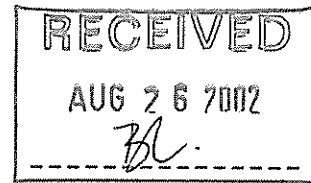


DE BEERS

August 22, 2002

Vern Christensen
Executive Director
Mackenzie Valley Environmental Impact Review Board
Box 938
Yellowknife, NT X1A 2N7



Dear Mr. Christensen

CONFORMITY RESPONSES
SNAP LAKE DIAMOND PROJECT ENVIRONMENTAL ASSESSMENT

Enclosed please find De Beers' responses to the Mackenzie Valley Environmental Impact Review Board's conformity decision. Please note all the responses should be considered addendums to the environmental assessment report. Specifically:

- Conformity Item 1 augments Sections 5.23 and 5.33;
- Conformity Item 2 augments Section 5.3.3;
- Conformity Item 3 augments Appendix V.3;
- Conformity Item 4 augments Section 5.3.2;
- Conformity Item 5 augments Section 5.2.3 and 5.3.3;
- Conformity Item 6 augments Section 2;
- Conformity Item 7 augments Sections 5.2.3, 5.3.3 and 12.2.7;
- Conformity Item 8 augments Sections 2 and 3.9 4; and
- Conformity Item 9 augments Section 5.3.2.

We trust this information fulfills the requirements of the Board's conformity decision as stated in the letter dated April 26, 2002.

Yours truly,

A large, stylized handwritten signature in black ink, appearing to read "John McConnell".

John McConnell
Vice President – NWT Projects



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SNAP LAKE DIAMOND PROJECT

Environmental Assessment

Conformity Response

Submitted to:
Mackenzie Valley Environmental Review Board
August 2002

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1 Communities Impacted by Increased Traffic Volumes

ToR lines 246 – 248 – the scope of the assessment for socio-economic variables should include communities that could reasonably expect to experience impacts because of the development, including, but not limited to, increased traffic volumes or employment and business opportunities.

GNWT Conclusion: The EAR does not identify which NWT communities (or residential areas) would be affected by increased traffic volumes. The socio-economic and noise sections seem silent on this ToR item. Table 12.5-2 page 12-90, identifies the distance between a range of communities and the mine site. However, the EAR appears silent on the distances between NWT communities and increased traffic volumes.

Review Board View: Non-conforming information should be provided.

RESPONSE

1.1 BASELINE

These baseline data are an addendum to Section 5.2.3 of the Environmental Assessment Report (EAR).

Tibbitt – Contwoyto Winter Road Route

A Table 12.5-2 of the EAR indicates the primary communities are located a minimum of 50 kilometers (km), with most located at least 100 km, from the Tibbitt – Contwoyto Winter Road route. Traffic volumes estimated for the Snap Lake Diamond Project will add approximately 2800 return truck trips during the average 11-week season, as described in Sections 3.8.4 and 6.6.2.3.3 of the EAR.

All-Weather Road Route

From the Alberta-Northwest Territories (NWT) border, vehicles destined for Snap Lake will travel on Highways #1, #3, and #4. Operation, maintenance and road safety standards of the highways are the responsibility of the Government of the Northwest Territories. Table C1-1 identifies the communities located near this all-weather route, and provides the distance from these communities to the relevant highways.

Table C1-1: Distance of Communities on the All-Weather Road Route

Community	Population in 2000	Distance from All-Weather Route
Enterprise	88	At junction of Highways #1 and #2
Hay River	3,835	38 km to Highway #1
Kakisa	Population data not available	14 km to Highway #3
Fort Providence	837	5 km to Highway #3
Edzo	1864 for Rae/Edzo	Approximately 500 m to Highway #3
Rae	1864 for Rae/Edzo	11 km to Highway #3
Yellowknife	17,819	Highway #3 intersects the Yellowknife City limits
N'Dilo	209	Located within the Yellowknife City limits. N'Dilo is approximately 4 km from the junction of Highways #3 and 4.
Dettah	203	11.3 km from Highway #4

Sources: Government of the NWT Bureau of Statistics. T-Stat Community Profiles Updated Population Data, 2000; Canada's Northwest Territories Explorers' Map, no date.

Traffic volumes estimated for the Snap Lake Diamond Project will add approximately 2800 return truck trips during the average 11-week season, as described in Sections 3.8.4 and 6.6.2.3.3 of the EAR. At this time the actual traffic flow and the source of traffic is unknown. Therefore, it is presumed that an equal amount of traffic per day over the 11-week period will occur, and that all traffic will originate and return to a point outside the NWT. There would be an increase of approximately 36 vehicles per day along the all weather route.

The most current traffic volumes and projected traffic volumes on the all weather road route for the months of January, February and March are provided in Table C1-2.

Table C1-2: Snap Lake All Weather Road Route Traffic Volumes Averaged Values for January, February and March

Hwy ¹	Km ¹	Description ¹	Average Daily Traffic Volumes 2000 ¹	Projected Average Daily Traffic Volume with Snap Lake ²
1	85	1.2 km west of Enterprise	263	299
3	305	1.7 km east of Boundary Creek	390	426
3	338	0.8 km west of Hwy #3 and 4 intersection	4388	4424
4	1	1 km north of Hwy # 3 and 4 intersection	937	973
4	10	2.5 km east of Yellowknife River Bridge	553	589

¹ Source: Government of the NWT, Department of Transportation, Northwest Territories Highway Traffic, 2000, November 2001.

² Projected values are for January, February and March.

The communities of Yellowknife and Enterprise are closest to the all-weather road route that Snap Lake destined traffic will travel. The all-weather route intersects the City of Yellowknife, but does not pass through residential areas or the central business district of Yellowknife and N'Dilo.

The all weather road route passes immediately adjacent to the Settlement of Enterprise. Enterprise is a major service centre for highway tourists and commercial traffic, providing vehicle service, beverage and meal services. Two service stations were built to capture highway trade and highway-based services, including food and lodging and long-haul trucking services (GNWT 2000). A review of the Settlement of Enterprise's land use plan shows that the all-weather road passes directly by commercial and industrial zoned land only. All residentially-zoned property is buffered from the road by other zoning designations.

Both communities view winter road related traffic as a potential economic benefit.

Yellowknife is a staging area for vehicles travelling to the mine site, and the increased traffic is viewed as a potential economic benefit to the city (P. Neugenbauer, pers com).

The Strategic Plan for the Settlement of Enterprise (2001) states:

The community's main assets are its land base and its strategic location on the highway into the Northwest Territories.

The Strategic Plan also indicates that with the anticipated development of a proposed pipeline in the NWT, Enterprise would prepare itself to benefit from the project by being a major transportation and staging area for all material going north.

Based on the community's desire to maximize its strategic highway location and the zoning adjacent to the highway, increases in traffic in Enterprise would likely be viewed as a potential economic benefit to the community.

1.2 ANALYSIS

This analysis is an addendum to Section 5.3.3 of the EAR.

Tibbitt – Contwoyto Winter Road Route

The primary communities are located a minimum of 50 km, with most 100 km, from the winter road route. Therefore, it is not reasonable to expect that increased traffic volumes on the winter road route related to Snap Lake would affect these communities.

All-Weather Road Route

The communities of Hay River, Kakisa, Fort Providence, Rae and Dettah are located 5 km or further from the all-weather route. Edzo is located approximately 500 m from the route. Therefore, it is not reasonable to expect that increased traffic volumes on the winter road route related to Snap Lake would affect these communities. Further consideration is restricted to Enterprise and Yellowknife.

The total annual traffic volume (based on annual average daily traffic volumes, GNWT 2001) experienced near Enterprise in 2000 is 88,330 movements. Based on 2000 volumes, projected Snap Lake traffic would increase the total annual traffic volume to 91,130 movements, an increase of approximately 3%. The daily traffic volumes near Enterprise would be increased by an average of 36 vehicles per day during the approximate 11-week duration of the traffic associated with Snap Lake.

For Yellowknife, the traffic volumes just west of the Highways #3 and #4 intersection would increase by less than 1% during the approximate 11-week duration of the traffic associated with Snap Lake.

Noise events would be unchanged since the types of vehicles will be similar to those currently using the roads. Changes in the frequency of noise events are related to the increase in traffic volume which is small. Economic effects are also related to the increase in traffic volume.

Given the small increases in predicted traffic volume related to the Snap Lake Diamond Project at Yellowknife and Enterprise, no further assessment of potential socio-economic or noise impacts is warranted.

REFERENCES

Enterprise Land Use Plan, January 21, 1994. Resolution By-law 354-93.

GNWT (Government of the Northwest Territories) 2000. Community Profiles, 2000. Department of Resources, Wildlife and Economic Development, GNWT, Yellowknife, NWT.

GNWT (Government of the Northwest Territories) 2001, Northwest Territories Highway Traffic, 2000, November 2001. Department of Transportation, GNWT, Yellowknife, NWT.

Jarich Investments and Chaladny Associates. 2001. Strategic Plan for the Settlement of Enterprise, April 2001. Prepared for the Settlement of Enterprise, NWT.

Neugenbauer, Peter. Director, Economic Development, City of Yellowknife. Personal Communication with Leslie Green, Golder Associates Ltd. Contacted August 12, 2002.

2 Effect of closure on mine employees

ToR lines 242-256 – Temporally, De Beers shall assess environmental impacts of the proposed development for all phases of the proposed development including construction, operation, closure and post-closure. Provide sufficient detail to address the relevant impact issues on Valued Ecosystem Components (VECs) over the entire temporal scope of the development. Distinguish between biological, physical, social, cultural and economic parameters.

GNWT Conclusion: The EAR appears silent with regard to the effects of closure on mine employees.

Review Board View: Non-conforming information should be provided.

RESPONSE

2.1 BACKGROUND

This is an addendum to Section 5.3.3 and 12.2 of the Environmental Assessment Report (EAR).

The effects of mine closure on employees is examined in the context of research on past mine closures, predicted impacts on individual employees, their families and communities, and cumulative effects examined in the context of future economic trends.

The response to this conformity item is presented as follows:

1. Overview of Research and Studies on Effects of Mine Closure
2. Review of Three Case Studies
3. Discussion of Case Study and Research Findings
4. Analysis of Impacts on Employees of Mine Closure in the Snap Lake SEIA (Section 5 of the EAR)

2.2 OVERVIEW OF RESEARCH AND STUDIES ON EFFECTS OF MINE CLOSURE

2.2.1 The Importance of Considering the Local Context

Several researchers note that impacts of mine closure must be reviewed on a case-by-case basis given the range of factors and conditions that will affect the resulting impacts. K. Storey (pers. com. 2002) maintains that local organizational differences and circumstances may be the real impact drivers with respect to impacts. Roberts *et. al.* (2000) discuss the range of factors that can affect mine closings. The authors state:

Potential impacts of mine-closure on a community will vary considerably depending on the number of jobs lost relative to the size of the community, its social composition and its level of internal cohesiveness. The effect of closure on spin-off industries will again be determined by the level of economic diversification that the community has obtained during the operational life of the site.

Research conducted by De Beers in the community of Gameti, as part of the issues identification and profiling phases of the socio-economic assessment of the Snap Lake project, provide one example of how local circumstances has affected the impacts of current mining in the region on the community. Approximately 25 people of the community's population of about 300 people are currently employed in the diamond mining industry. Community members attributed the high levels of mine employment to past community training and skill development related to previous community projects, such as the construction of a new airport and roads. At the time of the development of these projects, training programs on heavy equipment and carpentry were provided to community members. In addition, Gameti has an employment and training office where office staff work diligently at seeking employment opportunities in the diamond industry for community members. In the case of Gameti, previous skills levels and local career development support has provided for relatively high levels of mine employment in the community.

Another example of how local circumstances may affect community impacts by mining or mine closure is noted by Veiga *et. al.* (2001). In this case, cooperation among communities has provided local economic diversification:

In Northern Manitoba, five traditional mining communities, who have faced mine closure and loss of economic opportunities, have joined forces to build on their mining base to develop a sustainable plan for the future.... These small towns ... decided to work together to attract investment in exploration and mineral-related activities by advertising their potential mineral wealth and the province's favourable investment climate. They are also... [promoting the region as a] tourist destination to encourage visitors to explore the history of the mining communities and operations, to engage in fishing, hunting, canoeing, cross-country skiing and ecotourism, to learn about aboriginal cultures and to participate in festivals.

Given the particular context of each case of mine closure, Roberts *et. al.* (2000) emphasize that policies to counter social impacts of mine-closure must therefore not be generic, but must be tailor made to fit circumstances of each unique closure situation.

A recent study on mine closure policy by the International Institute for Environment and Development (2002) supports this approach. The report provides information various jurisdictions use to deal with mine closure issues. While noting there are no easy answers to the many policy challenges mine closure poses (such as unemployment and site reclamation), the report

demonstrates that companies are addressing broad socio-economic issues from the beginning of the mining operation through to closure.

2.2.2 Co-operative Approaches

The International Institute for Environment and Development (2000) identifies that co-operation by the mining company and other stakeholders to plan for mine closure is key to successful mine closure and achievement of post mine closure stability. The report further notes that cooperation between government and industry is important to establish during the life of the mine, to strengthen a community's long-term social and economic wellbeing.

To the extent that local/provincial government can successfully integrate a mining project into the regional development plan, this can help reduce the dependency of the region on the mine and can create a context for planning and delivering social services (e.g., health and education) by government rather than by the mine.

The importance of cooperation and partnerships is also highlighted by Roberts et. al. (2000). The authors maintain that increased community involvement in decisions pertaining to socio-economic and environmental impacts of mining will generate results that better reflect the goals of both communities and the mining company.

Such partnerships [with decentralized decision-making], involving government at all levels, the industry, and NGOs are widely seen as the central tenet of an effective management strategy of the social issues connected with mine development and closure.

2.2.3 Fly-in / Fly-out Mining Communities vs. Mining Communities

Veiga et. al. (2001) has noted there has been more emphasis in recent years on long distance commuting (LDC), or fly-in fly-out, as a model for mine development. Research has shown that LDC operations can avoid some of the socio-economic and biophysical costs associated with building a mining community, and the associated problems of a one-industry dependent economy. The LDC model is seen to have added a further dimension to planning for sustainable mining communities. However, Veiga et. al. (2001) emphasize the costs and benefits for the company and the affected communities need to be evaluated on a case-by-case basis (Veiga et. al., 2001). LDC is the preferred mode of operations for mining activities in the NWT.

2.3 REVIEW OF THREE CASE STUDIES

There are many case studies that describe the context and conditions for employees resulting from mine closure. However, many of the studies are dated - such as the study on Hollinger Gold Mine (Lerchs, 1977). Only a few case studies have gathered information from employees after the

mine was closed. All of them focus on the closure of mines and mine communities, but none are related to fly-in/fly-out operations.

Regardless of these limitations, some case studies provide information about retraining and the ability to find alternate employment that can be applied to the closure of Snap Lake. Three case studies with relevant information were chosen for review. These are: Pine Point, NWT; Clinton Creek, Yukon; and Elliot Lake, Ontario.

It should be noted that the original research for the selected case studies reviewed differ in terms of approach and presentation of data, making comparison of the individual case studies a challenge. The information presented below are those findings that are of some relevance to Snap Lake.

2.3.1 Study #1: Pine Point Mine, Pine Point, Northwest Territories

CONTEXT

The Pine Point Mine was located on the south shore of Great Slave Lake, and mined lead and zinc. The town of Pine Point was created specifically to serve the mine, which closed operations in July 1987 after 25 years of operation. Closure displaced 430 workers and staff from the mining town. Initial indication of closure came in December 1985. The closure was officially announced to workers and staff in January 1987, six months prior to the closing.

SEVERANCE AND SUPPORTS

Federal funding was made available under the Community Futures element of the Canadian Jobs Strategy. The main element was mobility/relocation assistance. The program financed travel for job search purposes, and provided up to \$10,000 per worker towards the cost of relocating from Pine Point to anywhere in Canada. Employment and Immigration Canada and the company financed the program on a 50-50 basis. In total, 347 employees (80.7%) used the assistance program. Although this severance package was provided for Pine Point Mine employees, it did not represent standard industry practice.

POST-CLOSURE SURVEY RESULTS

Ten months after mine closure, 200 pit production workers were surveyed. The results are described below.

Job Training after Closure

- 86% of the respondents felt that government should offer retraining assistance for people who are laid off
- 11.5% of the respondents had taken some kind of retraining after mine closure

Within 10 Months After Closure

- 70% of the workforce had found other jobs
- 40% of the workforce had found jobs in mining
- the majority of employees had found work within 3 months of closure
- 30 of 200 respondents were still unemployed 10 months after closure

New Jobs Found

- 40% of workers found jobs in the mining industry
- 60% stayed in the same occupation
- 79% of those who did not change occupation were in the skilled or trades occupation
- electricians and mechanics had relatively good success finding jobs
- heavy equipment operators had relatively poor success finding jobs

Where Jobs Were Found

- 32 of the 200 respondents remained in the NWT (21 of whom remained at Pine Point); the rest had moved to other jurisdictions

Respondent's views on the closure experience

- The adjustment process was a cooperative effort between the union, the company, government and the workers
- respondents saw skills upgrading and retraining as keys to employability and job search success
- the majority of respondents stated the relocation program was helpful in coping with the closure and finding a new job

2.3.2 Case Study #2: Clinton Creek Mine – Clinton Creek, Yukon

CONTEXT

Cassiar Asbestos Corporation operated an asbestos mine in Clinton Creek, Yukon, from 1967 to early 1978. The town of Clinton Creek was constructed to support the mine, and was located near Dawson City. Near the time of closure there were 237 hourly-rated employees at Clinton Creek. With closure of the mine, the town of Clinton Creek was closed.

PRE-CLOSURE SURVEY RESULTS

A survey of mine employees by the Manpower Adjustment Committee, Canada Manpower, was conducted in May 1977, 6 months prior to the mine closing. The following are some results of this survey.

Job Training

- 101 of the employees requested training
- 38 workers requested training in trades upgrading, *i.e.*, formal certification
- 37 workers requested training in English
- 22 workers requested training in trades such as millwright, welding, electrician
- 13 workers requested training in heavy equipment operation

Employee Plans for Post-Closure Employment

- only 14% of employees who wanted assistance from the Committee responded that they had made plans for employment after closure, and 22% of employees who did not want assistance from the Committee responded that they had made plans
- 82% of employees stated an interest in being retained

New Jobs Being Sought

- most employees were undecided about the type of employment they would look for after closure of the mine
- skilled employees (tradesmen, cooks, equipment operators) were more decided about the type of employment they would seek

Where Jobs will be Found

- 50% of mine employees planned to stay in the Yukon
- most employees who were amenable to relocating preferred to move to BC or Alberta
- the study estimated that after closure, only one-half of the mine employees would stay in the Yukon: the official rates of unemployment in the Yukon appeared so high that little hope was held out for anyone getting a job in the territory in 1977

2.3.3 Case Study #3: Denison Mines and Rio Algom Mines – Elliot Lake, Ontario

CONTEXT

From the mid-1950s to the 1980s, Elliot Lake, located in northern Ontario, was the largest uranium mining centre in Canada, with numerous uranium mines active in the area. In the course of 6 years, over 4,000 mining jobs were lost in the Elliot Lake area. The first wave of mine layoffs in Elliot Lake was in July/August 1990, with 2000 jobs lost. A second wave of layoffs began in February 1992, eliminating over 1,000 jobs. The last wave of mine layoffs occurred in June 1996, eliminating about 500 jobs.

Announcements of the first wave of mass layoffs were made in the early spring of 1990 and the layoffs began at the end of July of that year.

SEVERANCE AND SUPPORTS

- In the course of the layoffs, the community and United Steelworkers Union pressured the provincial government for economic assistance to the community: virtually all the major financial assistance came from the provincial government. Almost none of the financial assistance was oriented towards financial compensation or training to laid off mine workers, but was instead spent on the community.
- It appears that Unemployment Insurance and publicly funded employment programs reduced out-migration from Elliot Lake. Given the extremely depressed state of the mining industry and the general economy during the early and mid-1990s, remaining in Elliot Lake through the recession may have been a rational strategy for persons laid off by the closure of Denison/ Rio Algom mines.

PRE AND POST CLOSURE SURVEY RESULTS

The Elliot Lake Tracking Study, conducted by a team of researchers from Laurentian University, periodically surveyed employees and former employees of Denison Mines and Rio Algom Mines from 1990 to 1996. The 1990 baseline survey obtained 1,174 completed interviews.

Job Training after Closure

- by 1994, when most workers had been laid off, 42% of all workers had participated in training programs
- 71% of those who took training took 1 program, and 20% took 2 programs
- overall level of training take-up at Elliot Lake was high: by contrast, in 1992, for Canada as a whole, only 20% of job-oriented people who lost jobs took up training
- most workers waited until after the actual layoff before beginning a training program
- training had only limited effects in helping laid-off workers get jobs: very little training was aimed directly at re-employment in the mining industry
- the announcement of layoffs was too late (less than 6 months prior to the layoffs) to enable in-depth planning of worker training: the researchers believe that 1 year pre-layoff notification is required to improve preparations for layoffs and development of training programs.

New Jobs Found

- 44.2% of laid off employees were re-employed in 1992
- 62.2% of laid off employees were re-employed in 1996
- in 1996, 50.6% of those holding new jobs were employed in mining
- workers in technical and skilled jobs tended to get jobs at same skill level (75%), while some fell (19%) and few rose (6%) in skill level
- workers in intermediate occupations tended to move upwards (49%), while some stayed the same (30%) and some fell (21%)

Employee Migration (1996 survey)

- 26% of laid off workers moved to different metropolitan areas, 23.5% moved to rural areas
- 36.5% of re-employed workers resided in Elliot Lake and vicinity; 43.1% had relocated to elsewhere in northern Ontario; 10.6% had relocated to southern Ontario, and 9.8% had relocated out of province

Economic Impacts for the Workers

- for laid-off mine workers who found jobs elsewhere, wage and salary rates tended to be lower than for those still employed at Denison and Rio Algom
- wages for the re-employed fell sharply until 1995 and recovered some the following year; by 1996, their wages were 16% lower than their 1990 level and 15% lower than those still employed in the mines
- those who left the mining industry had much lower average wages (about \$29,000) than those re-employed in the mining industry (about \$46,000)

2.4 DISCUSSION OF CASE STUDY AND RESEARCH FINDINGS

While noting that the case studies concern mining communities, as opposed to fly-in/fly-out communities, the experiences of these three cases provide some insight for the analysis of potential impacts on employees of the closure of Snap Lake. The following points can be drawn from the case study review.

- The largest degree of re-employment after mine closure occurred in the Pine Point case where over 70% of mine employees were able to find work within 10 months of a mine closure, although 85% of mine employees left Pine Point. The severance and support program (including financial assistance from the Government of Canada) appeared to play a key role in the employee adjustment process. Employees perceived the post-closure adjustment as a cooperative effort among government, industry, employees, and the union.
- In all three cases, training and/or skills development featured as an important aspect of facilitating re-employment. In the case of Elliot Lake, it was noted that training was not provided directly to employees and not provided early enough to effectively assist in the re-employment process. Appropriateness of training was also highlighted: employees of both Clinton Creek and Elliot Lake specified their training needs.
- For both Pine Point and Elliot Lake laid off employees, there was also a tendency to experience decreased incomes after mine closure when they were not able to find new jobs in the mining industry.

The experiences of these three cases support the findings outlined in Section 2.2 of this response. First, the particular local context must be considered in assessing potential impacts on employees by mine closure. The particular skill levels of employees, training programs provided, and the broader (regional or national) economic climate will affect laid off employees' success at finding new employment. Second, cooperative and proactive planning – involving government, industry and employees themselves – to ensure that the appropriate support is provided, will likely have a positive impact on employees' ability to adjust after mine closure.

2.5 ANALYSIS OF IMPACTS ON EMPLOYEES OF MINE CLOSURE IN THE SNAP LAKE SEIA

It is not possible to predict with great certainty the effects of the Snap Lake mine closure on employees 25 years from now, because much will depend on the broader economic, social, and political circumstances and issues at that time. However, as noted in the EAR, many opportunities are being provided during the life of the mine to enhance the level of skills and local economic diversity that will contribute to social and economic sustainability of the affected communities.

The findings of the research and case study review, as discussed above, support many of the community issues and concerns that are presented in the Snap Lake impact assessment. These are also reflected in the impact management measures found in Section 5.3.4 of the EAR. The impact management measures focus particularly on training, skills development and broader economic and sustainability initiatives. They also strongly focus on the importance of partnership arrangements between the company, governments and the communities from the beginning of mine development and operations through to closure.

2.5.1 Potential Impacts of Mine Closure

The following sections of the EAR discuss potential impacts of mine closure as it relates to employment and economic sustainability:

- Section 5.3.2 of the EAR presents the predicted employment impacts for Canada and the NWT for the construction, operations and closure phases of the project. An overview of these impacts is provided in Table 5.3 –1. The employment impacts during the mine closure phase are further discussed in Sections 5.3.2.2.3 and 5.3.2.3.3. These sections clearly demonstrate there will be a considerable reduction in the level of direct, indirect and induced project employment as the project moves from the operations to the closure phase.
- Although Section 5.3.3 of the EAR does not discuss impacts on mine employees of mine closure by itself, it does discuss impacts on individuals, families and communities as they relate to wage employment in the medium and long term. Reference is consistently made to social and economic sustainability, including impacts related to employment and transition to the wage economy. Throughout the analysis, it is stated that the achievement of social and economic sustainability will depend on the implementation of the impact management measures, as described in Section 5.3.4 of the EAR. Impacts on mine employees at the time of mine closure, and the achievement of social and economic sustainability, will particularly depend on the level of economic diversification that has been achieved by that time.
- With regards to cumulative effects on labour demand, Section 12.2.4.4.1.1 of the EAR provides analysis of impacts on employees during mine closure. Section 12.2.5.1.1 of provides a discussion of potential cumulative impacts on regional economic development, specifically addressing the importance of diversified local economies to mitigate against impacts of mine closure.

2.5.2 Factors Influencing Impacts on Employees

A number of factors will influence the social and economic prospects for the employees at mine closure. The factors identified in Sections 5.3. of the EAR are listed below.

- *The nature of the education, training and skills development of individual employees.* Broader training resulting in transferable skills will facilitate employees obtaining work in other industries as well as mining.
- *The nature of economic diversification in local communities.* Higher levels of education and skills in the community and economic development support from De Beers, local governments and agencies may result in an expanded economic base, which can provide jobs or business opportunities for some of the employees.
- *Sustainability of the communities.* Lifestyle changes resulting from the introduction of a wage economy, rotational employment, and increased spending power may initiate a range of responses in families and communities that will influence the community's sustainability in the absence of the mine employment. Conditions supporting sustainability include:
 - the already existing level of skills and capacity in the community;
 - technical, educational and financial support for local economic development; family support and individual counseling services;
 - access to financial support from external sources; and
 - community leadership.
- *The political, economic and social climate in 25 years.* It is difficult to anticipate the political, social, cultural, and economic trends and decisions over the next couple of decades that will influence the social and economic climate in 2028.
- *Implementation of the impact management measures.* De Beers is committed to the implementation of the impact management measures within its power, including the development of partnerships.
- *Development of the mining exploration and development industry in 2028.* While it is currently foreseeable that mining exploration and development will likely continue for 20 to 30 years, the economic conditions at that time will determine the future viability of the mining industry in the NWT.

2.5.3 Relevance of Snap Lake Impact Management Measures to Impacts on Employees at Closure

The factors discussed above are directly reflected in the impact management measures presented in Section 5.3.4 of the EAR. The impact management measures specifically address the following:

- the need to ensure long-term appropriate training and job skills development for employees and in the communities (Section 5.3.4.2 Recruitment, Training, and Employment);
- the need to support local economic development (Section 5.3.4.4 Economic Development);

- the need to provide for community social capacity and wellbeing (Section 5.3.4.3 Health and Wellness); and
- a commitment by De Beers to seeking out partnerships with government and communities for the effective implementation of the impact management measures (Section 5.3.4.1.2 Partnerships).

The approach to implementation of the impact management measures is also consistent with the findings of the research and case study review in terms of assessing potential impacts of mine closure on a case-by-case basis and to provide for measures that are based on the needs of each particular community. Section 5.3.4.1.1 identifies that full and effective implementation of the proposed impact management measures will require *adaptive* implementation, based on continuous and ongoing monitoring of impacts as they unfold. This means proactive and preventative implementation in response to indications of negative impacts or trends. Finally, full and effective implementation requires that impact management measures are based on particular community and individual needs.

2.6 Conclusion

In summary, it is not possible to predict with great certainty the effects of mine closure on employees in 2028. However, De Beers is committed to implementing the impact management measures during the life of the mine and through to closure. It is anticipated that, with the full and effective implementation of the impact management measures, and through partnership agreements between De Beers, governments, and communities, Snap Lake will contribute to long-term economic sustainability in the primary communities upon closure of the project.

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3 Project Components – Employment

ToR lines 488-491 – De Beers shall provide a detailed summary of...minimum skill requirements for its predicted labour force, including contract and subcontracted employees.

ToR lines 459-460 – [the Proponent will describe]... wage and salary employment by skills category over the life of the proposed development, including estimates of northern participation;

GNWT Conclusion: Page V.3-3 of the EAR refers to skills needed during operations, but the EAR is silent to skills required during the construction phase.

Review Board View: Non-conforming information should be provided.

RESPONSE

This information is an addendum to Appendix V.3 of the Environmental Assessment Report. It was provided to the Review Board on July 12, 2002 in De Beers' response to Information Request 2.5.43.

4 Environmental Impacts – Net Effect On Government

ToR line 472 – this directs the Proponent to examine federal and territorial revenues and costs

GNWT Conclusion: While revenues are addressed, it is not clear that EAR addresses the issue of costs. For example, at no point in Section 5 of the EAR is there a specific reference to an increased GNWT cost burden related to the socio-economic impacts or opportunities associated with this Project.

Review Board View: Non-conforming information should be provided

RESPONSE

This response is an addendum to Section 5.3.2 of the Environmental Assessment Report.

The question of potential GNWT cost drivers and cost burden related to the socio-economic impact associated with the Snap Lake Diamond Project needs to be placed into an appropriate context. This context includes consideration of the demand and supply side variables, and the recognition of multiple and complex factors that both influence and impact demand and expenditure requirements of government.

Cost drivers are factors that cause government expenditures to rise or fall. While government is able to influence and control some cost drivers, it is not able to influence and control all drivers. There are two types of cost drivers: general cost drivers and, specific cost drivers.

General cost drivers affects most programs the government offers. Examples of general cost drivers are as follows: federal and territorial legislation and standards; business investment climate; taxation levels; inflation; interest rates; infrastructure requirements; unemployment and labour force participation rates; demographics; population dispersion; net migration; prices; wages and benefits; and the capacity and condition of infrastructure.

Specific cost drivers affect a limited number of programs the government offers. Examples of specific cost drivers on some selected government programs are provided below. The government programs were selected for illustration purposes only.

- Education: School Program: Examples of specific cost drivers include: population of 5 to 19 year olds; enrolment and participation rates; legislated pupil teacher ratio; negotiated wages and benefits.
- Social Assistance Program: Examples of specific cost drivers include: total funding available for social assistance; total number of cases and recipients; population of 19 to 64 year olds

(eligibility cohort); changes in other eligibility requirements; and changes in benefit levels, *i.e.*, food basket allowances.

- Health: Hospital Services: Examples of specific cost drivers include: new technologies, *i.e.*, tele-medicine; professional practice patterns; consumer demand and patient expectations; increased life expectancy; and patterns of illness and general public health trends.
- Health: Physicians' Services: Examples of specific cost drivers include: the number of practitioners; the remuneration levels and fee schedules; specialist availability; and retention rates and recruitment costs.

A correlation between population, demographics, price and government expenditures is generally recognized. However, there is a significant challenge with attempting to model in detail cost drivers for specific programs. This is due, in large part, to the fact there are many suspected relationships between variables, but few are actually known and documented. The basic data are either not available, are incomplete, or are not reliable. This was further complicated by the impact of the creation of Nunavut in 1999 and the challenge of understanding and disaggregating program and service delivery costs in the two territories.

There are a number of key program and service trends that impact the cost burden for government in the NWT. These include: an increasing demand for services; increasing expectations from the public; general rising cost for inputs and consumables; recruitment and retention for skilled workers; and policy and political choices. These trends drive many expenditures and often have long-term effects.

A limited number of policy options to respond to or alleviate fiscal pressures are available. Some include: increase the efficiency of program management and delivery; reallocate resources between programs; reduction of program and service levels; adoption of alternative delivery mechanisms; elimination of programs and services; increase revenues through various instruments, *i.e.*, taxes, user fees, and debt financing.

There are no methods, models or credible data available to make an estimate of incremental costs to the GNWT from the Snap Lake Diamond Project. As already stated, a correlation between population, demographics, price and government expenditures is generally recognized. However, attempts to make a direct attribution or allocation of potential incremental costs to a specific project given the array of demand, supply, public policy choices and cost pressure variables is not feasible.

The economic and tax and fiscal impacts of the project using the best available models, methodologies, and protocols have been provided in Section 5.3.2 of the EAR.

The tax and fiscal impacts are similarly provided at a detailed and cumulative level for both the Government of Canada (Canada) and the Government of the Northwest Territories (GNWT). The

Snap Lake Diamond Project will create net revenues of \$1.468 billion dollars for the federal government over the life of the project. The GNWT will realize net revenues of \$70.3 million, excluding the estimated per capita funding received annually under the federal formula grant. The estimated per capita revenues could total \$84.5 million. The GNWT may realize a total of \$154.8 million over the life of the project. The economic and tax and fiscal impacts were modeled based on the existing tax and revenue sharing arrangements, policies and practices between the federal government and the GNWT. Government taxation structures and other revenue generation instruments, policies and practices are in general terms intended to provide a correlation between taxation levels and the provision and availability of public programs and services.

The annual and cumulative economic, tax and fiscal impacts of the Snap Lake Diamond Project are significant for both Canada and the NWT. Benefits will accrue to individuals through employment opportunities, to business through provision of goods and services, and to government through a range of taxation and other revenue generation instruments that collect, redistribute and invest the revenue into the provision of appropriate and necessary public infrastructure, programs and services. The determination of what public investments to make, where to make them, and to what extent and duration, *i.e.*, quantity and quality of infrastructure, programs and services, are the domain of government and public policy choice.

Decisions on public policy are made by governments. Because there is no method to forecast public policy during project life, further predictions of cost burdens are beyond the means of a proponent.

5 Environmental Impacts – Subsistence Economy

ToR lines 471 – Directs the proponent to examine impacts on the subsistence economy.

GNWT Conclusion: The Proponent Conformity Table lists several sections as responding to this ToR request. However:

- Section 5.2.2.3 is baseline data
- Section 5.3.1.2.2 identifies community concerns
- Section 5.3.4.3.7 notes De Beers' support for cultural activities

None of these three sections address assessed impacts.

Section 12.2.7 discussed possible cumulative effects on cultural practices and traditions. However, these are separate from the issue of a subsistence economy and potential impacts to it.

Review Board View: Non-conforming information should be provided.

RESPONSE

5.1 BASELINE

This is an addendum to section 5.2.3 of the Environmental Assessment Report (EAR).

Subsistence economy has been defined as an economy that is not dependent on the use of money and where individuals produce to meet their own basic needs (Banks 1993; Rodda 2002). G. Kofinas (1993) further discusses subsistence economy in the following manner:

The informal sector is, by definition, difficult to measure. Generally based on non-monetary exchange, private ownership of modes of production, and family, informal economic activities have been defined as those transactions which provide for subsistence and do not increase profits or accumulate capital for its own sake.

Traditional activities such as hunting, fishing and trapping are activities that contribute to a subsistence economy. The data presented in Section 5.2.3 of the EAR, provides information on the level of participation by community in hunting, fishing and trapping activities for the years 1988, 1993 and 1998. The data illustrates in many communities the levels of participation in hunting, fishing and trapping has fluctuated between 1988 – 1998. In some communities such as Lutsel K'e, Wha Ti and Wekweti participation level decreased from 1988 to 1993 and then increased from

1993 to 1998. Hunting and fishing has increased in all primary communities. These statistics reveal that trapping over the same time period has decreased in all communities, although when reviewing draft section of the socio-economic impact assessment with First Nations representatives, they stated the numbers presented seemed low. In discussions they suggested that the recent increase in fur prices has increased the number of people participating in trapping.

Tables V.2-7 to v.2-10 found in Appendix V.2 present a more detailed information on percentages of people involved in trapping, hunting and fishing. For example, in 1998, 44 percent (%) of employed people stated they hunted and fished that year, while 39% who were not working and wanting a job, stated they hunted and fished in 1998.

Table V. 2-10 provides data on the percentages of households that consumed harvested meat or fish for 1999. With the exception of Yellowknife, all of the primary communities reported that over 90% of all households consumed harvested meat or fish. The community of Lutsel K'e was highest at 99% and the City of Yellowknife was lowest at 68%.

This data indicates the continued participation of local communities in the subsistence economy and the on-going link between communities and traditional land use. Traditional use practices serve to strengthen cultural values and structures, and support the long-term maintenance of sustainable communities. The importance of traditional land use and the subsistence economy to these communities can be summarized by a statement by the Yellowknives Dene in the Traditional Land Use section of the EAR:

Dene use of the lands is traditional, but it is not frozen in the past: the people today continue to rely on meat and other things the land provides. For that reason, the people need to continue to need access to the expansive lands where the animals and fish have always sustained them.

Section 5.2.1.4 of the EAR discusses the use of renewable resources and the role that subsistence economy plays in communities.

The panel [The Premier's Economic Strategy Panel] recognized that, although considerable government support of the traditional economy is already in place, there must be better coordination of the services and monies provided. To achieve this, the true economic value of traditional activities needed to be measured, monitored, and included in territorial economic accounts.

The above reinforces the fact that the economic value of traditional activities and of the subsistence economy has not been quantified.

5.2 ANALYSIS

This is an addition to Section 5.3.3 of the EAR.

There is no supplementary method to collect additional meaningful information or provide more detailed assessment of the importance of the economic value of traditional activities to household income without being highly intrusive into the lives of individuals and families. The work of numerous researchers, including the work of the Royal Commission on Aboriginal Peoples (1996) and community-based organizations in the NWT respecting the traditional economy has contributed to the approach taken by De Beers.

Specifically, the approach entailed developing an appreciation and understanding of the unique blend of wage and traditional economies in communities and the structure and meaning of the subsistence economy. The mixed economy of the NWT is reflected in the actual patterns of Aboriginal individuals and households regarding participation in both the wage economy and the subsistence economy. At certain times of the year, people may hunt, fish and engage in other traditional activities, at other times they may work for wages, or it may be a combination of the two.

The subsistence economy has a number of key characteristics that differentiate it from the wider wage based market economy of the NWT. Both production and consumption activities are organized within the household and through wider kinship relations. Household and kinship are the principles by which labour is organized, resources are allocated, and products are distributed and consumed. The products from the hunting, fishing and trapping of members of the household, largely country food, are processed within the household primarily for the direct consumption of members of the household and extended family to meet their needs. The majority of products from domestic production do not enter a commercial market, and as such do not get "counted" into the monetary wealth of a household.

However, the economic activities of Aboriginal households are not confined to production for the direct consumption of the household. Households are economic enterprises that organize and allocate wildlife resources, capital in the form of harvesting equipment, and the labour of the household and of the extended family. Food and other products are distributed among other households in the extended family. The subsistence economy is a socio-economic system, that is a system of social and economic relationships and of cultural values. Key among these are systems for the distribution of food through mutual responsibilities and obligations based on values of sharing.

Fur is the only harvested and commercially traded product from the subsistence economy. It is recorded as a formal economic transaction and documented through fur sale records and the economic value and contribution to individual and household income data is captured through formal government statistics respecting the value and number of pelts produced.

The essence of traditional activities, that of consumptive and direct use by individuals and families, means that it generally does not get reported (outside of harvest study requirements in settled land claims which provide only selected information) or counted as part of the economic wealth generated by a household. Therefore there are significant data limitations.

The project assessment approach taken, which is consistent with various community based approaches, such as the Lutsel K'e Dene First Nation community based monitoring project, was to use time spent engaged in land use and harvesting activities as an indirect indicator of impacts on the subsistence economy.

Based on the available data and the interviews that De Beers conducted in the primary communities, there is no clear causal relationship between wage economy participation and the decline or increase in participation in traditional activities can be made. The personal choices that individuals make about engaging in traditional activities would likely be a major factor in establishing levels of participation.

De Beers recognizes the importance of traditional activities and the subsistence economy and is committed to continue to co-operate with agencies responsible for monitoring this sector of the economy. Also, for monitoring during the operational phase of the project, De Beers will continue to work with its employees to support and facilitate continued involvement in subsistence economies, while respecting the need to minimize the potentially intrusive nature of research into the lives of individuals and families. De Beers will also monitor the efforts of agencies responsible for impacts on the subsistence economy, including the ongoing work of the Traditional Economy and Fur Management Program in the Department of Resources, Wildlife and Economic Development, and community efforts such as Lutsel K'e in their socio-economic monitoring project. A cooperative effort will minimize the research and monitoring burden on individuals and families, but will also help to ensure the importance of traditional activities is recognized and reflected.

Impacts to the subsistence economies of the primary communities from mining activities could occur through two potential ways. These are through changes to the natural environment on which subsistence harvesting depends, and through socioeconomic changes that lead individuals within communities to change their activities within the subsistence economy.

Section 6.3 of the EAR documents the historical and current use of the Snap Lake Diamond Project area for subsistence purposes. This information was derived through community consultations and from previously conducted traditional land use studies. Section 6.3.1 establishes that although the study area was used historically for subsistence purposes by the North Slave Métis Alliance, Yellowknives, Dogribs and Chipewyan of the North Slave, no current subsistence activities, including fishing, hunting, trapping or gathering, were identified within the study area. Elders from Lutsel K'e stated that hunters travel through the Snap Lake area to access other hunting areas. Given that the Snap Lake Diamond Project Regional Study Area does

not appear to be intensively used for traditional land use purposes, the project will not have a direct impact on the subsistence economy via its effects on current traditional land use patterns in the project area.

Section 10.5.4 indicates that the habitat loss for all wildlife valued ecosystem components is considered to be low. Overall, impacts on wildlife movement and behavior are considered to be low. However, subsistence activities based on fox and wolverine could be affected by the project if mitigation measures are not effective. With effective mitigation, the impacts on wildlife abundance are predicted to be low. Based upon the findings of the biophysical and land use sections of the environmental assessment, mine-related activities will not have any predicted impact on people's access to hunt, fish or trap, or the availability or quality of the subsistence product. As such there are no predicted impacts from a biophysical or land use perspective that will hinder people's choices to continue to participate in subsistence activities.

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. As stated in Section 12.2.7 of the EAR:

To some extent, this will depend on individuals and communities own choices to maintain strong cultural traditions. It will also, however, depend on employment arrangements that recognizes traditional activity cycles (i.e. hunting time, best fishing times) and permits Aboriginal people to continue participation.

Employment in mining may reduce the need to rely on subsistence economy due to increased incomes. However, the subsistence economy may be maintained depending on individual choice and community support for traditional activities such as hunting and fishing. De Beers recognizes that maintenance of cultural values is integral to the sustainability of the primary communities. Through the impact management measures De Beers will actively work with the primary communities to support the promotion of traditional cultural practices in the primary communities.

De Beers recognizes the maintenance of cultural values is integral to the sustainability of the primary communities. Through the impact management measures De Beers will actively work with these communities to support the promotion of traditional cultural practices.

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6 Consideration of Alternatives – Rotation

ToR line 188-189, line 196 – Include a description of the main development/production/technical alternatives, in particular, those associated with ... employee work schedules.

GNWT Conclusion: The Proponent discusses its reasons for considering a 2-2 shift schedule during operations. This is the only operations alternative described. The alternative of a 1-1 rotation, referred to on page 5-85 as the most desirable schedule is not examined in Section 2, Project Alternatives and Opportunities.

Section 2 states a 3-1 rotation will be used during construction, but does not examine any other alternative for the construction phase.

Review Board View: Non-conforming information should be provided.

RESPONSE

This information is an addendum to Section 2 of the Environmental Assessment Report. This information was provided to the Review Board on July 12, 2002 in De Beers' response to Information Request 2.5.53. In this response, an analysis of possible rotations was provided for construction and operation.

7 Cultural Effects

ToR lines 439-441—Describe potential impacts of the proposed development... on the cultural well-being of the impacted communities [this] should include, for example, anticipated or possible changes on social cohesiveness or language use.

GNWT Conclusion: The Section 5 discussion of project impacts is silent with regard to social cohesiveness or language use. Page 12- 33 discussed the importance of social cohesiveness but not the cumulative impacts of this component.

Review Board View: Non-conforming information should be provided.

RESPONSE

7.1 BASELINE

This baseline data is an addendum to Section 5.2.3 of the Environmental Assessment Report (EAR).

7.1.1 Language

As defined in the *Official Languages Act*, there are six official Aboriginal languages in the NWT (Chipewyan, Cree, Dogrib, Gwich'in, Inuktitut and Slavey). However, recent studies have shown that legal recognition of languages has not stemmed the tide of Aboriginal language decline (GNWT 2002).

Statistics from the 1996 Canadian Census show a decline in the number of Aboriginal language speakers. The most recent GNWT language report, *Revitalizing, Enhancing, and Promoting Aboriginal Languages* (GNWT 2002) concludes:

Overall, the health of Aboriginal languages in the NWT is poor. Less than half of the Aboriginal population speak an Aboriginal language, a smaller number use an Aboriginal language in the home, and fewer young people are learning their language.

Language loss can be analyzed using a change index. A change index is created by comparing census data of the number of people who speak their mother tongue at home (home language) with the number of people who identify an Aboriginal language as a mother tongue.

Table C7-1 identifies the change index for all Aboriginal languages in the NWT.

Table C7-1: Use of Aboriginal Language in the Northwest Territories: Change Index

	Inuktitut	Slavey	Dogrib	Chipewyan	Gwich'in	Cree
Mother Tongue	835	2075	2000	515	250	185
Home Language	160	1190	1355	210	40	30
Change Index	-80.9%	-42.7%	-32.3%	-59.2%	-84.0%	-83.8%

Notes:

1. Source: Adapted from GNWT 2002; Canadian Census 1996.
2. Mother tongue refers to the first language learned in childhood and still understood by the individual. If more than one language was learned and they are still understood, respondents were asked to report the one spoken most often at home before at starting school. If the languages were used equally often, the respondent was requested to report each.
3. Home language refers to the language spoken at home by the respondent at the time of the census. If more than one language was spoken, respondents were asked to report the one spoken most often at home. If the languages were used equally often, the respondent was asked to report each.

This data indicates an overall significant decline in Aboriginal language use in the Northwest Territories. More than 80% of Inuktitut, Gwich'in and Cree respondents now speak English at home rather than the Aboriginal languages they learned in childhood.

7.1.2 Community Language Use

In the primary communities, Dogrib and Chipewyan are the most commonly spoken Aboriginal languages. Profiles of the primary communities show a decline in the use of the Aboriginal languages between 1986 and 1996. This information is presented in Tables 5.2-11, 5.2-19, 5.2-26, 5.2-34, 5.2-41, 5.2-47 and 5.2-53 of the EAR.

- **Chipewyan**

The mother tongue of the Lutsel K'e is Chipewyan. However, since 1986, more of the population has been speaking English as their mother tongue and as their home language. This information is presented in Table 5.2-11 of the EAR. Of the Chipewyan population in the NWT (approximately 2,208), only about one-third (34%) reported the ability to speak their language. In addition, in the NWT the Chipewyan language statistics show what the GNWT (2002) has referred to as severe language loss among the younger generation. Overall, in the NWT where Chipewyan is spoken (Lutsel K'e, Fort Resolution and Fort Smith), the change index is -59.2% based on the 1996 data (GNWT 2002).

- **Dogrib**

With the exception of Yellowknife where the mother tongue is English, the remainder of the primary communities speak Dogrib as their primary Aboriginal language.

The GNWT (2002) notes that Dogrib is the only Aboriginal language found only in the NWT. It is the dominant language in most Dogrib communities. However, in Dettah and N'dilo, English is more commonly used, likely due to their location close to Yellowknife. The GNWT (2002) reports the Dogrib change index as -32.3%, based on 1996 census data.

The information presented in Tables 5.2-19, 5.2-26, 5.2-34, 5.2-41, and 5.2-47 of the EAR mirrors the GNWT's conclusions about the declining use of the Dogrib language in the NWT. The use of Aboriginal languages has declined persistently in the NWT over the past two decades, as exemplified by the primary communities. The majority of the population of Gameti and Wha Ti had an Aboriginal language as their mother tongue, and the majority spoke an Aboriginal language at home in 1996. The majority of the Wekweti population had an Aboriginal language as their mother tongue and half spoke their mother tongue at home. According to the same survey, the majority of the populations of Rae/Edzo and Dettah claimed an Aboriginal language as their mother tongue, but a majority spoke English at home. This data reveals the declining use of Aboriginal languages in the primary communities.

7.1.3 Social Cohesion

The concept of social cohesion is in its infancy in terms of the development of measures and indicators. Work to date at a national scale or a large urban centre scale, has not resulted in professional agreement on one definition (Jeannotte 2000) and the measures used in large urban centres, such as visiting patterns, kinship linkages and mobility rates, are not particularly relevant to First Nation communities.

In general, social cohesion refers to development and maintenance of a shared sense of values, as is reflected in culture, tradition and lifestyles. It is important in Aboriginal communities to support activities that reinforce social cohesion and not to consciously break down social cohesion. Appendix IV.3 of the EAR, The Lutsel K'e study *Traditional Knowledge in the Na Yaghe Kué region: An Assessment of the Snap Lake Project*, states that their way of life is based on:

... ways of knowing that have been passed on for generations. In addition to the socio-economic, cultural and spiritual relationships that exist among people, [they] have a complex and sacred relationship with the land around them ... the integrity of the land is intimately tied in with the health of the people and their lifestyle.

7.2 ANALYSIS

This analysis is an addendum to Section 5.3.3 of the EAR.

Languages

The decline in the use of Aboriginal languages at home is due to a host of factors. The GNWT (2002) suggests that the following trends are contributing to the declining use of Aboriginal languages in the NWT:

- communications and media are often only available in English;
- few written materials (including leisure materials) have been developed in Aboriginal languages;
- increasing use of the Internet, where information is predominantly available in English;
- past policies and residential schools discouraged the use of Aboriginal languages;
- migration from small and isolated communities to larger centers where English is predominantly spoken;
- increased Aboriginal participation in labour force where English is the work language; and
- an aging population of fluent Aboriginal speakers.

The working language at the Snap Lake Diamond Project will be English. English will be used for safety and consistency reasons. This is the standard practice at other mine sites in the NWT. As identified in Section 5.3.4.2.3 of the EAR, De Beers is committed to ensuring the provision of literacy programs both on-site to its employees and in the primary communities. De Beers will work with community organizations to ensure that literacy programs are linked to on-going community programs and education efforts. Work schedules based on a fly in fly out rotation will allow for the ongoing participation in cultural activities such as resource harvesting to a greater extent than other schedules. The ongoing participation in traditional cultural activities could serve to support language use in the transfer of traditional knowledge about the land.

De Beers supports a variety of initiatives that can enrich the use of Aboriginal languages. Impact management measures are identified in Section 5.3.4 of the EAR and include the establishment of a learning centre on-site at the Snap Lake, working to create a cultural awareness program, cross-cultural training, and Community Appreciation Days. De Beers is also willing to work with Aboriginal communities because it is at the community level that Aboriginal languages are primarily learned and spoken. As the GNWT (2002) noted from the Report of the Royal Commission on Aboriginal Peoples, the primary responsibility for ensuring the survival of a language rests with the individual, the family and the community.

The role of De Beers is to work with Aboriginal communities to ensure the Snap Lake literacy and cultural awareness programs are linked to on-going community programs and education efforts. The government of the Northwest Territories see its role as supporting Aboriginal language communities as they define their language goals, and work to achieve these goals (GNWT 2002). As part of the territorial government's strategy, they plan to:

- support Aboriginal language communities to develop and implement strategic language plans for the revitalization, enhancement and promotion of their language;
- promote the values of the NWT's official languages and their continued usage in day-to-day activities;
- create a learning environment that supports the Aboriginal language community's efforts to revitalize Aboriginal languages; and
- provide reasonable access to government programs and services.

Primarily, these strategies are aimed at promoting the visibility of Aboriginal languages, supporting education and instruction in Aboriginal languages and supporting communities (financially, administratively and technically) to follow through on their Strategic Language Plans.

Social Cohesion

The influences that can threaten social cohesion by causing individuals and families to leave a community include:

- unemployment;
- lack of opportunities;
- lack of income/income inequality;
- lack of support services; and
- lack of access to decision-making.

The Snap Lake Project will provide employment opportunities, training and counseling in the primary communities and the potential for business development, which can help achieve a degree of economic diversification. In addition to employment creation and the support for language and cultural activities, the operational schedule for the Snap Lake site will permit social relationships to be maintained in each community. Specifically, the fly-in-fly-out schedule means social relationships are not permanently disrupted and employees can still maintain links and involvement in their communities and with their families.

The following analysis is as addendum to Section 12.2.7 of the EAR.

The potential cumulative impacts of the Snap Lake Diamond Project on language use and social cohesion will be determined in part by the response of the individuals, families and communities, and the initiatives they promote and implement. The GNWT (2002) noted that The Report on the Royal Commission on Aboriginal Peoples identified communities can take the following steps to reverse the decline in the use of their languages:

- develop goals for language use in their communities;
- determine priorities for language preservation, revitalization and enhancement;
- consult with their community on the most effective means for them to implement their priorities;
- incorporate Aboriginal language in educational policies and programs;
- enhance cooperation with other Aboriginal language communities; and
- use their language in public forums and Aboriginal government business.

Section 12.2.6.1.1 of the EAR discussed the cumulative effects of Snap Lake on the social capacity of the region. Social capacity would include the concept of social cohesiveness. As stated in this section, if investment into social capacity building in communities is made, training, education and social services might improve, thus increasing literacy rates, raising the level of education obtained, and communities might enjoy better health care and social support services. In the long run, these improvements may contribute to economic diversification as people become more employable, and less strain on the social support services as people lead healthier lifestyles. As stated in the EAR, these improvements, when taken together, are essential in creating overall social cohesiveness and sustainability of communities. Impact management measures are presented in Section 5.3.4 of the EAR and summarized in Table 5.3-8. When implemented, these impact management measures should contribute to the overall improved quality of life for many individuals and families, and should also contribute positively to social sustainability in the primary communities.

REFERENCES

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Government of the Northwest Territories. 1988. Official Languages Act. Internet: <http://www.lex-nt.ca/loi/pdf/type66.pdf>. Accessed on June 5, 2002.

Jeannotte, M. Sharon. 2000. Social Cohesion Around the World: An International Comparison of Definitions and Issues, December 2000, Strategic Research and Analysis. Department of Canadian Heritage, Government of Canada, Ottawa, Ontario.

8 Sustainable Development

ToR lines 198-199—De Beers shall discuss the option of sorting and marketing the diamonds mined at the proposed mine. This should include a clear explanation of the options considered and the reason for selecting the preferred option.

GNWT Conclusion: The Proponent has not discussed the sorting and marketing of rough in its report.

Review Board View: Non-conforming information should be provided.

RESPONSE

The information on the options considered for sorting and for marketing of diamonds mined at Snap Lake is provided as an addendum to Section 2, Project Alternatives and Opportunities, of the Environmental Assessment Report. The discussion on the preferred option for sorting of diamonds is supplemental to Section 3.9.4, Project Description, of the EAR. The decision on the preferred option for marketing of diamonds is noted in Section 3.9.4 of the EAR, but discussion of the rationale for the chosen marketing plan is provided below.

8.1 Sorting of rough diamonds

8.1.1 Options for location of diamond sorting

The diamond recovery technology being considered for use at Snap Lake is a single particle sorting process that will deliver a near pure diamond product. It is envisaged that this single particle sorting, followed by manual sorting to remove gangue material, and then by acidisation to clean the diamonds, will take place on site. A 100% pure, cleaned product would thus be available for further sorting. In the interest of maximizing benefits to the NWT and ensuring compliance with the Canadian Mining Regulations, two location options for sorting for initial valuation of the Snap Lake production in Canada were considered. They were: (1) the mine site, and (2) Yellowknife.

In determining the location of the sorting, consideration was given to the social and economic impacts of either flying employees to site on a rotating shift, or maintaining a facility and permanent employees in Yellowknife. On balance, the opportunity of employing individuals on a "normal-office-hour" schedule in Yellowknife, rather than on a rotating shift at the mine site was considered advantageous for employees, as well as for business opportunity development.

Based on this information, De Beers chose to sort rough diamonds from Snap Lake in Yellowknife.

8.1.2 Sorting facility options in Yellowknife

Two alternatives for diamond sorting in Yellowknife that meet Canadian Mining Regulations for diamond valuation standards prior to the export of any production out of Canada were considered. Option 1 was to share the BHP – Billiton (EKATI™) facility. BHP-Billiton was approached to establish whether part of this facility would be available on a long-term lease to De Beers. Use of this would have been of financial benefit to both organizations, allowing sharing of costs, such as overhead and security. Option 2 was use of an independent sorting facility in Yellowknife.

8.1.3 Conclusion

BHP-Billiton indicated that they are not prepared to lease part of their Yellowknife facility. Thus, Option 1 was not viable. Consequently, De Beers chose Option 2, which is to build a separate facility in Yellowknife for sorting and valuation of the rough diamond production from Snap Lake. Suitable premises in Yellowknife for this sorting are currently being sought. In the event suitable space within existing buildings cannot be found, the construction of a stand-alone facility, possibly located at the Yellowknife Airport, is being investigated.

De Beers recognizes and endorses the objectives of the GNWT for the maximizing of economic benefits arising from the diamond industry, to the NWT. Serious consideration is therefore being given to supporting this through a centralized rough diamond sorting facility that may handle diamond production from other jurisdictions of Canada. This would have economic benefits for both De Beers and the NWT. The high costs of providing the level of security associated with facilities like this would be a strong argument in favour of a single, centralized facility.

8.2 Marketing of Rough Diamonds

The discussion on marketing of rough diamonds from Snap Lake is organized as follows: background on De Beers' global marketing strategy, De Beers' decision on Snap Lake marketing and branding, and discussion of De Beers input to the NWT secondary diamond industry.

Background to De Beers' marketing strategy

De Beers' core business is to mine and market rough diamonds. Over the last 110 years, De Beers has developed a global strategy to market diamonds. De Beers believes the marketing strategy is of benefit to the diamond industry as a whole. In particular, the NWT producers and secondary industry directly benefit from De Beers' advertising and marketing strategy by improved and stable world diamond prices and

efforts to drive the downstream value of diamond products. The De Beers marketing strategy is outlined below.

Step 1: Final Sorting and Valuation

Final sorting and valuation of rough diamonds is managed by the rough diamond marketing arm of De Beers, the Diamond Trading Company (DTC), located in London, England. The DTC currently sorts and values approximately 60% of the world's rough diamond production (EA Section 3.9.4; www.debeersgroup.com/dtc). The DTC sources diamonds from the De Beers group of mines in Botswana, South Africa, Namibia and Tanzania and through agreements with Alrosa in Russia and BHP-Billiton in Canada.

All the rough diamonds that arrive at the DTC are sorted and made ready for sale. These diamonds are sorted by shape, weight, clarity and colour into approximately 16,000 different categories. Over 400 staff are engaged in diamond sorting and valuation at the DTC. The DTC supplements the unique skills of its sorting and valuation staff with substantial investment in mechanization to facilitate the sorting process.

Step 2: Sales and Marketing

Sales (Supplier of Choice)

The sorted production from each producing mine is mixed at the DTC and divided into selling parcels that match the individual requirements of a De Beers client. Mixing production from different mines smoothes the overall variability between the production profiles of various mines and enables De Beers to provide the most complete range of rough diamonds to meet the requirements of its wide range of global clients on a consistent basis.

Subject to approval by the European Commission, the DTC will shortly implement a new sales and marketing policy, commonly known as Supplier of Choice (SOC). The SOC strategy results from a recognition that the diamond sector has performed poorly over the last decade relative to the performance of the rest of the luxury goods sector. Consequently, much needs to be done by the DTC and other industry participants to re-shape the business so that it competes effectively in this sector and prospers in the 21st century.

The principal objectives of SOC are to:

- create a more efficient distribution and marketing system for the DTC's diamonds based on partnerships;

- stimulate the industry to be led by advertising and marketing investment in order to create greater consumer demand for diamonds;
- encourage the emergence of multiple internationally recognized diamond brands, including De Beers' own brand; and,
- maintain consumer confidence in the integrity of the natural diamond.

Marketing

In addition to final sorting, valuation and sales to clients, the DTC invests diamond marketing and promotion. De Beers has carried out generic consumer advertising marketing for diamond jewellery since 1939. This marketing has benefited the entire diamond industry from diamond prospector to retailer. This year, the DTC will be advertising and marketing in 18 languages and 16 countries worldwide. An example of consumer marketing that benefits the industry is the successful advertising slogan "A diamond is forever". The key factor in the success of this marketing strategy is use of information from consumer and trade studies and from the DTC's Research and Information Department.

8.3 Conclusion

In conclusion, De Beers has a well-established, long-standing and successful marketing strategy that forms part of the company's core business. The marketing strategy is global in scale and De Beers believes this strategy is of benefit to the NWT by benefiting the diamond industry as a whole. In accordance with De Beers' core business and marketing arrangements, it is the preference of De Beers to market diamond production from Canadian sources through the DTC processes described above. No other marketing options were considered.

In light of the price premiums being reported by other producers, the DTC has investigated the option of branding of Snap Lake diamonds and opportunities for marketing Snap Lake diamonds as part of a broader Canadian brand. It is considered that the current market for branded Canadian diamonds has limitations that can be met by production from other Canadian producers, and that excessive competition in this area could negatively impact the premiums being attained. For this reason, Canadian specific branding will not be immediately pursued, but will be kept under close scrutiny and in the event of expanding market opportunities this will be re-assessed.

Nonetheless, De Beers recognizes that the GNWT wishes to promote diamond manufacturing as part of the development of a secondary diamond industry in the NWT (GNWT, 2001; recent website www.canadianarcticdiamonds.com), and seeks a reliable supply of rough diamonds for this purpose. De Beers wishes to contribute to this objective and proposes the following input to the NWT secondary diamond industry:

1. De Beers will set-up a Yellowknife diamond sorting facility. Sorting and valuation of diamond production to allow presentation to the federal Mining Royalty Valuer (MRV) will be carried out in the proposed Yellowknife facility. To manage this facility initially, a skilled individual will be seconded from the London office of the Diamond Trading Company. This individual will carry out the recruitment and training of Northerners with the objective of developing a skilled team of rough diamond sorters to meet De Beers' local requirements. The recruitment of Northerners will be subject to availability of individuals meeting criteria such as eyesight, colour-discrimination ability, security clearance *etc.* It is anticipated that until local capacity can be developed to meet the full sorting and valuation requirements, a small team will be brought in from the London Diamond Trading Company office on a cyclical basis to assist the Yellowknife team. The timing of this cycle would coincide with the visits of the MRV to Yellowknife and would require co-ordination with the MRV and other mining companies. Over the first five years of mine operations, De Beers undertakes to train rough diamond sorters in excess of its local needs. By doing this De Beers will contribute to the local industry by building up a pool of trained diamond sorters, to meet both its own needs, as well as those of the general industry.
2. Snap Lake may not be in full production until 2007, at which stage the forecast production level will only be 1.6 million carats per annum. This is approximately one half of EKATI™'s actual current output or Diavik's projected output. Based on this production, and the current understanding of the requirements of the NWT industry, the actual quantity of goods that would match this requirement that would be available from the Snap Production, would be extremely limited. If at the time that Snap Lake starts production, significant further supply is required for viable manufacturing businesses approved by the GNWT (in excess of available rough from Ekati and Diavik), De Beers could facilitate the supply of suitable DTC assortments of rough diamonds either directly from the DTC through the DTC's own clients, or through a trading subsidiary of the DTC.
3. De Beers is currently negotiating Impact Agreements (also known as IBAs) with certain First Nation communities. These agreements may in some cases include full equity participation in the Snap Lake project. In the interests of creating a full Preferred Partner status for our First Nation equity partners, as well as contributing to the development of a sustainable capacity in the broader aspects of the diamond industry, De Beers intends to offer access to rough diamond production, as part of these Impact Agreements. The implication of this is that the involved First Nation partner would be in a position to access a defined share of production either for supply to its own cutting interests, or onward supply to other businesses.

REFERENCE

GNWT, 2001. Proposal for Diamond Manufacturing Act, October, 2001. Internet: www.gov.nt.ca/RWED/diamond/index.htm. Accessed August 2002.

9 Infrastructure Effects

ToR line 508 – 510 – Assess the impacts of the proposed development on existing social, institutional and community services, transportation facilities, services, infrastructure (e.g., transportation safety), and permanent changes to the infrastructure and services arising from the proposed development.

The Conformity Table (Appendix I.3, page I.3-22) notes this is dealt with in the following sections of the EIS:

5.2.3.2.7, 5.2.3.3.7, 5.2.3.5.7, 5.2.3.6.7, 5.2.3.7.7, 5.2.3.8.7

5.3.1.3.2

5.3.3.4, 5.3.4.2, 5.3.4.3

6.6

However, the GNWT makes the following observations on the above items:

- Section 5.2.3 deals with community baseline data, not with impacts;
- Section 5.3.1 deals with constituent concerns;
- Section 5.3.4 deals with planned mitigation measures;
- Section 6.6 deals only with the winter road

GNWT Conclusion: While some impacts are captured in Table 5.3-7, it is not evident whether the Proponent meant to extrapolate the impacts identified there to the larger potential infrastructure impacts. The EIS does not appear to discuss impacts to services, facilities, and infrastructure

Review Board View: Non-conforming information should be provided.

RESPONSE

This response is an addendum to Section 5.3.2 of the Environmental Assessment Report (EAR).

9.1 BACKGROUND

The EAR addressed a wide range of effects at the individual, family, community and region with respect to the social, economic and services aspects. The analysis includes predicted direct, indirect and induced impacts as well as impact management measures, particularly with respect to existing social, institutional and community services.

9.2 Analysis

9.2.1 Public Program, Services and Infrastructure

Section 5.3.2 of the EAR identifies estimates of worker migration from outside the NWT and discusses business opportunities that the Snap Lake Diamond Project will bring. Detailed predictions of which communities may be the source of workers and which private businesses may decide to position themselves to provide services to the Project either directly to De Beers or indirectly to others, cannot be predicted. The issue of migration has been fully discussed in the response to IR 1.40.

There are challenges to with attempting to model in detail expansion of services and associated infrastructure for specific programs due in large part to the fact that there are numerous factors and relationships between variables, but few are actually known and documented in any detail by the service providers. The basic data on service thresholds and carrying capacity such as additional case loads, are either not available, incomplete or not reliable. Attempts to make a direct attribution or allocation of potential incremental costs to a specific project in the context of an array of complex demand, supply, public policy choices and cost pressure variables is restricted by the quantity, quality and reliability of data. As well, it is restricted by the lack of defensible models to make such a determination.

It is not possible to predict in any meaningful way where the physical community growth and potential associated infrastructure will occur in isolation of other sources of growth and economic opportunities.

9.2.2 Private Business and Economic Opportunities

Potential growth in the residential, commercial and industrial sectors resulting from business and other economic opportunities associated with the Snap Lake Diamond Project is not expected to create significant additional infrastructure investment demands or service pressures on the various levels of government other than in business development support services and loans – which are clearly within the domain and discretion of government and financial lending institutions.

Given the types of business and economic opportunities – direct and indirect - associated with the Snap Lake Diamond Project and initial expressions of interest by private businesses, it is reasonable to assume that these opportunities will be spread across communities and regions. The distribution of these business and economic opportunities will mitigate against concentrated demands on services and infrastructure in any one community. Further, it can be anticipated that economic activities in the primary communities will be promoted as a result of on-going discussions between them and De Beers.

The annual and cumulative economic, tax and fiscal impacts of the Snap Lake Diamond Project are important for both Canada and the NWT. Benefits will accrue to individuals through employment opportunities, to business through provision of goods and services, and to government through a range of taxation and other revenue generation instruments that collect, redistribute and invest the revenue into the provision of appropriate and necessary public infrastructure, programs and services. These are fully discussed in Section 5.3.2 of the EAR. Private business decisions regarding expansion of existing capacities and services or the establishment of new business ventures to meet market demands is the responsibility of the individual business owner. Similarly, the determination of what public investments to make, where and to what extent (quantity and quality of infrastructure, programs and services) and duration to service these economic opportunities, are the domain of government and public policy choice.

9.2.3 Infrastructure and Service Planning and Management Framework

The NWT *Planning Act*, R.S.N.W.T. 1988, c.P-7, provides a number of growth management instruments to communities and governments. These instruments allow for assessing, planning and managing the existing social, institutional and community services, transportation facilities, infrastructure, as well as potential changes to them arising from individual projects, as proposed by private developers and government. The principal instruments are general plans and land use plans.

The *Planning Act* provides the overall legislative framework for community planning and growth management. The Department of Municipal and Community Affairs, GNWT, in conjunction with municipal authorities are jointly responsible for community planning and growth management.

In the smaller communities where a formal general plan is not in place, the Council has the authority to prepare a land use plan. While not a requirement under the *Planning Act*, the land use plan is intended to achieve objectives similar to those of a general plan but in less structured way, and does not require a formal zoning by-law.

Table C9-1 identifies the status of land use plans and general plans and the sequence of their revisions, and the possible role by De Beers to contribute to the assessment of community infrastructure needs as related to the Snap Lake Diamond Project. De Beers would provide project specific information to the planning authorities to ensure the relevant information related to Snap Lake can be considered in each community's growth scenarios, infrastructure needs assessment, and public capital planning. In addition, as appropriate, De Beers could take part in the community and public planning sessions.

Table C9-1: Community Planning and Growth Management Instruments

Primary Community	Community Planning & Growth Management Instrument Profile and Status			Role and Commitment By De Beers To Contribute to the Assessment of Infrastructure Needs of Communities Related to the Snap Lake Diamond Project
	<i>Instrument Currently in Place</i>	Effective Date of Instrument	Next Review/Amendment of Instrument (Based on a Planning Review Criteria of at Least 5 Years)	
Dettah	Land Use Plan	January 9, 2001	By January 9, 2006	<ul style="list-style-type: none"> Provide project specific information and cooperation with the planning authorities to ensure that the relevant information about the Snap Lake Diamond Project is considered in growth scenarios, infrastructure needs assessment and public capital planning during the planning instrument review and ongoing growth management during the life of the mine. Take part in community and public planning sessions, as appropriate.
Gameti	Land Use Plan	April 17, 2000	By April 17, 2005	
Lutsel K'e	Land Use Plan	Fall 1999	By the Fall 2004	
N'Dilo	Land Use Plan	, 2002	By April 9, 2007	
Rae/Edzo	General Plan	December 6, 1994	By December 6, 1999	
Wha Ti	Land Use Plan	February 16, 2001 (<i>Pending final approval by Council</i>)	By February 16, 2006	
Wekweti	Land Use Plan	February 27, 2001	By February 27, 2006	
Yellowknife	General Plan adopted in 1996	May 1, 1996	2002-2003 General Plan Review Process being initiated by the City of Yellowknife	