and economic activity such as mining are all factors associated with rates of crime observed.

Housing

There are a few types of housing issues that are most often linked with resource development. These include: the number of people who own a home; the number of people who need to share a house; and how well people are able to maintain their home. Changes in the number of rental units can also affect the housing choices that people have.

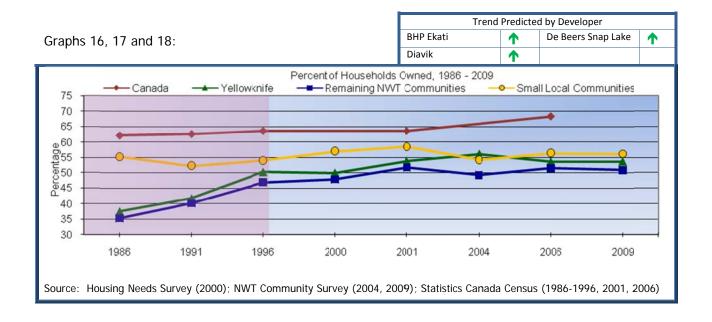
A house is in core need if it is not adequate, suitable or affordable.

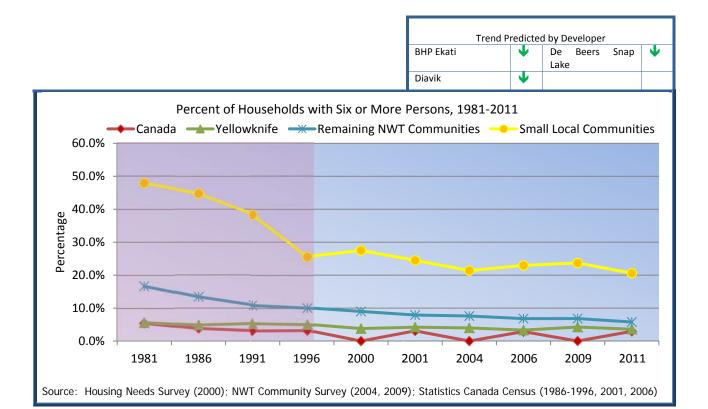
An inadequate house requires major repairs, according to residents.

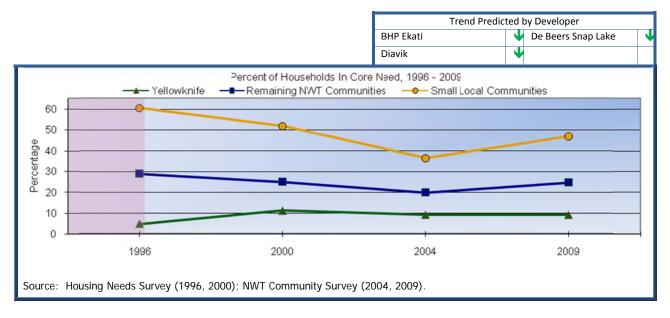
A home is no longer suitable when it does not have enough bedrooms for the size and makeup of the resident household, according to National Occupancy Standard requirements. A lack of suitable housing can be a sign of poverty. A non-suitable house can pose health risks and other dangers. Some diseases spread more easily in crowded areas.

Housing is unaffordable if the people in a household pay more than 30 percent of their gross income on housing. Housing is also unaffordable if the income of the people in a household is below the Core Need Income Threshold (CNIT) for the community in which they live. The CNIT is a measure the Northwest Territories Housing Corporation (NWTHC) uses. It is the income needed to own and operate a home or to rent in the private market without government help.

When people make more money, the number of households in core need goes down. This is because fewer people are below the CNIT for a community. If housing prices go up core need will also go up, which will put more people below the CNIT for that community. The NWTHC revised its CNIT for each community prior to the 2009 Housing Needs Survey in an effort to better show the true cost of shelter.







What we are seeing

SLCs – there has been no change in the percent of people owning homes since 1996. Access to suitable housing has not changed much since 1996. It was going down quickly in the pre-mine phase. The percent of households in core need has gone down. There has been much improvement since 1996 but core need did go up again in 2009. The change in core need is likely linked to mining.

Yellowknife – home ownership has gone up in Yellowknife over time. The trend was increasing quickly before 1996 and flattened out after that. The trend in other parts of the NWT is much like the trend in Yellowknife. A larger percent of people own homes across Canada than in Yellowknife and this increased after 2001. The percent of people owning homes in Yellowknife decreased after 2004. The flat and decreasing trend for home ownership may be linked to mining activity. Access to suitable housing in Yellowknife has gone increased over time and matches the trend seen in other parts of Canada. Even though the percent of households in core need has gone down across the NWT, it increased in Yellowknife after 1996. The trend has been flat since then. This is likely linked to mining activity.

Possible reasons for change

Family and household structures are changing a lot across the NWT and the rest of Canada. In the last ten years, the number of households in all regions of Canada has grown faster than the number of people has grown. People have wanted more "living space" in their homes. Houses have been having fewer people in them. Values, what people want, what houses are ready for use and how much money people are making are all factors that help to shape the demand and supply of housing.

Higher incomes from more jobs do not seem to have caused home ownership to go up. In Yellowknife, this may be because inflation has caused house prices to go too high. People who do not plan to stay long in Yellowknife may also choose not to own a home here.

Core need in SLCs is likely down due to people making more money from mine jobs. A recent increase in core need might be linked to the economic downturn affecting all of Canada. The main housing problem in Yellowknife is cost. The increase in core need in Yellowknife may be due to the price of most things going up. Incomes have not changed as much as the cost of repairs has changed.

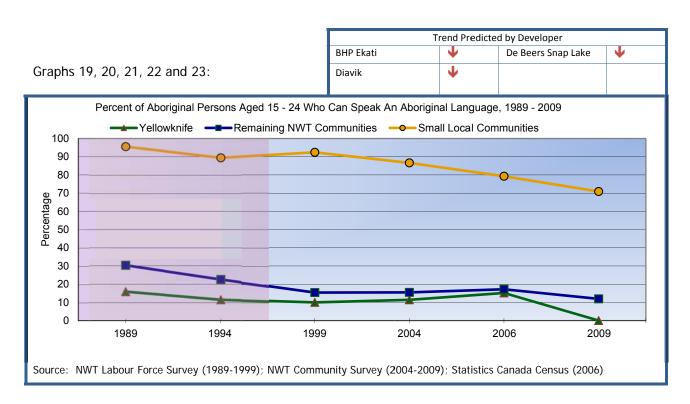
NOTE: 2011 Census Canada data about housing has not been released yet so the most current data available is for 2009.

Cultural Well-Being and Traditional Economy

This report looks at two aspects of cultural well-being. It looks at the use of Aboriginal languages and it looks at whether people carry out traditional activities.

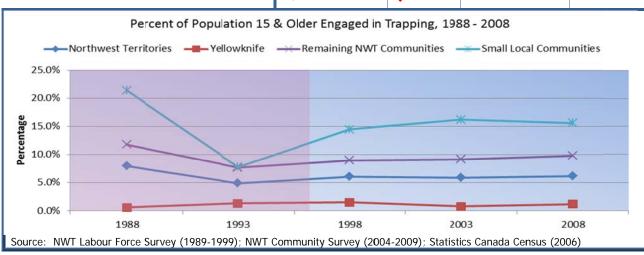
Aboriginal mine employees are surrounded by English as they work and live on-site. This may affect the use and health of Aboriginal language in their home communities. This report looks at the percent of youth aged 15 to 24 who are able to speak an Aboriginal language. Looking at this group will help us see whether language is being passed down. This is also the group whose language skills may be the most at risk from mine employment.

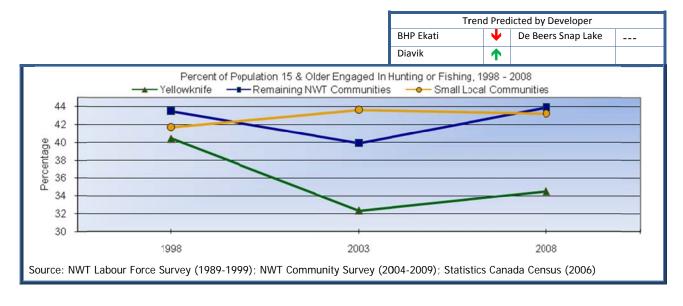
Traditional activities include hunting, fishing, trapping, and the harvesting and eating of country foods. Making crafts using raw materials from the land is also part of this. These activities help people make money and they help to pass down traditional knowledge and skills to youth.

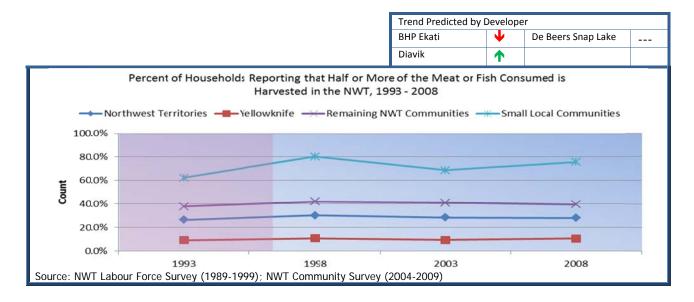


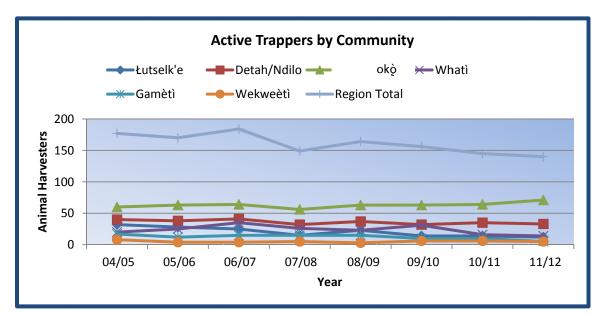
NOTE: The next Community Survey is scheduled for 2014, the most current data available is for 2009.











Source: Industry, Tourism and Investment (ITI) Fur Harvesters Database - Active trappers by Community: indicates that trapping is on a decline with the exception of Behchokò.

What we are seeing

SLCs – use of Aboriginal language was going down in the before-mine phase. Language use is still going down although not as quickly as in other small and regional communities. There is nothing to say the mines have influenced language use. The percent of people trapping has declined since 1998, with the exception of Behchokò. Mine employment does seem to be affecting this change, with fewer young people willing to pursue employment in the traditional economy. It is possible there is a link between jobs at the mines and having money to get out on the land during time off work (Behchokò is an example of this trend).

Yellowknife – language trends are the same in Yellowknife as they are in other parts of the NWT. The percent of people trapping seems the same as it was in the before-mine phase. The trends for hunting and fishing and for eating country food are the same in Yellowknife as in the rest of the NWT. None of these trends seem to be influenced by mining.

Possible reasons for change

English is the major language in work places. This may mean Aboriginal languages are spoken less often. Technology also has a role in when and how often English and traditional languages are spoken. An increase in the use of Aboriginal languages in Yellowknife between 1999 and 2006 may be due to more Aboriginal people moving to the city from other places in the NWT.

If people who have jobs at a mine are better able to buy trapping equipment, then they may trap more. They may also have more time to trap due to the mine-work rotation schedule. The GNWT has also put new programs in place to engage youth and make it easier for people to make a living from trapping.

Wages

Income data comes from income tax returns. Average income will go up as people are paid more in their jobs. It will also go up if people work longer hours in a day or if they work more weeks in a year. These data do not take inflation into account.

Wage disparity looks at whether mining has led to more people who are poor and more who have a good income. People worried about 'haves and have-nots' when the mines were about to open. Comparing the portion of high and middle income earners to the whole population is a way of seeing how income is spread in communities. If these two groups are growing, it means there are fewer low income earners and that wage disparity is shrinking.^{xvi}

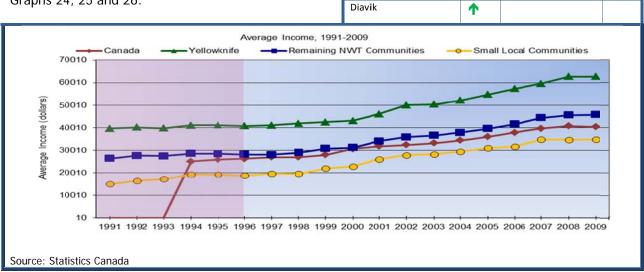
As wages go up, the need for income assistance payments will go down. These data come from records about income assistance payments.

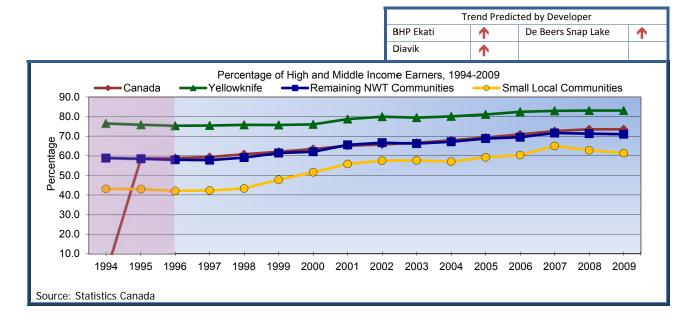
BHP Ekati

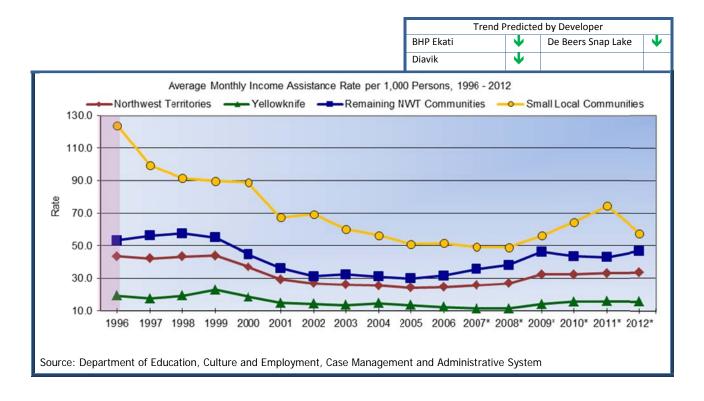
Trend Predicted by Developer

De Beers Snap Lake

Graphs 24, 25 and 26:







What we are seeing

SLCs – average income has gone up from less than \$20,000 per year in 1996 to over \$34,000 per year in 2008. This is likely due to jobs at the diamond mines. Inflation and higher education levels also likely have a role in this change. The data show that average income has been rising since 2000 in all parts of the NWT and across Canada. The mines have not added to wage disparity. The portion of low wage earners in SLCs is going down.

Since 1996, the number of income assistance recipients steadily declined until 2007 when the Income Assistance Program underwent significant changes including increases to existing benefits and incentives. Caseloads have increased by 22 percent and Income Assistance expenditure by 71 percent in the SLCs since 2005/2006 when the changes were implemented.

Yellowknife – since 2000, average income in the NWT seems to be going up more than in other parts of Canada. The wage disparity trend for Yellowknife is flatter than the trend for other parts of the NWT or for Canada. Mining does not seem to have led to more equal wages among people living in Yellowknife. Yellowknife has experienced the greatest increase in new income assistance cases and expenditure following Income Security Reform in 2007.

Possible reasons for change

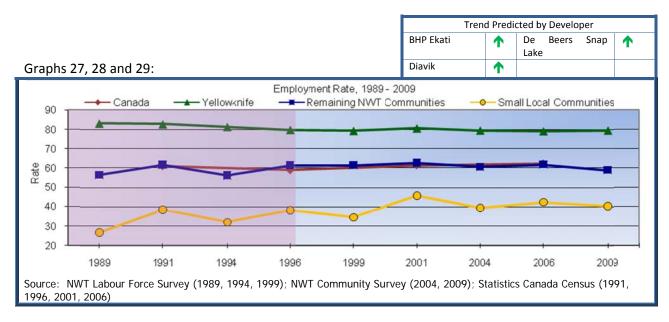
Between 2005/2006 and 2010/2011 there was a 25.6 percent increase in the number income assistance cases in the NWT. These changes can be attributed to Income Security Reform. There has been a slight decrease after 2011.

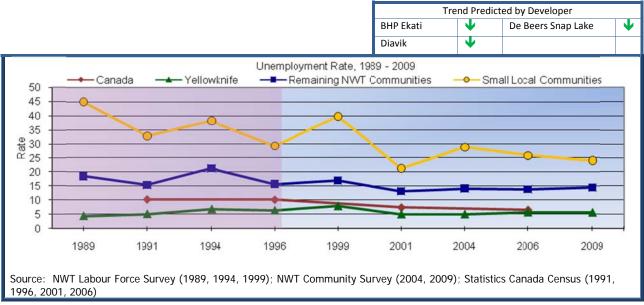
Jobs

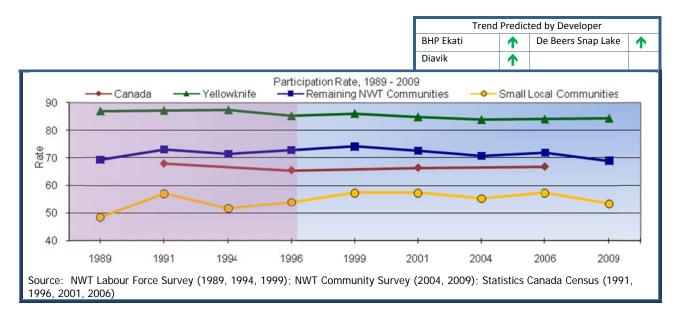
We often look at jobs and employment using three rates. These are the:

- 1. employment rate the percent of people aged 15 and older who have jobs;
- 2. unemployment rate the percent of the labour force who are looking for work but not working;
- 3. participation rate the percent of people aged 15 and over who are working or looking for work.

With more work at mines, we would expect to see the employment and participation rates go up and the unemployment rate go down. These rates do not tell us if people are working more weeks in a year or if they are working more hours in a year.







What we are seeing

SLCs – employment in the SLCs has been on an upward trend since 1989. There was a peak in employment in 2001. Since 2004, the rate has essentially been no higher than rates seen in the before-mine phase. These data do not tell us whether people are working more weeks in a year. Unemployment has also been going down since 1989. In the active-mine phase it has continued to go down more slowly. The mines likely have a role in this trend. The participation rate is no higher and no lower than it was in the before-mine phase.

Yellowknife – employment was going down in the before-mine phase. The trend has been more flat since then. Except for a peak in 1999, unemployment in Yellowknife has been no higher or lower than it was before 1996. Labour force participation has been going down since 1994.

Possible reasons for change

BHP Billiton, Diavik and De Beers report the person years of employment of Aboriginal people each year. Since 2001 the three mines together have reported almost 8,000 person years of northern Aboriginal employment. In 2011 the mines collectively reported approximately 775 Aboriginal person years.

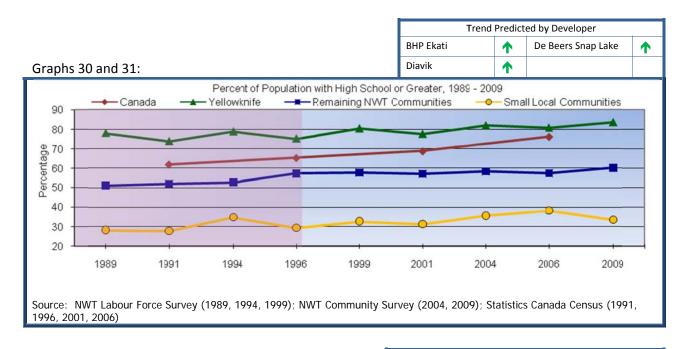
Employment rates in the SLCs may not have changed because Aboriginal mine workers are moving away from those communities. Unemployment rates can go down when more people find a job. These rates can also go down if more people give up hoping to find a job or if there are more elders or more students in the group of people 15 years and over.

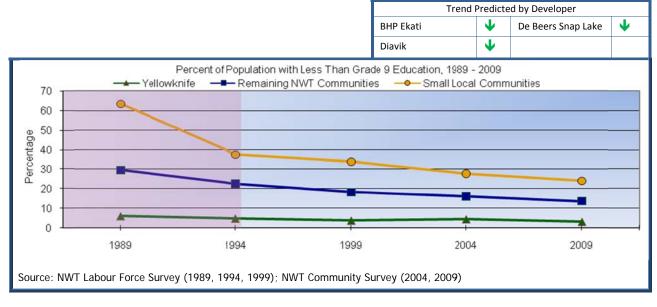
Unemployment in Yellowknife may not go very high because people who are not working tend to move out of the city. The employment rate may also be flat due to fewer mine workers and their families choosing to live in the NWT.

Data about jobs comes from NWT surveys and from the Statistics Canada census. These are collected at different times of the year. This explains some of the change seen from one data point to the next.

Education

"High school completion" means people who have a high school or grade 12 diploma or a General Education Diploma. "Greater than high school" means people who have a trade certificate, college diploma, or university degree. "People with less than Grade 9" counts people aged 15 and older with less than Grade 9. It also includes people who are still in Grade 9.





What we are seeing

SLCs – more people have high school and fewer people have less than Grade 9. These have been the trends since 1989. The percent of people with a less than Grade 9 education dropped sharply between 1989 and 1994. This coincided with the addition of high school programs in a number of small community schools. The trend has continued with more people in the small communities having at least a Grade 9 education.

Yellowknife – The percent of people in Yellowknife with a high school or greater education has continued to show a slow increase since 1991. It continues to be slightly above the Canadian average.

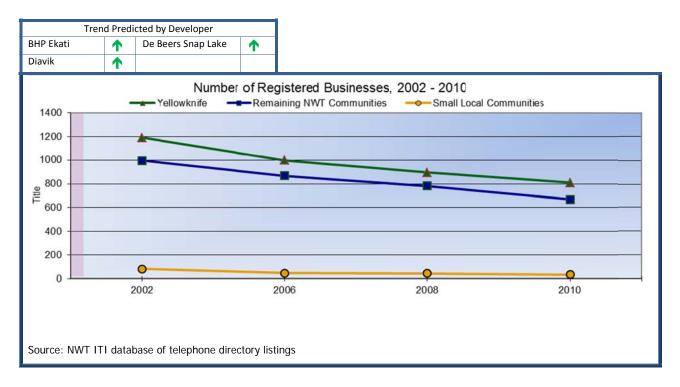
Remaining Communities – Show a slow increase in the percent of people with a high school or greater education and a consistent but slow decline in the percent of people with less than Grade9.

Possible reasons for change

Grade extensions were offered in the smaller communities starting in the late 1990s. This led to an increase in the number of people completing Grade 9 and moving on to high school programs and it has resulted in more high school graduates.

There has been a consistent effort on the part of the GNWT in partnership with industry, including the mining industry, to help people become aware of the value of education. The mining industry in particular has done a great deal to highlight economic opportunities and the link to education through incentives for northerners to stay in school such as scholarships, training programs and other supports. Strong partnerships between government and industry continue to help raise education levels in the NWT.

Business



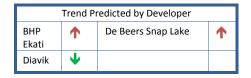
What we are seeing

The number of businesses in the NWT has been going down since 2002. Most businesses are in Yellowknife, Inuvik and the South Slave Region. There is no clear sign that mining caused the number of businesses to go up or down. This is because there are no data from the before-mine phase. There are several new Aboriginal businesses that supply goods and services to the mines. Many Aboriginal businesses have their head offices in Yellowknife, which would explain why the SLCs trend has not changed much.

Possible reasons for change

All mines scaled back their production after the recession of 2008, but seem to be coming back to previous levels. This may create new private investments in the next few years.

Net Effect on Government



Many things can lead to higher government costs. Higher government costs generally result from increased demand for programs and services or changes in the price of delivering those programs and services. Demand for services can change as a result of the number of people living in the NWT, the age of those people, as well as many other social and economic trends. Demand for services can come from other users of government services as well, such as businesses or tourists visiting the NWT. Finally, government costs can rise due to changes in price of delivering programs and services, such as the price of fuel or new technology.

Mineral resource development can create demands on government programs and services including the:

- use and resulting wear and tear on existing roads and other infrastructure;
- need for new roads and other infrastructure;
- need to fix social stresses caused by development and income growth;
- need to track environmental effects; and
- need to invest in areas such as training and helping people and communities start their own businesses. This is done so that northerners can get more jobs and fill the business demand around them.

The GNWT also makes strategic investments. It makes these so that the NWT can see the most benefit from development and mitigate adverse impacts. These can include making plans related to training and STIs, or changes to laws, such as the *Protection Against Family Violence Act* created in 2005.

Resource development also brings money to the GNWT. Diamond mines pay property, fuel, and corporate income tax. They also collect payroll and personal income tax from their employees. Tax revenues the GNWT receives from the mines, their contractors and their employees is partially offset under the Territorial Formula Financing (TFF) arrangements.

Changes in population resulting from resource development can also impact the amount of revenue the GNWT receives in federal transfers. During the 2011/2012 fiscal year (April 1, 2011 – March 31, 2012), each new person living in the NWT added \$28,000 to the TFF grant given to the GNWT by the federal government. This does not take into account the costs of government services for new people. The 2004 Community Survey tells us that about 245 diamond mine workers living in the NWT came from other places. Some of these people may have moved to the NWT with a spouse and perhaps a child.

What we are seeing

Over the 11 years from 1999/2000 to 2010/2011, GNWT consolidated total expenditures grew at an average annual rate of 5.9 percent. Much of the increase has been to cover the rising costs of keeping program and services at current levels.

In 2010 the diamond mines generated about \$57 million in NWT corporate, fuel, property and payroll tax. This estimate does not include personal income taxes of employees at the mines nor indirect employment (people not working for the mine directly) or taxes paid by contractors and their employees. Following offset under the TFF formula, net revenues to the GNWT from the diamond mines were about \$31 million in 2010.

Sustainable Development

What we are seeing

The GNWT promotes and supports the sustainable use and development of natural resources to protect, conserve and enhance the environment of the NWT for the social and economic benefit of all residents. It is important to promote resource development projects which support the achievement of economic self-reliance at the local level and maximize opportunities for local retention and investment of profits (GNWT Sustainable Development Policy 53.02). The GNWT is active in finding ways that the economic benefits from development are realized beyond the life of a resource extraction project.

Secondary Industry

NWT diamond producers have committed to providing up to ten percent of the value of diamond production to diamond manufacturers that have been granted Approved Northwest Territories Diamond Manufacturer status (ANDM). These rough diamond supply arrangements continue to support cutting and polishing in the NWT.

In 2011, the industry continued to have one diamond manufacturer operating, Crossworks Manufacturing Limited, employing 8-11 people in its Yellowknife-based facility. Crossworks has ANDM status, and as such is able to access the NWT rough diamonds.

The GNWT also worked closely with a number of potential manufacturers interested in entering the NWT secondary diamond industry. This continued interest from potential manufacturers reinforces the attractiveness of the industry to the global diamond manufacturing community and the potential for further growth of this sector, which would further benefit NWT residents.

Part 4. Words to Know (Glossary)

Crimes

Violent crimes – homicide, attempted murder, assault and sexual assault; other assaults; other sexual offences; abduction and robbery.

Property crimes – non-violent theft, breaking and entering, fraud and possession of stolen goods.

Federal statute crimes -drug-related offences under the Controlled Drugs and Substances Act.

Other *Criminal Code* offences – mischief, probation or bail violations, prostitution, illegal gambling, arson.

Employment Rate

The percent of people aged 15 and older who have jobs.

Labour Force

Those people 15 years of age and older who are working or who are actively looking for work, laid off for a time and thought to return to work, or those who have made some plan to start a new job.

Participation Rate

The percent of people, 15 years of age and over, who are in the labour force.

PYLL

PYLL is found by taking away the age at which a person dies from an average life span that is 75 years of age. For instance, a person who died at age 65 would have a PYLL of 10 (found by: 75 - 65 = 10). A person who died at age 20 would have a PYLL of 55 (found by: 75 - 20 = 55). The PYLL for an entire group of people is the sum of all the years of life lost by those who died before reaching the age of 75.

Single-parent Families

Single-parent families have a parent at home with no spouse or common-law partner. They also have at least one child who has never been married and who lives in the home.

Socio-economic^{xvii}

Socio-economic impacts include social, economic, and fiscal impacts. Social impacts can be put into two groups: demographic and socio-cultural.

- **Demographic impacts**: changes in people such as how many, the number of men and women, how old everyone is, migration rates and the services needed by each group.
- **Socio-cultural impacts:** changes in social structures, the way people organize, relationships, and in culture and value systems such as language or beliefs.
- **Economic impacts:** changes in the number of people with jobs, how much money they make and how much business is going on.
- **Fiscal impacts:** the economic consequences of development for government organizations.

Unemployed^{xviii}

Means the number of people who, in the week prior to the survey:

- 1. were without work, had actively looked for work in the last four weeks and were ready to work; or
- 2. had been laid-off for a time and thought they would soon return to their job; or
- 3. had sure plans to start a new job in the next four weeks.

Unemployment Rate

The percent of the labour force that is without jobs but that is looking for work.

For Tables 2, 2.1, 2.2, 5, 5.1, 5.2: 2009 is the last data point for Deaths data.

For Tables 7 and 7.1: 2010 is the last data point for Births data.

ⁱ In May 2001, BHP merged with Billiton Plc to become BHP Billiton (BHPB). When talking about the SEA, this report uses BHP. When talking about events after May 2001, BHPB is used.

[&]quot;Objective indicators use facts, such as the rate of teen births or employment. Subjective indicators come from surveys and tell us about a person's views and experiences.

iii Used to be known as "sexually-transmitted diseases."

iv Used to be known as "children in care."

V Now called income assistance cases.

vi For Tables 12, 12.1, 13, 13.1, 14, 14.1, 15, 15.1, 16, 16.1, 17, 17.1: The data for 1996-1997 years is removed from the tables since it is not comparable to the data for 1998-2011. In 2009 the Canadian Centre for Justice Statistics introduced changes to the way in which crime statistics in Canada are presented. The new data provides more detailed offences, and some definitions have changed from those used in the previous years (before 1998). For example, the definition of violent crime has been expanded.

vii The PYLL for a population is the total of all the years of life lost by those who died before reaching the age of 75, the average age of life expectancy.

For more information on data limitations for doctor-diagnosed injuries, see Data Tables in Appendix C.

For more information on age-standardization, see NWT Department of Health and Social Services, Report to the Residents of the Northwest Territories on Comparable Health and Health System Indicators, 2004, p. 3.

^x These include Chlamydia, gonorrhea and syphilis. There are many other types of STIs such genital herpes, HIV/AIDS, human papillomavirus and lymphogranuloma venereum.

^{xi} Case numbers include congenital, infectious and non-infectious syphilis. Syphilis case numbers are from the NWT Department of Health and Social Services, NWT Communicable Disease Registry found in the following departmental publications: Syphilis Update – To Week Ending January 30, 2009 [2000-2008], Epi North Winter 1999/2000, p. 19 [1999] and Epi North, Spring 1999, p. 18 [1998].

xii Alberta Blood-borne Pathogens and Sexually Transmitted Infections Surveillance Working Group, Alberta Blood-borne Pathogens and Sexually Transmitted Infections Surveillance Report 2008 (Edmonton, AB: Alberta Health and Wellness, 2008) ch 10 and 11. CBC Northbeat, CBC News Transcript – Syphilis Outbreak in the NWT, September 12, 2008, 6:00 p.m.

xiii Emergency Protection Orders became possible with the new NWT *Protection Against Family Violence Act in* 2005

xiv Family Violence in Canada: A Statistical Profile, 2008, Statistics Canada, page 12.

From: "Spousal Abuse: A Fact Sheet From The Department Of Justice Canada," 2001. Accessed from: http://www.justice.gc.ca/eng/pi/fv-vf/facts-info/sa-vc.html 9 May 2012.

Indicators of Sustainable Development: Guidelines and Methodologies, (New York: United Nations, 2007) 48, states that large income inequality can hold back human development and long-term economic growth.

From "UNEP EIA Training Resource Manual — EIA: Issues, Trends and Practice". R. Bisset, Annex page 8: www.ea.gov.au/assessments/eianet/unepmanual/bisset/annex.html.

rom "1999 Labour Force Survey" - Northwest Territories Bureau of Statistics.

Appendix A – Company Predictions on Mine Activity

Below are predictions made by BHP, Diavik and De Beers about the possible impacts on the NWT from each of their projects. These statements are quoted from material submitted for the environmental assessment of each project.

COMPANY PREDICTED IMPACT

COMMUNITY, FAMILY & INDIVIDUAL WELL-BEING

BHP

"...project employment could aggravate existing social problems by increasing stress and related alcohol abuse, by alienating people from traditional lifestyles and by increasing the pace of change in communities already having difficulty dealing with change." xix

"Small communities with less wage employment experience, particularly industrial employment, will be more affected by internal factors that determine their ability to handle change...even a half dozen people working directly for the project could increase total community personal income by as much as 15 percent. The impacts in these communities will be in direct relationship to a community's ability to cope with rotational employment absences and spending of new wage employment dollars." **

DE BEERS

De Beers noted that expansion of the wage economy into communities, through the development of the Snap Lake Diamond Project, may exacerbate certain pre-existing dysfunctional conditions in the communities. It clarified this was a reference to substance abuse, drug addiction, suicide rates, teen pregnancy, fetal alcohol effect and fetal alcohol syndrome, sexual abuse, HIV/Aids, and Hepatitis C. ***

"Job training programs may provide incentives to enrol in substance abuse and alcohol addiction treatment. This, in turn, may have long-lasting physical and mental health benefits to the individual being treated." xxii

DIAVIK

"An inflow of single transient workers, and students involved in rotational employment may bring an element of instability to and affect the human health of the community." *xiiii

"Increased disposable income spent on alcohol and drugs may worsen human health conditions of individuals, families and the community." xxiv

"The Diavik Diamonds Project while offering benefits could potentially add to the complexity of human health issues in the communities." ***

BHP

The Environmental Impact Statement (EIS) talked about indirect impacts of employment "resulting in greater family violence and family breakdown". ***vi

"The 'at work' rotation is well below the length of time at which a measurable deterioration in worker... morale and family relationships begins (21 days)..." **xxvii

DE BEERS

"Expansion of the wage economy into communities, through the development of the Snap Lake Diamond Project, may exacerbate certain pre-existing dysfunctional conditions in the communities." De Beers clarified this was a reference to, among other things, teen pregnancy. **xix*

DIAVIK

"Respecting ... rotation work and associated absenteeism from home, there would likely be a period of personal and family adjustment lasting about two years. Potential effects could include additional demands on family and social services and protection services." ***

Single-parent Families

BHP

- "Absence from home for two weeks at a time could have an impact on marriages ... Stress caused by a number of factors need for money, separation, suspected infidelity, are major causes of marriage breakdown. With a rotational work system, marriages are likely to experience some of the stress of separation. At the same time, the availability of jobs may relieve some financial stress." xxxii
- "... Rotational shift work ... could create marital pressure for families not used to separation. Studies indicate that 68 percent of the Canadian long distance commuters work force are married (includes non-Aboriginal people as well); however, the number of divorced employees is double that of the general public." xxxii

DE BEERS

- "...families may break up as the educated or skilled family members go elsewhere to seek employment." xxxiii
- "There is increased risk of marital and family breakdown associated with stop-overs in Yellowknife as some employees (mostly male) engage in extra-marital affairs." xxxiiv

Children Receiving Services

BHP

In the 1995 EIS potential effects on human health resulting from identified causes included: "... an increase in social disruption with potential strain on policing and social services ..."

DE BEERS

"Wage employment for an individual may result in a decline in reliance on social services, and a corresponding improvement in family relationships." xxxvi

"If many individuals and families are coping poorly with the adjustments, the demands for rigorous and relevant support services will increase. Such support mechanisms may include marital/relationship counselling, child care services." **xxxvii**

DIAVIK

"Experience from previous northern projects indicates that new employees with large pay cheques tend to "blow" their money on alcohol first, taper off, and then spend more money and time on the home and family (Chenard 1979). Marriage and family problems caused by alcohol and absenteeism from home are prevalent in the younger generation and would place a short-term demand on counselling and protection services." **xxxviii**

"There would be an initial period of adjustment for employees and families ... During the adjustment period there may be increased demand for protection services." xxxiix

Family Violence and Other Crimes

BHP

There may be "negative impacts of increased income such as alcohol and drug abuse, resulting in greater family violence and family breakdown." *I

"... social problems existing within the Aboriginal communities may be compounded by an increase in wages. Additional expendable income can lead to alcohol and drug abuse and intensify existing problems such as violence." xli

DE BEERS

"In family situations where conflict, violence or other domestic problems are already present such issues may be exacerbated by the demands of the rotation schedule, resulting in increased social dysfunction and instability." **Iii

"...in families with frequent conflict between spouses, decisions concerning the use of income may exacerbate conflict. Children may also be directly affected as victims of family violence and conflict." xiiii

DIAVIK

"...income and absence due to rotational employment may result in... family conflict." xliv

BHP

"If alcohol and drug abuse (and crime that results from these abuses) increase, ... additional law enforcement personnel would be required. ... if the 'fast buck' businesses converge on larger centres, particularly Yellowknife, policing agencies may have to deal with more fraud." XIV

"Yellowknife is the most likely centre to experience an increase in drug trafficking. ... Since many NWT residents employed by the project will have to pass through Yellowknife on their way home, there is a possibility that readily available drugs may be purchased and carried to smaller communities." xivi

- "...if alcohol consumption increases, crime (particularly assaults) could increase." xivii
- "... social problems existing within the Aboriginal communities may be compounded by an increase in wages. Additional expendable income can lead to alcohol and drug abuse and intensify existing problems such as violence." xiviii

DE BEERS

"As individuals and families try to cope with the lifestyle changes imposed by the rotational work schedule, the social fabric (i.e., relationships and support systems) of communities will be affected. Community members at large may suffer from the effects of friends, extended family, or neighbours resorting to substance abuse or alcoholism when dealing with emotional issues, living in high conflict or violent home situations, or neglecting community and family responsibilities. Social capacity or stability may decrease."

DIAVIK

"Respecting ... rotation work and associated absenteeism from home, there would likely be a period of personal and family adjustment lasting about two years. Potential effects could include additional demands on... protection services."

"Employment, income, transportation and closure have the potential of affecting local protection services." $^{\rm II}$

Housing

BHP

"Regular income can improve the standard of living of both individuals and communities. People with regular incomes can purchase/build their own homes, relieving some of the stress on housing in many communities. They can purchase more goods ... and not only relieve stress of impoverished lifestyle, but circulate their dollars through the local economy to assist in overall improvements in the standard of living."

DE BEERS

"With a consistent monetary income, individuals will have a greater level of security in providing for basic material needs, such as food, housing, or clothing."

DIAVIK

"Employment income and associated economic changes should enable residents of study area communities; [sic] particularly the smaller Dene, Métis and Inuit communities to privately purchase or rent houses." [IV

CULTURAL WELL-BEING & TRADITIONAL ECONOMY

BHP

The impact of the project on traditional Aboriginal lifestyle / culture was predicted to be negative but small. $^{\text{Iv}}$

DE BEERS

[for Aboriginal workers] "... impacts are primarily associated with... functioning in a pre-dominantly non-Aboriginal work environment and culture." |vi

"The limited amount of time in the community may limit individuals' ability to pursue Aboriginal traditional activities, which impacts on individuals' lifestyle and the maintenance of a cultural identity." Will

"The family as a whole will also be affected by the limited time available to engage in traditional activities with all family members present. This may complicate efforts to maintain cultural traditions and identity."

"It is not possible to predict with reasonable certainty whether individual and community involvement mining activities will negatively or positively impact on the subsistence economy in communities." lix

DIAVIK

"... the context for expression important to the survival of Aboriginal languages could change." $^{\rm lx}$

"Employment at the minesite in an English only environment may pose a risk to Aboriginal languages. The presence of other Aboriginal language speakers at the minesite and the opportunity for Aboriginal workers to reside in their home communities may reduce this risk." ^{ki}

"...wage based activities may erode... Dene, Métis and Inuit culture." kii

"Out-migration from smaller Aboriginal communities affect[s] community organization and weaken[s] culture." kiii

"Industrial work may erode traditional harvesting practices." | lxiv

"Possible in-migration of job seekers to Yellowknife may change... harvesting patterns... Conflicts resulting from increasing competition for land and resources may alienate traditional land users from important harvesting activities." lav

NON-TRADITIONAL ECONOMY

Average Income

BHP

"Project-generated employment could increase NWT wage income by three percent per year in the construction phase and five percent per year in the operations phase assuming 1995 employment levels. Aboriginal communities and Coppermine could experience substantial increases in earned income in both the construction and operations phase." | Ixvii

"Induced employment from household respending of NWT Diamonds Project direct and indirect employment dollars could generate an additional 155 jobs in the Northwest Territories. Annual income for these jobs will be approximately \$5 million." kix

DE BEERS

"Job opportunities will largely accrue to the primary communities with the result being changes in the economic circumstance of many families of those communities as well as the communities themselves." | box

During construction, "Total labour income impact for the NWT is estimated at some \$102 million." bxi

"Annual labour income impacts for the NWT in the operations phase are estimated at some \$81.2 million." | lexii

DIAVIK

"Employment and income effects associated with the proposed Project are positive, long lasting, and complementary to northern and Aboriginal aspirations and needs." boxiii

"The construction phase is ... projected to increase labour income in the NWT by \$182 million (all values are presented in constant 1997 dollars). ... operation of the proposed Project will also increase labour income in the local study area by \$27 million..."

Proportion of High-income Earners

BHP

"In smaller communities, mine wage employment could widen the gap between 'haves' and 'have nots' in the community." || | |

DE BEERS

"In communities where employment opportunities remain limited to those created by the Snap Lake Diamond Project, community divisions and fractions may arise between 'have' and 'have-nots', which may exacerbate other social problems in the community." | |xxvi

DIAVIK

"Project workers of Aboriginal ancestry seeking residency in Yellowknife, N'dilo and Detah may be more affluent than other Aboriginal people. In small communities such as N'dilo and Detah this situation could increase the gap between the 'have' and 'have nots' resulting in stresses to interpersonal and family relationships." bxvvii

Income Assistance Cases

BHP

"In the study area Assuming that 400 people would no longer need social assistance, this could mean a \$1.4 million annual savings..." bxvviii

DE BEERS "As the household income level is increased for families reliant on welfare, the family will no

longer be eligible for welfare assistance." | laxix

"Other benefits of the proposed Project would include ... a fall in social assistance ... **DIAVIK**

payments as more NWT residents gain employment." | lxxx

Employment Rate

BHP "... the NWT Diamonds Project will have a significant impact on... communities that... fail to

> benefit from other major industries... While Yellowknife... will be a major beneficiary... of new jobs, the smaller First Nations communities, as well as Coppermine and Hay River, can

also expect significant employment benefits." | lxxxi

"... the Project will create 450 construction jobs and in excess of 500 jobs in the operation **DE BEERS**

of the mine facility. Job opportunities will largely accrue to the primary communities..." boxii

DIAVIK "Cumulative employment and income effects associated with the proposed Project would be positive, long lasting, and complementary to northern and Aboriginal aspirations and needs

and should address one of the most pressing issues in the study area communities - lack of

employment and business opportunities." | lxxxiii

Unemployment Rate

BHP "Hiring by the project is expected to reduce unemployment in Aboriginal communities from

almost 40 percent to 30 percent." | lxxxiv

DE BEERS "Through the creation of direct, indirect and induced employment opportunities, it is

expected that the rates of unemployment will be reduced in Yellowknife, other primary

study communities and the employment catchment communities." | | |

DIAVIK "The proposed Project would ... contribute to a reduction in unemployment..." boxxvi

Participation Rate

BHP Neither BHP nor De Beers referred to the participation rate. However, statements on

employment and unemployment imply the participation rate would increase. **DE BEERS**

"The proposed Project would ... contribute to ... an increase in participation rates." | hoxxviii DIAVIK

Education

"Employment possibilities with the NWT Diamonds Project can provide an incentive for **BHP** people to stay in school, if only to attain the education level required for apprenticeship

positions." | xxxviii

"Government, community and Proponent sponsored 'stay in school' programs will encourage more young people to complete at least Grade 10." | lxxxix

DE BEERS

"The opportunity for future wage employment may also motivate unqualified individuals to upgrade their educational level and general life skills to meet project standards for employment eligibility." *C

"It is possible too, that individuals participating in training or educational programs will inspire other family members to improve their educational level or join in various skills development programs." **ci

"The achievement of a certain level of education and skills may, in the longer run, spur demands for further education and training programs..." xcii

DIAVIK

"Diavik initiatives would contribute to the development of able and skilled employees, the support and encouragement of future employees, and the reduction of employment barriers. Through proposed education and training initiatives, opportunities for all northerners would increase..." xciii

Business

BHP

" ... exploration activity has allowed businesses to start the expansion required to adequately service an expanded northern mining industry, and has added to the local supply of service and retail operations... Positive impacts far outweigh negative impacts in Yellowknife, since a project such as the NWT Diamonds Project is needed if Yellowknife is to continue to grow and prosper." xciv

"On the economic side, the impacts [for First Nations communities] would be positive. Increased dollars in the economy could foster the expansion of existing businesses or the start-up of new businesses, particularly in the retail and personal services area. In turn this could generate more employment and wage income." xcv

DE BEERS

"If financial and human resources are spent in the community to provide basic education and skills training, but no support is provided to use these skills for local business initiatives... economic development at the community level will not occur." xcvi

"Given that the mine is a major development project, it is expected to be a catalyst for benefiting Aboriginal and northern business." xcvii

DIAVIK

"Tourism services and infrastructure may improve and expand, particularly in the smaller Dene, Métis and Inuit study area communities..." **cviii*

"... initiatives could result in the expansion of existing businesses, the creation of new businesses..." xcix

"Use of the rail system to transport goods and fuel will have a positive affect... its continued use would enhance Hay River and Enterprise as northern gateway communities." ^c

"Anticipated increases in economic activity should stimulate local economies and support their development." ^{ci}

NET EFFECT ON GOVERNMENT

BHP "Annual costs to the federal and territorial governments due mainly to the 1,000 people

moving to the NWT as a result of the NWT Diamonds Project are expected to be \$4 million and \$10 million, respectively. Offsetting these costs is a potential \$3 million annual savings in social assistance and subsidy payments as a result of increased employment..." cii

DE BEERS "If many individuals and families are coping poorly with the adjustments, the demands for rigorous and relevant support services will increase."

DIAVIK "Other benefits of the proposed Project would include a reduction in government expenditures due to a fall in social assistance and unemployment payments." civ

SUSTAINABLE DEVELOPMENT

Secondary Industry

BHP "... final cleaning and sorting of rough diamonds ... is most likely to be Antwerp in Belgium."

DEBEERS During the environmental assessment of the De Beers Snap Lake Project, De Beers indicated that it would support GNWT efforts to develop a secondary industry. cvi

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xix BHP 1995 EIS, page 4.164. xx Ibid, page 4.164.
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^{xxi} De Beers Response to MVEIRB Information Request No. 1.37, June 2002, page 119.

xxii De Beers EAR, pages 5-130.

xxiii Diavik SEER, page 159.

xxiv Ibid, pages 162-163.

xxv Ibid, page 162.

xxvi BHP 1995 EIS, page 4.150.

xxvii Ibid, page 4.149.

xxviii De Beers EAR, pages 5-123.

xxix De Beers Response to MVEIRB Information Request No. 1.37, June 2002, page 119.

xxx Diavik SEER, page 155.

xxxi BHP 1995 EIS, pages 4.166-4.167.

xxxii BHP 1995 EIS, page 4.149.

xxxiii De Beers EAR, page 5-132.

xxxiv Ibid, page 5-136.

BHP, 1999 EAR, Part 4.7.11.3 (Socio-economic Effects on Human Health), page 4-196.

xxxvi De Beers EAR, pages 5-26.

xxxvii Ibid, pages 5-137.

Diavik SEER, Part 7.4.5.1, Family and Social Services and Infrastructure, Effects.

xxxix Ibid, Part 7.4.7.1, Protection and Safety Services and Infrastructure, Effects.

xl BHP 1995 EIS, page 4.150.

xli Ibid, page 1.46.

xlii De Beers EAR, pages 5-135 – 5-136.

xliii Ibid, page 5-140.

xliv Diavik SEER, Table 32, pages 157-158.

xlv BHP 1995 EIS, page 4.166.

xlvi Ibid, page 4.167.

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xlvii Ibid, page 4.165.
xlviii Ibid, page 1.46.
xlix De Beers EAR, pages 5-137.
Diavik SEER, page 155.
lilbid, page 149.
lii BHP 1995 EIS, page 4.168.
liii De Beers EAR, pages 5-138.
liv Diavik SEER, page 155.
<sup>lv</sup> BHP 1995 EIS, Table 4.2 and Table 4.4.
<sup>lvi</sup> De Beers EAR, pages 5-127.
lvii De Beers EAR, pages 5-134.
lbid, pages 5-135.
De Beers Canada Mining Inc. Conformity Response, page 27, August 2002.
lx Diavik SEER, Vol. 7.5.4.1.
lbid, Vol. 7.5.4.1.
biavik SEER, Table 32, pages 157-158, 96.
lxiii Diavik SEER, Table 32, pages 157-158, 96.
lbid, Table 32, pages 157-158.
lbid, page 159.
lbid, page 155.
lxvii BHP 1995 EIS, page 4.111.
lbid, page 4.132.
lbid, page 4.102.
lxx De Beers 2002 EAR, pages 5-104.
be Beers 2002 EAR, pages 5-115.
lbid, pages 5-116.
Diavik SEER, Vol. 7.1.
Diavik 1998 SEER, Executive Summary, Predicted Impacts in the NWT.
<sup>lxxv</sup> BHP 1995 EIS, page 4.166.
lxxvi De Beers EAR, pages 5-128, Table 5.3-7.
lixxvii Diavik SEER, Part 7.5.1.1.
lxxviii BHP 1995 EIS, page 4.183.
be Beers EAR, pages 5-140.
Diavik SEER, Part 7.2.7.3, Operating Phase Impacts in the Local Study Area.
lxxxi BHP 1995 EIS, Vol. 1.
lxxxii De Beers EAR, pages 5-104.
lxxxiii Diavik SEER, Vol. 7.6.
lxxxiv BHP 1995 EIS, page 4.132.
June 2002 MVEIRB Information Request No. 1, Response 1.27(c), page 100.
Diavik SEER, Part 7.3.
lxxxvii Diavik SEER, Part 7.3.
lxxxviii BHP 1995 EIS, page 4.180.
lbid, pages 4.86-4.88.
xc De Beers EAR, pages 5-129.
xci Ibid, pages 5-131.
xcii Ibid, pages 5-133.
xciii Diavik SEER, page 136.
xciv BHP 1995 EIS, page 4.127.
xcv Ibid, page. 4.133.
xcvi De Beers EAR, pages 5-133.
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xcvii Ibid, pages 5-104. xcviii Diavik SEER, page 156. xcix Ibid, Vol. 7.3.9.1.

ci lbid, page 153.
ci lbid, page 154.
cii BHP 1995 EIS, page 4.182.
cii De Beers EAR, pages 5-137.
civ Diavik SEER, page 116.
cv BHP 1995 EIS, page 1.10.
cvi MVEIRB Technical Sessions for De Beers Snap Lake Diamond Project, 2003.

Appendix B – Industrial, Social and Political Events

DATE	EVENT			
Early 1990s	Changes to the system of tax credits introduced in the early 1990s impacted the number of tax filers and therefore also affected average income.			
1997	Royal Oak Mines laid off about 40 workers at Giant Mine.			
	Miramar Con Mine laid off about 120 workers.			
1997 to 2003	Licences are issued for oil and gas exploration. This started with the Sahtu in 1997, then Fort Liard and the Beaufort Delta. The size of rights issued increased as each new area was opened for exploration.			
January 1997	Policy changes called "Productive Choices" take effect and change how and to whom income assistance is given.			
January 1997	Ekati Mine construction began.			
December 1997	Royal Oak Mines closed Colomac Mine.			
January 1998	Lupin Mine (Nunavut) enters care and maintenance status, laying off about 500 workers.			
May 1998	Miramar Con Mine halts operations in labour strike.			
October 1998	Ekati Mine began commercial operations.			
	NWT Child and Family Services Act came into effect.			
October 1998	The number of children receiving services may have increased due to this Act. The new Act created a plan of care agreement as a new way to provide services to children.			
	Under a plan of care agreement, children could still be living in their parents' home but receive services from the Department of Health and Social Services. This was not an option under the old Act. Since the new Act came into force, parents have been more inclined to seek services for their children or family, now that they do not have to give up parental rights.			
	Since the new Act, most of the increase in children receiving services has been from children who are living at home. Of these, most service agreements were voluntary, not court-ordered.			
February 1999	BHP sorting and valuation facility opened in Yellowknife.			
April 1999	Territory of Nunavut established; NWT public sector became smaller.			
June 1999	Sirius Diamonds opened a cutting and polishing facility in Yellowknife.			
July 1999	Miramar's Con Mine labour strike ended and operations resumed.			
2000	Giant Mine operations begin again on a smaller scale, with less than 100 employees.			

DATE	EVENT			
2001	A government-wide coordinated effort called Maximizing Northern Employment starts. Its purpose is to build partnerships with Aboriginal governments and the private sector.			
March 2000	Deton'Cho Diamonds opened a cutting and polishing facility in Yellowknife.			
April 2000	Lupin Mine operations began again with a smaller workforce.			
December 2000	Diavik construction began.			
December 2000	Arslanian Cutting Works opened a cutting and polishing facility in Yellowknife.			
Early 2002	Ekati Mine opened Koala North pit for underground mining.			
2002	Tiffany and Co. began construction of a cutting and polishing facility in Yellowknife.			
2003	Tiffany & Co. opened a cutting and polishing facility in Yellowknife under the name Laurelton Diamonds.			
January 2003	Diavik Mine started production.			
April 2003	Federal Youth Criminal Justice Act came into effect.			
August 2003	Operations suspended at Lupin Mine (Nunavut), affected about 305 employees.			
November 2003	Miramar closed Con Mine.			
April 2004	NWT Youth Justice Act came into effect.			
February 2005	De Beers Canada Inc. began construction of Snap Lake Diamond Mine.			
April 2005	NWT Protection Against Family Violence Act came into effect.			
June 2005	The "FASD and Justice Issues at the Community Level in the NWT" project started (FASD = Fetal Alcohol Spectrum Disorder)			
August 2005	Tłįcho Land Claim and Self-Government Agreement effective date.			
Early 2006	Ekati Mine opened Panda pit for underground mining.			
May 2006	Canada Dene Diamonds closed.			
2007	A new model for income assistance was created.			
October 2007	De Beers Snap Lake Mine officially opened.			
Late 2007	Ekati Mine opened Koala pit for underground mining.			
Winter 2007	Indian Residential Schools Settlement Agreement implemented. Survivors and their families began to receive Common Experience Payments.			
2008	Shrinking caribou populations are anticipated.			
June 2008	De Beers Snap Lake Mine moves from its Construction Phase to its Operations Phase.			
August 2008	Department of Justice, Corrections Program Review.			

DATE	EVENT			
October 2008	Crossworks Manufacturing Ltd. opened a diamond processing factory in Yellowknife.			
November 2008	GNWT Ministers of Education, Culture and Employment and ITI, and representatives from BHP, Diavik and De Beers signed a Memorandum of Understanding to address Northern workforce attraction and retention issues.			
Late 2008	Global credit crunch and economic downturn occurred. A number of projects and contracts are postponed or cancelled. Job losses increased.			
2008 and 2009	Winter gas pipeline exploration activity is lacking causing increases in trapping activities in small communities (because of fewer wage economy jobs).			
Early 2009	Global economic downturn leads to reduced demand for diamonds. In response, Diavik and De Beers each planed two six-week temporary shutdowns in the summer and winter. Only the summer shutdown took place for each mine.			
July 2009	Maintenance Enforcement Program is amended to enhance compliance.			
November 2009	Diavik announces plans to hire 150 new employees. Soon afterward, De Beers announces plans to hire 175 new employees.			
December 2009	Arslanian Cutting Works and Polar Bear Diamond Factory temporarily closee.			
	Hunting ban on caribou put in place.			
March 2010	"Not Us" Anti-Drug Campaign is launched.			
April 2010	Responsibility for the Public Housing Rental subsidy program is transferred back t the NWTHC from the Department of Education, Culture and Employment.			
July 2010	The Exemptions Act is updated.			
September 2010	The Residential Tenancies Act is amended.			
August 2011	The GNWT signed a new SEA with Canadian Zinc for the Prairie Creek Mine.			
Late 2012	Sale of the Ekati diamond mine from BHP Billiton Canada Inc. to Dominion Diamond Mines Corporation, a wholly-owned subsidiary of Harry Winston Diamond Mines Corporation was announced. The proposed transfer of ownership is proposed to occur in 2013. CVII			

cvii BHP Billiton, press release: http://www.bhpbilliton.com/home/investors/news/Pages/Articles/Sale-of-Diamonds-Business.aspx.

The GNWT takes no responsibility for financial losses suffered as a result of reliance on the information in this report.



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