

TABLE OF CONTENTS

7.2.5	Family and Community Well-Being	7.2.5-1
7.2.5.1	Introduction	7.2.5-1
7.2.5.2	Valued Component Baseline	7.2.5-1
7.2.5.2.1	Economic Hardship	7.2.5-2
7.2.5.2.2	Alcohol Consumption	7.2.5-2
7.2.5.2.3	Children at Risk	7.2.5-3
7.2.5.2.4	Youth at Risk	7.2.5-4
7.2.5.2.5	Crime	7.2.5-4
7.2.5.2.6	Education Concerns	7.2.5-5
7.2.5.2.7	The Socioeconomic Well-Being Indexes.....	7.2.5-6
7.2.5.2.8	Past, Present and Future Projects and Activities	7.2.5-7
7.2.5.3	Potential Effects of the Proposed Project and Proposed Mitigation	7.2.5-7
7.2.5.3.1	Potential Project Effects	7.2.5-7
7.2.5.3.2	Past, Present and Future Projects and Activities	7.2.5-12
7.2.5.3.3	Mitigation Measures	7.2.5-12
7.2.5.4	Residual Effects and their Significance	7.2.5-20
7.2.5.5	Cumulative Effects.....	7.2.5-22
7.2.5.6	Limitations.....	7.2.5-23
7.2.5.7	Conclusion	7.2.5-23

List of Tables

Table 7.2.5-1:	Indicators of Economic Hardship in SERSA by Health Service Delivery Areas, British Columbia	7.2.5-2
Table 7.2.5-2:	Children at Risk Indicators.....	7.2.5-3
Table 7.2.5-3:	Indicators of Youth at Risk in SERSA	7.2.5-4
Table 7.2.5-4:	Community Well-Being Index in SERSA.....	7.2.5-6
Table 7.2.5-5:	Potential Project Effects on Family and Community Well-Being.....	7.2.5-11
Table 7.2.5-6:	Mitigation Measures and Potential Residual Effects for Family and Community Well-being	7.2.5-15
Table 7.2.5-7:	Mitigation Measures and Effectiveness of Mitigation to Avoid or Reduce Potential Effects on Family and Community Well-Being during Mine Site Development	7.2.5-18
Table 7.2.5-8:	Significance of Potential Residual Effects for Family and Community Well- Being.....	7.2.5-21

List of Figures

Figure 7.2.5-1:	Adult Crime Rates in SERSA, 2008 to 2010	7.2.5-5
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7.2.5 Family and Community Well-Being

7.2.5.1 Introduction

This subsection describes the approach and applicable regulatory framework for the assessment of the Family and Community Well-Being Valued Component (VC).

The proposed Blackwater Gold Project (the Project) will provide employment opportunities for residents of the Socioeconomic Regional Study Area (SERSA) and may result in some new workers moving into the region. The potential change in regional demographics and new Project-related income and spending decisions may affect the well-being of individuals, families, and communities. This section of the report discusses the potential Project effects on community and family well-being indicators, as well as relevant mitigation measures to minimize any potential negative effects. The assessment is based on forecasts population growth (**Section 7.2.2**) and employment demands (**Section 6.2.3**), which has been undertaken in the context of potential, reasonable and foreseeable future changes in economic activity in the region.

The assessment of family and community well-being is included under the requirements of the British Columbia *Environmental Assessment Act* (BC EAA) (Government of British Columbia (BC), 2002a) and was identified as a VC through the Application Information Requirements (AIR) / Environmental Impact Statement (EIS) Guidelines process. Other relevant legislation, regulations, and permits include:

- *Drinking Water Protection Act* (Government of BC, 2002b);
- *Food Safety Act* (Government of BC, 2002c); and
- *Community Care Facility Act* (Government of BC, 2002d).

Most of the information on family and community well-being is based on published information provided by BC Stats (BC Stats, 2012a) for a number of key indicators, including human economic hardship, children at risk, youth at risk, crime, health, and education concerns. Statistics on family and community well-being are not available for individual communities but are reported for each of the three Local Health Areas (LHAs) that encompass the SERSA. Well-being conditions in these LHAs are compared to conditions in all of BC using the social and economic indices developed by BC Stats. Relevant community knowledge gathered during the engagement and consultation process for this Project was also incorporated when available.

7.2.5.2 Valued Component Baseline

This subsection provides a summary of baseline information on family and community well-being in the SERSA and the source of the information; identifies past, present or future projects/activities that may impact the VC; and describes community knowledge, where available. **Section 4.3.6.2**, discusses the Project Inclusion List (**Table 4.3-11**) and indicates that most of the identified projects either will not overlap temporally with the Project or that there is insufficient information on the demands they will create to include them in a Cumulative Effects Assessment (CEA). **Table 4.3-12** describes the rationale for not including two other projects. **Section 6, Table 6.2.3-7** provides a

list of other major projects in the region and the related text evaluates their relevance to the economic and social effects assessment.

Traditional knowledge (TK) is not applicable to this VC.

7.2.5.2.1 Economic Hardship

Indicators of economic hardship include average family income, income share of poorest households, dependence on government transfer payments, and population receiving income assistance. Data on the four indicators of economic hardship in the LHAs are presented in **Table 7.2.5-1**.

BC Stats has developed a composite index for economic hardship and has ranked each of the 77 LHAs from worst (1) to best (77). As of 2012, the Nechako LHA was ranked 13th, Prince George LHA 16th, and Burns Lake LHA 44th (BC Stats, 2012b).

Table 7.2.5-1: Indicators of Economic Hardship in SERSA by Health Service Delivery Areas, British Columbia

Location	Average Family Income ¹		Income Share of Poorest Households (Bottom Half) ^{1,3} (%)	Dependent on Government Transfer Payments ² (%)	Population Receiving Income Assistance ²		
	All Families (\$)	Lone-Parent Families ⁴ (\$)			Total (0+) (%)	Children (0 to 14 Years) (%)	Youth (15 to 24 Years) (%)
BC	67,675	43,491	20.7	9.6	1.9	1.9	2.1
Nechako LHA	63,519	28,210	20.5	10.0	3.0	2.9	3.6
Burns Lake LHA	56,037	32,143	21.9	12.1	1.4	1.7	1.1
Prince George LHA	69,441	39,010	23.0	8.7	3.3	3.3	4.0

Note: ¹Figures are for 2005.

²As of September 2011, includes the disabled, but excludes Aboriginal persons on reserves.

³The proportion of each LHA's total household income that accrues to households earning less than the median income.

⁴Refers specifically to female lone parents.

Source: British Columbia Statistics, 2012g.

(<http://www.bcstats.gov.bc.ca/StatisticsBySubject/SocialStatistics/SocioEconomicProfilesIndices/SocioEconomicIndices/LHAREports.aspx>)

7.2.5.2.2 Alcohol Consumption

An indicator of possible alcohol abuse is the volume of alcohol consumed per capita. Available information (BC Stats, 2012a) shows that in 2011, the BC average was 104 L per capita. Residents age 19 and older consumed an average of 163 L of alcohol per capita in the Nechako LHA, 119 L per capita in the Prince George LHA, and 99 L per capita in Burns Lake, the lowest consumption rate in the SERSA and below the BC average.

7.2.5.2.3 Children at Risk

Data on five indicators of children at risk are provided in **Table 7.2.5-2**; these include:

- 1 Infant mortality rates.
- 2 Children in need of protection rates.
- 3 Children in care to the number taken into custody by child care authorities as a percentage of the population, 0 to 18 years old.
- 4 Child literacy to the number of children with below-standard reading ability (Grade 4 and Grade 7).
- 5 The number of children being supported through income assistance.

The BC average for infant mortality rate is 3.7/1,000. The Nechako and Burns Lake LHAs reported rates of infant mortality of 7.3 and 7.1, respectively, per 1,000 people, significantly higher than the BC average. The Prince George LHA reported an infant mortality rate of 3.4/1,000, lower than the BC average.

Table 7.2.5-2: Children at Risk Indicators

Location	Infant Mortality Rate ¹ (Rate/1,000)	Children in Need of Protection ² (Rate/1,000)	Children in Care ² (Rate/1,000)	Below Standard Reading (Grades 4 and 7) ³ (%)	Receiving Income Assistance ⁴	
					Children Age 0 to 14 Years (%)	Children Age 0 to 18 Years in Single Parent Family (%)
BC	3.7	6.8	9.1	20.2	3.5	3.0
Nechako LHA	7.3	24.7	19.3	28.0	5.3	4.6
Burns Lake LHA	7.1	19.5	32.8	37.9	3.1	2.3
Prince George LHA	3.4	14.5	17.0	26.4	6.2	5.6

Note: ¹Per 1,000 live births (average 2007 to 2011).
²Rate/1,000 population age 0 to 18 as of December 2011.
³Percentage of children as of 2008 to 2011.
⁴Percent of children age <14 years receiving income assistance in September 2011.

Source: British Columbia Statistics, 2012a.

BC Stats has developed a composite index for children at risk based on the factors identified above, and has ranked each of the 77 LHAs from worst (1) to best (77). For 2012, the Nechako LHA was ranked 12th, Burns Lake 13th, and Prince George 27th (BC Stats, 2012b).

7.2.5.2.4 Youth at Risk

The status of youth at risk in the region is summarized according to five indicators (**Table 7.2.5-3**); these include:

- 15- to 24-year-olds receiving income assistance;
- 15- to 24-year-olds receiving income assistance who are employable;
- Youth 18 years old who did not graduate;
- Rates of serious crime committed by juveniles age 12 to 17 years; and
- Rates of 15- to 24-year-olds hospitalized because of motor vehicle accidents.

BC Stats has developed a composite index for youth at risk based on the crime rate, the number of 18-year-olds who did not graduate, and the number of youths on income assistance, and has ranked each of the 77 LHAs from worst (1) to best (77). For 2012, the Prince George LHA was rated 12th, Nechako 15th, and Burns Lake 36th (BC Stats, 2012b).

Table 7.2.5-3: Indicators of Youth at Risk in SERSA

Location	15- to 24-Year-Olds Receiving Income Assistance		15-to 24-Year-Olds Receiving Income Assistance Who Are Employable ⁽¹⁾ (%)	Age 18 Years Who Did Not Graduate ⁽²⁾ (%)	Serious Crime Rates by Juveniles Age 12 to 17 Years ⁽³⁾ (Rate/1,000)	Hospitalized Motor Vehicle Accident Rates Age 15 to 24 Years ⁽⁴⁾ (Rate/1,000)
	Total ⁽¹⁾ (%)	For More than 1 Year ⁽¹⁾ (%)				
British Columbia	2.1	0.9	0.9	27.9	3.8	1.2
Nechako LHA	3.6	1.7	1.7	23.7	11.8	3.1
Burns Lake LHA	1.1	N/A	N/A	46.4	6.3	4.9
Prince George LHA	4.0	1.9	1.9	31.2	3.6	1.9

Note: ⁽¹⁾Income assistance as of September 2011. ⁽²⁾2008 to 2011. ⁽³⁾2008 to 2010 average. ⁽⁴⁾2010 to 2011.

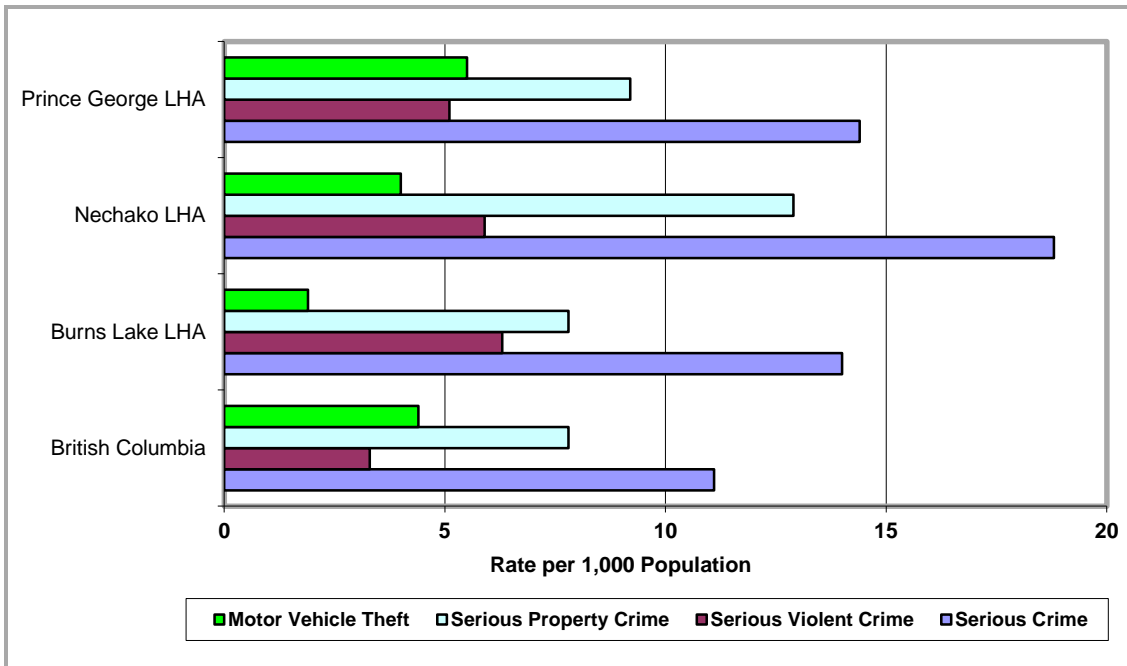
Source: British Columbia Statistics, 2012a7

7.2.5.2.5 Crime

Figure 7.2.5-1 shows four crime rate categories for the three LHAs in the SERSA from 2008 to 2010, expressed in terms of the number of reported crimes per 1,000 people.

BC Stats has developed a composite index describing crime in each LHA and ranking them from 1 (worst) to 77 (best) (BC Stats, 2012b). This index includes rates of serious violent and property crimes and the number of serious crimes attended by each police officer. According to this index, the Nechako LHA was ranked 4th, the Prince George LHA 12th, and the Burns Lake LHA 24th.

As discussed in **Section 7.2.4**, the SERSA is located within two regional policing areas, Bulkley-Nechako Region and the Fraser Fort George Region, which are served by Royal Canadian Mounted Police (RCMP) detachments in Burns Lake, Fort St. James, Fraser Lake, Vanderhoof and Prince George. Key informants indicated that the current physical infrastructure was adequate, but caseloads per officer were high, and the RCMP detachments staff are challenged to meet the demand at current personnel levels (Keays, 2012; Foster, 2012; Thalhoffer, 2012). The local RCMP is working to reduce crime trends by coordinating with community-based committees to identify key issues and potential mitigation measures (Thalhoffer, 2012).



Source: BC Stats, 2012b.

Figure 7.2.5-1: Adult Crime Rates in SERSA, 2008 to 2010

During interviews most RCMP officers expressed that the Project would benefit the local economies by creating jobs and bringing more spending to local businesses. However, some RCMP officers noted that increased incomes may lead to more social problems such as drugs, alcohol and domestic disturbances or violence.

7.2.5.2.6 Education Concerns

Students in all three LHAs scored below provincial averages in most core subjects (mathematics, science, and English skills) at the Grade 4, 7, 10, and 12 levels; however, this finding may be partially attributed to the number of students who did not participate in the foundational skills assessment test (Marks, 2012). Students in the Prince George LHA performed better than their cohorts in Nechako and Burns Lake in core subjects in primary and secondary grades. All three LHAs reported non-graduation rates above the provincial average. It is important to note that

students who complete their studies via distance education tend to have lower graduation rates (Marks, 2012).

According to the BC Stats composite index of education that ranks LHAs from worst (1) to best (77) based on educational performance, the Burns Lake LHA was ranked 7th, the Nechako LHA 10th, and the Prince George LHA 26th.

7.2.5.2.7 The Socioeconomic Well-Being Indexes

BC Stats has derived an overall Socioeconomic index for each LHA that represents a combination of six sub-indices—economic hardship, crime, health problems, education concerns, children at risk, and youth at risk—and ranks them from 1 (lowest/worst) to 77 (highest/best). For 2011, Nechako was ranked 10th, Burns Lake 16th, and Prince George 17th.

Another measure of assessing socioeconomic well-being in Canadian communities is the Community Well-being Index (CWBi) developed by AANDC. The CWBi combines indicators of income, education, labour force activity, and housing conditions into a single well-being score that ranges from 0 (lowest) to 100 (highest). A summary of the CWBi for communities in the SERSA is provided in **Table 7.2.5-4**. The highest score was Fraser Fort George RDEA C (84) and the lowest was Stony Creek 1 (50).

Table 7.2.5-4: Community Well-Being Index in SERSA

Community	Income Score	Education Score	Housing Score	Labour Force Activity Score	Community Well-Being Score
Major Communities					
Prince George	88	58	95	87	82
Fraser Lake	100	52	95	86	83
Vanderhoof	84	53	95	89	81
Fort St. James	88	57	98	86	82
Burns Lake	77	49	86	84	74
Rural Areas					
Bulkley-Nechako C	89	52	90	87	79
Bulkley-Nechako D	83	54	91	81	77
Bulkley-Nechako F	84	49	92	88	78
Bulkley-Nechako B	83	54	94	87	79
Fraser Fort George C	93	59	96	88	84
Reserves					
Stony Creek 1	48	25	67	61	50
Laketown 3	N/A	N/A	N/A	N/A	N/A
Seaspunkut 4	N/A	N/A	N/A	N/A	N/A
Nautley 1	N/A	N/A	N/A	N/A	57
Stellaquo 1	N/A	N/A	N/A	N/A	62

Source: AANDC, 2010

Note: N/A = data not available.

The overall assessment of well-being indicators shows that social conditions in the SERSA are variable. Income rates are below the provincial level. Alcohol consumption is above the provincial average, except for the Burns Lake LHA, where annual consumption is below the provincial rate. The number of children and youth at risk is high across the region. Crime rates in the Nechako and Prince George LHAs are above the provincial average. In terms of the overall socio-economic index developed by BC Stats for 2011, the Nechako, Burns Lake, and Prince George LHAs were ranked 10th, 16th, and 17th worst of the 77 LHAs in BC. This suggests that socio-economic conditions in the study area LHAs are below the provincial average. The CWBi developed by AANDC using 2006 census data provides additional insight into well-being within the SERSA communities. It shows some variation among the communities; overall well-being was the lowest in Stony Creek and the highest in the Fraser Fort George RDEA C, follow by Prince George and other urban communities. Across communities, low scores were found in education and the high scores were reported in housing.

7.2.5.2.8 Past, Present and Future Projects and Activities

Section 4, Subsection 4.3.6.2, Table 4.3-11 shows the Summary Project Inclusion List developed for CEA (**Appendix 4C** contains the comprehensive Project Inclusion List). Activities associated with changes in family and community wellbeing on could include:

- Mining – exploration and existing;
- Forestry – logging; and
- Pipeline projects.

7.2.5.3 Potential Effects of the Proposed Project and Proposed Mitigation

This subsection:

- Identifies and analyses potential effects resulting from the proposed Project's construction, operations, closure and post-closure phases;
- Identifies and describes any potential effects from other known past, present, certain and reasonably foreseeable future project or activities in the proposed Project area; and
- Describes measures to mitigate the potential adverse effects identified above.

7.2.5.3.1 Potential Project Effects

Baseline statistics on family and community well-being have been presented at the level of the LHAs that correspond to the various communities in the SERSA. In the following assessment, references will be made to the LHAs instead of the SERSA. Information used to support the effects assessment is drawn from the BC Stats Socioeconomic indices data (BC Stats, 2012a) that outlines key socioeconomic indicators by LHA.

Anticipated Project effects on family and community well-being are linked to new project-related income and employment effects and the work schedule at the mine and are also, to a lesser extent, linked to behavioural changes associated with the Project-related influx of population change in

demographics. The types of interactions associated with project activities and project components in relation to the Family and Community Well-Being VC are classified as: key interactions, moderate interactions, or negligible interactions (**Table 4.3-2** Project Component and Activity Interaction Matrix for Selected VCs, **Section 4**). The interactions are with the Project as a whole and the Mine Site is selected as representative for the whole Project. These effects are discussed below.

7.2.5.3.1.1 Construction Phase

7.2.5.3.1.1.1 Income-Related Effects

In general, employment opportunities available to local residents during construction will directly benefit family and community well-being by reducing economic hardship (i.e., reducing unemployment for existing residents, providing higher incomes, and reducing dependency on government transfers). Further, Project-related improvements to worker skills and experience will provide residents of the SERSA with opportunities to pursue higher-paying jobs at the mine and potentially elsewhere.

In addition, the Project could indirectly affect family and community well-being through decisions on individual and family spending of increased employment income. There are two possible scenarios:

- *The Positive Scenario:* if increased income is saved or invested in social goods such as better housing, education, or lifestyle amenities, overall well-being could be enhanced; and
- *The Negative Scenario:* if increased income is spent on socially disruptive activities such as alcohol consumption and/or gambling, overall well-being could decline for those directly or indirectly affected by this behaviour. A relevant study (Gibson and Klinck, 2005) noted that increased incomes associated with mining can lead to a greater potential for alcohol and drug use, increased sexually transmitted diseases, and other social and health problems.

The distribution of income also may result in adverse equity effects on vulnerable sub-populations. In some groups, pre-existing social, cultural, physical, and psychological barriers can limit accessibility to employment and income. While opportunities for employment may be available, they may not be accessible to all community members. Gender, physical and mental ability, cultural dissimilarities, low levels of education and training, and lack of experience are examples of possible barriers.

As described the Economic Baseline Report (**Appendix 6.1A**), First Nation communities experience low participation rates (amount of the working age population that is active in the labour force) and high unemployment rates. Further, current low levels of education and limited work experience in resource-based industries are constraints to accessing Project-related employment. Baseline information for the SERSA also shows that the participation rate of women is approximately 9% lower than that for men (12% in the Local Study Area (LSA) and 8% in the Regional Study Area (RSA)) (Statistics Canada, 2013). A lower level of attainment of senior-level,

professional positions are also evident for women. Women are more reliant on social assistance than men, particularly in single-parent situations. Without a focus on engagement of underrepresented groups, the Project has the potential to inadvertently exacerbate existing disparities leading to greater income and social inequities.

However, increased wages can also lead to improved health and well-being. For example, a recent study (Lethbridge and Phipps, 2006) found that the well-being of children was almost always associated with the household income of their family. Using the BC Stats (2012b) composite indicator for children at risk, the Nechako LHA was ranked 12th, Burns Lake 13th, and Prince George 27th worst (BC Stats, 2012b). Accordingly, these communities could see some improvements in the health and well-being of their children as a result of increased incomes. Further, the increased employment opportunities and potential higher salaries could increase perceived returns to education for local families and, therefore, increase incentives to invest in schooling.

In evaluating the potential overall Project effects on family and community well-being, the outcome will largely depend on how workers choose to spend their increased income.

7.2.5.3.1.1.2 Population-Related Effects

An influx of population to the SERSA could affect existing family and community well-being. For example, if transient populations engage in socially disruptive or illegal activities, this could create negative well-being effects such as increase in crime, alcohol abuse or family dysfunction. However, as discussed in **Section 7.2.2**, influx of workers from outside the SERSA is expected to be minimal during construction. Therefore, behavioural changes associated with the transient population will be minimal.

Overall, Project construction will lead to an improvement in family and community well-being. It will create new job opportunities in the SERSA that will be filled by local or regional residents, which will increase personal incomes. The generated income contributes to family and community wellness.

7.2.5.3.1.2 Operations Phase

7.2.5.3.1.2.1 Income-Related Effects

Similar to construction, during operations, Project effects on family and community well-being include income-related effects and population-related effects. The employment opportunities available to local residents during operations will benefit family and community well-being by reducing unemployment for existing residents, increasing economic diversification and creating new types of jobs, and providing higher incomes. Project-related skill improvements and experience will provide the SERSA residents with opportunities to pursue higher-paying jobs at the mine and potentially elsewhere. With the additional income, it is expected that local households will be less reliant on government transfer payments, and there will be lower demand for income assistance for children, youth, and young adults. Given the length of operation, income-related effects could extend over the 17-year operating life of the mine.

Poor choices for spending disposable income could have consequences similar to those discussed under construction. However, based on experience with similar work elsewhere, it is likely that serious consequences will diminish during operations, after a period of adjustment by the workers and their families. In addition, measures such as implementing money management training for employees would help to improve money management skills.

Finally, similar to construction, the distribution of income could result in adverse equity effects on vulnerable sub-populations (i.e., Aboriginal people, women, people with disabilities and visible minorities) who are less likely to benefit from job/income opportunities.

7.2.5.3.1.2.2 Population-Related effects

Similar to construction, an influx of population to the SERSA could affect existing family and community well-being. These effects are associated with the in-migrant population or non-resident workers being engaged in socially disruptive or illegal activities when off-work. They are also associated with competition for housing and other community services by new-immigrants. However, as indicated in the Demographics Effects Assessment (**Section 7.2.2**), substantive increases in the SERSA populations are not anticipated (up to 0.3% of SERSA population). Besides, communities in the SERSA, including Vanderhoof and Prince George have the desire to attract new residents and have good capacity of infrastructure services that can easily accommodate the additional potential demands. These communities have developed initiatives to support and assist newcomers to their communities such as the Vanderhoof's Ambassador Program and the Initiative Prince George Program. In addition, New Gold Inc. (Proponent) will provide a self-contained camp to minimize disturbances to the local communities. Further, behavioural change-related problems, if any, are anticipated to happen early in operations, and are expected to lessen over time.

7.2.5.3.1.2.3 Work Schedule-Related Effects

In addition, separation of workers from their families and dependants for extended periods of time because of the work rotation schedule and the requirement to stay in on-site camp accommodations could affect family relationships. This isolation of workers from their families for extended periods could result in stress to the workers and their dependants, altered roles and responsibilities in the home, and potential behavioural issues when a worker returns home because of conflicting needs and priorities of the worker and his/her dependants. A relevant study noted that limited family time can lead to family fragmentation, family violence, and behavioural issues in children who grow up with a part-time parent (Gibson and Klinck, 2005). The Proponent will offer short shift rotations to minimize the time away from home (14 days on and 14 days off for most positions and 4 days on and 3 days off for staff positions during operations phase) and will allow flexibility to accommodate hard to fill positions. In addition, it will facilitate and maintain communication between the workers and their families by providing cell phone and Internet services on site.

7.2.5.3.1.3 *Closure Phase*

Mine closure is expected to take two years. While most of the mine operation effects will improve family and community well-being, mine closure could have the opposite effect. The loss of jobs and income, and any resulting population out-migration, if any, will result in a less diverse community that could become more reliant on government support, depending on how economic conditions in the SERSA evolve over the next 20 years. However, from a family well-being perspective, the training offered by the Proponent during construction and operations will provide residents with opportunities to pursue higher-paying jobs elsewhere.

Table 7.2.5-5 summarizes the potential Project effects on family and community well-being.

As discussed earlier, potential adverse Project effects on family and community well-being will be largely attributable to income related effect (decisions made on spending disposable income), influx of workers related effects (behavioural changes) and family separation during work rotation.

During both the construction and operations phases, jobs and employment will create additional income, and the transient population can create behavioural changes. However, since the in-migration is expected to be very low, the effects on family and community well-being associated with the in-migration will be minimal.

During the closure phase, the out-migration of the workers and their families and the termination of the mine are expected to decrease the income and therefore affect the family and community well-being.

Table 7.2.5-5: Potential Project Effects on Family and Community Well-Being

Interaction with Project	Project Phase	Potential Project Effect	Likelihood of Occurrence
Jobs and employment	C	<ul style="list-style-type: none"> • Employment income during construction would reduce economic hardship of local families • Spending decisions of additional disposable income could affect family and community well-being • Potential lack of employment and income equity for women, Aboriginal peoples, people with disabilities, and visible minorities 	High
In-migration of job-seekers and their dependants	C	<ul style="list-style-type: none"> • Influx of workers could create negative behavioural changes and reduce family and community well-being if transient population engages in socially disruptive or illegal activities 	Low
Construction camp and work rotation schedules	C	<ul style="list-style-type: none"> • Separation of workers from family and dependants for extended periods of time could lead to deterioration of family relationships. 	High
Jobs and employment	O	<ul style="list-style-type: none"> • Employment opportunities during construction would reduce economic hardship • Spending decisions of additional disposable income would affect family and community well-being • Potential lack of employment and income equity for women, Aboriginal peoples, people with disabilities, and visible minorities 	High

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Interaction with Project	Project Phase	Potential Project Effect	Likelihood of Occurrence
In-migration of workers and their dependants	O	• Influx of workers could create behavioural changes that affect family and community well-being	Low
Operations camp and work rotation schedules	O	• Separation of workers from family and dependants for extended periods of time could lead to deterioration of family relationships	High
Jobs and employment	CL	• Loss of jobs and income could increase economic hardship and income assistance dependency.	High

Note: C = construction; CL = closure; O = operations; PC = post-closure

7.2.5.3.2 Past, Present and Future Projects and Activities

Activities associated with changes in population have the potential to affect the Family and Community Well-being VC, including those listed in **Section 7.2.5.2.8**. These include demographic changes attributable to in and out-migration associated with workforce demands in these industrial sectors. Mining exploration and logging activities are already part of the inherently cumulative project-specific effects assessment because they are incorporated in BC Stats official population projections.

7.2.5.3.3 Mitigation Measures

Discussion of appropriate mitigation measures is a shared responsibility between the Proponent, the government, and the public. As a result, all these parties must share responsibility for social effects management for it to be effective. The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate (adaptive management).

The Proponent has established a Community Liaison Committee (CLC) to facilitate discussion between community members and the Project to assist in the identification and understanding of issues of concern and interest to the surrounding communities. The areas of focus are economic development, training, service provision, housing, education, environmental stewardship, health and social services, and attraction and retention of employees. The CLC also offers valuable input to assist in the development of the Project policies, plans, and programs. The Proponent intends to continue to operate the CLC for the duration of the Project.

7.2.5.3.3.1 Construction Phase

By working with its contactors and community representatives, the Proponent can help monitor social and economic conditions in the SERSA during construction and take corrective actions within their sphere of responsibility to minimize adverse effects on family or community well-being.

The Proponent's mitigation measures during construction will include the following:

- Deposit workers' salaries directly to their bank accounts and provide access to money management training;
- Facilitate and maintain communication between the construction workers and their families by providing cell phone and Internet services on site;
- Offer short shift rotations (14 days on and 14 days off for most positions and 4 days on and 3 days off for staff positions) and allow flexibility to accommodate hard to fill positions;
- Implement a hiring strategy that will include sourcing and training under-represented groups;
- Offer counselling services to its employees as well as cultural awareness training and harassment-free workplace environment to its employees; and
- Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health.

7.2.5.3.3.2 *Operations Phase*

By working with its contactors and community representatives, the Proponent can help monitor social and economic conditions in the SERSA during operation and take actions within their sphere of responsibility to minimize adverse effects on family or community well-being. The Proponent's mitigation measures during the operation will include the following:

- Deposit workers' salaries in their bank accounts and provide access to money management training;
- Facilitate and maintain communication between the operation workers and their families by providing cell phones and Internet services on site;
- Offer reasonably short shift rotations (14 days on and 14 days off for most positions and 4-days-on and 3-days-off for staff positions) and allow flexibility to accommodate hard-to-fill positions;
- Implement a hiring strategy that will include sourcing and training under-represented groups;
- Offer counselling services to its employees as well as cultural awareness training and harassment-free workplace to its employees; and
- Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health.

The Proponent is also pursuing opportunity agreements with Aboriginal groups potentially affected by the Project to define common objectives and working arrangements, and to promote the development of the Aboriginal workforce and businesses. These agreements will build on

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



developing partnerships to identify employment barriers, the actions required to remove them, and other opportunities for the enhancement of the local workforce.

The Proponent will establish and implement Recruitment, Training, and Employment Plan (RTEMP) that includes training for:

- Working with training institutions such as CNC and BC Aboriginal Mine Training Association and local education providers to provide training programs and skills upgrading;
- Partnering with local contractors to provide New Gold apprenticeship programs;
- Source and train under-represented groups; and
- Offer scholarships to encourage high school graduation.

The Proponent will report progress in implementing the RTEMP annually to designated Aboriginal groups. The Proponent will also work with Aboriginal groups to develop a strategy to identify and reduce barriers to employment and training and report progress annually to BC MEM and designated Aboriginal groups.

7.2.5.3.3 Closure Phase

While there is no easy solution to adverse effects related to job losses, the Proponent will work with the community to develop a mine closure plan that identifies strategies and actions to help minimize potential adverse effects from closing the mine. Although mine closure will increase unemployment in the SERSA, targeted skills development and work experience will help employees increase their competitiveness and chances to get employment elsewhere. New Gold recognizes that good practice in the area of human resources includes planning for eventual mine closure and reclamation. All employees will be informed of the expected life of the mine as part of their offer of employment and workplace orientation. If circumstances allow, the Proponent will inform its workforce one year prior to the anticipated mine closure, sharing appropriate details such as severance packages (**Table 7.2.5-6**).

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Table 7.2.5-6: Mitigation Measures and Potential Residual Effects for Family and Community Well-being

Project Phase	Potential Project Effect	Mitigation and Management	Type of Residual Effect	Potential Residual Effect
C, O	Income related effects: Employment income during construction would reduce economic hardship of families in the SERSA	No mitigation is required	Beneficial	Increase in economic capacity and quality of life for families in the SERSA
C, O	Income-related effects: Positive or negative decisions on spending disposable income could affect family and community well-being	The Proponent will: <ul style="list-style-type: none"> • Deposit workers' salaries in their bank accounts and provide access to money management training; • Offer counselling services to its employees; and • Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate. • Success Rating: Moderate 	Beneficial/ Adverse	Families save their additional disposable income or spend it on social goods that increase their well-being Families spend their additional disposable income on socially disruptive activities that reduced their well-being
C,O	Income-related effects: Inequitable employment and income	The Proponent will: <ul style="list-style-type: none"> • Implement a hiring strategy that will include sourcing and training under-represented groups; • Work with Aboriginal Groups to identify and remove barriers to employment and training • Success Rating: Moderate 	Neutral	No appreciable increase in inequality is anticipated
C	Population-related effects: Influx of construction workers could reduce family and community well-being if transient population engages in socially disruptive or illegal activities,	The provision of a self-contained camp and worker rotation policies during construction will minimize the influx of workers to the SERSA The Proponent will: <ul style="list-style-type: none"> • Offer counselling services as well as cultural awareness training and harassment-free workplace to its employees; and • Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health. • Success Rating: Moderate 	Adverse	No substantial increase in disruptive or illegal activities is expected since no appreciable migration is anticipated during construction

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
 ENVIRONMENTAL ASSESSMENT CERTIFICATE /
 ENVIRONMENTAL IMPACT STATEMENT
 ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Project Phase	Potential Project Effect	Mitigation and Management	Type of Residual Effect	Potential Residual Effect
C, O	Camp accommodation and work rotation schedules could lead to deterioration of family relationships	The Proponent will: <ul style="list-style-type: none"> • Offer reasonably short shift rotations to minimize separation from family (14 days on and 14 off) and allow flexibility to accommodate hard to fill positions; • Ensure phone and Internet services are available to enable employees to communicate with their families; • Offer counselling services to its employees; and • Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health. Success Rating: Moderate	Adverse	Potential deterioration of family relationships
O	Income-related effects: Positive or negative decisions on spending disposable income	The Proponent will: <ul style="list-style-type: none"> • Deposit workers' salaries in their bank accounts and provide access to money management training; • Offer reasonably short shift rotations to minimize separation from family (14 days on / 14 days off and 4 days on / 3 days off) and allow flexibility to accommodate hard to fill positions; • Ensure phone and Internet services are available to enable employees to communicate with their families; • Offer counselling services to its employees; and • Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health. Success Rating: Moderate	Beneficial/ Adverse	Families save their additional disposable income or spend it on social goods that increase their well-being Families spend their additional disposable income on socially disruptive activities that reduced their well-being
O	Population-related effects: Influx of operations workers and their dependants could reduce family and community well-being	The Proponent intends to hire the majority of the operations workforce from within the SERSA The provision of a self-contained camp during operations will minimize the influx of workers to the SERSA	Adverse	Potential reduction of community well-being if in-migrant families engaged in socially disruptive activities or illegal activities

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Project Phase	Potential Project Effect	Mitigation and Management	Type of Residual Effect	Potential Residual Effect
	if in-migrant population engages in socially disruptive or illegal activities,	Communities in the SERSA have the desire to attract new residents and provide services to help newcomers to settle such as the <i>Vanderhoof's Ambassadors Program</i> and the <i>Initiative Prince George Program</i> The Proponent will: <ul style="list-style-type: none"> • Offer counselling services as well as cultural awareness training and harassment-free workplace to its employees; and • Work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health. Success Rating: Moderate		
CL	Loss of jobs and income, and potential out-migration	The Proponent will: <ul style="list-style-type: none"> • Work with the community to develop a mine closure plan that identifies strategies and actions to help minimize the potential adverse effects of closing the mine; and • Work with local education providers to facilitate access to training programs and skills upgrading Success Rating: Moderate	Adverse	Reduction of employment income and potential increase of economic hardship
PC		n/a	n/a	n/a

Note: C = construction; CL = closure; O = operations; PC = post-closure. SERSA = Socioeconomic Regional Study Area

7.2.5.3.3.4 *Effectiveness of Mitigation*

Table 7.2.5-7 provides ratings for effectiveness of mitigation measures to avoid or reduce potential effects on family and community well-being during mine site development. Mitigation measures will be based on site-specific information and construction engineering and are therefore preliminary at this stage.

Table 7.2.5-7: Mitigation Measures and Effectiveness of Mitigation to Avoid or Reduce Potential Effects on Family and Community Well-Being during Mine Site Development

Likely Project Effect	Project Phase	Mitigation/Enhancement Measure	Effectiveness of Mitigation Rating
Income related effects			
Positive or negative decisions on spending disposable income could affect family and community well-being	Construction, Operations	The Proponent will deposit workers' salaries in their bank accounts and provide access to money management training	High
		The Proponent will offer counselling services to its employees	High
		The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health	Moderate
Positive or negative decisions on spending disposable income	Operations	The Proponent will deposit workers' salaries in their bank accounts and provide access to money management training	High
		The Proponent will offer reasonably short shift rotations to minimize separation from family (14 days on/14 days off and 4 days on/3 days off) and allow flexibility to accommodate hard to fill positions	High
		The Proponent will ensure phone and Internet services are available to enable employees to communicate with their families	High
		The Proponent will offer counselling services to its employees	High
		The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health	Moderate
Inequitable employment and income	Construction, Operations	The Proponent will deposit workers' salaries in their bank accounts and provide access to money management training	High
		The Proponent will implement a hiring strategy that will include sourcing and training under-represented groups	Moderate
		The Proponent will work with Aboriginal Groups to identify and remove barriers to employment and training	Moderate

Likely Project Effect	Project Phase	Mitigation/Enhancement Measure	Effectiveness of Mitigation Rating
Population-related effects			
Influx of construction workers could reduce family and community well-being if transient population engages in socially disruptive or illegal activities	Construction	The provision of a self-contained camp and worker rotation policies during construction will minimize the influx of workers to the SERSA	High
		The Proponent will offer counselling services as well as cultural awareness training and harassment-free workplace to its employees	High
		The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health	Moderate
Camp accommodation and work rotation schedules could lead to deterioration of family relationships	Construction, Operations	The Proponent will offer reasonably short shift rotations to minimize separation from family (14 on/14 off or 4 on/3 off) and allow flexibility to accommodate hard to fill positions	High
		The Proponent will ensure phone and Internet services are available to enable employees to communicate with their families	High
		The Proponent will offer counselling services to its employees	High
		The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate including developing a health and well-being management plan based on guidelines from Northern Health	Moderate
Influx of operations workers and their dependants could reduce family and community well-being if in-migrant population engages in socially disruptive or illegal activities	Operations	The Proponent intends to hire the majority of the operations workforce from within the SERSA	Moderate
		The provision of a self-contained camp during operations will minimize the influx of workers to the SERSA	High
		The Proponent will offer counselling services as well as cultural awareness training and harassment-free workplace to its employees	High
		The Proponent will work with local agencies to assist in monitoring community well-being and to take corrective actions where appropriate	Moderate
Loss of jobs and income, and potential out-migration	Closure	The Proponent will work with the community to develop a mine closure plan that identifies strategies and actions to help minimize the potential adverse effects of closing the mine	Moderate
		The Proponent will work with local education providers to facilitate access to training programs and skills upgrading	Moderate
		If circumstances allow, the Proponent will inform its workforce one year prior to the anticipated mine closure, sharing appropriate details such as severance packages	Moderate

Note: SERSA = Socio-economic Regional Study Area

In summary, low success rating means mitigation has not been proven successful, moderate success rating means mitigation has been proven successful elsewhere, and high success rating means mitigation has been proven effective. The effectiveness of mitigation measures is rated to be high because the proposed mitigation measures are widely used in mining and proven effective. Moderate ratings are assigned to those mitigation measures that require multiple party coordination, and have dependencies on third parties.

7.2.5.4 Residual Effects and their Significance

This subsection:

- Identifies and describes any residual effects after mitigation;
- Where residual effects have been identified, provide an assessment of the significance of those residual effects considering, magnitude, geographic extent, duration, reversibility, frequency;
- Assesses the likelihood of the effect;
- Assesses the significance of the residual effects; and
- Assesses/discusses the level of confidence and risk in the determination of significance and likelihood of the residual effect.

Although some potential family and community well-being effects from construction and operations have the potential for adverse consequences, the net effects are expected to be on balance slightly positive because Project-related employment incomes will reduce family economic hardship and can be used to enhance quality of life. The proposed mitigation is anticipated to be effective as long as the Proponent, communities, and governments cooperate in management initiatives.

For both construction and operations the effects on economic hardship are considered positive since employment income will increase families' economic capacity and quality of life. The net loss of employment following mine closure is considered adverse but Not Significant. With minimal population impacts, the residual effects related to population influx and associated increase of disruptive or illegal activities are considered negative but Not Significant. Effects on family relationships associated to separation of workers from their families would be negative; however, with mitigation measures in place the effects are expected to be Not Significant.

The categorization of significance for effects related to behavioural changes and spending decisions (effects on crime and family relationships) are made with a moderate degree of confidence since it is difficult to predict individual and family behaviour and decisions.

A summary of residual effects on family and community well-being by Project phase is provided (**Table 7.2.5-8**).

Table 7.2.5-8: Significance of Potential Residual Effects for Family and Community Well-Being

Parameter	Stage of Development/Rating			
	Construction	Operations	Closure	Post-Closure
Residual Effect on Economic Hardship				
Residual Effect	Increase in economic capacity and quality of life for families in the SERSA	Increase in economic capacity and quality of life for families in the SERSA	Reduction of employment income and potential increase of economic hardship	n/a
Effect Attribute				
Context	Neutral	Neutral	Neutral	n/a
Magnitude	Low	Medium	Low to Medium	n/a
Geographic extent	Regional	Regional	Regional	n/a
Duration	Short-term	Long-term	Long-term	n/a
Frequency	Continuous	Continuous	Continuous	n/a
Reversibility	Yes	Yes	Yes	n/a
Likelihood Determination	Moderate	Moderate	Moderate	n/a
Level of Confidence for Likelihood	Moderate	Moderate	Moderate	n/a
Significance Determination	n/a	n/a	Not Significant (minor)	n/a
Level of Confidence for Significance	n/a	n/a	High	n/a
Residual Effect on Crime				
Residual Effect	No substantial increase in disruptive or illegal activities is expected since no appreciable migration is anticipated during construction	Reduction of community well-being if in-migrant families engaged in socially disruptive activities or families spend their additional income in disruptive or illegal activities	Out-migration of workers would reduce disruptive or illegal activities	n/a
Effect Attribute				
Context	Neutral	Neutral	Neutral	n/a
Magnitude	Low	Low	Low	n/a
Geographic extent	Regional	Regional	Regional	n/a
Duration	Short-term	Long-term	Long-term	n/a
Frequency	Continuous	Continuous	Continuous	n/a
Reversibility	Yes	Yes	Yes	n/a
Likelihood Determination	Low	Moderate	Moderate	n/a
Level of Confidence for Likelihood	High	Moderate	Moderate	n/a
Significance Determination	Not Significant (negligible)	Not Significant (minor)	n/a	n/a

Parameter	Stage of Development/Rating			
	Construction	Operations	Closure	Post-Closure
Level of Confidence for Significance	High	Moderate	n/a	n/a
Residual Effect on Family Relationships				
Residual Effect	Potential deterioration of family relationships	Potential deterioration of family relationships	Potential Improvement of family relationships	n/a
Effect Attribute				
Context	Neutral	Neutral	Neutral	n/a
Magnitude	Low	Low	Low	n/a
Geographic extent	Regional	Regional	Regional	n/a
Duration	Short-term	Long-term	Long-term	n/a
Frequency	Continuous	Continuous	Continuous	n/a
Reversibility	Yes	Yes	Yes	n/a
Likelihood Determination	Moderate	Moderate	Moderate	n/a
Level of Confidence for Likelihood	Moderate	Moderate	Moderate	n/a
Significance Determination	Not Significant (minor)	Not Significant (minor)	n/a	n/a
Level of Confidence for Significance	Moderate	Moderate	n/a	n/a

Note: n/a = not applicable

7.2.5.5 Cumulative Effects

This subsection determines the need for assessing cumulative effects.

Not Significant (minor) residual effects were determined for economic hardship (during closure), crime (during operations), and family relationships (during construction and operations). Not Significant (minor) residual effects would require cumulative effects assessment as specified in the methodology described in **Section 4.3.6**. Other projects and activities considered in the assessment of potential socioeconomic effects include mining (exploration and existing), forestry (logging) and pipeline projects. Well-being indicators are affected by complex interactions among many, often-unrelated actions. Project effects are only one of these causal influences on community well-being, and they often cannot effectively be isolated in an assessment. The lack of specific data on economic hardship, crime and family relationships effects from potentially overlapping projects, and the inability to predict future baseline conditions, means it is impractical to conduct a separate cumulative effects assessment for these indicators. The key to determining whether there are cumulative effects, and if so, how to manage those, will be addressed through ongoing cooperation and consultation amongst the stakeholders. The Proponent has

demonstrated a willingness to participate in these multi-stakeholder sessions to date which give effect to the shared responsibility for socioeconomic effects management.

7.2.5.6 Limitations

This subsection presents assumptions and limitations relative to the assessment of Project effects and the assessment of cumulative effects.

The main limitation to any well-being effects assessment is related to the complex interactions among many often-unrelated actions that combine to influence family and community well-being. Project effects are only one of these causal influences, and they often cannot effectively be isolated from the others in an assessment; it is and must be inherently a combined and cumulative assessment. Furthermore, individual, family, and community decisions, as well as government policy and programming, can dramatically change the nature and extent of well-being conditions.

7.2.5.7 Conclusion

This subsection provides a conclusion regarding the significance of residual effects and cumulative effects if applicable.

Overall, Project effects on family and community well-being in the study region will be both positive (during construction and operations because of income effects) and negative (during closure because of job losses). All of these effects are Not Significant (negligible or minor).