

## **Appendix A**

### **Company Predictions**

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

COMPANY	PREDICTION
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## COMMUNITY, FAMILY & INDIVIDUAL WELL-BEING TRENDS

### 1 Individual Well-Being

**BHP** “... project employment could aggravate existing social problems by increasing stress and related alcohol abuse, by alienating people from traditional lifestyles and by increasing the pace of change in communities already having difficulty dealing with change.”<sup>1</sup>

“Small communities with less wage employment experience, particularly industrial employment, will be more affected by internal factors that determine their ability to handle change...even a half dozen people working directly for the project could increase total community personal income by as much as 15%. The impacts in these communities will be in direct relationship to a community’s ability to cope with rotational employment absences and spending of new wage employment dollars.”<sup>2</sup>

**DE BEERS** De Beers noted that expansion of the wage economy into communities, through the development of the Snap Lake Diamond Project, may exacerbate certain pre-existing dysfunctional conditions in the communities. It clarified this was a reference to substance abuse, drug addiction, suicide rates, teen pregnancy, fetal alcohol effect (FAE) and fetal alcohol syndrome (FAS), sexual abuse, HIV/Aids, and Hepatitis C.<sup>3</sup>  
“Job training programs may provide incentives to enrol in substance abuse and alcohol addiction treatment. This, in turn, may have long-lasting physical and mental health benefits to the individual being treated.”<sup>4</sup>

**DAIVIK** “An inflow of single transient workers, and students involved in rotational employment may bring an element of instability to and affect the human health of the community.”<sup>5</sup>  
“Increased disposable income spent on alcohol and drugs may worsen human health conditions of individuals, families and the community.”<sup>6</sup>  
“The Diavik Diamonds Project while offering benefits could potentially add to the complexity of human health issues in the communities.”<sup>7</sup>

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<sup>1</sup> BHP 1995 EIS, page 4.164.

<sup>2</sup> Ibid, page 4.164.

<sup>3</sup> De Beers Response to MVEIRB Information Request No. 1.37, June 2002, page 119.

<sup>4</sup> De Beers EAR, page 5-130.

<sup>5</sup> Diavik SEER, page 159.

<sup>6</sup> Ibid, page 162-163.

<sup>7</sup> Ibid, page 162.

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## **2 Family & Community Well-Being**

**BHP** The EIS talked about indirect impacts of employment “resulting in greater family violence and family breakdown”.<sup>8</sup>

“The ‘at work’ rotation is well below the length of time at which a measurable deterioration in worker... morale and family relationships begins (21 days)...”<sup>9</sup>

**DE BEERS** “Expansion of the wage economy into communities, through the development of the Snap Lake Diamond Project, may exacerbate certain pre-existing dysfunctional conditions in the communities.”<sup>10</sup> De Beers clarified this was a reference to, among other things, teen pregnancy.<sup>11</sup>

**DIAVIK** “Respecting ... rotation work and associated absenteeism from home, there would likely be a period of personal and family adjustment lasting about two years. Potential effects could include additional demands on family and social services and protection services.”<sup>12</sup>

### **2.1 Single-parent Families**

**BHP** “Absence from home for two weeks at a time could have an impact on marriages ... Stress caused by a number of factors – need for money, separation, suspected infidelity, are major causes of marriage breakdown. With a rotational work system, marriages are likely to experience some of the stress of separation. At the same time, the availability of jobs may relieve some financial stress.”<sup>13</sup>

“... Rotational shift work ... could create marital pressure for families not used to separation. Studies indicate that 68% of the Canadian LDC work force are married (includes non-Aboriginal people as well); however, the number of divorced employees is double that of the general public.”<sup>14</sup>

**DE BEERS** “...families may break up as the educated or skilled family members go elsewhere to seek employment.”<sup>15</sup>

“There is increased risk of marital and family breakdown associated with stop-overs in Yellowknife as some employees (mostly male) engage in extra-marital affairs.”<sup>16</sup>

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<sup>8</sup> BHP 1995 EIS, page 4.150.

<sup>9</sup> Ibid, page 4.149.

<sup>10</sup> De Beers EAR, page 5-123.

<sup>11</sup> De Beers Response to MVEIRB Information Request No. 1.37, June 2002, page 119.

<sup>12</sup> Diavik SEER, page 155.

<sup>13</sup> BHP 1995 EIS, page 4.166-4.167.

<sup>14</sup> BHP 1995 EIS, page 4.149.

<sup>15</sup> De Beers EAR, page 5-132.

<sup>16</sup> Ibid, page 5-136.

**COMPANY PREDICTION**

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## 2.2 Children Receiving Services

**BHP** In the 1995 EIS potential effects on human health resulting from identified causes included: "... an increase in social disruption with potential strain on policing and social services ..."<sup>17</sup>

**DE BEERS** "Wage employment for an individual may result in a decline in reliance on social services, and a corresponding improvement in family relationships"<sup>18</sup>

"If many individuals and families are coping poorly with the adjustments, the demands for rigorous and relevant support services will increase. Such support mechanisms may include marital/relationship counselling, child care services"<sup>19</sup>

**DAVIK** "Experience from previous northern projects indicates that new employees with large pay cheques tend to "blow" their money on alcohol first, taper off, and then spend more money and time on the home and family (Chenard 1979). Marriage and family problems caused by alcohol and absenteeism from home are prevalent in the younger generation and would place a short-term demand on counselling and protection services."<sup>20</sup>

"There would be an initial period of adjustment for employees and families ... During the adjustment period there may be increased demand for protection services."<sup>21</sup>

## 2.3 Family Violence

**BHP** There may be "negative impacts of increased income such as alcohol and drug abuse, resulting in greater family violence and family breakdown."<sup>22</sup>

"... social problems existing within the Aboriginal communities may be compounded by an increase in wages. Additional expendable income can lead to alcohol and drug abuse and intensify existing problems such as violence."<sup>23</sup>

**DE BEERS** "In family situations where conflict, violence or other domestic problems are already present such issues may be exacerbated by the demands of the rotation schedule, resulting in increased social dysfunction and instability."<sup>24</sup>

"...in families with frequent conflict between spouses, decisions concerning the use of income may exacerbate conflict. Children may also be directly affected as victims of family violence and conflict."<sup>25</sup>

**DAVIK** "...income and absence due to rotational employment may result in... family conflict."<sup>26</sup>

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<sup>17</sup> BHP, 1999 EAR, Section 4.7.11.3 (Socio-economic Effects on Human Health), page 4-196.

<sup>18</sup> De Beers EAR, page 5-26

<sup>19</sup> Ibid, page 5-137.

<sup>20</sup> Diavik SEER, Section 7.4.5.1, Family and Social Services and Infrastructure, Effects.

<sup>21</sup> Ibid, Section 7.4.7.1, Protection and Safety Services and Infrastructure, Effects.

<sup>22</sup> BHP 1995 EIS, page 4.150.

<sup>23</sup> Ibid, page 1.46.

<sup>24</sup> De Beers EAR, page 5-135 – 5-136.

<sup>25</sup> Ibid, page 5-140.

<sup>26</sup> Diavik SEER, Table 32, page 157-158.

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### **3 Crime**

**BHP** “If alcohol and drug abuse (and crime that results from these abuses) increase, ... additional law enforcement personnel would be required. ... if the “fast buck” businesses converge on larger centres, particularly Yellowknife, policing agencies may have to deal with more fraud.”<sup>27</sup>

“Yellowknife is the most likely centre to experience an increase in drug trafficking. ... Since many NWT residents employed by the project will have to pass through Yellowknife on their way home, there is a possibility that readily available drugs may be purchased and carried to smaller communities.”<sup>28</sup>

“... If alcohol consumption increases, crime (particularly assaults) could increase.”<sup>29</sup>

“... social problems existing within the Aboriginal communities may be compounded by an increase in wages. Additional expendable income can lead to alcohol and drug abuse and intensify existing problems such as violence.”<sup>30</sup>

**DE BEERS** “As individuals and families try to cope with the lifestyle changes imposed by the rotational work schedule, the social fabric (*i.e.*, relationships and support systems) of communities will be affected. Community members at large may suffer from the effects of friends, extended family, or neighbours resorting to substance abuse or alcoholism when dealing with emotional issues, living in high conflict or violent home situations, or neglecting community and family responsibilities. Social capacity or stability may decrease.”<sup>31</sup>

**DIAVIK** “Respecting ... rotation work and associated absenteeism from home, there would likely be a period of personal and family adjustment lasting about two years. Potential effects could include additional demands on... protection services.”<sup>32</sup>

“Employment, income, transportation and closure have the potential of affecting local protection services.”<sup>33</sup>

### **4 Housing**

**BHP** “Regular income can improve the standard of living of both individuals and communities. People with regular incomes can purchase/build their own homes, relieving some of the stress on housing in many communities. They can purchase more goods ... and not only relieve stress of impoverished lifestyle, but circulate their dollars through the local economy to assist in overall improvements in the standard of living.”<sup>34</sup>

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<sup>27</sup> BHP 1995 EIS, page 4.166.

<sup>28</sup> Ibid, page 4.167.

<sup>29</sup> Ibid, page 4.165.

<sup>30</sup> Ibid, page 1.46.

<sup>31</sup> De Beers EAR, page 5-137.

<sup>32</sup> Diavik SEER, page 155.

<sup>33</sup> Ibid, page 149.

<sup>34</sup> BHP 1995 EIS, page 4.168.

COMPANY	PREDICTION
DE BEERS	“With a consistent monetary income, individuals will have a greater level of security in providing for basic material needs, such as food, housing, or clothing.” <sup>35</sup>
DIAVIK	“Employment income and associated economic changes should enable residents of study area communities; [sic] particularly the smaller Dene, Métis and Inuit communities to privately purchase or rent houses.” <sup>36</sup>

## CULTURAL WELL-BEING & TRADITIONAL ECONOMY

### 5 Cultural Well-Being & Traditional Economy

BHP	The impact of the Project on traditional Aboriginal lifestyle / culture was predicted to be negative but small. <sup>37</sup>
DE BEERS	[for Aboriginal workers] “... impacts are primarily associated with... functioning in a pre-dominantly non-Aboriginal work environment and culture.” <sup>38</sup> “The limited amount of time in the community may limit individuals’ ability to pursue Aboriginal traditional activities, which impacts on individuals’ lifestyle and the maintenance of a cultural identity.” <sup>39</sup> “The family as a whole will also be affected by the limited time available to engage in traditional activities with all family members present. This may complicate efforts to maintain cultural traditions and identity.” <sup>40</sup> “It is not possible to predict with reasonable certainty whether individual and community involvement mining activities will negatively or positively impact on the subsistence economy in communities.” <sup>41</sup>
DIAVIK	“... the context for expression important to the survival of Aboriginal languages could change.” <sup>42</sup> “Employment at the minesite in an English only environment may pose a risk to Aboriginal Languages. The presence of other Aboriginal language speakers at the minesite and the opportunity for Aboriginal workers to reside in their home communities may reduce this risk.” <sup>43</sup> “...wage based activities may erode... Dene, Métis and Inuit culture” <sup>44</sup>

<sup>35</sup> De Beers EAR, page 5-138.

<sup>36</sup> Diavik SEER, page 155.

<sup>37</sup> BHP 1995 EIS, Table 4.2 and Table 4.4

<sup>38</sup> De Beers EAR, page 5-127.

<sup>39</sup> De Beers EAR, page 5-134.

<sup>40</sup> Ibid, page 5-135.

<sup>41</sup> De Beers Canada Mining Inc. Conformity Response, page 27, August 2002.

<sup>42</sup> Diavik SEER, Vol. 7.5.4.1.

<sup>43</sup> Ibid, Vol. 7.5.4.1.

<sup>44</sup> Diavik SEER, Table 32, page 157-158, 96.

COMPANY	PREDICTION
	“Out-migration from smaller Aboriginal communities affect[s] community organization and weaken[s] culture.” <sup>45</sup>
	“Industrial work may erode traditional harvesting practices.” <sup>46</sup>
	“Possible in-migration of job seekers to Yellowknife may change... harvesting patterns... Conflicts resulting from increasing competition for land and resources may alienate traditional land users from important harvesting activities.” <sup>47</sup>
	“The renewable resource economy of study area communities should benefit from the proposed Project as more harvesters would have money to purchase equipment and supplies needed for harvesting activities.” <sup>48</sup>

## NON-TRADITIONAL ECONOMY

### 6 Income & Employment

#### 6.1 Average Income

**BHP** “Project-generated employment could increase NWT wage income by 3% per year during the construction phase and 5% per year during the operations phase assuming 1995 employment levels. Aboriginal communities and Coppermine could experience substantial increases in earned income in both the construction and operations phase.”<sup>49</sup>

“The project could also cause an increase of total earned income in these [Aboriginal] communities by over 33%.”<sup>50</sup>

“Induced employment from household responding of NWT Diamonds Project direct and indirect employment dollars could generate an additional 155 jobs in the Northwest Territories. Annual income for these jobs will be approximately \$5 million.”<sup>51</sup>

**DE BEERS** “Job opportunities will largely accrue to the primary communities with the result being changes in the economic circumstance of many families of those communities as well as the communities themselves.”<sup>52</sup>

During Construction, “Total labour income impact for the NWT is estimated at some \$102.0 million.”<sup>53</sup>

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<sup>45</sup> Diavik SEER, Table 32, page 157-158, 96.

<sup>46</sup> Ibid, Table 32, page 157-158

<sup>47</sup> Ibid, page 159.

<sup>48</sup> Ibid, page 155.

<sup>49</sup> BHP 1995 EIS, page 4.111.

<sup>50</sup> Ibid, page 4.132.

<sup>51</sup> Ibid, page 4.102.

<sup>52</sup> De Beers 2002 EAR, page 5-104.

<sup>53</sup> De Beers 2002 EAR, page 5-115.

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“Annual labour income impacts for the NWT during the operations phase are estimated at some \$81.2 million.”<sup>54</sup>

**DIAVIK** “Employment and income effects associated with the proposed Project are positive, long lasting, and complementary to northern and Aboriginal aspirations and needs.”<sup>55</sup>

“The construction phase is … projected to increase labour income in the NWT by \$182 million (all values are presented in constant 1997 dollars). … The operation of the proposed Project will also increase labour income in the local study area by \$27 million …”<sup>56</sup>

## 6.2 Proportion of High-income Earners

**BHP** “In smaller communities, mine wage employment could widen the gap between ‘haves’ and ‘have nots’ in the community.”<sup>57</sup>

**DE BEERS** “In communities where employment opportunities remain limited to those created by the Snap Lake Diamond Project, community divisions and fractions may arise between ‘have’ and ‘have-nots’, which may exacerbate other social problems in the community.”<sup>58</sup>

**DIAVIK** “Project workers of Aboriginal ancestry seeking residency in Yellowknife, N’dilo and Detah may be more affluent than other Aboriginal people. In small communities such as N’dilo and Detah this situation could increase the gap between the ‘have’ and ‘have nots’ resulting in stresses to interpersonal and family relationships.”<sup>59</sup>

## 6.3 Income Assistance Cases

**BHP** “In the study area .... Assuming that 400 people would no longer need social assistance, this could mean a \$1.4 million annual savings...”<sup>60</sup>

**DE BEERS** “As the household income level is increased for families reliant on welfare, the family will no longer be eligible for welfare assistance.”<sup>61</sup>

**DIAVIK** “Other benefits of the proposed Project would include … a fall in social assistance … payments as more NWT residents gain employment.”<sup>62</sup>

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<sup>54</sup> Ibid, page 5-116.

<sup>55</sup> Diavik SEER, Vol. 7.1.

<sup>56</sup> Diavik 1998 SEER, Executive Summary, Predicted Impacts in the NWT.

<sup>57</sup> BHP 1995 EIS, page 4.166.

<sup>58</sup> De Beers EAR, page 5-128, Table 5.3-7.

<sup>59</sup> Diavik SEER, Section 7.5.1.1.

<sup>60</sup> BHP 1995 EIS, page 4.183.

<sup>61</sup> De Beers EAR, page 5-140.

<sup>62</sup> Diavik SEER, Section 7.2.7.3, Operating Phase Impacts in the Local Study Area.

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#### **6.4 Employment Rate**

**BHP** “... the NWT Diamonds Project will have a significant impact on... communities that... fail to benefit from other major industries... While Yellowknife... will be a major beneficiary... of new jobs, the smaller First Nations communities, as well as Coppermine and Hay River, can also expect significant employment benefits.”<sup>63</sup>

**DE BEERS** “... the Project will create 450 construction jobs and in excess of 500 jobs during the operation of the mine facility. Job opportunities will largely accrue to the primary communities...”<sup>64</sup>

**DAIVIK** “Cumulative employment and income effects associated with the proposed Project would be positive, long lasting, and complementary to northern and Aboriginal aspirations and needs and should address one of the most pressing issues in the study area communities – lack of employment and business opportunities.”<sup>65</sup>

#### **6.5 Unemployment Rate**

**BHP** “Hiring by the project is expected to reduce unemployment in Aboriginal communities from almost 40% to 30%.”<sup>66</sup>

**DE BEERS** “Through the creation of direct, indirect and induced employment opportunities, it is expected that the rates of unemployment will be reduced in Yellowknife, other primary study communities and the employment catchment communities.”<sup>67</sup>

**DAIVIK** “The proposed Project would ... contribute to a reduction in unemployment...”<sup>68</sup>

#### **6.6 Participation Rate**

**BHP** Neither BHP nor De Beers referred to the participation rate. However, statements on employment and unemployment imply the participation rate would increase.

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

**DAIVIK** “The proposed Project would ... contribute to ... an increase in participation rates.”<sup>69</sup>

### **7 Education**

**BHP** “Employment possibilities with the NWT Diamonds Project can provide an incentive for people to stay in school, if only to attain the education level required for apprenticeship positions.”<sup>70</sup>

“Government, community and Proponent sponsored “stay in school” programs will encourage more young people to complete at least Grade 10.”<sup>71</sup>

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<sup>63</sup> BHP 1995 EIS, Vol. 1.

<sup>64</sup> De Beers EAR, page 5-104.

<sup>65</sup> Diavik SEER, Vol. 7.6.

<sup>66</sup> BHP 1995 EIS, page 4.132.

<sup>67</sup> June 2002 MVEIRB Information Request No. 1, Response 1.27(c), page 100.

<sup>68</sup> Diavik SEER, Section 7.3.

<sup>69</sup> Diavik SEER, Section 7.3.

<sup>70</sup> BHP 1995 EIS, page 4.180.

<sup>71</sup> Ibid, page 4.86-4.88.

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**DE BEERS** “The opportunity for future wage employment may also motivate unqualified individuals to upgrade their educational level and general life skills to meet project standards for employment eligibility.”<sup>72</sup>

“It is possible too, that individuals participating in training or educational programs will inspire other family members to improve their educational level or join in various skills development programs.”<sup>73</sup>

“The achievement of a certain level of education and skills may, in the longer run, spur demands for further education and training programs...”<sup>74</sup>

**DIAVIK** “Diavik initiatives would contribute to the development of able and skilled employees, the support and encouragement of future employees, and the reduction of employment barriers. Through proposed education and training initiatives, opportunities for all northerners would increase...”<sup>75</sup>

## **8 Business**

**BHP** “... exploration activity has allowed businesses to start the expansion required to adequately service an expanded northern mining industry, and has added to the local supply of service and retail operations... Positive impacts far outweigh negative impacts in Yellowknife, since a project such as the NWT Diamonds Project is needed if Yellowknife is to continue to grow and prosper.”<sup>76</sup>

“On the economic side, the impacts [for First Nations Communities] would be positive. Increased dollars in the economy could foster the expansion of existing businesses or the start-up of new businesses, particularly in the retail and personal services area. In turn this could generate more employment and wage income.”<sup>77</sup>

**DE BEERS** “If financial and human resources are spent in the community to provide basic education and skills training, but no support is provided to use these skills for local business initiatives... economic development at the community level will not occur.”<sup>78</sup>

“Given that the mine is a major development project, it is expected to be a catalyst for benefiting Aboriginal and northern business.”<sup>79</sup>

**DIAVIK** “Tourism services and infrastructure may improve and expand, particularly in the smaller Dene, Métis and Inuit study area communities...”<sup>80</sup>

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<sup>72</sup> De Beers EAR, page 5-129.

<sup>73</sup> Ibid, page 5-131.

<sup>74</sup> Ibid, page 5-133.

<sup>75</sup> Diavik SEER, page 136.

<sup>76</sup> BHP 1995 EIS, page 4.127.

<sup>77</sup> Ibid, page. 4.133.

<sup>78</sup> De Beers EAR, page 5-133.

<sup>79</sup> Ibid, page 5-104.

<sup>80</sup> Diavik SEER, page 156.

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“... initiatives could result in the expansion of existing businesses, the creation of new businesses...”<sup>81</sup>

“Use of the rail system to transport goods and fuel will have a positive affect... its continued use would enhance Hay River and Enterprise as northern gateway communities.”<sup>82</sup>

“Anticipated increases in economic activity should stimulate local economies and support their development.”<sup>83</sup>

## NET EFFECT ON GOVERNMENT

### 9 Net Effect on Government

**BHP** “Annual costs to the federal and territorial governments due mainly to the 1,000 people moving to the NWT as a result of the NWT Diamonds Project are expected to be \$4 million and \$10 million, respectively. Offsetting these costs is a potential \$3 million annual savings in social assistance and subsidy payments as a result of increased employment...”<sup>84</sup>

**DE BEERS** “If many individuals and families are coping poorly with the adjustments, the demands for rigorous and relevant support services will increase.”<sup>85</sup>

**DIAVIK** “Other benefits of the proposed Project would include a reduction in government expenditures due to a fall in social assistance and unemployment payments.”<sup>86</sup>

## SUSTAINABLE DEVELOPMENT

### 10 Secondary Industry

**BHP** “... final cleaning and sorting of rough diamonds ... is most likely to be Antwerp in Belgium.”<sup>87</sup>

**DE BEERS** During the environmental assessment of the De Beers Snap Lake Project, De Beers indicated that it would support GNWT efforts to develop secondary industry.<sup>88</sup>

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<sup>81</sup> Ibid, Vol. 7.3.9.1.

<sup>82</sup> Ibid, page 153.

<sup>83</sup> Ibid, page 154.

<sup>84</sup> BHP 1995 EIS, page 4.182.

<sup>85</sup> De Beers EAR, page 5-137.

<sup>86</sup> Diavik SEER, page 116.

<sup>87</sup> BHP 1995 EIS, page 1.10.

<sup>88</sup> MVEIRB Technical Sessions for De Beers Snap Lake Diamond Project, 2003.