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▼ An Assessment of  
▼ the Income Impact  
▼ of a Transportation  
▼ Subsidy for  
▼ Employment in the  
▼ Mining Industry on  
▼ Remote  
▼ Communities

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▼  
▼ *An Order of Magnitude*  
▼ *Calculation*

▼ Prepared by Eric A. Christensen  
▼ July 1997  
▼ For The Kitikmeot Regional Economic  
▼ Development Commission

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## Executive Summary

Recent mining developments in the Slave Geological Province - particularly the development of diamond mines - have given a new hope for employment opportunities for unemployed people in remote Kitikmeot communities (and Sahtu communities - considered in this brief study). Leaders in the Kitikmeot have realized that community economic growth cannot, and likely will not keep pace with the ever increasing population. If no employment alternatives are found, they will be faced with a critical unemployment problem, along with the high human and financial costs of sustaining unemployed people in remote communities on social assistance and other forms of public support.

Although mining development has created the opportunities for new employment in the Kitikmeot region (and in the Sahtu), the critical issue - aside from training and job readiness/skill development - is job access. That is, with current operating policies of the mining industry in the area, which allow for transportation to and from mining and exploration sites from fixed pick-up points (in this case Cambridge Bay, Kugluktuk and Yellowknife) unemployed people who want and need jobs cannot afford to get to these pick-up points and miss an important chance for full time rotational employment in the mining industry. It is recognized that not all unemployed people in these communities want to work in the mining industry, but there are indeed many who do. And, it is these people that require the financial support to mobilize them into productive and meaningful employment opportunities.

This report provides an "*order of magnitude*" analysis of the income impact of a 100 percent transportation subsidy for people unemployed in remote communities outside the standard mining rotational employment pick-up points for activities in the Slave Geological Province. The objective here, is to show what the potential income impact could be on remote communities with a redirection of public funds - the prime target being social assistance payments for "*unemployed, but able*" people.

It should be noted, that according to labour force models, based on known participation rates and population dynamics, approximately 226 new jobs will be required in the remote Kitikmeot communities of Pelly Bay, Gjoa Haven, Taloyoak and Holman over the next decade just to maintain their current high unemployment rates. This says nothing about the number that would be required if policy makers were to try to bring these unemployment rates in line with the average throughout the Northwest Territories.

The table on the following page summarizes our findings:



**Summary Table of Study Area  
Regional Income Impact of Mining Employment Labour  
Transport Assistance  
1998 to 2007**

|  | Kitikmeot Region     | Sahtu Region         | Totals               |
|--|----------------------|----------------------|----------------------|
| <b>Disposable Income Calculation:</b>              |                      |                      |                      |
| <i><b>Base Case Total Income</b></i>               | \$ 344,731,970       | \$ 255,972,468       | \$ 600,704,438       |
| Tax Paid   | \$ 49,969,566        | \$ 34,613,007        | \$ 84,582,573        |
| <b>Disposable Income</b>                           | <b>\$294,762,404</b> | <b>\$221,359,461</b> | <b>\$516,121,865</b> |
| <i><b>Incremental Income (From Assistance)</b></i> | \$ 29,250,000        | \$ 7,150,000         | \$ 36,400,000        |
| Tax Paid   | \$ 4,240,405         | \$ 956,020           | \$ 5,196,425         |
| <b>Incremental Disposable Income</b>               | <b>\$25,009,595</b>  | <b>\$6,193,980</b>   | <b>\$31,203,575</b>  |
| <b>Less Social Assistance Reduction</b>            | <b>\$9,096,000</b>   | <b>\$2,120,760</b>   | <b>\$11,216,760</b>  |
| <b>Increased Disposable Income</b>                 | <b>\$310,675,999</b> | <b>\$225,432,681</b> | <b>\$536,108,680</b> |
| <b>Net Incremental Disposable Income</b>           | <b>\$15,913,595</b>  | <b>\$4,073,220</b>   | <b>\$19,986,815</b>  |
| <b>Total Cost of Labour Transport</b>              | <b>\$8,210,350</b>   | <b>\$2,136,469</b>   | <b>\$10,346,819</b>  |

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As well, we would like to acknowledge the assistance of Mr. Dave Stewart, Territorial Statistician who was most helpful in the development of the labour force projection and population models and for taking the time to discuss technical issues during the course of this assignment.

## Preface

The reader should note that this report has been prepared for the Kitikmeot Regional Economic Development Commission as part of their on-going contribution to the N.W.T. Community Mobilization and Job Strategy Process.

As the regional economic development agency, one of the Kitikmeot Economic Development Commission's priorities is to ensure that Kitikmeot residents have every opportunity to obtain jobs and increase income in their home communities. As unemployment rates increase in the region (and elsewhere in the remote areas of the north), the need to look at ways of ensuring people have and keep jobs is of paramount importance. A rapidly growing regional population will continue to place enormous pressure on the ability of all agencies to sustain community income and welfare levels at their current rates.

The Kitikmeot Regional Economic Development Commission recognizes that the current economic capacity of regional communities is extremely limited as is the ability to create new jobs for an ever increasing labour force. Continued dependency on social assistance support must be challenged with new and creative measures to ensure that residents can have the opportunity to sustain themselves in the future.

Increased mining developments in the Kitikmeot Region has created a real and tangible opportunity for increasing the number of new jobs for Kitikmeot residents. However, the challenge facing decision makers is *"getting people to the job sites or pick-up points"* so that employment income can flow back to the communities where it is most needed.

Another major priority of the Kitikmeot Regional Economic Development Commission is to initiate a process of social support reform so that public funds that would otherwise be paid for social assistance for unemployed people, could be used for transporting Kitikmeot residents to mining work sites or to labour force pick-up points.

Accordingly, this report is the first step in the process of showing the relative merits of realigning social assistance and other support programs to offset the barrier of high transportation costs faced by Kitikmeot, and other northern residents in obtaining meaningful long term employment at locations outside their home base communities. It must be reiterated that remote community economies do not, and in all likelihood will not, have the ability to create and maintain the number of jobs that will be needed over the next ten years - just to maintain current unemployment rates as high as 45%. This means that other alternatives must be actively and creatively pursued.

The reader will note that the analysis highlighted in this report not only focused on the Kitikmeot Region, but on the Sahtu Region as well. This was done to provide a comparative perspective on the relative impact that mining labour transportation subsidies/support would have on areas with traditionally high (and steadily increasing) unemployment rates. Both areas have limited prospects for local community employment and are relatively close to the Slave Geological Province in which the majority of mining employment opportunities are being created.

## Preliminary Assessment of the Direct Income Generated by Labour Transportation Subsidies for Remote Kitikmeot and Sahtu Resident Employment in the N.W.T. Mining Industry

### *Introduction*

Recent developments in the N.W.T. mining industry- particularly in the Kitikmeot region - have brought a significant increase in the number of new jobs that Inuit could potentially fill over the next decade. For example, the BHP Diamond Project, with a construction labour force of approximately 1,000 people and an operational complement of 800 personnel has created a real and tangible opportunity for employing aboriginal people throughout the Kitikmeot region and from elsewhere for that matter. Other projects such as the Kennecott Diavik property which has a strong likelihood of coming into production and the BHP Boston gold property near the arctic coast, both represent a significant quantum to the demand side of the regional labour market. There are many other mineral exploration properties that may come into production over the next decade which could even further increase the numbers of potential jobs for aboriginal people in the years to come.

Ensuring that regional Inuit can access these new jobs means that certain barriers need to be addressed. In the past, practical mine related training and job readiness have been two of the more pressing impediments to aboriginal participation in the industry. Getting people to the job site economically and in a timely manner has been the other.

At the present time, there are several strategic initiatives through the Community Job Partnership Strategy and the N.W.T. Community Mobilization Process that are aimed at fostering the right kinds of practical training and job readiness at the community levels for local employment in the mining industry. While the process is still in its infancy, there are very real indications that some successes are emerging and that steady progress is being made to get people in the smaller, more remote communities to the stage where they are trained - at least to the entry point - to meet industry expectations and employment standards. The aim of the process thus far has been to ensure that people are trained (through "**hands on**" - "**on-site**" training) to succeed once they are hired by industry. The focus on practical mine related training and job readiness has gone a long way to help eliminate some of the tradition barriers to entry for aboriginal people in the industry.

However, with a highly dispersed community population base in the Kitikmeot, distance from the work site and the corresponding high costs of transportation have hindered

aboriginal people from increasing their job participation and retention rates in the mining industry. With already limited personal resources and steadily increasing costs, people in the smaller communities simply cannot afford to pay for round trip airfares to participate in any form of on-going rotational employment with the mining industry.

With virtually no public support programs in place, the onus has been traditionally on the mining industry to ensure that employees are provided with transportation assistance from certain collection points near their particular mining operation. However, only those communities with road connection and/or inexpensive air linkages to pickup points have benefited from mining employment. Industry acknowledges that accelerated mining developments in the Slave Geological Province represent the single most important quantum to incremental jobs for Inuit, however, the economics of considering all communities in the region as home base pickup points is prohibitive. Economic access for individuals from remote communities to collection points will be a critical and essential barrier to overcome - particularly from a public policy standpoint - if gains are to be made in aboriginal employment in the mining industry in the years to come.

From a strategic public policy standpoint certain interventions which would offset the high costs of transporting remote community mining industry workers to collection points - or in some cases, directly to the work site, could indeed represent a prudent and wise expenditure of public funds. Measured in terms of a return on investment, expenditures of public funds, however sourced or re-directed, could have a substantial and direct impact on increasing community earned income levels, decrease social assistance for those individuals chronically unemployed but who are able to work, and above all contribute to a brighter and more financially secure future for many communities in the Kitikmeot which would otherwise not have any hope for employment in the future.

It is acknowledged that many of the small communities in the region will likely not have the local economic capacity to create and maintain the number of jobs in the future just to maintain the currently high and unacceptable unemployment figures. What is required is a more creative use of funds - particularly public social support funds - to move people back and forth to job opportunities.

### *Objectives of the Analysis*

It is acknowledged that the cost of transporting Kitikmeot Inuit to mining exploration and development sites and collection points is a costly undertaking. Equally costly from a social development perspective will be the results of regional residents not having access to jobs, because of economic barriers to entry.

There are compelling arguments, both substantively and qualitatively that can be made to provide the pretext for considering the impacts of underwriting (in some manner) the costs of getting people to work.

As an initial step in assessing impacts and options for improving transportation access for Kitikmeot Inuit (and Sahtu residents) to mining related employment opportunities, an analysis of the direct economic impact of increasing regional employment is required. The analysis will focus on the following elements in the Kitikmeot region and in the Sahtu:

1. Labour force growth over the next decade;
2. Potential growth in unemployment rates over the next decade;
3. Impact of increased job access (through transportation assistance) on future number of unemployed people in the Kitikmeot and the Sahtu Regions;
4. Impact of increased job access for Kitikmeot Inuit and Sahtu residents on community incomes;
5. Potential impact on reductions of government payments for **"unemployed, but able to work"** category of social assistance;
6. Comparison of average annual costs of transporting Kitikmeot Inuit and Sahtu residents to a common pick up point(s) (possibly Cambridge Bay and Kugluktuk and Yellowknife for the Sahtu) at a reasonable labour force penetration/retention rate, to the incremental earned income resulting from increased employment opportunities;
7. Comparison of aggregate costs of underwriting costs of transporting remote Kitikmeot/Sahtu community workers to rotational employment collection points to the aggregate increase in earned income in the region over a ten year period;
8. Preliminary estimate of the incremental personal income tax recoveries to government that would occur as a result of increased employment of Inuit from the region;
9. Observations on policy options and decisions required to create an employment access support system which involves underwriting the costs of transporting Inuit from remote Kitikmeot/Sahtu communities to collection points for mine related employment.



## Framework for Analysis and Study Areas

As noted in the preface of this report, the focus of our analysis is on the Kitikmeot and Sahtu regions, with particular emphasis on those communities which do not have direct access to a mining labour force rotational employment pick-up point. Mining companies operating in the Slave Geological Province, including BHP Diamonds and the Diavik Project and many smaller exploration companies rotate their labour force from three major locations, which include Yellowknife, Kugluktuk (Coppermine) and Cambridge Bay. With sufficient numbers the companies may also fly employees from some of the Dog Rib communities direct to their mine sites. However, for the most part, these three communities serve as the gateway for mining employment in the Slave Geological Province.

What this means for the Kitikmeot particularly, is that only people in the Cambridge Bay and Kugluktuk current have direct and affordable access to rotational employment opportunities with the mining industry. Communities with the highest employment rates such as Pelly Bay and Gjoa Haven, as well, as Holman are not able to take advantage of mining job opportunities because residents are required to pay their own transportation at commercial rates to the nearest pick-up point. On a two week in, two week out rotation program, this means an additional cost of two round trip airfares compared to those people residing in the pick-up point communities.

For the Kitikmeot Region, we have examined the impacts of transportation assistance on the following communities:

- Gjoa Haven
- Holman
- Pelly Bay
- Taloyoak

For the Sahtu Region, we have used the following communities as the basis for our analysis.:

- Colville Lake
- Deline
- Fort Good Hope
- Fort Norman

In the Sahtu Region, we have not included Norman Wells, as it is an "industry" town and we assumed that very little penetration of the labour force would be made because of the presence of the Esso oil refinery. This may change as oil reserves deplete and



production - and thus job opportunities - decrease. However, for the purposes of this report we have not included Norman Wells in the study impact area.

## **Methodology and Context for Analysis**

In conducting our analysis of the income and employment impact of transportation support on remote communities in the study area, we have used the following methodology:

### ***Calculation of the Number of New Jobs Needed to Maintain Current Unemployment Rates***

In undertaking our analysis of mining employment impacts we first developed a labour force growth model, based on the GNWT Statistics Bureau population growth projections. Using current labour force structural relationships defined in the most recent census data, we then projected the number of new jobs required over the next ten years that would need to be created and filled by remote community residents, outside the mining employment pick-up points, just to maintain the current levels of unemployment. This analysis was based on current labour force participation rates.

What is extremely telling from an analysis of this type is that with the current limited capacity of community economies to create new jobs for residents, new jobs must be created somehow just to maintain the unacceptably high unemployment rates we now face throughout the north. If new jobs are not created by local developments, or by outside employment opportunities (that is - labour is exported to work sites) it is safe to conclude that unemployment rates will double or even triple over the next ten to twenty years. The consequence, of course, will be a complete social collapse in many smaller, more remote northern communities, because it is unlikely that government - however defined, in the future, will simply not have the ability to sustain people on social assistance at current levels.

### ***Development of Historical Community/Regional Income and Taxation Models***

Once we modeled the labour force in the study area and calculated the number of new jobs that would be required in the study area over the next decade, we then developed a community income model of historical income over the past decade. Tabulations of these calculations are contained in the appendices to this report, and provide an interesting time series view of community level income and income tax generation over time.

### ***Development of Base Case and Incremental Income Growth and Taxation Models***

Based on the historical model of community/regional income generation, we then developed another income model capable of projecting community/regional income and income tax levels from 1998 to 2007 (a ten year period). Because of the lack of taxation data from 1995 through 1997, we had to use a regression analysis (least squares) to fill in data points for 1995 and 1996 to provide a data bridge between historical data and projected data.

#### **Historical Income As A Proxy for Future "No Support" Income Growth**

In the model, the base case, or no transportation support scenario, we have assumed that community income and income tax levels would track in the same manner as they have historically - that is, following population increases and nominal growth in local economic activity. Given that community income has been historically driven by government spending to a large degree, we recognize that future income growth over the next ten years, will in all likelihood track in a much "*flatter*" manner than is shown historically. This is due to probable decreases in government spending as a result of restraint. However, for purpose of this analysis we have assumed a base case (no transportation support) scenario using an historical income track.

The reader should note, that if government spending, and thus community incomes do track "flatter" - that is the slope of the growth curve, is less than historical levels - then the importance of providing transportation assistance for jobs outside remote communities is even greater. Under these conditions, income generated by exported mining labour would be proportionally much greater than base case income levels. Thus, in either case, (as the following tabulations will show) providing transportation assistance for mining employment can have a significant impact on offsetting potential government spending reductions (the base for historical economic growth/development) and for lessening the impact of an enormous increase in the number of unemployed people over the next ten years.

#### **20 Percent Penetration of New Jobs Required to Maintain Current Unemployment Rates**

In the context of this analysis, we have also assumed that with the introduction of transportation cost support systems for mobilizing otherwise unemployed people, it would be reasonable to expect at least, a 20 percent penetration of the new jobs required over the next ten years in the study area communities. While we realize that this is only a target, and may or may not be achieved in actual practice, we do feel that it

is a reasonable threshold for an "*order of magnitude*" calculation of income impacts on these communities.

#### **Historical Personal Income Tax Rates Are Used as A Proxy for Future Tax Recoveries**

In developing the "*base case*" - "*incremental income*" income model we assumed that the average tax rate found in the historical data would prevail. While we realize that taxes are based on a number of factors and variables we felt this would be a reasonable proxy for calculating income tax (a return to government) on incremental employment resulting from transportation support for mining employment in the study area. Average tax rates were calculated on the basis of historical data for each community and then applied to the projection model.

#### **Increased Employment Opportunities Would Result in a Reduction - an Offset - of Social Assistance Payments**

Within the model we also assumed that there would be a corresponding offset of community social assistance that would be paid to people who would otherwise be unemployed. In calculating this offset we used the following rates for communities in the study area. The reader should note we have assumed these rates would remain the same for the projection period and we have not adjusted any data for increases in inflation. Nor, have we tried to anticipate any changes in public policy over the projection period.

Rates used for calculating a social assistance offset are derived from the tabulation on the following page which outlines living support costs provided by the GNWT Department of Education (which is now responsible for the Territorial Government Income Maintenance Program).

Table Showing Composition of Monthly Unemployed Social Assistance

| Monthly Support<br>(for family of 2) | Food   | Shelter/Utilities | Clothing | Totals   |
|--------------------------------------|--------|-------------------|----------|----------|
| <b>Kitikmeot Region:</b>             |        |                   |          |          |
| <i>Gjoa Haven</i>                    | \$ 519 | \$ 1,100          | \$ 74    | \$ 1,693 |
| <i>Holman</i>                        | \$ 464 | \$ 1,100          | \$ 74    | \$ 1,638 |
| <i>Pelly Bay</i>                     | \$ 519 | \$ 1,100          | \$ 74    | \$ 1,693 |
| <i>Taloyoak</i>                      | \$ 519 | \$ 1,100          | \$ 74    | \$ 1,693 |
| <b>Sahtu Region:</b>                 |        |                   |          |          |
| <i>Colville Lake</i>                 | \$ 519 | \$ 1,100          | \$ 74    | \$ 1,693 |
| <i>Deline</i>                        | \$ 410 | \$ 1,100          | \$ 74    | \$ 1,584 |
| <i>Ft. Good Hope</i>                 | \$ 438 | \$ 1,100          | \$ 74    | \$ 1,612 |
| <i>Ft. Norman</i>                    | \$ 410 | \$ 1,100          | \$ 74    | \$ 1,584 |

The above data was used for each community to calculate the magnitude of social assistance savings that would accrue to government agencies at a 10 percent penetration and retention of the forecasted total number of new jobs required just to maintain the current high rate of unemployment in the study area.

From these data it is also easy to calculate the magnitude of on-going costs to government over the long run, if employment support alternatives are not found in the very near future. On the above basis alone, 1 unemployed married person in each of the study area communities represents a potential monthly cost of \$16,521 (the sum of the monthly support figures for each community). Further, if these people continued to be unemployed - that is they were chronically unemployed, but were able to work if there were job to go to - for a period of a year it would mean an annual cost of \$198,252 to government just to support 1 married, unemployed person in each of these communities. Therefore, for every 8 unemployed, but married people in the study area, there is a potential annual cost of almost \$200,000. Multiplied by 10 years and the amount is quite large indeed - around the \$2,000,000 mark. At the rate of population growth in the smaller, more remote communities, combined with the inability of local economies to absorb the new labour force, there is a real and compelling reason to consider re-directing social support funds to more aggressive and creative ways of getting people from these communities to pick-up points and or job sites.

Using the social assistance offset calculation is a very useful tool for measuring another direct cost recovery to government - in short it provides a proxy for evaluating the relative costs and merits of transportation cost support measures against likely "base

*case*" social assistance payments that would otherwise have to be funded to support basic living costs of unemployed people.

### ***Transport Cost Calculations***

There are numerous variables involved in calculating the costs of transporting workers from home communities to pick-up points. These include frequency (in this case two weeks), number of passengers, etc. However, for the purpose of the "order of magnitude" calculations show in this study we have only used two transportation options - for the Kitikmeot, with its greater distances and spatial distribution of population numbers, we have used full fare commercial airfares as the base for calculating transport costs per worker on a two week in, two week out rotational program. We have used the full fare cost as opposed to an advance booking fare (which is typically 33 percent less) because it would be unlikely that seats would be available on a regular basis.

The reader should note, that it may be possible, with increased numbers, and a guaranteed purchase of a block of seats that commercial carriers would be willing to negotiate a discounted price for rotational mine employees. This of course, would bring the Kitikmeot transport cost numbers closer in line with those of the Sahtu (see following tabulations of transport costs).

For the Sahtu, we have used a charter rate, based on a <sup>1</sup> Twin Otter, which is capable of carrying 14 passengers from the region to Yellowknife, which we also assumed would serve as a pick-up point. Obviously, the size of aircraft, and hence costs will vary with the actual numbers of passengers carried and the rotation frequency, but we felt it would be reasonable to expect that at least 5 to 6 people, on a 2 week rotation could be successfully recruited with the appropriate level of effort in the Sahtu Region.

Accordingly, air charter costs for rotations from the Sahtu Region are based on a monthly charge of \$17,804 (\$8,320 plus GST per rotation).

Costs for rotations from the Kitikmeot are based on the following commercial rates:

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<sup>1</sup>For the purpose of this analysis a DHC Twin Otter was used as the primary aircraft because some of the community airstrips could not accommodate a larger aircraft from the company providing the charter quote.

| Routing                     | Fare      | Att      | Gst      | Total      |
|-----------------------------|-----------|----------|----------|------------|
| Pelly Bay to Cambridge Bay  | \$ 894.00 | \$ 55.00 | \$ 66.43 | \$1,015.43 |
| Taloyoak to Cambridge Bay   | \$ 722.00 | \$ 55.00 | \$ 54.39 | \$ 831.39  |
| Gjoa Haven to Cambridge Bay | \$ 540.00 | \$ 43.80 | \$ 40.87 | \$ 624.67  |
| Holman to Kugluktuk         | \$ 504.00 | \$ 41.28 | \$ 38.17 | \$ 583.45  |

### ***Definition of Terms Used in the Income and Employment Models***

Definitions for terms used in the labour force projection model and tabulations and income models are outlined as follows:

#### ***<sup>2</sup> Labour Force***

- refers to persons who were either employed or unemployed during the week prior to the N.W.T. Labour Force Survey.

#### ***Participation Rate***

- the percentage of persons 15 years of age and over who are in the labour force.

#### ***Employed***

- refers to persons who during the week prior to the N.W.T. Labour Force Survey: (i) did any work at all, excluding housework, maintenance around the home and volunteer work; or (ii) were absent from their job or business because of vacation, illness, labour dispute, etc.

#### ***Unemployed***

- refers to persons available for work during the week prior to the N.W.T. Labour Force Survey: (i) who were without work and had actively looked for work in the previous four weeks; (ii) who had been on temporary lay-off; or (iii) who had definite arrangements to start a new job within the next four weeks.

<sup>2</sup>The reader should note that all labour force definitions used in this report are derived from the N.W.T. Labour Force Survey prepared by the GNWT Statistics Bureau.



***Unemployment Rate***

- the rate of the labour force who are unemployed.

***New Jobs Required***

- refers to the total number of new jobs that need to be created and filled on a permanent basis by local people over the next ten years in the study area communities/regions just to maintain the current high unemployment rates.

***Base Case Total Income***

- refers to a projection (least squares regression) of future growth of total community/regional income following historical patterns. Base Case Total Income reflects a "no incremental employment" scenario.

***Tax Paid***

- refers to the total amount of income taxes paid to both levels of government (Federal and Territorial) for income tax purposes. The tax rate for forecasted years is based on an average tax rate for the ten years of historical data on each study area community.

***Disposable Income***

- refers to the difference between Base Case Total Income and Incremental Income less tax paid. Disposable income is the after tax residual available in each community for basic personal needs (consumption and investment/savings components).

***Incremental Disposable Income (before offset)***

- refers to the additional after tax income, before social assistance offsets, that would accrue to study area communities/regions, as a result of paying the transportation costs of unemployed people (at a 20 percent penetration rate of the total number of new jobs needed) to mining employment pick-up points.

***Social Assistance Offset***

- refers to that portion of the total social assistance bill that would ordinarily accrue to those persons employed as a result of transportation assistance to mine employment pick-up points.



***Net Incremental Disposable Income***

- refers to the sum of base case disposable income less social assistance offset, plus incremental disposable income.

## Analysis and Interpretation of Results

As noted at the outset we have based our analysis of the impact of transportation support on two principle analytical tools - a labour force participation model and community income model. Detailed tabulations of community level detail for each of these models are provided in the appendices in this report.

The results of our analysis (using the methodology and assumptions outlined earlier) are summarized the following three tabulations. The first two tables show the total number of jobs that need to be created and filled by community residents in each of the two regions within the overall study area. The third table shows the regional impact of a 100 percent subsidy of transporting unemployed people (at a 20 percent penetration of new job requirements over the next ten years) to mining employment pick-up points.

*Summary Table of New Jobs  
Required in Remote Kitikmeot Communities  
To Maintain Current Unemployment Rates*

|               | Current<br>Unemployment<br>Rate | New Jobs<br>Needed By<br>2007 | Relative<br>Percent |
|---------------|---------------------------------|-------------------------------|---------------------|
| Gjoa Haven    | 33.7%                           | 84                            | 37%                 |
| Holman        | 8.7%                            | 36                            | 16%                 |
| Pelly Bay     | 40.1%                           | 50                            | 22%                 |
| Taloyoak      | 26.0%                           | 56                            | 25%                 |
| <b>Totals</b> |                                 | <b>226</b>                    | <b>100%</b>         |

*Note: Summary Based on Tables  
Containing  
Forecasted Community Level for New  
Jobs  
Required Over Next 10 Years to Maintain Current  
Levels of Unemployment  
- "Remote" defined as those communities not located in main  
transportation centers such as Norman Wells and Cambridge  
Bay*

*Summary Table of <sup>3</sup>New Jobs  
Required in Remote Sahtu Communities  
To Maintain Current Unemployment Rates*

|                | Current<br>Unemployment<br>Rate | New Jobs<br>Needed By<br>2007 | Relative<br>Percent |
|----------------|---------------------------------|-------------------------------|---------------------|
| Colville Lake  | 17.9%                           | 2                             | 4.0%                |
| Deline         | 46.6%                           | 21                            | 42.0%               |
| Fort Norman    | 39.8%                           | 5                             | 10.0%               |
| Fort Good Hope | 20.1%                           | 22                            | 44.0%               |
| <b>Totals</b>  |                                 | <b>50</b>                     | <b>100%</b>         |

*Note: Summary Based on Tables Containing  
Forecasted Community Level Detail for New Jobs  
Required Over Next 10 Years to Maintain Current  
Levels of Unemployment  
- "Remote" defined as those communities not located in main  
transportation centers such as Norman Wells and Cambridge Bay*

On the above basis one can readily appreciate the need for new jobs in the two regions. Over the next ten years, 276 jobs need to be created and filled by local people to maintain current rates of unemployment. If agencies responsible for the job market are striving to reduce unemployment rates, then these numbers would indeed, be considerably greater.

What these table do show is that new jobs are a fundamental requirement for the future viability of community economies and for the government (however it may be defined after division) as well. Clearly, the costs of maintaining another 276 people on social assistance by the end of the next decade will add a significant financial burden to

<sup>3</sup>The reader should note, that due to a comparatively slower resident population growth in the Sahtu Region the numbers of new jobs required over the next decade are no where near those required in the Kitikmeot. This difference is explained in part by net out-migration - that is, more and more younger people are leaving the Sahtu communities to find work elsewhere. In short, the younger population is somewhat more "mobile" than is the case in the Kitikmeot.

already stretched government resources. The implication in this equation as well is that people must be trained and prepared for future jobs, if indeed it is possible to get people to work sites.

Another point is clear - not so much from the above projections of new job requirements over the next decade - but from the reality that it is virtually impossible to rely on local economic growth, that is positive structural economic change, to generate the capacity required to address the anticipated high unemployment, and thus high social dependency that will likely occur.

While it may indeed be considered "alarmist" to suggest there will be dire social problems if job access interventions are not taken immediately - there is truth in the above numbers. In the smaller communities, labour force participation rates are increasing - that is, more and more people are looking for jobs and can't find one, and that community economies are not keeping pace with population growth. Simple arithmetic suggests that unemployment rates and social dependency ought to be the prime targets for public policy and reform of social programming.

Drawing from the previous notation about the costs of social assistance, if no interventions are taken to provide support of some kind to ensure remote community residents in the study area get and keep jobs, the *annual*<sup>4</sup> *"incremental"* cost of social support will be in the order of \$960,000 for the Sahtu Region and \$4,339,200 for the Kitikmeot, for a combined total of \$5,299,200

Given the very real constraints on community economic growth - lack of exports, lack of goods producing industries, high marginal propensity to import, high marginal propensity to consume and vast distance from markets, skill deficiencies, etc. - policy makers will need to acknowledge that surplus labour in the remote communities will have to be supported, through transport and other measures to ensure they can travel to work sites in the future.

### ***Costs and Returns for Subsidizing Remote Community Labour Force Transportation***

Following the preceding income and employment models we have calculated the aggregate impact of a 100 percent transportation subsidy for transporting unemployed workers from remote sites in the Kitikmeot and Sahtu Regions to mining employment

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<sup>4</sup>Based on an average of \$1,600 per month for each unemployed person. Assumes person is married, but no children. With children, the annual cost would be considerably higher as social support is based on number of dependents and other factors. Incremental means over and above what will need to be paid just to maintain current levels of assistance for unemployed people.

rotation pick-up points. The table on the following page shows the overall impact of such a subsidy at a 20 percent penetration of required jobs over the next ten years.

**Summary Table of Study Area  
Regional Income Impact of Mining Employment Labour  
Transport Assistance  
1998 to 2007**

|  | Kitikmeot Region     | Sahtu Region         | Totals               |
|--|----------------------|----------------------|----------------------|
| <b>Disposable Income Calculation:</b>              |                      |                      |                      |
| <i><b>Base Case Total Income</b></i>               | \$ 344,731,970       | \$ 255,972,468       | \$ 600,704,438       |
| Tax Paid   | \$ 49,969,566        | \$ 34,613,007        | \$ 84,582,573        |
| <b>Disposable Income</b>                           | <b>\$294,762,404</b> | <b>\$221,359,461</b> | <b>\$516,121,865</b> |
| <i><b>Incremental Income (From Assistance)</b></i> | \$ 29,250,000        | \$ 7,150,000         | \$ 36,400,000        |
| Tax Paid   | \$ 4,240,405         | \$ 956,020           | \$ 5,196,425         |
| <b>Incremental Disposable Income</b>               | <b>\$25,009,595</b>  | <b>\$6,193,980</b>   | <b>\$31,203,575</b>  |
| <b>Less Social Assistance Reduction</b>            | <b>\$9,096,000</b>   | <b>\$2,120,760</b>   | <b>\$11,216,760</b>  |
| <b>Increased Disposable Income</b>                 | <b>\$310,675,999</b> | <b>\$225,432,681</b> | <b>\$536,108,680</b> |
| <b>Net Incremental Disposable Income</b>           | <b>\$15,913,595</b>  | <b>\$4,073,220</b>   | <b>\$19,986,815</b>  |
| <b>Total Cost of Labour Transport</b>              | <b>\$8,210,350</b>   | <b>\$2,136,469</b>   | <b>\$10,346,819</b>  |

|   |
|---|
| <p align="center">Summary Table of Kitikmeot Regional Income Impact of<br/>Mining Employment Labour Transport Assistance<br/>1998 to 2007</p> |
|---|

|   | Gjoa Haven           | Holman              | Pelly Bay           | Taloyoak            | Totals               |
|---|----------------------|---------------------|---------------------|---------------------|----------------------|
| <b>Disposable Income Calculation:</b>       |                      |                     |                     |                     |                      |
| <i>Base Case Total Income</i>               | \$ 118,903,121       | \$ 60,191,091       | \$ 77,451,091       | \$ 88,186,667       | \$ 344,731,970       |
| Tax Paid                                    | \$ 16,896,133        | \$ 8,697,613        | \$ 11,253,644       | \$ 13,122,176       | \$ 49,969,566        |
| <b>Disposable Income</b>                    | <b>\$102,006,988</b> | <b>\$51,493,478</b> | <b>\$66,197,447</b> | <b>\$75,064,491</b> | <b>\$294,762,404</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 10,400,000        | \$ 4,550,000        | \$ 6,500,000        | \$ 7,800,000        | \$ 29,250,000        |
| Tax Paid                                    | \$ 1,477,840         | \$ 657,475          | \$ 944,450          | \$ 1,160,640        | \$ 4,240,405         |
| <b>Incremental Disposable Income</b>        | <b>\$8,922,160</b>   | <b>\$3,892,525</b>  | <b>\$5,555,550</b>  | <b>\$6,639,360</b>  | <b>\$25,009,595</b>  |
| <b>Less Social Assistance Reduction</b>     | <b>\$3,250,560</b>   | <b>\$1,375,920</b>  | <b>\$2,031,600</b>  | <b>\$2,437,920</b>  | <b>\$9,096,000</b>   |
| <b>Increased Disposable Income</b>          | <b>\$107,678,588</b> | <b>\$54,010,083</b> | <b>\$69,721,397</b> | <b>\$79,265,931</b> | <b>\$310,675,999</b> |
| <b>Net Incremental Disposable Income</b>    | <b>\$5,671,600</b>   | <b>\$2,516,605</b>  | <b>\$3,523,950</b>  | <b>\$4,201,440</b>  | <b>\$15,913,595</b>  |
| <b>Total Cost of Labour Transport</b>       | <b>\$2,398,730</b>   | <b>\$980,190</b>    | <b>\$2,437,030</b>  | <b>\$2,394,400</b>  | <b>\$8,210,350</b>   |

Note: Air Transport Costs Based on Full Commercial Fares

|  |
|--|
| <p align="center"><b>Summary Table of Sahtu Regional Income Impact of<br/>Mining Employment Labour Transport Assistance<br/>1998 to 2007</b></p> |
|--|

|   | Colville Lake      | Deline              | Fort Norman         | Ft. Good Hope       | Totals               |
|---|--------------------|---------------------|---------------------|---------------------|----------------------|
| <b>Disposable Income Calculation:</b>       |                    |                     |                     |                     |                      |
| <i>Base Case Total Income</i>               | \$ 9,747,286       | \$ 95,349,636       | \$ 70,398,970       | \$ 80,476,576       | \$ 255,972,468       |
| Tax Paid                                    | \$ 955,234         | \$ 12,910,341       | \$ 9,553,140        | \$ 11,194,292       | \$ 34,613,007        |
| <b>Disposable Income</b>                    | <b>\$8,792,052</b> | <b>\$82,439,295</b> | <b>\$60,845,830</b> | <b>\$69,282,284</b> | <b>\$221,359,461</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 650,000         | \$ 2,600,000        | \$ 650,000          | \$ 3,250,000        | \$ 7,150,000         |
| Tax Paid                                    | \$ 63,700          | \$ 352,040          | \$ 88,205           | \$ 452,075          | \$ 956,020           |
| <b>Incremental Disposable Income</b>        | <b>\$586,300</b>   | <b>\$2,247,960</b>  | <b>\$561,795</b>    | <b>\$2,797,925</b>  | <b>\$6,193,980</b>   |
| <b>Less Social Assistance Reduction</b>     | <b>\$203,160</b>   | <b>\$760,320</b>    | <b>\$190,080</b>    | <b>\$967,200</b>    | <b>\$2,120,760</b>   |
| <b>Increased Disposable Income</b>          | <b>\$9,175,192</b> | <b>\$83,926,935</b> | <b>\$61,217,545</b> | <b>\$71,113,009</b> | <b>\$225,432,681</b> |
| <b>Net Incremental Disposable Income</b>    | <b>\$383,140</b>   | <b>\$1,487,640</b>  | <b>\$371,715</b>    | <b>\$1,830,725</b>  | <b>\$4,073,220</b>   |
| <b>Total Cost of Labour Transport</b>       | <b>\$85,450</b>    | <b>\$897,320</b>    | <b>\$213,648</b>    | <b>\$940,051</b>    | <b>\$2,136,469</b>   |



From the preceding aggregate tabulation one can make some very important and relevant observations, including:

- On the basis of fully subsidizing approximately transportation for 50 workers in the mining industry (20 percent of the total number of new jobs that will be required to be filled by local people just to maintain the current unemployment rates), earned income would increase by \$36.4 million for a ten year period;
- The cost of a 100 percent transportation subsidy would amount to \$10.3 million, with offsetting reductions in social assistance (that would otherwise have to be paid to the 50 or so unemployed people that constitute our target in this study) of \$11.2 million;
- Personal income tax recoveries to government would represent an additional \$5.2 million which would result from resident employment in the mining industry;

What the above tells us, is that for a total expenditure of approximately, \$10 million over a ten year period - or at an average transportation subsidy cost of \$1 million annually, agencies responsible for employment and income equalization in the Northwest Territories could realize a net gain on diverting a portion of social assistance funds towards underwriting transportation costs for unemployed people in the Kitikmeot and Sahtu Regions.

Thus, if one accepts that without policy interventions to help create the opportunity for new jobs in these areas, social assistance would be the only alternative to provide basic living needs of many residents. The cost burden on government will only increase, relative to the regional population growth and growth in the labour force.

Furthermore, as community residents are becoming better educated their labour force participation rates are increasing as well. However, without jobs, being educated and living in remote communities means being "unemployed".

In essence, mobility will be the key for the future survival of many community populations over the next decade. While increased mobility may indeed have some affects on redefining the social fabric and structure of remote communities, it may very well be the only real and tangible solution to bringing new money in so that a basic lifestyle above historical social assistance levels can be achieved.

On a regional basis, similar patterns emerge, particularly in the Kitikmeot Region, which, as noted earlier, has a resident population base with a significantly higher growth rate and a significantly lower rate of out-migration (when compared to the Sahtu Region). This means of course, that of the two regions, the Kitikmeot will be far require substantially more support if the high financial and human costs of being unemployed and on social assistance are to be avoided.

For a gross expenditure of \$8.2 million on transportation support for potentially unemployed people in the Kitikmeot over the next ten years (based on only a 20 percent penetration of the total number of new jobs that would be required just to maintain current unemployment rates), anticipated social assistance costs could be reduced by \$9 million, person disposable income could be increased by \$25 million, and personal income tax recoveries to Government could increase by another \$4.2 million over the period. This assumes of course, that employment development agencies are prepared to pay for transportation costs of unemployed, but able, people to mining work rotation pick-up points in either Cambridge Bay or Kugluktuk. It also assumes that a 20 percent penetration rate of new jobs required is a realistic target. Given the desire for jobs in these communities, and the very real prospect of new entrants to the labour force over the next decade to be on social assistance, we feel that a 20 percent penetration rate ought to be a minimum target, not a maximum.

***Projection of Labour Force Activity 1994 - 2006***  
***Gjoa Haven***

|                     | 1994<br>LFS | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|-----------------------------------|
| * Popul 15 & Over   | 492         | * 707                             |
| Labour Force        | 291         | 418                               |
| * Employed          | 193         | 277                               |
| * Unemployed        | 98          | 141                               |
| Not in Labour Force | 201         | 289                               |
| Participation Rate  | 59.1        |                                   |
| Unemp. Rate         | 33.7        |                                   |

***Increases to Maintain Current Rates***

|                     |     |
|---------------------|-----|
| Labour Force        | 127 |
| Employment          | 84  |
| Unemployment        | 43  |
| Not in Labour Force | 88  |

Note \* indicates values that need to be entered for model to complete calculations.

## Observations and Implications for Changes in Public Policy

While the author realizes that the preceding analysis make numerous assumptions about population growth, increasing labour force participation, less than adequate local economic growth, and correspondingly increasing unemployment rates and costs of social assistance for remote community populations in the Kitikmeot and Sahtu Regions over the next decade, it is difficult not to accept that without a committed change in public policy and support programs that the unemployment situation will not improve over the next decade. As noted earlier the simple economic dynamics of remote community economies cannot and will not, provide the base for absorbing the ever increasing number of people who will be entering the labour force.

For some twenty to thirty years, economic and employment development agencies have tried to bolster and enhance the capacity of communities economies through a variety of measures, including local production (import substitution) of consumables, harvesting of local fuel wood (import substitution), resource harvesting initiatives and development of small businesses serving a wide range of community needs and services. However, experience has shown, that despite the best efforts of development agencies, remote communities in general have reached a "saturation point" in their ability to sustain much greater levels of business development as an "engine of community growth". Communities can no longer support the level of population growth and the need for corresponding jobs.

Thus from a public policy perspective, particularly in the case of the Kitikmeot Region which is closely positioned to one of the largest diamond exploration and development programs in the world, providing access to jobs and promoting labour force mobility through creative funding arrangements would seem to make sense. In the foregoing analysis (bearing in mind the limitations and assumptions used) we have assumed that responsible agencies would be prepared to underwrite 100 percent of the transportation costs of getting unemployed people in remote communities to job pick-up points. At a 100 percent subsidy of costs, we predicted there would be an enormous return to government, considering that under a social assistance support scenario, there would be no personal tax recoveries and no incremental disposable income at the community levels (where it is most needed).

If the government (the assumption is that government has a responsibility to help offset unemployment in small communities) chose not to subsidize transportation costs to a level of 100 percent, but say at 50 percent, then the return would even be greater - indeed, there is a linear relationship here, and, at a certain point, the government could conceivably make money on a transportation subsidy. The only assumption here would be that the individual employees, or some other agency would be able to pay for the

differential cost between a less than 100 percent transportation subsidy and the actual cost of air/charter fares.

As a final note, while the purpose of this brief analysis was to provide a quantitative look at the income impact of underwriting employment related transportation costs for unemployed people in remote communities, and not to provide an analysis of policy options, we feel constrained to at least indicate that there are some clear choices to be made by responsible agencies, if a costly unemployment situation is to be avoided in the future. The author also realizes that there are shared responsibilities between the Federal and Territorial governments with respect to job and income growth. Accordingly, creative solutions ought to be a shared concern and priority.

Some of these choices include:

- Creation of a Remote Community Transportation Policy and Support Program that would be aimed at increasing the incentive for labour force mobility;
- Redirecting GNWT Social Assistance Funds towards a Transportation Support Program;
- Redirecting Unemployment Insurance Funds towards a Transportation Support Program;
- Recognition by the GNWT Employment Development Strategy Process that transportation assistance is a key element for increasing job access and increasing community labour force mobility;
- Re-thinking the GNWT's economic strategy to ensure the notion that "**small business will be the engine of growth in small communities**" is balanced with the reality that (except for a few exceptional circumstances) community economies have reached a saturation point for new business growth as future employers;
- Finally, at the highest policy level, it must be accepted that access to jobs outside remote communities and labour force mobility should be one of the single most important policy considerations in any economic development strategy and policy/program/support base. Education and training are also an integral part of the strategy framework, but as suggested earlier in this report, having an education and living in a remote community in the future may very well mean being unemployed. As unfortunate as it may seem, an acceptance of employment (and the corresponding public support for it) outside remote communities may very well be the only means for economic survival for the future. The future viability of these communities will depend on it.

**Appendix I - Community Level Detail on Unemployment Rates  
and New Job Requirements for the Kitikmeot Region**

***Projection of Labour Force Activity 1994 - 2006***  
***Holman***

|                     | 1994<br>LFS |   | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|---|-----------------------------------|
| * Popul 15 & Over   | 256         | * | 323                               |
| Labour Force        | 150         |   | 189                               |
| * Employed          | 137         |   | 173                               |
| * Unemployed        | 13          |   | 16                                |
| Not in Labour Force | 106         |   | 134                               |
| Participation Rate  | 58.6        |   |                                   |
| Unemp. Rate         | 8.7         |   |                                   |

***Increases to Maintain Current Rates***

|                     |    |
|---------------------|----|
| Labour Force        | 39 |
| Employment          | 36 |
| Unemployment        | 3  |
| Not in Labour Force | 28 |

Note \* indicates values that need to be entered for model to complete calculations.

***Projection of Labour Force Activity 1994 - 2006***  
***Pelly Bay***

|                     | 1994<br>LFS |   | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|---|-----------------------------------|
| * Popul 15 & Over   | 259         | * | 374                               |
| Labour Force        | 187         |   | 270                               |
| * Employed          | 112         |   | 162                               |
| * Unemployed        | 75          |   | 108                               |
| Not in Labour Force | 72          |   | 104                               |
| Participation Rate  | 72.2        |   |                                   |
| Unemp. Rate         | 40.1        |   |                                   |

***Increases to Maintain Current Rates***

|                     |    |
|---------------------|----|
| Labour Force        | 83 |
| Employment          | 50 |
| Unemployment        | 33 |
| Not in Labour Force | 32 |

Note \* indicates values that need to be entered for model to complete calculations.



***Projection of Labour Force Activity 1994 - 2006***  
***Taloyoak***

|                     | 1994<br>LFS | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|-----------------------------------|
| * Popul 15 & Over   | 392         | * 522                             |
| Labour Force        | 227         | 302                               |
| * Employed          | 168         | 224                               |
| * Unemployed        | 59          | 79                                |
| Not in Labour Force | 165         | 220                               |
| Participation Rate  | 57.9        |                                   |
| Unemp. Rate         | 26.0        |                                   |

***Increases to Maintain Current Rates***

|                     |    |
|---------------------|----|
| Labour Force        | 75 |
| Employment          | 56 |
| Unemployment        | 20 |
| Not in Labour Force | 55 |

Note \* indicates values that need to be entered for model to complete calculations.

Base Case and Incremental Growth In Holman Personal Disposable  
Income

|   | 1998                | 1999                | 2000                | 2001                | 2002                | 2003                | 2004                | 2005                | 2006                | 2007                | Totals               |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| <b>Disposable Income Calculation:</b>       |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |                      |
| <i>Base Case Total Income</i>               | \$ 4,923,564        | \$ 5,167,018        | \$ 5,410,473        | \$ 5,653,927        | \$ 5,897,382        | \$ 6,140,836        | \$ 6,384,291        | \$ 6,627,745        | \$ 6,871,200        | \$ 7,114,655        | \$ 60,191,091        |
| Tax Paid                                    | \$ 711,455          | \$ 746,634          | \$ 781,813          | \$ 816,992          | \$ 852,172          | \$ 887,351          | \$ 922,530          | \$ 957,709          | \$ 992,888          | \$ 1,028,068        | \$ 8,697,613         |
| Tax Rate                                    | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%               |
| <b>Disposable Income</b>                    | <b>\$ 4,212,109</b> | <b>\$ 4,420,384</b> | <b>\$ 4,628,660</b> | <b>\$ 4,836,935</b> | <b>\$ 5,045,210</b> | <b>\$ 5,253,485</b> | <b>\$ 5,461,761</b> | <b>\$ 5,670,036</b> | <b>\$ 5,878,312</b> | <b>\$ 6,086,587</b> | <b>\$ 51,493,478</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 455,000          | \$ 4,550,000         |
| Tax Paid                                    | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 65,748           | \$ 657,475           |
| Tax Rate                                    | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%              | 14.45%               |
| <b>Incremental Disposable Income</b>        | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$389,253</b>    | <b>\$3,892,525</b>   |
| Percentage of Base Case Income              | 9.24%               | 8.81%               | 8.41%               | 8.05%               | 7.72%               | 7.41%               | 7.13%               | 6.87%               | 6.62%               | 6.40%               | 7.56%                |
| Less Social Assistance Reduction            | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 137,592          | \$ 1,375,920         |
| <b>Increased Disposable Income</b>          | <b>\$4,463,770</b>  | <b>\$4,672,044</b>  | <b>\$4,880,320</b>  | <b>\$5,088,595</b>  | <b>\$5,296,871</b>  | <b>\$5,505,146</b>  | <b>\$5,713,421</b>  | <b>\$5,921,696</b>  | <b>\$6,129,972</b>  | <b>\$6,338,248</b>  | <b>\$54,010,083</b>  |
| <b>Net Incremental Disposable Income</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$251,661</b>    | <b>\$2,516,605</b>   |
| <b>Annual Cost of Labour Transport</b>      | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$98,019</b>     | <b>\$980,190</b>     |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 36 jobs or 7 people at 7 each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Full Commercial Airfare to Kugluktuk Pickup Point (Supplied By First Air)

- Income and Costs Not Adjusted for Inflation

- Social Assistance Offset Based on Current Rate of \$1,638 per month per person

Base Case and Incremental Growth In Pelly Bay Personal Disposable Income

|   | 1998                | 1999                | 2000                | 2001                | 2002                | 2003                | 2004                | 2005                | 2006                | 2007                | Totals               |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| <b>Disposable Income Calculation:</b>       |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |                      |
| <i>Base Case Total Income</i>               | \$ 6,037,564        | \$ 6,417,018        | \$ 6,796,473        | \$ 7,175,927        | \$ 7,555,382        | \$ 7,934,836        | \$ 8,314,291        | \$ 8,693,745        | \$ 9,073,200        | \$ 9,452,655        | \$ 77,451,091        |
| Tax Paid                                    | \$ 877,258          | \$ 932,393          | \$ 987,528          | \$ 1,042,662        | \$ 1,097,797        | \$ 1,152,932        | \$ 1,208,066        | \$ 1,263,201        | \$ 1,318,336        | \$ 1,373,471        | \$ 11,253,644        |
| Tax Rate                                    | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%               |
| <b>Disposable Income</b>                    | <b>\$ 5,160,306</b> | <b>\$ 5,484,625</b> | <b>\$ 5,808,945</b> | <b>\$ 6,133,265</b> | <b>\$ 6,457,585</b> | <b>\$ 6,781,904</b> | <b>\$ 7,106,225</b> | <b>\$ 7,430,544</b> | <b>\$ 7,754,864</b> | <b>\$ 8,079,184</b> | <b>\$ 66,197,447</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 650,000          | \$ 6,500,000         |
| Tax Paid                                    | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 94,445           | \$ 944,450           |
| Tax Rate                                    | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%              | 14.53%               |
| <b>Incremental Disposable Income</b>        | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$555,555</b>    | <b>\$5,555,550</b>   |
| Percentage of Base Case Income              | 10.77%              | 10.13%              | 9.56%               | 9.06%               | 8.60%               | 8.19%               | 7.82%               | 7.48%               | 7.16%               | 6.88%               | 8.39%                |
| Less Social Assistance Reduction            | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 203,160          | \$ 2,031,600         |
| <b>Increased Disposable Income</b>          | <b>\$5,512,701</b>  | <b>\$5,837,020</b>  | <b>\$6,161,340</b>  | <b>\$6,485,660</b>  | <b>\$6,809,980</b>  | <b>\$7,134,299</b>  | <b>\$7,458,620</b>  | <b>\$7,782,939</b>  | <b>\$8,107,259</b>  | <b>\$8,431,579</b>  | <b>\$69,721,397</b>  |
| <b>Net Incremental Disposable Income</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$352,395</b>    | <b>\$3,523,950</b>   |
| <b>Annual Cost of Labour Transport</b>      | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$243,703</b>    | <b>\$2,437,030</b>   |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 50 jobs or 10 people at 10 each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Full Commercial Airfare to Cambridge Bay Pickup Point (Supplied By First Air)

- Income and Costs Not Adjusted for Inflation

- Social Assistance Offset Based on Current Rate of \$1,693 per month per person

**Appendix II - Historical Community Base Case Income Models  
for the Kitikmeot Region**

## Growth In Gjoa Haven Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$2,530,000        | \$2,713,000        | \$3,189,000        | \$3,734,000        | \$4,026,000        | \$4,146,000        | \$5,135,000        | \$6,573,000        | \$7,239,000        | \$6,904,000        |
| Tax Paid                              | 366,000            | 438,000            | 454,000            | 536,000            | 588,000            | 617,000            | 755,000            | 790,000            | 952,000            | 932,000            |
| Tax Rate                              | 14.47%             | 16.14%             | 14.24%             | 14.35%             | 14.61%             | 14.88%             | 14.70%             | 12.02%             | 13.15%             | 13.50%             |
| <b>Disposable Income</b>              | <b>\$2,164,000</b> | <b>\$2,275,000</b> | <b>\$2,735,000</b> | <b>\$3,198,000</b> | <b>\$3,438,000</b> | <b>\$3,529,000</b> | <b>\$4,380,000</b> | <b>\$5,783,000</b> | <b>\$6,287,000</b> | <b>\$5,972,000</b> |

Source: GNWT Statistics Bureau - Personal Income Report

## Growth In Holman Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$1,559,000        | \$1,833,000        | \$2,260,000        | \$2,796,000        | \$2,750,000        | \$3,242,000        | \$3,227,000        | \$3,634,000        | \$3,396,000        | \$3,845,000        |
| Tax Paid                              | 232,000            | 297,000            | 321,000            | 410,000            | 387,000            | 488,000            | 441,000            | 461,000            | 479,000            | 576,000            |
| Tax Rate                              | 14.88%             | 16.20%             | 14.20%             | 14.66%             | 14.07%             | 15.05%             | 13.67%             | 12.69%             | 14.10%             | 14.98%             |
| <b>Disposable Income</b>              | <b>\$1,327,000</b> | <b>\$1,536,000</b> | <b>\$1,939,000</b> | <b>\$2,386,000</b> | <b>\$2,363,000</b> | <b>\$2,754,000</b> | <b>\$2,786,000</b> | <b>\$3,173,000</b> | <b>\$2,917,000</b> | <b>\$3,269,000</b> |

Source: GNWT Bureau of Statistics - Personal Income Report

## Growth In Pelly Bay Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$1,350,000        | \$1,734,000        | \$1,861,000        | \$2,056,000        | \$2,373,000        | \$2,763,000        | \$3,078,000        | \$3,580,000        | \$4,548,000        | \$4,779,000        |
| Tax Paid                              | 211,000            | 271,018            | 274,000            | 250,000            | 323,000            | 401,000            | 477,000            | 448,000            | 687,000            | 763,000            |
| Tax Rate                              | 15.63%             | 15.63%             | 14.72%             | 12.16%             | 13.61%             | 14.51%             | 15.50%             | 12.51%             | 15.11%             | 15.97%             |
| <b>Disposable Income</b>              | <b>\$1,139,000</b> | <b>\$1,462,982</b> | <b>\$1,587,000</b> | <b>\$1,806,000</b> | <b>\$2,050,000</b> | <b>\$2,362,000</b> | <b>\$2,601,000</b> | <b>\$3,132,000</b> | <b>\$3,861,000</b> | <b>\$4,016,000</b> |

Source: GNWT Statistics Bureau - Personal Income Report

## Growth In Taloyoak Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$2,564,000        | \$2,702,000        | \$3,003,000        | \$3,698,000        | \$3,710,000        | \$4,124,000        | \$4,471,000        | \$5,273,000        | \$5,451,000        | \$5,576,000        |
| Tax Paid                              | 412,000            | 447,000            | 438,000            | 536,000            | 548,000            | 636,000            | 678,000            | 724,000            | 792,000            | 751,000            |
| Tax Rate                              | 16.07%             | 16.54%             | 14.59%             | 14.49%             | 14.77%             | 15.42%             | 15.16%             | 13.73%             | 14.53%             | 13.47%             |
| <b>Disposable Income</b>              | <b>\$2,152,000</b> | <b>\$2,255,000</b> | <b>\$2,565,000</b> | <b>\$3,162,000</b> | <b>\$3,162,000</b> | <b>\$3,488,000</b> | <b>\$3,793,000</b> | <b>\$4,549,000</b> | <b>\$4,659,000</b> | <b>\$4,825,000</b> |

Source: GNWT Statistics Bureau - Personal Income Report



Base Case and Incremental Growth In Taloyoak  
Personal Disposable Income

|   | 1998                | 1999                | 2000                | 2001                | 2002                | 2003                | 2004                | 2005                | 2006                | 2007                | Totals               |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| <b>Disposable Income Calculation:</b>       |                     |                     |                     |                     |                     |                     |                     |                     |                     |                     |                      |
| <i>Base Case Total Income</i>               | \$ 7,170,467        | \$ 7,536,733        | \$ 7,903,000        | \$ 8,269,267        | \$ 8,635,533        | \$ 9,001,800        | \$ 9,368,067        | \$ 9,734,333        | \$ 10,100,600       | \$ 10,466,867       | \$ 88,186,667        |
| Tax Paid                                    | \$ 1,066,965        | \$ 1,121,466        | \$ 1,175,966        | \$ 1,230,467        | \$ 1,284,967        | \$ 1,339,468        | \$ 1,393,968        | \$ 1,448,469        | \$ 1,502,969        | \$ 1,557,470        | \$ 13,122,176        |
| Tax Rate                                    | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%               |
| <b>Disposable Income</b>                    | <b>\$ 6,103,502</b> | <b>\$ 6,415,267</b> | <b>\$ 6,727,034</b> | <b>\$ 7,038,800</b> | <b>\$ 7,350,566</b> | <b>\$ 7,662,332</b> | <b>\$ 7,974,099</b> | <b>\$ 8,285,864</b> | <b>\$ 8,597,631</b> | <b>\$ 8,909,397</b> | <b>\$ 75,064,491</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 780,000          | \$ 7,800,000         |
| Tax Paid                                    | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 116,064          | \$ 1,160,640         |
| Tax Rate                                    | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%              | 14.88%               |
| <b>Incremental Disposable Income</b>        | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$663,936</b>    | <b>\$6,639,360</b>   |
| Percentage of Base Case Income              | 10.88%              | 10.35%              | 9.87%               | 9.43%               | 9.03%               | 8.66%               | 8.33%               | 8.01%               | 7.72%               | 7.45%               | 8.84%                |
| Less Social Assistance Reduction            | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 243,792          | \$ 2,437,920         |
| <b>Increased Disposable Income</b>          | <b>\$6,523,646</b>  | <b>\$6,835,411</b>  | <b>\$7,147,178</b>  | <b>\$7,458,944</b>  | <b>\$7,770,710</b>  | <b>\$8,082,476</b>  | <b>\$8,394,243</b>  | <b>\$8,706,008</b>  | <b>\$9,017,775</b>  | <b>\$9,329,541</b>  | <b>\$79,265,931</b>  |
| <b>Net Incremental Disposable Income</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$420,144</b>    | <b>\$4,201,440</b>   |
| <b>Annual Cost of Labour Transport</b>      | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$239,440</b>    | <b>\$2,394,400</b>   |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 56 jobs or 12 people each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Full Commercial Airfare to Cambridge Bay Pickup Point (Supplied By First Air)

- Income and Costs Not Adjusted for Inflation

- Social Assistance Offset Based on Current Rate of \$1,693 per month per person

**Appendix III - Community Level Detail on Unemployment Rates  
and New Job Requirements in the Sahtu Region**

***Projection of Labour Force Activity 1994 - 2006***  
***Colville Lake***

|                     | 1994<br>LFS | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|-----------------------------------|
| * Popul 15 & Over   | 48          | * 52                              |
| Labour Force        | 28          | 30                                |
| * Employed          | 23          | 25                                |
| * Unemployed        | 5           | 5                                 |
| Not in Labour Force | 20          | 22                                |
| Participation Rate  | 58.3        |                                   |
| Unemp. Rate         | 17.9        |                                   |

***Increases to Maintain Current Rates***

|                     |   |
|---------------------|---|
| Labour Force        | 2 |
| Employment          | 2 |
| Unemployment        | 0 |
| Not in Labour Force | 2 |

Note \* indicates values that need to be entered for model to complete calculations.

Base Case and Incremental Growth In Gjoa Haven Personal Disposable Income

|   | 1998                | 1999                | 2000                | 2001                | 2002                | 2003                 | 2004                 | 2005                 | 2006                 | 2007                 | Totals                |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
| <b>Disposable Income Calculation:</b>       |                     |                     |                     |                     |                     |                      |                      |                      |                      |                      |                       |
| <i>Base Case Total Income</i>               | \$ 9,373,285        | \$ 9,932,624        | \$ 10,491,964       | \$ 11,051,303       | \$ 11,610,642       | \$ 12,169,982        | \$ 12,729,321        | \$ 13,288,661        | \$ 13,848,000        | \$ 14,407,339        | \$ 118,903,121        |
| Tax Paid                                    | \$ 1,331,944        | \$ 1,411,426        | \$ 1,490,908        | \$ 1,570,390        | \$ 1,649,872        | \$ 1,729,354         | \$ 1,808,837         | \$ 1,888,319         | \$ 1,967,801         | \$ 2,047,283         | \$ 16,896,133         |
| Tax Rate                                    | 14.21%              | 14.21%              | 14.21%              | 14.21%              | 14.21%              | 14.21%               | 14.21%               | 14.21%               | 14.21%               | 14.21%               | 14.21%                |
| <b>Disposable Income</b>                    | <b>\$ 8,041,341</b> | <b>\$ 8,521,198</b> | <b>\$ 9,001,056</b> | <b>\$ 9,480,913</b> | <b>\$ 9,960,770</b> | <b>\$ 10,440,628</b> | <b>\$ 10,920,484</b> | <b>\$ 11,400,342</b> | <b>\$ 11,880,199</b> | <b>\$ 12,360,056</b> | <b>\$ 102,006,988</b> |
| <i>Incremental Income (From Assistance)</i> | \$ 1,040,000        | \$ 1,040,000        | \$ 1,040,000        | \$ 1,040,000        | \$ 1,040,000        | \$ 1,040,000         | \$ 1,040,000         | \$ 1,040,000         | \$ 1,040,000         | \$ 1,040,000         | \$ 10,400,000         |
| Tax Paid                                    | \$ 147,784          | \$ 147,784          | \$ 147,784          | \$ 147,784          | \$ 147,784          | \$ 147,784           | \$ 147,784           | \$ 147,784           | \$ 147,784           | \$ 147,784           | \$ 1,477,840          |
| Tax Rate                                    | 14.21%              | 14.21%              | 14.21%              | 14.21%              | 14.21%              | 14.21%               | 14.21%               | 14.21%               | 14.21%               | 14.21%               | 14.21%                |
| <b>Incremental Disposable Income</b>        | <b>\$892,216</b>    | <b>\$892,216</b>    | <b>\$892,216</b>    | <b>\$892,216</b>    | <b>\$892,216</b>    | <b>\$892,216</b>     | <b>\$892,216</b>     | <b>\$892,216</b>     | <b>\$892,216</b>     | <b>\$892,216</b>     | <b>\$8,922,160</b>    |
| Percentage of Base Case Income              | 11.10%              | 10.47%              | 9.91%               | 9.41%               | 8.96%               | 8.55%                | 8.17%                | 7.83%                | 7.51%                | 7.22%                | 8.75%                 |
| Less Social Assistance Reduction            | \$ 325,056          | \$ 325,056          | \$ 325,056          | \$ 325,056          | \$ 325,056          | \$ 325,056           | \$ 325,056           | \$ 325,056           | \$ 325,056           | \$ 325,056           | \$ 3,250,560          |
| <b>Increased Disposable Income</b>          | <b>\$8,608,501</b>  | <b>\$9,088,358</b>  | <b>\$9,568,216</b>  | <b>\$10,048,073</b> | <b>\$10,527,930</b> | <b>\$11,007,788</b>  | <b>\$11,487,644</b>  | <b>\$11,967,502</b>  | <b>\$12,447,359</b>  | <b>\$12,927,216</b>  | <b>\$107,678,588</b>  |
| <b>Net Incremental Disposable Income</b>    | <b>\$567,160</b>    | <b>\$567,160</b>    | <b>\$567,160</b>    | <b>\$567,160</b>    | <b>\$567,160</b>    | <b>\$567,160</b>     | <b>\$567,160</b>     | <b>\$567,160</b>     | <b>\$567,160</b>     | <b>\$567,160</b>     | <b>\$5,671,600</b>    |
| <b>Annual Cost of Labour Transport</b>      | <b>\$239,873</b>    | <b>\$239,873</b>    | <b>\$239,873</b>    | <b>\$239,873</b>    | <b>\$239,873</b>    | <b>\$239,873</b>     | <b>\$239,873</b>     | <b>\$239,873</b>     | <b>\$239,873</b>     | <b>\$239,873</b>     | <b>\$2,398,730</b>    |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 84 jobs or 16 people at 16 each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Full Commercial Airfare to Cambridge Bay Pickup Point (Supplied By First Air)

- Income and Costs Not Adjusted for Inflation

- Social Assistance Offset Based on Current Rate of \$1,693 per month per person

***Projection of Labour Force Activity 1994 - 2006***  
***Deline***

|                     | 1994<br>LFS | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|-----------------------------------|
| * Popul 15 & Over   | 367         | * 438                             |
| Labour Force        | 208         | 248                               |
| * Employed          | 111         | 132                               |
| * Unemployed        | 97          | 116                               |
| Not in Labour Force | 159         | 190                               |
| Participation Rate  | 56.7        |                                   |
| Unemp. Rate         | 46.6        |                                   |

***Increases to Maintain Current Rates***

|                     |    |
|---------------------|----|
| Labour Force        | 40 |
| Employment          | 21 |
| Unemployment        | 19 |
| Not in Labour Force | 31 |

Note \* indicates values that need to be entered for model to complete calculations.

***Projection of Labour Force Activity 1994 - 2006***  
***Fort Norman***

|                     | 1994<br>LFS |   | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|---|-----------------------------------|
| * Popul 15 & Over   | 303         | * | 316                               |
| Labour Force        | 206         |   | 215                               |
| * Employed          | 124         |   | 129                               |
| * Unemployed        | 82          |   | 86                                |
| Not in Labour Force | 97          |   | 101                               |
| Participation Rate  | 68.0        |   |                                   |
| Unemp. Rate         | 39.8        |   |                                   |

***Increases to Maintain Current Rates***

|                     |   |
|---------------------|---|
| Labour Force        | 9 |
| Employment          | 5 |
| Unemployment        | 4 |
| Not in Labour Force | 4 |

Note \* indicates values that need to be entered for model to complete calculations.

***Projection of Labour Force Activity 1994 - 2006***  
***Fort Good Hope***

|                     | 1994<br>LFS |   | 2006<br>Proj. Popul.<br>15 & Over |
|---------------------|-------------|---|-----------------------------------|
| * Popul 15 & Over   | 438         | * | 480                               |
| Labour Force        | 293         |   | 321                               |
| * Employed          | 234         |   | 256                               |
| * Unemployed        | 59          |   | 65                                |
| Not in Labour Force | 145         |   | 159                               |
| Participation Rate  | 66.9        |   |                                   |
| Unemp. Rate         | 20.1        |   |                                   |

***Increases to Maintain Current Rates***

|                     |    |
|---------------------|----|
| Labour Force        | 28 |
| Employment          | 22 |
| Unemployment        | 6  |
| Not in Labour Force | 14 |

Note \* indicates values that need to be entered for model to complete calculations.

## Growth In Deline Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$2,711,000        | \$2,609,000        | \$2,983,000        | \$3,080,000        | \$3,681,000        | \$4,214,000        | \$4,872,000        | \$5,554,000        | \$5,121,000        | \$6,317,000        |
| Tax Paid                              | 389,000            | 353,000            | 375,000            | 375,000            | 490,000            | 580,000            | 704,000            | 745,000            | 666,000            | 934,000            |
| Tax Rate                              | 14.35%             | 13.53%             | 12.57%             | 12.18%             | 13.31%             | 13.76%             | 14.45%             | 13.41%             | 13.01%             | 14.79%             |
| <b>Disposable Income</b>              | <b>\$2,322,000</b> | <b>\$2,256,000</b> | <b>\$2,608,000</b> | <b>\$2,705,000</b> | <b>\$3,191,000</b> | <b>\$3,634,000</b> | <b>\$4,168,000</b> | <b>\$4,809,000</b> | <b>\$4,455,000</b> | <b>\$5,383,000</b> |

Source: GNWT Bureau of Statistics - Personal Income Report



## Growth In Ft. Good Hope Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$3,359,000        | \$3,339,000        | \$3,160,000        | \$3,881,000        | \$4,063,000        | \$3,922,000        | \$4,533,000        | \$4,837,000        | \$5,468,000        | \$5,927,000        |
| Tax Paid                              | 580,000            | 616,000            | 434,000            | 512,000            | 500,000            | 506,000            | 625,000            | 590,000            | 681,000            | 761,000            |
| Tax Rate                              | 17.27%             | 18.45%             | 13.73%             | 13.19%             | 12.31%             | 12.90%             | 13.79%             | 12.20%             | 12.45%             | 12.84%             |
| <b>Disposable Income</b>              | <b>\$2,779,000</b> | <b>\$2,723,000</b> | <b>\$2,726,000</b> | <b>\$3,369,000</b> | <b>\$3,563,000</b> | <b>\$3,416,000</b> | <b>\$3,908,000</b> | <b>\$4,247,000</b> | <b>\$4,787,000</b> | <b>\$5,166,000</b> |

Source: GNWT Bureau of Statistics - Personal Income Report

## Growth In Fort Norman Personal Disposable Income

|                                       | 1985               | 1986               | 1987               | 1988               | 1989               | 1990               | 1991               | 1992               | 1993               | 1994               |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b> |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Total Income                          | \$2,154,000        | \$3,252,000        | \$2,534,000        | \$2,841,000        | \$3,135,000        | \$3,473,000        | \$3,803,000        | \$4,975,000        | \$4,714,000        | \$4,273,000        |
| Tax Paid                              | 319,000            | 367,000            | 327,000            | 364,000            | 432,000            | 499,000            | 543,000            | 694,000            | 653,000            | 584,000            |
| Tax Rate                              | 14.81%             | 11.29%             | 12.90%             | 12.81%             | 13.78%             | 14.37%             | 14.28%             | 13.95%             | 13.85%             | 13.67%             |
| <b>Disposable Income</b>              | <b>\$1,835,000</b> | <b>\$2,885,000</b> | <b>\$2,207,000</b> | <b>\$2,477,000</b> | <b>\$2,703,000</b> | <b>\$2,974,000</b> | <b>\$3,260,000</b> | <b>\$4,281,000</b> | <b>\$4,061,000</b> | <b>\$3,689,000</b> |

Source: GNWT Bureau of Statistics - Personal Income Report

## Appendix IV - Historical Community Base Case Income Models for the Sahtu Region

## Growth In Colville Lake Personal Disposable Income

|                                       | 1985       | 1986       | 1987       | 1988       | 1989             | 1990             | 1991             | 1992             | 1993             | 1994             |
|---------------------------------------|------------|------------|------------|------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Disposable Income Calculation:</b> |            |            |            |            |                  |                  |                  |                  |                  |                  |
| Total Income                          |            |            |            |            | \$161,000        | \$258,000        | \$295,000        | \$370,000        | \$454,000        | \$439,000        |
| Tax Paid                              |            |            |            |            |                  |                  | 25,000           | 36,000           | 58,000           | 36,000           |
| Tax Rate                              |            |            |            |            |                  |                  | 8.47%            | 9.73%            | 12.78%           | 8.20%            |
| <b>Disposable Income</b>              | <b>\$0</b> | <b>\$0</b> | <b>\$0</b> | <b>\$0</b> | <b>\$161,000</b> | <b>\$258,000</b> | <b>\$270,000</b> | <b>\$334,000</b> | <b>\$396,000</b> | <b>\$403,000</b> |

Source: GNWT Bureau of Statistics - Personal Income Report

Note: - Data for Earlier Years Not Reported for Confidentiality Reasons

Base Case and Incremental Growth In Colville Lake  
Personal Disposable Income

|   | 1998             | 1999             | 2000             | 2001             | 2002             | 2003             | 2004             | 2005               | 2006               | 2007               | Totals             |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|
| <b>Disposable Income Calculation:</b>       |                  |                  |                  |                  |                  |                  |                  |                    |                    |                    |                    |
| <b>Base Case Total Income</b>               | \$710,771        | \$769,429        | \$828,086        | \$886,743        | \$945,400        | \$1,004,057      | \$1,062,714      | \$1,121,371        | \$1,180,029        | \$1,238,686        | \$9,747,286        |
| Tax Paid                                    | 69,656           | 75,404           | 81,152           | 86,901           | 92,649           | 98,398           | 104,146          | 109,894            | 115,643            | 121,391            | \$955,234          |
| Tax Rate                                    | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%              | 9.80%              | 9.80%              |                    |
| <b>Disposable Income</b>                    | <b>\$641,115</b> | <b>\$694,025</b> | <b>\$746,934</b> | <b>\$799,842</b> | <b>\$852,751</b> | <b>\$905,659</b> | <b>\$958,568</b> | <b>\$1,011,477</b> | <b>\$1,064,386</b> | <b>\$1,117,295</b> | <b>\$8,792,052</b> |
| <b>Incremental Income (From Assistance)</b> | \$65,000         | \$65,000         | \$65,000         | \$65,000         | \$65,000         | \$65,000         | \$65,000         | \$65,000           | \$65,000           | \$65,000           | \$650,000          |
| Tax Paid                                    | 6,370            | 6,370            | 6,370            | 6,370            | 6,370            | 6,370            | 6,370            | 6,370              | 6,370              | 6,370              | 63,700             |
| Tax Rate                                    | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%            | 9.80%              | 9.80%              | 9.80%              |                    |
| <b>Incremental Disposable Income</b>        | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>  | <b>\$58,630</b>    | <b>\$58,630</b>    | <b>\$58,630</b>    | <b>\$586,300</b>   |
| Percentage of Base Case Income              | 9.14%            | 8.45%            | 7.85%            | 7.33%            | 6.88%            | 6.47%            | 6.12%            | 5.80%              | 5.51%              | 5.25%              | 6.67%              |
| <b>Less Social Assistance Reduction</b>     | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>  | <b>\$20,316</b>    | <b>\$20,316</b>    | <b>\$20,316</b>    | <b>\$203,160</b>   |
| <b>Increased Disposable Income</b>          | <b>\$679,429</b> | <b>\$732,339</b> | <b>\$785,248</b> | <b>\$838,156</b> | <b>\$891,065</b> | <b>\$943,973</b> | <b>\$996,882</b> | <b>\$1,049,791</b> | <b>\$1,102,700</b> | <b>\$1,155,609</b> | <b>\$9,175,192</b> |
| <b>Net Incremental Disposable Income</b>    | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>  | <b>\$38,314</b>    | <b>\$38,314</b>    | <b>\$38,314</b>    | <b>\$383,140</b>   |
| <b>Annual Cost of Labour Transport</b>      | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>   | <b>\$8,545</b>     | <b>\$8,545</b>     | <b>\$8,545</b>     | <b>\$85,450</b>    |

*Incremental Income Based on 1 New Job Filled Over Next 10 years*

- 1 person for each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Regional Labour Collection Charter to Yellowknife every 2 weeks

- Income and Costs Not Adjusted for Inflation

- Average Transport Costs Are Allocated on Relative Number of Workers From Each Community

- Total Annual Air Charter Cost Based on 2 wk. Rotation, Twin Otter at \$17,804 per month for region

- Colville Lake Relative Share of Transport Costs = 4.0%

- Social Assistance Offset Based on Current Rate of \$1,693 per month per person

## Base Case and Incremental Growth In Deline Personal Disposable Income

|   | 1998               | 1999               | 2000               | 2001               | 2002               | 2003               | 2004               | 2005               | 2006               | 2007                | Totals              |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| <b>Disposable Income Calculation:</b>       |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |                     |
| <i>Base Case Total Income</i>               | \$7,658,545        | \$8,075,527        | \$8,492,509        | \$8,909,491        | \$9,326,473        | \$9,743,455        | \$10,160,436       | \$10,577,418       | \$10,994,400       | \$11,411,382        | \$95,349,636        |
| Tax Paid                                    | 1,036,967          | 1,093,426          | 1,149,886          | 1,206,345          | 1,262,804          | 1,319,264          | 1,375,723          | 1,432,182          | 1,488,642          | 1,545,101           | \$12,910,341        |
| Tax Rate                                    | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%              |                     |
| <b>Disposable Income</b>                    | <b>\$6,621,578</b> | <b>\$6,982,101</b> | <b>\$7,342,623</b> | <b>\$7,703,146</b> | <b>\$8,063,669</b> | <b>\$8,424,191</b> | <b>\$8,784,713</b> | <b>\$9,145,236</b> | <b>\$9,505,758</b> | <b>\$9,866,281</b>  | <b>\$82,439,295</b> |
| <i>Incremental Income (From Assistance)</i> | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000          | \$260,000           | \$2,600,000         |
| Tax Paid                                    | 35,204             | 35,204             | 35,204             | 35,204             | 35,204             | 35,204             | 35,204             | 35,204             | 35,204             | 35,204              | 352,040             |
| Tax Rate                                    | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%             | 13.54%              |                     |
| <b>Incremental Disposable Income</b>        | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>   | <b>\$224,796</b>    | <b>\$2,247,960</b>  |
| Percentage of Base Case Income              | 3.39%              | 3.22%              | 3.06%              | 2.92%              | 2.79%              | 2.67%              | 2.56%              | 2.46%              | 2.36%              | 2.28%               | 2.73%               |
| Less Social Assistance Reduction            | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032           | \$76,032            | \$760,320           |
| <b>Increased Disposable Income</b>          | <b>\$6,770,342</b> | <b>\$7,130,865</b> | <b>\$7,491,387</b> | <b>\$7,851,910</b> | <b>\$8,212,433</b> | <b>\$8,572,955</b> | <b>\$8,933,477</b> | <b>\$9,294,000</b> | <b>\$9,654,522</b> | <b>\$10,015,045</b> | <b>\$83,926,935</b> |
| Net Incremental Disposable Income           | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764          | \$148,764           | \$1,487,640         |
| Annual Cost of Labour Transport             | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732           | \$89,732            | \$897,320           |

*Incremental Income Based on 10 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 21 or 4 jobs or 2 people each 2 wk. rotation

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Regional Labour Collection Charter to Yellowknife every 2 weeks

- Income and Costs Not Adjusted for Inflation

- Average Transport Costs Are Allocated on Relative Number of Workers From Each Community

- Total Annual Air Charter Cost Based on 2 wk. Rotation, Twin Otter at \$17,804 per month

- Deline Relative Share of Transport Costs = 42%

- Social Assistance Offset Based on Current Rate of \$1,584 per month per person

Base Case and Incremental Growth In Fort Norman  
Personal Disposable Income

|   | 1998               | 1999               | 2000               | 2001               | 2002               | 2003               | 2004               | 2005               | 2006               | 2007               | Totals              |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| <b>Disposable Income Calculation:</b>       |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |
| <i>Base Case Total Income</i>               | \$5,819,879        | \$6,090,994        | \$6,362,109        | \$6,633,224        | \$6,904,339        | \$7,175,455        | \$7,446,570        | \$7,717,685        | \$7,988,800        | \$8,259,915        | \$70,398,970        |
| Tax Paid                                    | 789,758            | 826,548            | 863,338            | 900,128            | 936,919            | 973,709            | 1,010,500          | 1,047,290          | 1,084,080          | 1,120,870          | \$9,553,140         |
| Tax Rate                                    | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%              |
| <b>Disposable Income</b>                    | <b>\$5,030,121</b> | <b>\$5,264,446</b> | <b>\$5,498,771</b> | <b>\$5,733,096</b> | <b>\$5,967,420</b> | <b>\$6,201,746</b> | <b>\$6,436,070</b> | <b>\$6,670,395</b> | <b>\$6,904,720</b> | <b>\$7,139,045</b> | <b>\$60,845,830</b> |
| <i>Incremental Income (From Assistance)</i> | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$65,000           | \$650,000           |
| Tax Paid                                    | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 8,821              | 88,205              |
| Tax Rate                                    | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%             | 13.57%              |
| <b>Incremental Disposable Income</b>        | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$56,180</b>    | <b>\$561,795</b>    |
| Percentage of Base Case Income              | 1.12%              | 1.07%              | 1.02%              | 0.98%              | 0.94%              | 0.91%              | 0.87%              | 0.84%              | 0.81%              | 0.79%              | 0.92%               |
| <b>Less Social Assistance Reduction</b>     | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$19,008</b>    | <b>\$190,080</b>    |
| <b>Increased Disposable Income</b>          | <b>\$5,067,293</b> | <b>\$5,301,618</b> | <b>\$5,535,942</b> | <b>\$5,770,267</b> | <b>\$6,004,592</b> | <b>\$6,238,917</b> | <b>\$6,473,242</b> | <b>\$6,707,567</b> | <b>\$6,941,891</b> | <b>\$7,176,216</b> | <b>\$61,217,545</b> |
| <b>Net Incremental Disposable Income</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$37,172</b>    | <b>\$371,715</b>    |
| <b>Annual Cost of Labour Transport</b>      | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$21,365</b>    | <b>\$213,648</b>    |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

- e.g. 20% of 5 jobs or 1 person for each second 2 wk. rotation.

- Average Annual Mining Wages Assumed at \$65,000

Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report

1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data

Direct Cost of Labour Transport Based on Regional Labour Collection Charter to Yellowknife every 2 weeks

- Income and Costs Not Adjusted for Inflation

- Average Transport Costs Are Allocated on Relative Number of Workers From Each Community

- Total Annual Air Charter Cost Based on 2 wk. Rotation, Twin Otter at \$17,804 per month

- Fort Norman Relative Share of Transport Costs = 10%

- Social Assistance Offset Based on Current Rate of \$1,584 per month per person

Base Case and Incremental Growth In Ft. Good Hope Personal  
Disposable Income

|   | 1998               | 1999               | 2000               | 2001               | 2002               | 2003               | 2004               | 2005               | 2006               | 2007               | Totals              |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| <b>Disposable Income Calculation:</b>       |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                     |
| <b>Base Case Total Income</b>               | \$6,732,703        | \$7,024,915        | \$7,317,127        | \$7,609,339        | \$7,901,552        | \$8,193,764        | \$8,485,976        | \$8,778,188        | \$9,070,400        | \$9,362,612        | \$80,476,576        |
| Tax Paid                                    | 936,519            | 977,166            | 1,017,812          | 1,058,459          | 1,099,106          | 1,139,753          | 1,180,399          | 1,221,046          | 1,261,693          | 1,302,339          | \$11,194,292        |
| Tax Rate                                    | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%              |
| <b>Disposable Income</b>                    | <b>\$5,796,184</b> | <b>\$6,047,749</b> | <b>\$6,299,315</b> | <b>\$6,550,880</b> | <b>\$6,802,446</b> | <b>\$7,054,011</b> | <b>\$7,305,577</b> | <b>\$7,557,142</b> | <b>\$7,808,707</b> | <b>\$8,060,273</b> | <b>\$69,282,284</b> |
| <b>Incremental Income (From Assistance)</b> | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$325,000          | \$3,250,000         |
| Tax Paid                                    | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 45,208             | 452,075             |
| Tax Rate                                    | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%             | 13.91%              |
| <b>Incremental Disposable Income</b>        | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$279,793</b>   | <b>\$2,797,925</b>  |
| Percentage of Base Case Income              | 4.83%              | 4.63%              | 4.44%              | 4.27%              | 4.11%              | 3.97%              | 3.83%              | 3.70%              | 3.58%              | 3.47%              | 4.04%               |
| <b>Less Social Assistance Reduction</b>     | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$96,720</b>    | <b>\$967,200</b>    |
| <b>Increased Disposable Income</b>          | <b>\$5,979,257</b> | <b>\$6,230,822</b> | <b>\$6,482,387</b> | <b>\$6,733,952</b> | <b>\$6,985,519</b> | <b>\$7,237,084</b> | <b>\$7,488,649</b> | <b>\$7,740,215</b> | <b>\$7,991,780</b> | <b>\$8,243,345</b> | <b>\$71,113,009</b> |
| <b>Net Incremental Disposable Income</b>    | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$183,073</b>   | <b>\$1,830,725</b>  |
| <b>Average Cost of Labour Transport</b>     | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$94,005</b>    | <b>\$940,051</b>    |

*Incremental Income Based on 20 Percent Penetration/Retention of New Jobs Required Over Next 10 years*

*- e.g. approximately 20% of 22 or 5 jobs -approximately 2 to 3 people each 2 wk. rotation*

*- Average Annual Mining Wages Assumed at \$65,000*

*Source: Baseline Historical Data from GNWT Bureau of Statistics - Personal Income Report*

*1998 - 2007 Income Projection Based on "Least Squares Regression" of Historical Time Series Data*

*Direct Cost of Labour Transport Based on Regional Labour Collection Charter to Yellowknife every 2 weeks*

*- Income and Costs Not Adjusted for Inflation*

*- Average Transport Costs Are Allocated on Relative Number of Workers From Each Community*

*- Total Annual Air Charter Cost Based on 2 wk. Rotation, Twin Otter at \$17,804 per month*

*- Ft. Good Hope Relative Share of Transport Costs = 44%*

*- Social Assistance Offset Based on Current Rate of \$1,612 per month per person*