New
PROSPERITY
GOLD-COPPER PROJECT. TASEKO MINES LIMITED

PROJECT DESCRIPTION

August 2011

Executive Summary

Taseko Mines Limited, a British Columbia based mining company that owns and operates the Gibraltar Mine near Williams Lake, British Columbia proposes to develop its 100% owned New Prosperity Gold-Copper Project 125 kilometres to the southwest of Williams Lake.

Prospected since the 1930s, the New Prosperity ore body was discovered in the late 1960s and has seen extensive exploration work to define an ore body in anticipation of a metal price regime that would support mine development.

An environmental impact statement/application was submitted for mine development after the completion of an updated feasibility study in 2007, and was subject to rigorous reviews under British Columbia‟s *Environmental Assessment Act* (BCEAA) and the *Canadian Environmental Assessment Act* (CEAA) through the period 2009 to 2010.

These reviews culminated in 2010 with the granting of an Environmental Assessment Certificate by the Province of British Columbia to enable the mine to proceed with development, while the federal government refused to grant approval, concluding that aspects of the mine as proposed would result in significant adverse environmental effects.

Through their respective reviews, the British Columbia and Canadian government concluded similar findings during their reviews that, if the mine moved forward to development, there would be no significant environmental effects to:

- air quality;
- terrain and soil;
- surface or groundwater quality;
- moose and mule deer and their habitat;
- vegetation, including old growth forest and grasslands;
- archaeological resources;
- fish in the Taseko River;
- water quality in Onion Lake; and,
- human health.

Both the province and federal government concluded significant adverse effects on fish and fish habitat; the province determined the impact was justified because of the significant economic benefit a mining operation brought to the local communities, the province and the country. The federal review further determined that through the development of the project that there would be adverse environmental effects:

- on navigation;
- on the current use of the land and resources by First Nations for traditional uses and on potential or established Aboriginal rights or title; and,
- in combination with existing and foreseeable projects, including logging and ranching, on grizzly bear.

In rendering the Government of Canada‟s decision the Minister of Environment made it clear that the decision did not preclude Taseko from submitting a project proposal that addresses the factors considered during the federal review.

The attached New Prosperity Project description includes a mine development plan that avoids the significant adverse environmental effects.

Background of Submission

Large, moderate grade copper/gold porphyry deposits such as New Prosperity usually take many years from discovery to development. On average the largest deposits developed in the world have taken 18 years from discovery to final development.

New Prosperity has effectively followed that path, while discovered in the 1960s it was not until 1993 that intense evaluation began. The time line for mine development is driven by a complex set of criteria particular to the mining industry primarily revolving around the risk associated with long term metal price projections, currency, interest rates and worldwide supply and demand outlook for metal consumption. This makes mine development a very time specific and difficult task, and that is reflected by the small number of mines that are built throughout the world in any given year.

When the previous mine proposal entered the British Columbian Environmental Assessment Review in 2009, long term metal price projections suggested that a mine design that required a tailings dam location distant enough from Fish Lake to maintain spawning habitat and that did not use the close proximity of the area occupied by Fish Lake to store overburden produced from the mining operation would have made the project uneconomic.

After receiving the British Columbia Government"s approval for the proposal reviewed in 2009, long term metal price projections began to rise over those used in the economic modeling done from 2006 to 2008. By the end of 2010, when the Company received the federal decision on the proposal reviewed during the same year, long term metal price estimations had begun to reach a point where a reconfiguration of the mine plan to avoid the use of Fish Lake might be economically feasible if the metals" price outlook remained buoyant.

New Prosperity Project Description

In comparison to the mine proposal that was reviewed in 2009/2010, the development design for New Prosperity is predicated on higher long term prices for both copper and gold, which results in a direct increase in capital costs of $200 million and a $100 million in direct operating costs over the 20-year mine life to locate the tailings dam and mine waste away from Fish Lake.

The mine site layout of New Prosperity preserves Fish Lake and the lower portions of Upper Fish Creek (Table i), enabling future generations' use of these waters for navigation, fishing and recreational activities. In comparison to the mine proposal reviewed in 2009/2010 which did not meet with federal approval, the mine configuration in New Prosperity will result in the retention of:

- approximately 94% of existing lake habitat;
- 14,000 m^2 of fish-bearing stream habitat in Middle and Upper Fish Creek, including spawning habitat at Fish Lake;

- 33,000 m^2 of non-fish-bearing stream habitat in Middle and Upper Fish Creek;
- approximately 65,000 m^2 of stream riparian habitat;
- the highest value overwintering habitat in the system (Fish Lake). While the New Prosperity proposal does result in the loss of the 6 hectare Little Fish Lake, Little Fish Lake provides only low overwintering values (i.e., it is subject to winterkill); and,
- Fish Lake and adjacent habitat.

Table i. Fish Habitat Effects of the New Prosperity Project Design Compared to the Proposal Reviewed in 2009/2010

	Effects of Proposal Reviewed in 2009/2010	***Effects of New Prosperity Project***	***Amount of Habitat Retained***	***% Improvement in New Prosperity Compared to Proposal Reviewed in 2009/2010***
Lake Habitat	118 ha	6.6 ha	111 ha	94%
Fish-Bearing Stream Habitat	34,817 m^2	20,590 m^2	14,227 m^2	41%
Non-Fish Bearing Stream Habitat	53,444 m^2	20,633 m^2	32,811 m^2	61%
Riparian Habitat Along Streams	85,000 m^2	20,072 m^2	64,928 m^2	76%

First Nations

What Taseko heard during both the provincial and federal EA review processes in 2009/2010 was that the Tsilhqot'in people were not opposed to mining but were opposed to the development of a mine which required the loss of Fish Lake and its immediate surroundings because they are important to cultural heritage, for gathering plants, and a place to take their children for fishing and recreational activities. This New Prosperity project proposal attempts to address those concerns.

Preservation of the Island and Archaeology Sites

With the project design in New Prosperity, the island in Fish Lake and surrounding archaeology sites will be preserved. The Tsilhqot'in have expressed the importance of the island in Teztan Biny (Fish Lake) as a place of spiritual power and healing.

Grizzly Bears

The mine development is not located in high value grizzly bear habitat. For the proposal reviewed in 2009/2010, the federal review came to the conclusion that, due to the low numbers of grizzly in the South Chilcotin Grizzly Bear Management Unit where the mine will be built, any development of any kind would result in increased human activity and road traffic, and along with existing and future forestry and ranching activities that are expected to occur, may result in incidents of human-caused mortality.

The mine site layout in New Prosperity reduces the risk to grizzly bears as hectares of disturbance of bear habitat are reduced; the habitat on the east and west flanks of the watershed are less fragmented; and, two new mitigation measures are proposed to assist with the province's efforts in documenting and protecting the region's grizzly bear population.

Aboriginal Rights and Title

The federal review concluded that the mine proposal reviewed in 2009/2010 would result in adverse effects on the established Tsilhqot'in Aboriginal rights as defined by the William case, with no offer of compensation.

The New Prosperity Project will have less impact on the established aboriginal rights to hunt and trap birds and animals in the mine area in comparison to the mine proposal reviewed in 2009/2010 as hectares of land disturbed in the Fish Lake area are less. The province has recently demonstrated its willingness to sign Revenue Sharing agreements with First Nations which will result in significant economic benefits to participating communities. In addition, Taseko remains committed to working with First Nations, to

ensure local people benefit from the project through employment, contracting and education/training opportunities.

Other Considerations for Federal Approval

The federal panel report on the mine proposal reviewed in 2009/2010 contains 24 recommendations and other considerations; this New Prosperity Project incorporates and commits to the implementation of those recommendations.

The environmental components where the federal panel reached the conclusion of „no significant effect" adverse effect on the mine proposal in 2009/2010 are not expected to be affected as a result of the change to the mine development plan in New Prosperity, including:

- atmospheric environment;
- noise;
- terrain and soil;
- surface and groundwater quality;
- mule deer and moose habitat;
- old growth forests and grasslands;
- archaeological resources;
- traffic;
- health;
- biodiversity; and,
- sustainability.

There are no design changes in the New Prosperity project compared to the proposal reviewed in 2009/2010 for the transmission line, existing rail load-out facility or road access.

Considerations for the Province

The province approved the mine proposal reviewed in 2009/2010 which included the loss of Fish Lake. With the revised mine design in New Prosperity, not only is Fish Lake preserved, but there is a 23% reduction in hectares of disturbance to land and water, including greater avoidance of:

- grasslands;
- fisher habitat;
- blue heron habitat;
- Barrow's goldeneye habitat; and,
- mallard habitat.

The New Prosperity project will not have any negative environmental effect on any other social or environmental aspect of the project. Therefore, where a conclusion of "no significant environmental effect" was reached in the 2009/2010 assessment, including:

- air;
- surface and groundwater;
- terrain and soils;
- vegetation;
- wildlife; and
- human and ecological health, that conclusion should remain valid in the New Prosperity project design.

Many elements and features of the New Prosperity project design are identical to the proposal approved by the provincial government in 2009/2010. There have been no changes to the proposed open pit or milling operations and facilities. There have also been no changes to the proposed access road, transmission line or rail load-out facility components of the project. With the implementation of all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, it is anticipated that the BC EAO could conclude no significant adverse effects as a

result of the mine development modifications in New Prosperity and amend the EA certificate.

Economic Benefits

The magnitude of the New Prosperity Project's economic impact, its job creation and business development capacity, can be measured on both a provincial and national scale. It will create 550 direct and 1280 indirect jobs annually and provide 22 years of economic development in the Province of British Columbia. These are positive impacts for an area hard hit by the Mountain Pine Beetle epidemic.

The New Prosperity project design is expected to generate local and provincial economic value and tax revenues in excess of the estimates provided in the proposal reviewed in 2009/2010. Economic benefits identified through the 2009/2010 review process were:

- The demand for labour would be substantial during construction and operations, having a "positive and significant" effect on direct and indirect employment;
- Wages during operations would be more than twice the average personal income in the Regional Study Area (RSA);
- Government revenues would increase through income, consumption, and property taxes payable by the mine and its employees; average annual government revenues of $26.2 M during construction and $48.4 M during operations, will continue for the life of the operation, exceeding 1 billion dollars.
- The Project will partially offset lost opportunities due to downturn in the economic activity resulting from Mountain Pine Beetle.

The New Prosperity Mine will generate $340 million in GDP annually which is larger than the province's film and television industry and three times larger than the entire output of the commercial fishing industry, including fish processing.

Next Steps for Consultation

Taseko has engaged First Nations in this project and baseline studies associated with it since the early 1990s". Taseko has made attempts to engage First Nations on working together on a New Prosperity Project design since December 2010 and will continue to do so. Involvement and input from First Nations will be encouraged, facilitated and supported by the Company through the provision of Project-related information as well as in-house expertise to explain that information. Further, consistent with the federal Review Panel's recommendations, Taseko proposes to establish and support a Joint Implementation Committee with First Nations to assist in building trust and to operate in a fully transparent manner with them, and implement the principles identified in Taseko's Aboriginal Policy which are consistent with Towards Sustainable Mining and will ensure First Nations individuals and communities benefit from this Project.

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Acronyms and Abbreviations

%	percent
<	less than
>	greater than
µ	micro
µg/m^3	micrograms per cubic metre
ARD	Acid Rock Drainage
BCCDC	British Columbia Conservation Data Centre
BC *EAA*	British Columbia *Environmental Assessment Act*
BC MEMPR	British Columbia Ministry of Energy, Mines and Petroleum Resources
BC MOE	British Columbia Ministry of Environment
BC MOFR	British Columbia Ministry of Forests and Range
CEAA	*Canadian Environmental Assessment Act*
CEA Agency	Canadian Environmental Assessment Agency
DFO	Fisheries and Oceans Canada
EAA	*Environmental Assessment Act*
EAO	Environmental Assessment Office
EC	Environment Canada
EEM	environmental effects monitoring
EMP	environmental management plan
EMS	environmental management system
MEMPR	Ministry of Energy, Mines and Petroleum Resources
ML	Metal Leaching
MOE	Ministry of Environment
MOFR	Ministry of Forests and Range
non-PAG	non-Potentially Acid Generating
NP	Neutralization Potential
NRCan	Natural Resources Canada
PAG	Potentially Acid Generating
ROW	right-of-way
TC	Transport Canada
TSF	tailings storage facility

1 General Information and Contacts

1.1 Description of the Project

Taseko Mines Limited ("Taseko") is a British Columbia based mining company headquartered in Vancouver. Taseko‟s management team is comprised of experienced mine developers, owners and operators with a proven and successful track record in developing and operating copper and gold mines. Taseko‟s 75% owned Gibraltar Mine, currently employing 475 people, has been operating 65 km north of Williams Lake for the past 35 years and has an expected life of a further 27 years. The New Prosperity Project is 100% owned by Taseko.

Taseko proposes to develop the New Prosperity Gold-Copper Project (the "New Prosperity Project" or the "Project"), a conventional open pit project that would involve open pit mine development and a 70,000 tpd concentrator facility with an average annual 108 million pounds of copper production and 247 thousand ounces of gold production over a 20 year mine life. The Project mine site, which includes the open pit, concentrator facility, support infrastructure, and associated tailings and waste rock areas, is approximately 125 km southwest of Williams Lake on the Fraser Plateau in South Central British Columbia. The Project also includes an approximately 125 km long power transmission line corridor, an existing concentrate load-out facility at Mcleese BC, and existing access from Williams Lake with construction of 2.8 km of new mine road.

The mine project has been previously described in Taseko‟s Prosperity Gold-Copper Project Environmental Impact Statement/Application ("EIS/Application") dated March 2009. The EIS/Application was subject to rigorous reviews under British Columbia‟s *Environmental Assessment Act* (BCEAA) and the *Canadian Environmental Assessment Act* (CEAA) through the period 2009 to 2010.

The New Prosperity Project outlined in this Project Description is different than that reviewed in 2009/2010. The changes made to the mine site layout and the potential environmental effects of those changes are summarized in Appendix A. In Appendix A, references are made to the past findings from the BC and federal environmental assessment review processes and how the modifications made to the mine site layout in New Prosperity may influence those findings. The transmission line corridor, use of the existing concentrate load-out facility, and access road components of the New Prosperity Project are unchanged from those reviewed in the 2009/2010.

The New Prosperity Project incorporates all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the BC Environmental Certificate #M09-02 dated 14 January 2010 (Appendices B and C) as well as the recommendations from the federal Review Panel as stated in their report dated July 2010 (Appendices D and E).

1.2 Project History

The mine project has been undergoing various environmental reviews since 1993. The environmental assessment for the proposal was first initiated in August 1993 through the filing of a "Pre-Application for A Mine Development Certificate" in accordance with the Mine Development Act (MDA). Two years later, in June 1995, the former BC EAA was proclaimed. By means of Transition Order No. M357, dated June 30, 1995, the Prosperity Project was transferred to the new Environmental Assessment Process. Between 1995 and 2006 the project was placed on hold by Taseko due to low metal prices.

The previously submitted Prosperity Project was subject to review under BC‟s *Environmental Assessment Act* (BC *EAA*), S.B.C. 2002, c.43 and the *Canadian Environmental Assessment Act*

(*CEAA*), SC 1992, c.37. On February 19, 2007, the federal Minister of the Environment received a letter from the Minister of Fisheries and Oceans Canada referring the Project to a review panel, in accordance with the requirements of *CEAA*. On June 22, 2008, the provincial Minister of Environment issued a Section 14 order under the BC *EAA* requiring a typical non-review panel EA to be completed for the Project. The British Columbia Environmental Assessment Office (EAO) and the Canadian Environmental Assessment Agency (CEA Agency) agreed to coordinate the EA processes to the extent possible to provide a single window for public participation and to minimize the potential for duplicative activities.

Beginning November 3, 2008 for a period of 30 days, the Review Panel Terms of Reference, setting out the mandate of the federal Review Panel and the associated timelines for the review were subject to public comment and review. Following the close of the public comment period, the EAO and the federal Minister of the Environment finalized these EIS/Application Guidelines, finalized the Review Panel Terms of Reference and appointed a three member panel.

Between 2006 and November 2008 Taseko met with regulators and First Nation representatives to share and discuss with them the results of baseline studies undertaken between 1993 and 2000 and the results of a gap analysis undertaken by Taseko before commencing additional studies in 2006/2007.

A Draft Application Terms of Reference/EIS Guideline document was submitted to the EAO and the CEA Agency on October 24, 2008 at which point they were also made available to the public. On November 3, 2008 a 30-day public comment period (ending December 3, 2008) on the draft EIS guidelines was initiated to allow public input on the guidelines. Following a public comment period, the Draft EIS Guidelines were finalized and issued by the Executive Director and the federal Minister of the Environment. Formally issued in January 2009 by both the EAO and the federal Minister of Environment, the Application Terms of Reference/EIS Guidelines formed the basis upon which the EIS/Application was completed and submitted.

After careful examination of all of the project elements and potential impacts in the nine volume EIS/Application submission and baseline data, including intensive review by technical working groups, the provincial government approved the Prosperity Project and issued Environmental Assessment Certificate M09-02 on January 14, 2010. The BC EAO concluded that the Project would result in significant adverse effects to fish and fish habitat, but in consideration of fish compensation proposed and economic benefits of the Project, the adverse effects were considered to be justified. The certificate, which describes the conditions of the approval along with the 103 commitments made by Taseko, is provided in Appendix B.

The three person federal Review Panel appointed by the federal Minister of the Environment, in accordance with the requirements of the *CEAA*, conducted a review of the environmental effects of the proposed Project, including weeks of public and community meetings.

The Review Panel released their report on July 2, 2010. The Review Panel was consistent with the Province in their findings that on key environmental factors there are no significant environmental effects to: air quality; terrain and soils; surface or groundwater quality; moose and mule deer or their habitat; vegetation, including old growth forest and grasslands; archaeology; social indicators for communities; no risk to fish in the Taseko River or water quality impacts on Big Onion Lake; and, no risk to human health associated with the Project.

The federal Review Panel concluded that the Mine would result in significant adverse environmental effects on: fish and fish habitat; navigation; current use of lands and resources for traditional purposes by First Nations and on cultural heritage; and, certain potential or established Aboriginal rights or title. The federal Review Panel also concluded that the Project, in combination with past, present and reasonably foreseeable future projects would result in a significant adverse cumulative effect on grizzly bears in the South Chilcotin region.

On November 2, 2010, the Government of Canada determined that the significant adverse environmental effects of the mine on fish and fish habitat, navigation, current use of the land and resources by First Nations for traditional uses, and on potential or established Aboriginal rights or title could not be justified as proposed, but that the decision does not preclude the proponent from submitting a project proposal that includes addressing the factors considered by the federal Review Panel.

Revisions were made to the mine site layout to address the federal Review Panel‟s findings and incorporated into this Project Description for ***New Prosperity.***

1.3 Project Purpose and Rationale

The New Prosperity Project mineral deposit is currently the seventh largest undeveloped gold-copper porphyry resource in the world.

The purpose of the mine development is to utilize this proven mineral reserve to create value and opportunity for the people of British Columbia and Canada, and for the shareholders of Taseko. The Project is a needed component to help sustain the economic and social health of rural British Columbia communities.

If feasibility studies remain positive and Taseko is successful in gaining the necessary government approvals to build the mine, New Prosperity will rank as one of the largest single private sector investments in British Columbia this decade.

At a capital cost estimated at $1 billion and with anticipated operating expenditures of $200 million annually, the magnitude of New Prosperity‟s economic impact, its job creation and business development capacity, can be measured on both a provincial and national scale. The Project has the potential to create 550 direct and 1280 indirect jobs annually and provide 22 years of economic development in the Province of British Columbia. These are positive impacts for an area hard hit by the Mountain Pine Beetle epidemic.

The New Prosperity is expected to generate local and provincial economic value:

- The demand for labour will be substantial during construction and operations, having a “positive and significant” effect on direct and indirect employment
- Wages during operations will be more than twice the average personal income in the Regional Study Area (RSA).
- New opportunities for contractors and suppliers. During the construction phase of the proposed Project, companies in the regional area are expected to supply $32.7 M in goods and supplies, with another $21.8 M accruing to local labour.
- The Project may partially offset lost contract and supply opportunities due to downturn in the economic activity resulting from Mountain Pine Beetle.
- $340 M in GDP annually which is larger than the province‟s film and television industry and three times larger than the entire output of the commercial fishing industry, including fish processing.
- Government revenues would increase through income, consumption, and property taxes payable by the proposed Project and its employees; average annual government revenues of $26.2 M during construction and $48.4 M during operations for a total of over 1 billion over the life of the mine.

Extracting and processing the New Prosperity mineral deposit is the only way to generate this kind of value and benefit for society.

1.4 Proponent Contact Information

Corporate contact information is as follows:

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www.tasekomines.com

President, CEO and Director
Russell Hallbauer
Email: RussellHallbauer@hdmining.com

Vice President, Corporate Affairs
Brian Battison
Email: BrianB@tkomines.com

Principle contact person for purposes of the EA:

Director, Environment and Government Affairs
Katherine Gizikoff
Email: KatherineG@tkomines.com

2 Project Information

2.1 Location

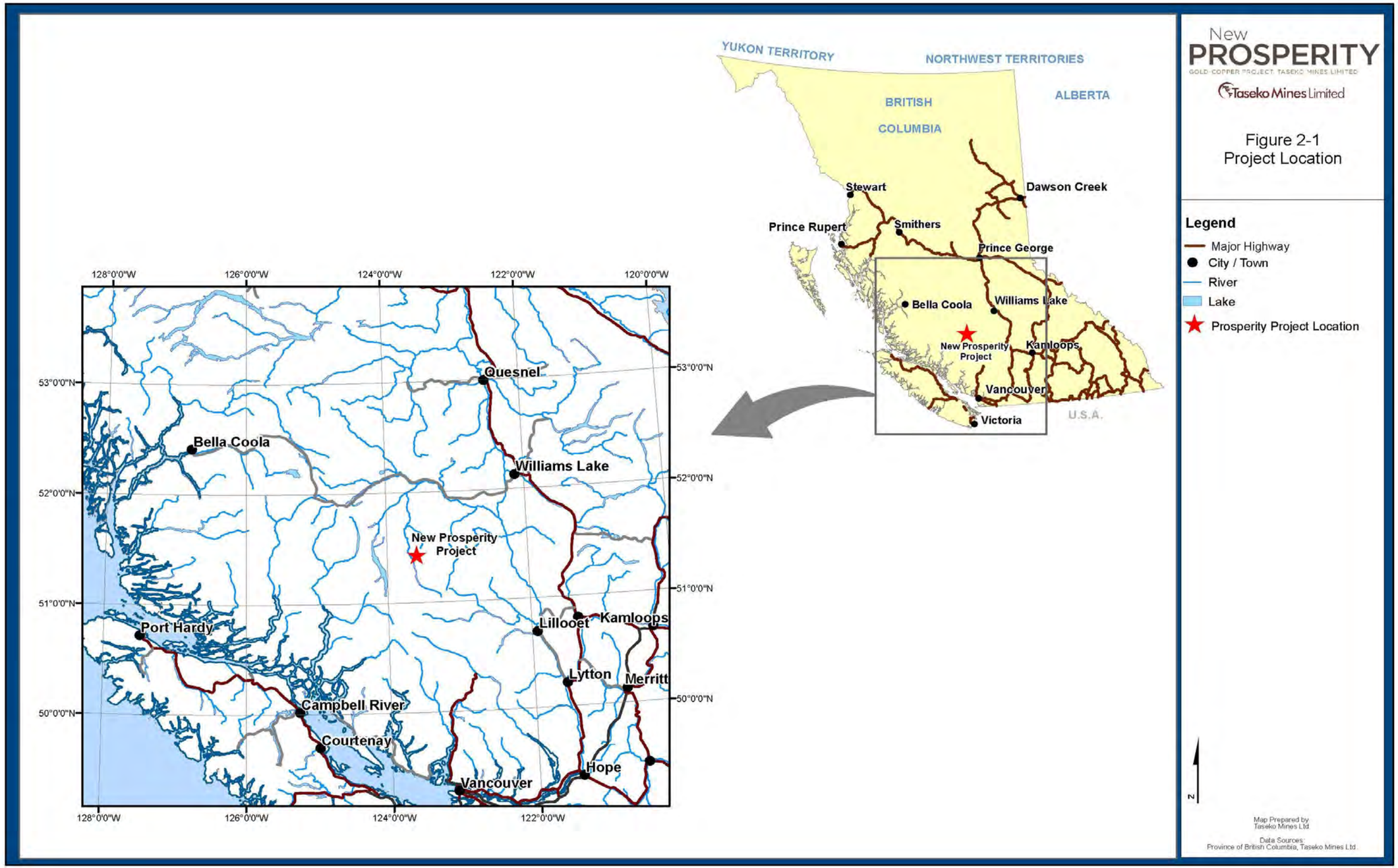
2.1.1 Project Coordinates

The New Prosperity property is 125 km southwest of Williams Lake, BC, in the Williams Lake Regional District. The deposit is 1 km north of Fish Lake and 10 km northeast of Lower Taseko Lake (51°28'N, 123°37'W; NTS Sheet 92-O/5E). Topography is subdued with elevations ranging from 1450 to 1600 masl.

2.1.2 Site Map

Figure 2-1 shows the regional location of the New Prosperity Project located in the Cariboo-Chilcotin District. The Cariboo-Chilcotin Land Use Plan (CCLUP) (2004) provides broad direction for sustainable use of Crown land and resources in this region. Specific to mineral exploration and mine development in the proposed Project area, the CCLUP states the mineral and placer industries will have full access to all zones except for protected areas for exploration and mine development, subject to regulations of applicable statutes. Full access means that all (100%) of the land outside of protected areas is available to exploration and development, guided by the *Mineral Tenure Act* and the *Mines Act.* Additional information on the project in relation to the Cariboo-Chilcotin Land Use Land and First Nations is provided in Sections 3.1and 3.5, respectively.

Figure 2-1 Project Location



2.1.3 Site Layout of Components

The Project would involve a large open pit mine development with a 20 year operating life. The Project consists of four main elements as follows:

Mine: The main features of the mine include the open pit, waste rock stockpiles, primary crusher and overland conveyor, the plant site, and the TSF. Mine site development will occur within Provincial Crown land over which Taseko currently holds a mineral lease (number 787863) and 37 mineral claims. All mineral tenures in the area of the proposed mine are 100% held by Taseko.

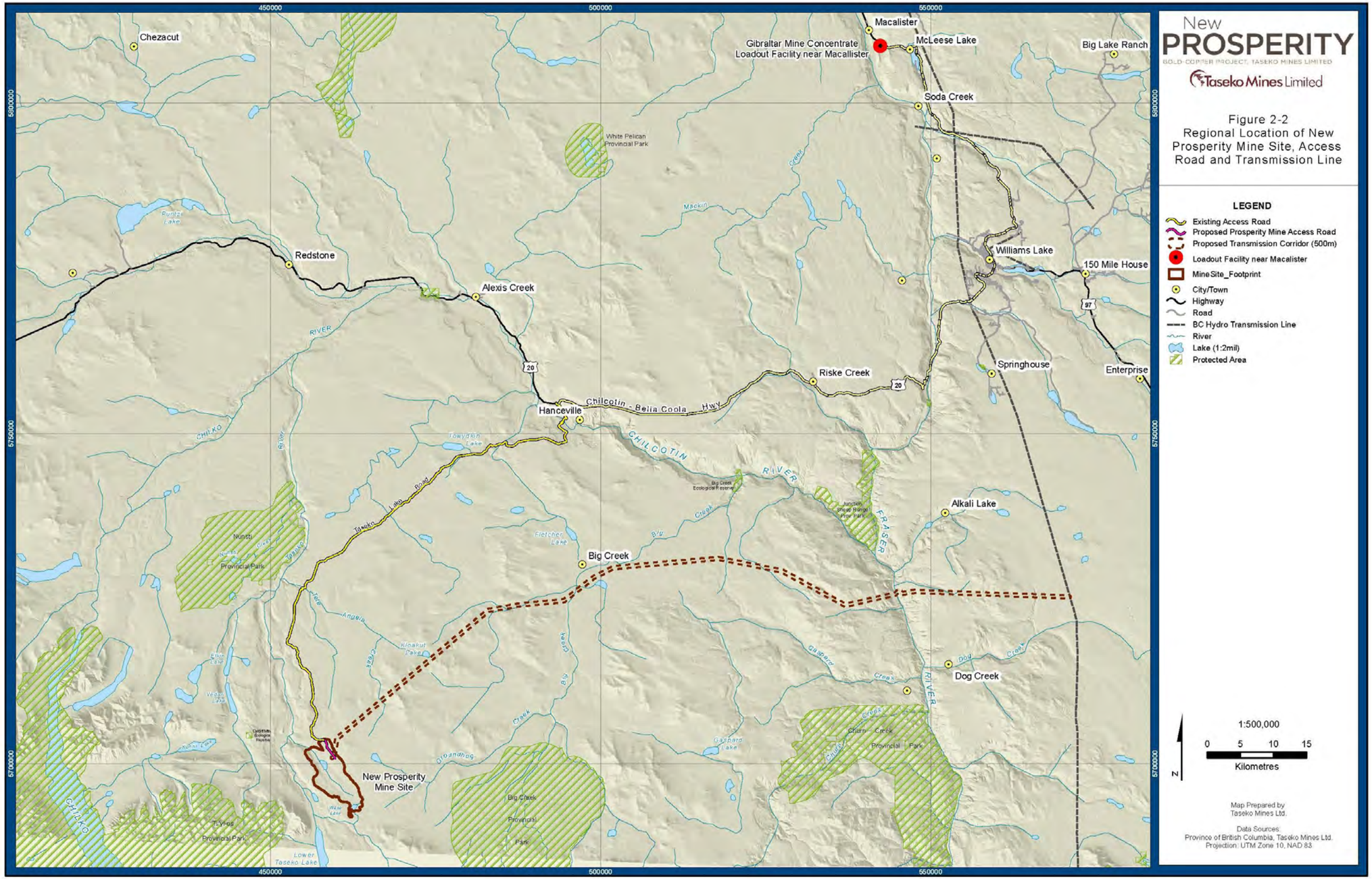
Transmission Line: The Project includes a 125 km long, 230 kV power transmission line to the BCTC transmission corridor in the vicinity of Dog Creek. The transmission line is primarily located on Crown land with the exception of east banks of the Fraser River where the route crosses privately owned land.

Access Road and Transportation Corridor: Construction of approximately 3 km of new road is required to access the plant site. The mine site and new 3 km section of access road are located on Crown land within the Cariboo-Chilcotin District.

Concentrate Rail Load-Out Facility: Concentrate will be trucked to the CN Rail mainline at the existing Gibraltar Mine Concentrate Load-out Facility near Macalister. Any capital improvements to the concentrate loading facility will occur within the existing yard, requiring no change to the overall footprint of the facility. Any capital improvements and any pre-requisite regulatory requirements will be managed by Gibraltar.

Fish compensation works for the New Prosperity Project will be developed to be consistent with BC Ministry of Environment (MOE) and the Department of Fisheries and Oceans Canada (DFO) policies and legislation. Details of the fish compensation work to compensate for the loss of Little Fish Lake and upstream and downstream spawning habitat are not finalized. The general location of the mine site, access road and transmission line locations are illustrated in Figure 2-2.

Figure 2-2 Regional Location of Mine Site, Access Road, and Transmission Line



2.2 Components and Activities

The following sections describe the components and activities of the Project, and approximate dimensions of proposed infrastructure.

2.2.1 Major Physical Features and Dimensions

2.2.1.1 Mine Site

General

The project involves a conventional shovel/truck open pit mine with ore conveyed 2 km to a concentrator at a plant site that includes standard industry infrastructure. The components of the mine site are discussed in greater detail in this section.

The TSF will be located in the Upper Fish Creek valley, starting approximately 2 km upstream of Fish Lake. Non-potentially acid generating (non-PAG) waste rock and overburden produced during active mining and not used in TSF embankment construction, and the ore stockpile, will be located in the waste storage area to the northeast of the open pit.

Figure 2-3 illustrates a new mine layout including waste rock storage locations and the TSF. Photographs of the project area and proposed location of mine components are provided in Appendix G.

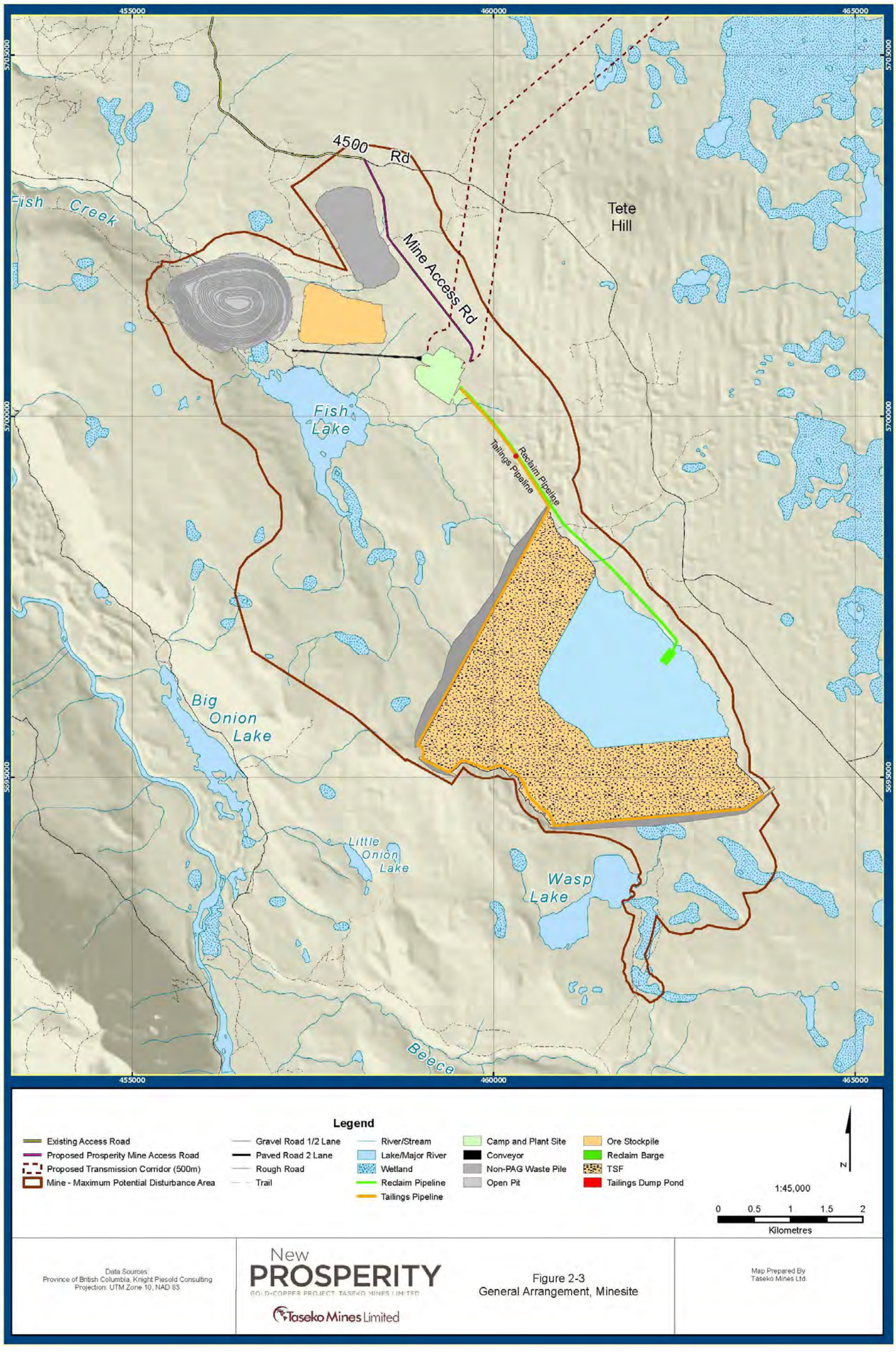
Geology

The New Prosperity gold-copper deposit subcrops under a 5 to 65 m thick blanket of surficial cover at the north end of Fish Lake. It is predominantly hosted in volcanic rocks which have been intruded by a steeply dipping stock. The stock is surrounded by a swarm of dikes. The stock and dikes are spatially and genetically related to the deposit. The central portion of the deposit is cut by two prominent faults that strike north-south and dip steeply to the west. A central alteration zone is co-extensive with the copper/gold mineralization.

Pyrite and chalcopyrite are the principal sulphide minerals in the deposit. They are uniformly distributed as disseminations, fracture-fillings, veins and veinlets. Native gold occurs as inclusions in, and along microfractures with, copper-bearing minerals and pyrite.

The deposit is oval in plan and is approximately 1500 m long, 800 m wide and extends to a maximum drilled depth of 880 m.

Figure 2-3 General Arrangement, Minesite



Resources and Reserves

Geostatistical analysis, including variography and ordinary kriging of the New Prosperity drill hole data incorporating the geological and bulk density models have resulted in a Resource Estimate for the New Prosperity Project Deposit as summarized in Table 2-1.

Table 2-1 Mineral Resource Inventory

Category	Cutoff Copper Grade (%)	Tonnes > Cutoff (000's)	Cu Grade > Cutoff (%)	Au Grade > Cutoff (g/tonne)
Measured	0.14	547,100	0.273	0.461
Indicated	0.14	463,400	0.207	0.340
Total	**0.14**	**1,010,500**	**0.243**	**0.406**
Inferred	0.14	208,300	0.210	0.246

The mineable reserve was established on the basis of $1.65/lb copper, $650/oz Au, and exchange rate of 0.82 $US/$CDN, and 2nd quarter 2009 estimates of capital and operating costs as reported in the 43101 compliant technical report dated December 17, 2009. The reserve is summarized in Table 2-2.

Table 2-2 Mineral Reserve Inventory

at CDN$5.50 NSR/t Pit-Rim Cut-off					
Category	**Tonnes (millions)**	**Gold (gpt)**	**Copper (%)**	**Recoverable Gold Ounces (millions)**	**Recoverable Copper Pounds (billions)**
Proven	481	0.46	0.26	5.0	2.4
Probable	350	0.35	0.18	2.7	1.2
Total	831	0.41	0.23	7.7	3.6

Mining Method

The mining method proposed for the New Prosperity Project is a conventional open pit shovel/truck operation. The mine will operate using industry standard large scale electric rotary drills, electric cable shovels, diesel electric trucks and a fleet of support equipment to maintain roads, dumps and stockpiles.

The ore and waste will be drilled by rotary blast hole drills and blasted using ammonium nitrate and fuel oil or with emulsion as required.

Open Pit

The open pit is located just north of Fish Lake. The nominal elevation of the pit rim is 1470 m. The open pit will be conical in shape, 1200–1600 m in diameter at the pit rim, and 525 m deep to an elevation of 945 m.

The open pit will provide 70,000 tpd mill throughput with an average mining rate of approximately 120,000 t of material per day over the active pit life of 17 years. The open pit will yield 487 Mt of ore, 72 Mt of overburden stripping, and 328 Mt of waste rock. Non-potentially acid generating (non-PAG) open pit overburden and waste rock materials will be used to construct the TSF which will impound tailings and potentially acid generating (PAG) waste materials.

The pit will be partially pre-stripped during the preproduction development period. Initial mining from the pit will provide building materials for the tailings impoundment starter dam.

Pit roads are designed at a maximum of 10% grade. The benches will be mined at a 15 m height, double benched between berms. Wall slope design changes will be implemented by varying the berm widths and inter-berm slope angles.

The ultimate pit features are summarized as follows:

- 1650 m E-W by 1285 m N-S
- total surface area 166 ha
- final ramp exit elevation 1470 m
- ultimate pit bottom elevation 945 m
- maximum wall height–600 m in the SW quadrant with maximum crest elevation 1545 m

Open Pit Dewatering

Pit water will go directly to the mill. When mill operations are temporarily disrupted the pit water will bypass the mill to the tailings line for discharge into the TSF.

Open pit development will have an impact on the local hydrogeologic regime, as the pit will become a groundwater discharge area. The groundwater table is at or near the surface and development of the open pit will result in a gradual lowering of the water table in the vicinity of the excavation.

Pit inflows will likely be dominated by localized confined aquifers in the southern area of the pit from zones of higher rock mass permeability related to major structures and from unconfined flow in the upper 150 to 300 m of fractured rock mass above the gypsum line. Inflows from good quality, low permeability rock below and peripheral to the gypsum line are expected to be low.

A combination of depressurization techniques including vertical wells, in-pit horizontal drains and collection systems will be implemented as a staged approach during pit development.

The QD and East fault zones require deep groundwater depressurization in order to minimize the potential for slope failure on the north and south walls. Shallow perimeter

wells will be located outside the ultimate pit limit. The location of these wells will be determined based upon hydrologic monitoring information.

Horizontal drain holes will be used within the pit based on hydrologic monitoring information collected during operations.

Water inflows to the open pit will include both groundwater and direct precipitation. The contribution of direct precipitation to in-pit pumping requirements will vary annually and seasonally.

The open pit dewatering system has been designed to meet the combined requirements of the expected groundwater pit inflow rates and runoff from precipitation.

Waste Rock Storage

The total tonnage of waste material to be mined from the open pit is approximately 400Mt.The total waste material types are 12 Mt of PAG overburden, 60 Mt of non-PAG overburden, 225 Mt of PAG waste and 102 Mt of non-PAG waste.

Non-PAG waste materials will be used to construct the TSF embankments. The non-PAG waste, including overburden, not used in the TSF embankment construction will be deposited to the northeast of the open pit, and the ore stockpile will be located to the east of the pit (Figure 2-3). The footprints of the non-PAG waste storage area and ore stockpile are approximately 90 and 78 ha, respectively.

The waste stockpiles will be constructed in lifts with berms left at 30 m intervals. Overall final slopes will be 2H:1V and crests will be contoured for reclamation. Prior to placement of overburden and waste in the stockpile areas the vegetation will be cleared, and diversion and runoff collection ditches will be constructed.

PAG overburden and waste rock will be stored sub-aqueously. The PAG overburden contains weathered rock which includes oxidized or partially weathered sulphide minerals. This material will be placed in the tailings management facility.

Primary Crusher and Overland Conveyor

Ore will be hauled from the open pit mining operation to the primary crushing facilities close to the southeast rim of the open pit. The crusher product will be discharged onto the overland coarse ore conveyor.

The overland conveyor carries crushed ore directly from the primary crusher to the coarse ore stockpile at the plant site. It will generally follow existing topography on a prepared gravel bed on an upslope route to the coarse ore stockpile 1.9 km due east. A single lane service road will be provided along one side of the conveyor.

Explosives

The mining process requires the use of explosives to break apart the rock in the open pit for recovery of the ore for processing and separation from the surrounding waste rock. Due to the large volumes of explosive required and the remote location of the mine site, explosives will be manufactured at the mine site.

Taseko is responsible for the safe management of explosives on the site. This will include any tasks contracted out to a third party. Natural Resources Canada (NRCan) is responsible for regulating the use of explosives under the *Explosives Act*. Section7(1)(a) of the *Explosives Act* states that the Minister of NRCan must issue a license for an explosives factory (manufacture) and magazine (storage).

The New Prosperity project explosives facilities will comply with all regulatory requirements throughout the construction, operations and closure phases of the Project. During the construction phase, Bulk Explosive products may be transported from existing explosive facilities at the Gibraltar Mine. The activity will continue until the permanent facility is constructed and commissioned at New Prosperity.

The Explosives Storage compound at New Prosperity will include a number of buildings including a fully contained manufacturing plant, storage tanks and silos and plant services. The buildings and site will meet the bulk guidelines published by the Explosives Regulatory Division (ERD) of NRCan as well as local, provincial and federal regulations. Magazines will conform to national standards. The magazines will be located in accordance with NRCan Explosives Regulatory Division‟s Quantity-Distance criteria.

The final configuration and detailed design of the structures on the compound site will be completed as part of the permitting process.

Coarse Ore Transfer, Storage and Reclaim

Ore will be dumped into the primary crusher located adjacent to the open pit. The crushed ore will then be conveyed to a coarse stockpile where it will subsequently be fed to the grinding circuit which consists of SAG and ball mills.

The coarse ore conveyor is 1900 m long. The max slope of the conveyor will be 14° and there is single discharge onto the coarse ore stockpile. In order to reduce dust emissions, there will be a water suppression system at the discharge point of the coarse ore stockpile.

Reclaim from the coarse ore stockpile will be provided by inline apron feeders onto a SAG mill feed conveyor. Dust collectors with pickups around the crusher, conveyors and ore transfer points will be installed to minimize fugitive dust in this area.

Mineral Processing

The plant site will be located approximately 2 km east of the primary crusher at a nominal elevation of 1560 m on a relatively flat natural plateau on the east slope of the valley. Primary structures at the plant site will include coarse ore stockpile and reclaim facilities, concentrator building, main 230 kV substation, service complex, and assay laboratory.

Conventional crushing, grinding and flotation will be used to process ore. The concentrator utilizes industry standard unit processes and equipment with a nominal throughput of 70,000 dry tpd housed within an approximately 14,000 m^2 pre-engineered structure. The concentrator building is divided into three main sections: the grinding section, which houses the SAG and ball mills: the beneficiation section which houses the flotation cells and vertimills, the reagent storage and tailings handling; and, the concentrate handling section which houses the thickening, filtration and concentrate load out systems.

SAG mill product will be further ground in ball mills. Ball mill product will be directed to banks of rougher flotation cells giving a mass pull of about 8%. The rougher concentrate will be pumped to the regrind circuit while the tailings will report to the tailings pond.

The rougher concentrate will be reground in regrind mills. The reground product will then feed the cleaner flotation circuit with final concentrate reporting to the dewatering circuit and cleaner circuit tailings reporting to the tailings pond.

The concentrator load-out area will be a slab on grade. A front end loader will load concentrate trucks positioned on a truck weight scale. The concentrate thickener and stock tanks will be located at grade inside the load-out section.

Copper concentrate will be the final product. The plant will operate 24 hours per day, 365 days per year with scheduled downtime for equipment maintenance.

As common with every flotation process, standard chemical reagents will be used to aid in achieving the optimal conditions for the recovery of the desired minerals. The specific chemical reagents have not yet been finalized.

Tailings Impoundment and Storage

The TSF or impounding tailings will be located in the Upper Fish Creek valley 2 km south of Fish Lake.

The principle objectives of the TSF are to ensure protection of the regional groundwater and surface waters both during operations and in the long-term, and to achieve effective reclamation at mine closure. The design of the TSF has taken into account the following features:

- permanent, secure and total confinement of all solid waste materials within an engineered disposal facility
- sufficient capacity and freeboard to store the 1/10,000 year, 72 hour storm event during operations
- control, collection and removal of free draining liquids from the tailings during operations for recycling as process water to the maximum practical extent
- pumping of natural surface run-off water collected at the toe of the south embankment to the TSF
- the inclusion of monitoring features for all aspects of the facility to ensure performance goals are achieved and design criteria and assumptions are met
- staged development of the facility over the life of the Project

The overall Project general arrangement is shown in Figure 2-3. The TSF will be an average of 4 km long by 3 km wide with a footprint of approximately 1200 ha.

PAG waste rock and overburden that is deemed to have the potential to generate acid drainage will be stored under water within the tailings management facility. The TSF is designed to provide environmentally secure storage for co-disposal of approximately 480 Mt of tailings and 240 Mt of PAG waste material.

As a result of the embankment elevations relative to the concentrator, tailings will be pumped from the onset of operations.

Non-PAG waste rock, glacial till and overburden will be used to build the TSF embankments in stages throughout the life of the Project from stripping operations at the open pit. The Main Embankment will be located in the Fish Creek Valley; the West Embankment will be constructed along the western ridge which separates the Fish Creek drainage basin from the Big Onion Lake drainage basin; and, the South embankment will be constructed across the Fish Creek Valley between Little Fish Lake and Wasp Lake.

All embankments will be constructed as water-retaining structures. Seepage losses will be returned to the TSF via a seepage collection and recycle system.

Much of the site is blanketed by surficial glacial till and a complex series of basalt flows, lacustrine units and lesser fluvial deposits. The glacial till is typically located within the valley bottom and lower valley slopes and ranges in thickness from 2 m to greater than 10 m. The surficial glacial till unit will provide a suitable, low permeability foundation for the tailings facility. All organics and soft, wet material will be removed from the tailings embankment footprint prior to fill placement.

In accordance with international and standard industry practice, stability analyses will be carried out to investigate the stability of the embankments under both static and seismic conditions as part of the permitting process. Analyses will be conducted to satisfy safety requirements and to indicate that the proposed design is adequate to maintain both short term (operational) and long term (post-closure) stability.

Other Infrastructure

Administration Building

Administration and change house facilities will be located south of the Concentrator Building. The facilities will be contained in pre-fabricated units with a total footprint of approximately 1,500 m^2.

Camp

Workers will reside in an on-site camp. The construction camp will be located adjacent to the south of the mill site. The construction camp will be constructed in stages in order to accommodate the build-up of personnel from the early stage of construction activity to the estimated peak of 1000 during construction. The camp accommodation units and services will be expanded as additional beds are needed. The construction camp to house construction personnel will gradually be turned over to the mine operations as construction activities wind down.

Truck Shop

The truck shop and maintenance facilities will be housed in a pre-engineered building located next to the Administration Building south of the Concentrator Building.

Laboratory

The assay and environmental laboratory will be located in a separate building near the service complex. The laboratory will be a pre-engineered single level building approximately 550 m^2 in area and will contain all the assaying and environmental sampling and testing facilities plus associated offices for the laboratory personnel.

Warehouse

The warehouse will be located immediately south of the Concentrator Building in a stretch fabric structure. The total area allocated for warehousing will be 20 m wide x 80 m long.

Water Supply and Distribution

Process Water

The Process Water Pond, located adjacent to the concentrator, will have a total storage capacity of 110,000 m^3 and will be supplied by two sources; pit dewatering and the tailings supernatant pond reclaim.

Fresh water will be supplied by deep pit dewatering wells and surface run-off collection.

Potable Water

Potable water will be supplied by wells.

Communications

Telephone and facsimile communications from the Project site will be via microwave. Radio and internal telephone communications system will be provided from the administration office area to all remote locations on the network.

Plant Power Distribution

The plant substation is designed with a single 3-phase 100/133 MVA transformer (230/25 kV) and associated high voltage switch gear circuit breakers and isolation capable of meeting the peak plant power demand requirements.

The secondary of the main step down transformer feeds a 25 kV switch gear line up which feeds the various plant areas.

Each of the 25 kV breakers feed 7.5/10 MVA transformers which set the voltage down to 4160 V to feed plant motive loads at this voltage level and further step down transformer/switchgear unit substations at the 600 V level.

Emergency power will be provided by standby diesel generators.

2.2.1.2 Transmission Line

Electrical power to the mine site will be supplied from the existing BCTC 230 kV transmission line near Dog Creek through a new switching station to be designed and constructed by BCTC.

Taseko will build a 230 kV substation at the mine site.

The transmission line will consist of wood or fiberglass pole H-Frame pole structures similar to standard BCTC/BC Hydro designs with average spans of 225 m.

A 3-km wide, economically and technically feasible route for the transmission line was established following an assessment of a number of possible alternatives. Within this 3 km wide route, a 500 m wide corridor has been determined and approved of in the BC Environmental Assessment Certificate M09-02. Within the 500 m corridor, a centreline of the eventual 30 to 80 m wide right-of-way will be selected.

The route, 125 km in length, follows in a general westerly direction from the switching station at Dog Creek and follows access roads over easy terrain for the majority of its length before terminating at the proposed New Prosperity development site.

The transmission line route crosses Crown land with the exception of fee simple lands belonging to one owner on the east flank of the Fraser River. The routing of the line through these private lands has been determined in consultation with the land owner.

The final 30 to 80 m wide right-of-way for the route through Crown lands will be informed by ongoing archaeology and wildlife habitat assessments. After the federal Panel hearings, and consistent with the Panel recommendation #12 that "Taseko consider relocating the transmission line outside the Esketemc Community Forest, or consider options mutually agreeable to all parties involved to minimize or compensate for the effects on the Community Forest", further discussions between Taseko and Alkali Resources Ltd. were initiated to finalize the route through the Esketemc Community Forest; discussions are expected to continue. The route currently proposed now takes advantage of existing lands already disturbed by roads and logging. Alkali Resources Ltd. has indicated that moving the corridor south of the Community Forest to the adjacent open grasslands is not desirable as increased ATV and pickup access to the community forest may occur.

2.2.1.3 Access Road and Transportation Corridor

The Project site is currently accessible overland by traveling west along the paved Bella Coola Highway ("Highway 20") from Williams Lake to Lees Corner, then south-west along the all-weather logging roads as shown in Figures 2-2 and 2-3. The total road distance from Williams Lake to the property is approximately 194 km. The access route for construction and operations will be comprised of a portion of the following roads:

- Provincial Highway No. 20–existing 90 km of 2-lane, paved road
- Taseko Lake Road (Whitewater Road)–existing 68.4 km gravel road
- 4500 Road (Riverside Haul Road)–existing 19.4 km single lane gravel road to be upgraded with pull outs added and spaced at 2 km intervals
- Project Site Access Road–a new 2.8 km, 5-m wide, single lane gravel road with pull outs to be constructed

This access route will provide year round access for the delivery of supplies, products and personnel, and the transportation of concentrate from the mine site.

2.2.1.4 Concentrate Rail Load-Out Facility

Concentrate trucks will be loaded with a front end loader within the confines of the concentrator building. Control measures such as a truck wash will be utilized to ensure that concentrate trucks are free of any uncontained concentrate prior to leaving the building.

Concentrate trucks will be covered at all times, except during loading or unloading.

Concentrate will be trucked to the CN Rail mainline at the existing Concentrate Load-out Facility near Macalister owned and operated by Gibraltar Mines Limited. Any capital improvements to the concentrate loading facility will occur within the existing yard, requiring no change to the overall footprint of the facility. Any capital improvements and any pre-requisite regulatory requirements will be managed by Gibraltar

Concentrate truck traffic to and from the New Prosperity mine site will consist of an average of approximately 15, 40 tonne B-train trailers per day to fill 7 rail cars per day over the life of New Prosperity.

2.2.2 Alternatives Assessment

Project Setting

Throughout the period that the project has been undergoing various environmental assessmentsTaseko has undertaken a number of reviews evaluating alternative configurations for major infrastructure, and methodologies that would provide alternative means of developing the Project. These alternatives were assessed for technical and economical feasibility, and environmental effects.

Alternative assessments have been conducted for both the mine site and the transmission line.

2.2.1.2 Mine Site

Mine Site Proposal Reviewed in 2009/2010

Following guidance outlined within the Environment Canada (EC) Guideline (Environment Canada 2008), five assessment categories were used to assess alternative tailings storage facilities and associated Mine Development Plans (MDPs): 1) Technical Issues; 2) Physical Environment Issues; 3) Terrestrial and Aquatic Life Issues; 4) Socio-economic Issues; and, 5) Economic Considerations.

Resolving all possible alternative components, methodologies and preferred alternatives resulted in 3 MDPs that represent the best environmental designs. The fundamental difference between these plans was the location of the TSF and rock storage locations and their potential impact on Fish Lake.

The 3 MDPs were:

- Option 1 (Tete Angela) Subaqueous PAG in Tailings in Tete Angela Drainage with non-PAG Waste Rock and Lower Grade Ore Storage North of Pit
- Option 2 (Fish Creek South) Subaqueous PAG in Tailings in Upper (South) Fish Creek Drainage with non-PAG Waste Rock and Lower Grade Ore Storage North of Pit
- Option 3 (Fish Creek North) Subaqueous PAG in Tailings in Fish Creek Drainage just South of Fish Lake with non-PAG Waste Rock and Lower Grade Ore Storage in Fish Lake Location

Taseko‟s conclusion in the 2009 Application was that while all three MDPs evaluated are technically feasible, Options 1 and 2 were flawed in the respect that the economic risk of developing either development plan could not be supported. Taseko also concluded that even if Options 1 and 2 were not flawed from an economic risk standpoint, Option 3 was still the most appropriate option with respect to technical issues and impact on the physical environment.

Of particular note was the environmental security associated with Options 2 and 3 afforded by MDPs that confine all disturbance to a single watershed upstream of the open pit, thereby providing the least environmental risk outside of the watershed.

Taseko‟s conclusion was that MDP Option 3 was the most environmentally responsible option and was the most appropriate option from an overall technical, socio-economic, environmental and economic perspective.

BC Environmental Assessment Office (BC EAO) Conclusions

In its 2009 review of the previous proposal, the EAO accepted that Options 1 and 2 would have substantially greater costs than Option 3 and noted that BC Ministry of Energy, Mines and Petroleum Resources (MEMPR) found the mine development plan and alternatives assessment to be sound.

The EAO also noted that Option 1 raised an additional environmental consideration by introducing impacts into a second watershed. This is to be contrasted with Options 2 and 3 which limit activities to one watershed. This is accomplished by working with natural hydrology so that much of the anticipated seepage and surface water would report to the pit at mine closure.

Finally, the EAO noted that potential future expansion of the pit to access the full gold and copper resource would result in the loss of Fish Lake in any event as, at depth, the ore body runs toward the lake. EAO commented that this possibility is worth noting but should be given less relative weight as it is speculative and is not contemplated in the proposed 20 year mine life currently under review.

Federal Review Panel Conclusions

In its 2010 review of the previous proposal, the federal Review Panel concluded that although Taseko's rationale for selecting its preferred alternative for the mine development plan was reasonable for the purposes of the environmental assessment, Option 3 was deemed as being environmentally unacceptable in November of 2010 when the federal cabinet announced that the project could not proceed as proposed.

The Review Panel noted that "while First Nations were clearly opposed to the preferred alternative, no support was offered for any of the other alternatives. The Panel observes that the proximity of the open pit and associated mining facilities would be close enough to Teztan Biny (Fish Lake) to eliminate the intrinsic value of the area to First Nations even if another alternative were chosen. It appears to the Panel, therefore, that none of the alternative mine development plans examined would receive support from First Nations."

New Prosperity Mine Site

As an alternative to Option 3, Option 2 is the basis for the New Prosperity design that is the subject of this proposal. Option 2 provides the same low level of environmental risk outside of the watershed in that all disturbance is confined to one watershed upstream of the open pit.

The most important component on which Taseko bases project development decisions on are the long term prices of commodities. The long term price outlook for both copper and gold have increased significantly over 2009-2010 relative to the period 2005-2008. As a result, the economic viability of alternative MDPs have improved and Option 2 is no longer flawed as a result of excessive economic risk.

The impact to First Nations from the presence of the mining facilities may impact the current generation‟s quality of use; however, at closure after decommissioning and reclamation, the spiritual and cultural values associated with Fish Lake would be restored to their former capacity for the future generations.

In light of the federal decision that the Project was not approved as proposed under the Option 3 configuration, MDP Option 2 is the preferred option. The concepts that lead to the configuration of MDP Option 2 have been utilized to develop the project description currently being proposed.

2.2.1.3 Transmission Line

Transmission Line Proposal Reviewed in 2009/2010

Transmission corridor alternatives to supply electrical power to the proposed mine site were also investigated in the 1990s. Nine corridor options were assessed for the following: technical/engineering difficulty; cost estimates; socio-economic features and effects; and environmental features and effects. The results were the elimination of all but two corridor options as impossible or difficult. Of the two options, the Project corridor proposed and reviewed in 2009/2010 had a higher potential for protection of rare ecosystems and species and was endorsed by the Project‟s Transmission Corridor Technical Subcommittee in 1998.

BC EAO Conclusions

During their 2009 review, the BC EAO accepted the proposed transmission line alternative. The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B to the Environmental Assessment Certificate #M09-02 issued on 14 January 2010.

Federal Review Panel Conclusions

During their 2010 review, the federal Review Panel concluded that Taseko's approach to selecting the centreline for the transmission line was reasonable for the purposes of this environmental assessment. The Panel also noted that considerable flexibility would exist in the actual location of the poles to avoid sensitive areas. In the Panel's view, this was an appropriate procedure for the consideration of alternative centreline locations for the transmission line.

The Panel concluded that, provided the planned mitigation to avoid construction in sensitive locations would be applied in cooperation with the Secwepemc, the Project would not result in a significant adverse effect on established or potential Secwepemc rights.

The Panel heard from Esketemc the concern that a portion of the transmission line right-of-way would cross through the Esketemc Community Forest, an exclusive timber harvest zone. The Panel recommended that Taseko consider relocating the transmission line outside the Esketemc Community Forest, or consider options mutually agreeable to all parties involved to minimize or compensate for the effects on the Community Forest relative to the transmission line.

The Panel noted that should the Hanceville biomass fired, thermal electric power generating plant proceed, the construction of a much shorter line from Hanceville to the mine site might be an option. The Panel recommended that, if the Project should proceed, Taseko and appropriate parties should re-examine the choice of transmission line corridor to determine whether one transmission line would be an appropriate alternative to serve both the Project and the Tsilhqot‟in National Government‟s proposed biomass fired, thermal electric power plant, should that Project proceed prior to construction of the transmission line. Since the issuance of the Panel Report, the “The Tsilhqot'in Power (Biomass) Project is no longer under consideration in BC Hydro‟s Bioenergy Phase 2 Call.”

New Prosperity Transmission Line

Based on the results from the 2009/2010 EAO and federal review, the transmission line route for New Prosperity has remained unchanged from that proposed in the previous project, since the alternatives have a higher degree of technical/engineering difficulty, higher costs, greater socio-economic effects, and greater environmental and ecosystem effects. The proposed

transmission line for New Prosperity continues to be the route endorsed by the Project‟s Transmission Corridor Technical Subcommittee in 1998. Section 2.2.1.2 of this Project Description describes the transmission line in greater detail.

The currently proposed alignment crosses a portion of the Esketemc Community Forest. Taseko has met with Alkali Resources Ltd.‟s manager for the Esketemc First Nation (Alkali Lake Indian Band) and reviewed options for locating the transmission line both through and south of the Esketemc Community Forest. As moving the transmission line south increases the risk of non-aboriginal access and weed encroachment to the Community Forest off of the grasslands, the transmission line has been aligned to make use of existing road and logged clearings within the Community Forest so as to avoid further timber harvesting. Further discussions with the Esketemc First Nation and Alkali Resources Ltd. are expected.

In addition, archaeological, wildlife, and sensitive habitat surveys have been initiated to finalize the transmission line route to minimize effects on cultural and ecological values.

2.3 Emissions, Discharges and Waste

Taseko is committed to the development of an Environmental Management System to encompass continual improvement in sustainability and the protection of human health and stewardship of the natural environment and the development of Environmental Management Plans as an integral part of the Project, converting the mitigation measures and best management practices into actions intended to minimize or eliminate negative environmental effects.

2.3.1 Sources of Atmospheric Contaminant Emissions

Atmospheric contaminant emissions can be described by cumulative effects on criteria air contaminants (CACs) and greenhouse gases (GHGs).

Criteria Air Contaminants

Emissions of CACs are associated with the various types of combustion sources, including open burning, construction equipment (dozers, graders, backhoes, loaders, forklifts etc.), rock moving equipment (drills, haul trucks, cranes, etc.), diesel generators, and motor vehicles. During the construction and commissioning phases, land clearing burning will produce the majority of CAC emissions (mainly particulate).

For the other phases, the mine pit area produces the majority of fugitive dust emissions (mainly particulate). Air emissions of PM in fugitive dust are associated with activities such as blasting, truck loading and unloading, rock drilling, primary ore crushing, and materials hauling within the mine pit and along the Project haul road.

A number of mitigation measures for the protection of atmospheric environment will be implemented as part of the Project to ensure compliance with Provincial and Federal air quality objectives and standards throughout the construction, operation and closure phases of the Project. They include:

- using Best Available Technology that is Economically Achievable (BATEA) measures and best practices to reduce CAC emissions
- meeting or exceeding relevant regulatory emissions standards for all mine equipment
- installing covered conveyor belt ore transport systems and housing of the rail loadout facilities to minimize fugitive particulate emissions

- implementing effective dust suppression measures
- following posted speed limits by all mine equipment
- ensuring all mine equipment is properly tuned and maintained
- reducing vehicle idling times
- covering of trucks used to transport concentrate

Greenhouse Gases

In the construction and closure phases, key project activities and physical works that can emit GHGs include:

- Site clearing and grubbing, and subsequent burning of vegetative debris
- Operation of motor vehicles, construction, and mining equipment to prepare the site and construct the facility

In the operating phase, key project activities and physical works that can emit GHGs include:

- Operation of motor vehicles and mining equipment used in the operation of the mine will release GHGs
- Maintenance of equipment and support traffic will release GHGs. These activities will release insubstantial quantities of GHGs
- Consumption of fuel offsite and energy purchases. These activities will release insubstantial quantities of GHGs

The *CEAA* (2003) considers that it is not possible to attribute potential effects (be they local, regional, or global) to the emissions from any specific project.

Mitigation measures for GHG reduction focus on a reduction in fuel use at the operational level, as GHG emissions are directly linked to fuel consumption. They include:

- Using BATEA measures and best practices to reduce GHG emissions
- Meeting or exceeding relevant regulatory emissions standards for all mine equipment
- Following posted speed limits by all mine equipment
- Ensuring all mine equipment is properly tuned and maintained
- Reducing vehicle idling times
- Exploring the availability and potential use of biodiesel in all mine equipment
- Optimizing vehicle movements to minimize emission of GHGs
- Minimizing disturbances and managing all land clearing to minimize burning
- Maximizing revegetation in post-closure to actively sequester carbon

To verifying the accuracy of the effectiveness of the measures taken to mitigate any adverse environmental effects of the Project, the follow-up and monitoring is as follows:

- Develop and maintain an annual inventory of GHGs for both internal management and potential external reporting needs
- Develop and implement an air quality and dust control management plan

- Prepare and submit a burn plan for vegetative debris consistent with the Open Burning Smoke Control Regulation (BC Reg. 145/93) prior to initiation of the construction and commissioning phase implement an ambient air quality and meteorological monitoring program.

2.3.2 Water Management and Water Discharge

The main objective of the Water Management Plan is to control all water that originates from within the project area in an environmentally responsible manner including optimizing the use of available water sources to supply Fish Lake, and the milling process and related mining activities, eliminating the demand for external make-up water.

Water management activities include the following:

- Controlling, collecting, and utilizing surface water runoff upstream from the open pit and downstream of the TSF to supply Fish Lake.
- Construction of a small earth-filled dam and collection pond near the outlet of the lake to enable recycling of Fish Lake discharge to supplement flows into the lake.
- Eliminating uncontrolled release of water from the Project area.
- Optimizing the volume of water stored in the tailings supernatant pond to meet operations and closure requirements.
- Collecting and recycling seepage from the TSF, waste storage areas, ore stockpiles, and the open pit.
- Managing the system to facilitate decommissioning of the open pit dewatering and depressurization facilities immediately following completion of mining activities. The artesian aquifer wells will be maintained throughout the life of mine to provide a source of potable water.

Water volume flowing into Fish Lake will be optimized to meet aquatic and fisheries objectives. The outflow from the lake may be utilized to supplement inflows to Fish Lake, as required. The majority of water volumes from the lake outflow will be directed to the TSF to assist operational water needs. Provisions will be made for localized diversion of surface runoff to minimize sediment transport into the lake area. At the open pit area, the pit water will require sediment control prior to discharge until the open pit dewatering system is established.

Once construction of the initial stage of the Main Embankment is complete, the TSF will be used to impound surface water flowing from the Upper Fish Creek Valley. During operations the location of the supernatant pond will be situated away from the embankments and controlled by the development of the tailings beaches and the PAG waste storage area. The supernatant pond location will be controlled in order to reduce seepage losses at the embankments and to provide a clean, accessible source of water for the milling process.

The water balance for the construction, operations, closure and post-closure phases of the Project will be updated for the revised mine site layout.

Surface and Seepage Water Control

Surface water control measures include collecting and directing the drainage related to the waste rock dump, ore stockpiles, open pit and plant site to the process water tank at the plant site. Clean water will be directed, where possible, around stockpiles and the plantsite to the inflow of Fish Lake to maximize flows. Runoff and seepage from the TSF will be collected in seepage

collection ponds located downstream of the embankments and will be pumped back to the TSF, or, discharged to the inflow of Fish Lake to supplement flows that may be required for spawning or other ecological functions.

The seepage from the TSF will largely be controlled by the low permeability core zone constructed prior to development of the tailings beach, the tailings deposition, and the low permeability foundation materials. Downstream of the Main Embankment a collection pond and sump will control flow from the impoundment and will be pumped back to the TSF. Groundwater monitoring may be installed in the downstream area as part of the monitoring program and may be converted to recovery wells to also evaluate seepage rates in the foundation and to recover any foundation seepage that may not be suitable for release.

Water Quality Control

Measures for the purpose of protecting Fish Lake, including diversions and ponds for managing run off and seepage, and sites for monitoring water quality, in the vicinity of the ore stockpile, plant site and the TSF main embankment will be implemented.

ARD/ML Prevention and Mitigation

Taseko‟s ARD/ML Prevention and Mitigation Plan is designed around segregating and appropriately storing the PAG and non-PAG material found in four different classes. These four classes of material are:

1. mine area overburden
2. waste rock
3. tailings
4. ore

Criteria for the classification of the PAG and non-PAG material will be determined based on standard industry tests on each of these four classes of material such as rinse pH, sulphide sulphur, modified neutralization potential and net acid generation test. PAG material will be stored in the tailings pond in a subaqueous manner. Non-PAG material will be stored in a sub aerial manner. Existing data shows tailings material to be non-PAG.

Sediment and Erosion Control

Taseko will implement an Erosion Control and Sediment Retention Plan (ECSRP) to mitigate environmental effects attributed to sediment. The main objective of the New Prosperity Project ECSRP is to mitigate environmental impacts attributable to sediment and erosion. Erosion control and sediment retention measures implemented during construction and operations will have a contingency for the 1 in 10 year 24-hour storm event.

The ECSRP measures will be detailed in the Environmental Management Plan for the Construction Phase.

General sediment and erosion control measures that will be implemented throughout the site to stabilize exposed soil or reduce the velocity of surface runoff, include:

- Minimizing disturbance and/or removal of vegetation
- Minimizing traffic in sensitive areas and selecting equipment that will generate the least disturbance

- Maximizing the diversion of clean water around areas of potential disturbance
- Establishing buffer zones around disturbed areas for natural filtering of surface runoff
- Intercepting sources of potential sediment-laden water as close to source of erosion as possible and re-direct runoff to stable areas
- Undertake operations in sensitive areas during periods of dry weather where possible
- Seeding as soon as practical following disturbance
- Surface roughening and terracing
- Installing sediment traps and sediment basins
- Utilizing bioengineering practices where required in erosion-prone areas once use of disturbed areas is no longer required
- Installing French drains to redirect subsurface flows where appropriate

2.3.3 Sewage and Solid Waste

Sewage from the mill site and camp areas will be collected by a gravity sewer system, and will be conveyed to a sewage treatment plant.

One sewage treatment plant (STP) will be used to service the mine during the construction phase and continue for operation. The maximum capacity of the plant will be based on a maximum workforce of 1000 during construction. Sewage treatment will be by a packaged Rotating Biological Contactor (RBC) unit, which will include:

- flow equalization
- primary settlement
- sludge storage
- RBC unit
- final clarifier
- chlorine contact chamber
- effluent pump chamber

The STP will be located at the west end, low side, of the mill site, well away from the camp and other occupied areas. The STP will be partially buried to permit gravity feed of the influent and will include:

- buried concrete slabs for anchoring tanks
- easy accessibility from grade for inspection and maintenance of unit
- heating and lighting
- an alarm to signal loss of rotation

During construction, the treated effluent discharge will be pumped to a tile field or lagoon. Prior to any construction, tile field design and location will be verified by field percolation tests. The tile field has been proposed because it is regarded as a favourable method of disposal by permitting authorities.

Once the mine is operational, the treated STP effluent will be discharged to the TSF. A buried pipeline will discharge the effluent into the gravity section of the tailings pipeline near the concentrator building. At that time, the chlorine contact chamber will be activated because the effluent will become part of the reclaim water from the TSF.

Sewage from the washroom facilities that are remote from the mill site gravity sewer system will be directed to nearby sewage holding tanks. These tanks will be emptied at regular intervals and their contents treated at the mill site STP.

The solid waste management program will be primarily focused on recycling as many products as possible. All oil, glycols and chemicals will be separately stored for transportation to appropriate facilities to be reconditioned and re-introduced into the market place. These efforts will also be undertaken with paper, metal, computer and tire products.

During the permitting process of the Project, as well as during mine operations, alternative options that are economically viable and environmentally appropriate will continue to be investigated to take advantage of any improved technological advances, including incineration, composting, and/or compaction with transporting to existing landfill operations for purposes of managing domestic wastes and all other products that cannot be recycled as above.

2.4 Phases and Scheduling

The four phases of the Project include construction, operation, closure, and post-closure. The following section provides schedules and activities for each of the phases specific to the mine site.

The construction phase starts with the issuance of appropriate permits to start development and ends at that point at which the concentrator reaches commercial production. This spans a period of roughly two years.

The operations phase begins at this point and continues for approximately 20 years until no tailings are generated by the concentrator. Concurrent reclamation activities also begin during this operational period.

The closure phase begins at the cessation of tailings production and continues until the open pit begins to discharge water to Lower Fish Creek approximately 25–30 years later. Decommissioning of site infrastructure and reclamation are completed early in this period.

The post-closure phase begins when the open pit has filled with water and begins to discharge to Fish Creek. Activities in this period are all related to environmental monitoring and follow-up. This period will continue until all conditions of the *Mines Act*, Reclamation Code, and permits have been fulfilled and Taseko has been released from all obligations under the *Mines Act*.

2.4.1 Construction Phase

The main activities in the construction phase are summarized in Figure 2-4. The yellow bars in the figure represent continuous activities while the beige bars represent discontinuous activities or those activities which will be conducted at some time within the indicated time span.

The development of the new site access road will start as soon as permitting is in place. The pilot road will be roughed into the plant site and access developed within the mine site footprint to allow Phase 1 timber harvesting and access for initial equipment for bulk earthworks.

The extent of harvesting, grubbing and clearing in Phase 1 will be sufficient to allow pit pre-production, site infrastructure development, tailings dam construction, stockpile development, and tailings deposition for several years. The limit of work completed in Phase 1 will be a balance between maximizing deteriorating forestry values due to Mountain Pine Beetle infestation, operational needs, minimizing premature disturbance, and compliance with an approved closure plan.

Upgrading of the new site access road, 4500 Road, and development of site infrastructure roads will start as soon as road construction material is accessed within the mine site area.

Priority site infrastructure roads will include access to the main embankment site and to the open pit. All roads will be built in accordance with the Forest Practices Code, Forest Road Engineering Guidelines.

Priority site infrastructure development will be the plant site area to establish drainage and foundation preparation for the camp, followed by laydowns, an equipment maintenance area, and other infrastructure.

Concurrent with bulk earthworks at the plant site and primary crusher will be the preparation of structures and systems for the management of water flows to Fish Lake and initial pit pre-production activities.

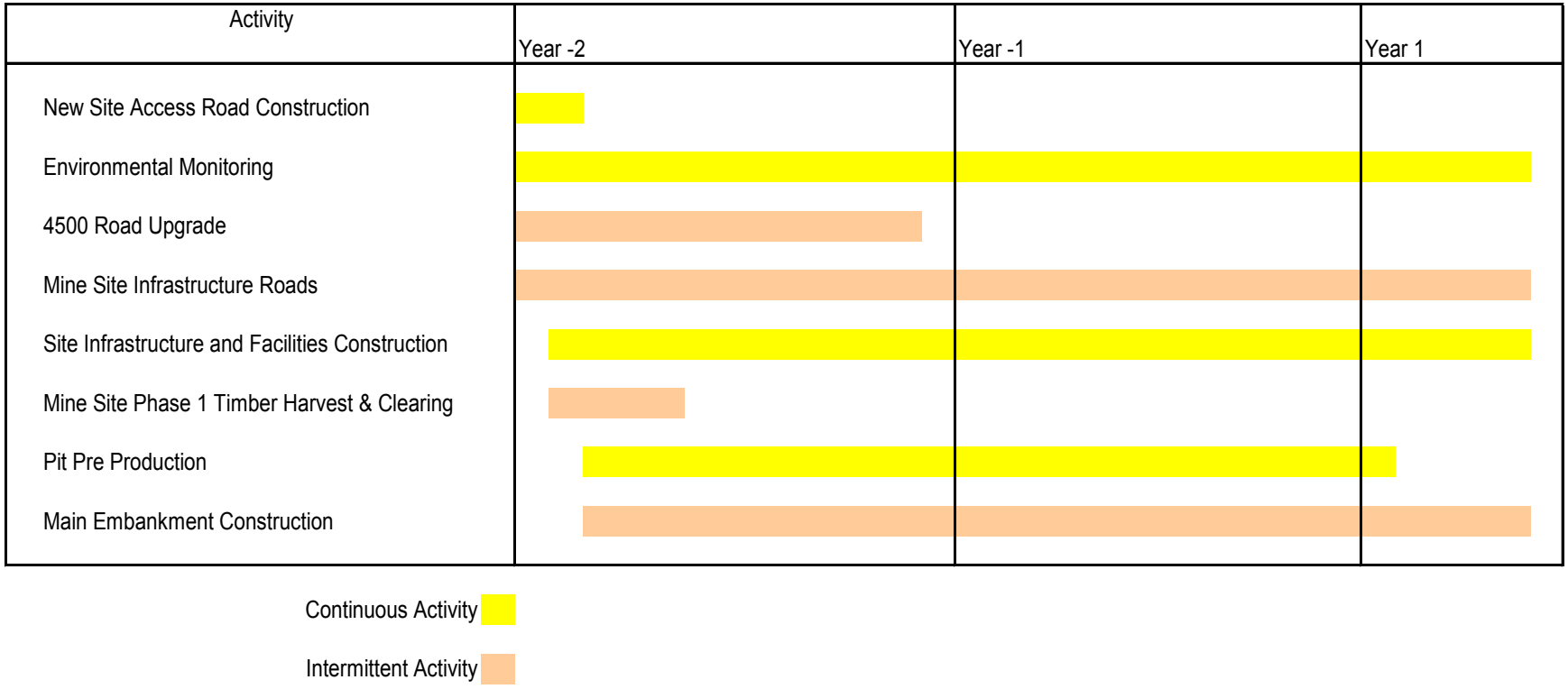
A small water control and pumping station will be constructed near the outlet of the lake to enable collection and pumping of discharge water from Fish Lake. Once the water flows are controlled around the main embankment footprint construction of the main embankment can begin. A borrow pit within the limits of the TSF may be used for initial construction materials.

Initial pit pre-production activities will be limited to the higher ground east of Fish Creek. An initial sediment control system may be required.

The timing of the transmission line timber harvest will be based on optimizing contractor efficiency, mitigating any sensitive biophysical constraints and ensuring harvesting does not delay line construction. This may not be a continuous activity but staged to accommodate seasonal or environmental constraints.

The Dog Creek switching station construction and line reinforcement will be completed by BC Hydro.

Figure 2-4 Construction Phase Schedule



2.4.2 Operation Phase

The main activities in the operations phase are summarized in Figure 2-5

The phasing of the open pit simply involves the sequential enlarging of the surface expression of the open pit in a radial fashion until completion of mining activities in the pit.

Construction of the main embankment continues through year 17. Construction of the west and south embankments begins in year 2 and continues through year 17. Construction is expected to be a seasonal activity as required to maintain the embankments at an elevation consistent with the design criteria.

Processing of ore continues into year 20 with the introduction of remaining stockpiled ore in 17.

There is the potential to delay logging and clearing within the ultimate disturbance area of the TSF dependant on the extent of harvesting, grubbing and clearing completed in Phase 1. The distribution of work between Phases 1 and 2 will be a balance between maximizing deteriorating forestry values due to MPB infestation, operational needs, minimizing premature disturbance, and compliance with an approved closure plan.

Figure 2-5 Operation and Decommissioning Phase Schedule

2.4.3 Decommissioning and Closure Phase

Site features at closure include a non-PAG waste dump to the east of the pit. Upon cessation of milling activities, the open pit will fill to its designed spill elevation over a period of approximately 25 years, releasing water into the Lower Fish Creek in approximately Year 44.

The concept for closure is to re-establish the pre-mining catchments and natural surface flow patterns as much as is practical. The closure system would result in a larger lake (TSF Lake) than presently exists (i.e., Little Fish Lake), and the mined pit will be filled before discharging to Lower Fish Creek. The small area of Fish Lake catchment to the south and east of the TSF would likely be permanently directed towards Wasp Lake and Beece Creek, and the TSF Lake could become fish habitat, with linkages to the fish-bearing streams between the TSF and Fish Lake.

Conceptual Closure and Reclamation Plan

The general concept applied to project reclamation and end land use is that reclamation will be conducted with the goal of establishing equivalent post-mine capability for a variety of end land uses. Ecosystem variety and vegetation dynamics will ensure that the post-closure landscape is capable of productively supporting a range of simultaneous uses similar to pre-development conditions, where primarily forested ecosystems provided a range of values from wildlife habitat to recreational fisheries. Thus, the primary focus of the reclamation program is to foster a return to appropriate and functional ecosystems, supported by soil salvage and replacement strategies that ensure this is possible. The focus of the reclamation program will be to establish self-sustaining vegetation and wildlife species habitat. The reclamation planning for the water features and riparian zones has been designed to create productive rainbow trout habitat for a potential recreational fishery.

Site features at closure will include:

- the Pit Lake, which will fill the open pit
- the non-PAG waste rock dump
- the tailings embankment
- the tailings beach
- the TSF Lake with submerged PAG waste materials

The mill and crusher sites will be completely dismantled upon closure of the mine. All buildings not required for long-term closure will be removed and foundation footings broken down to ground level in preparation for soil cover and revegetation treatments.

Tailings and reclaim delivery systems and all pipelines, structures and equipment not required beyond mine closure will be dismantled and removed.

All access roads, ponds, ditches and borrow areas not required beyond mine closure will be removed and regraded.

The roads, plant site facilities, and decommissioned water management structures will be reclaimed through replacement of windrowed soil. The overburden dump, tailings beach and tailings embankments will be reclaimed through placement of salvaged and stockpiled soil.

An outlet channel/spillway at the east abutment of the Main Embankment will be constructed to enable discharge of surface water from the TSF ultimately to Fish Lake, the open pit and Lower Fish Creek.

The seepage collection system will be removed at such time that suitable water quality for direct release to Fish Lake is achieved.

The transmission line will be decommissioned, dismantled, and reclaimed.

Premature Closure

In the event of premature mine closure, pumping of TSF supernatant water directly to the open pit may be required as a temporary measure until water quality is suitable for direct discharge to Fish Lake.

Integral to the design of the tailings dam is the ability to address premature closure issues. In the event of premature mine closure, the PAG waste and ore stockpile are to be handled in the following manner. The PAG waste would be excavated to a level below the natural flood elevation of the TSF. This material would remain there in perpetuity. The ore stockpile could be handled in one of three ways.

- process the ore stockpile material and deposit tailings in the TSF
- haul the ore back to the pit such that it is below the ultimate flood elevation
- leave the ore in its stockpile and cover the stockpile to minimize water infiltration and monitor

In the event of premature closure the economic and environmental considerations would be used to determine which of these options, or combination of options would be used. During operations, opportunities will enable the ability to process some of the ore stockpile, reducing the size of the ore stockpile.

2.4.4 Post-Closure Phase

Taseko will be responsible for all environmental monitoring and reclamation programs until such time as all conditions of the *Mines Act*, Health, Safety and Reclamation Code (BC MEMPR 2008), and permits have been fulfilled and Taseko has been released from all obligations under the *Mines Act*.

If any post closure activities are required they may include a continuation of environmental monitoring conducted during the history of the Project. These might include:

- periodic inspection of the TSF embankments
- evaluation of water quality and flow rates
- fish and aquatic life monitoring
- soil and vegetation monitoring

2.5 Project Setting and Potential Environmental Effects

The following sections provide a description of the setting for this Project and the potential environmental effects[1].

[1] For readers seeking a comparison of effects from this Project, New Prosperity, with the project reviewed in 2009/2010 (including more detailed listings of mitigation measures to minimize effects, and conclusions of BC Environmental Assessment Office and Federal Panel) please see Appendix A. For ease of reference, the section numbers in Appendix A reflect those in this section.

2.5.1 Physical

2.5.1.1 Atmosphere

Project Setting

The proposed New Prosperity Project mine site is undeveloped and remote, and as such, existing Criteria Air Contaminants (CAC) and Greenhouse Gases (GHG) emissions are expected to be minimal, with few industrial emission sources (mainly related to forestry activities) and some local or recreational traffic. Aside from the occasional influence of wildfires or prescribed burning, baseline ambient CAC concentrations are expected to reflect typically low regional background values.

Environmental Effects

With respect to potential local effects on the atmosphere from the proposed Project, airborne emissions may result from clearing, grubbing and associated burning, road use, crushing operations, blasting, conveying, etc. Some potential effects arising from light pollution and visibility are expected, with most light being associated with the pit and mine site activities.

During operations, the tailings beach may be a potential source of air contaminants. To mitigate any dust arising from the tailings beach measures will be applied including an Operational Deposition Plan requiring that, during operations, active tailings deposition across all beaches is kept sufficiently moist such that fugitive dust will not leave the facility.

During construction of the transmission line, switching station and substation, any air emissions are expected to be transient, short-term and local in nature. During operations, the transmission line and associated facilities will not result in substantial emissions. Mitigative measures to minimize disturbance and to manage land clearing to minimize burning will be applied during transmission line construction.

2.5.1.2 Acoustic

Project Setting

The New Prosperity Project is in an area of the Chilcotin Region with no industrial or mining facilities in the immediate location. The existing acoustic environment for remote rural areas is quiet and dominated by sounds of nature (e.g., wind noise, vegetation rustling, bird chirping, etc.). The location of the proposed mine site is remote and the existing nighttime acoustic environment (i.e., ambient conditions) is expected to be similar to the average nighttime ambient sound level for a remote rural area.

Environmental Effects

The primary sources of noise at the mine site during construction and at closure will be generated by heavy equipment. During operations, blasting, drilling equipment, ore crushing and hauling, conveyer systems and mill ore processing activities will be the primary sources of noise. Noise along the access road will be generated as part of the road upgrade activities and vehicular traffic during operation and closure. Noise associated with the construction phase of the electrical power transmission line will be limited to those generated by the associated construction equipment.

Measures to mitigate disturbance from construction and operation noise will be implemented such as scheduling activities during daytime hours, ensuring appropriate mufflers are installed on vehicles and equipment and ensuring equipment is well maintained.

2.5.1.3 Hydrology and Hydrogeology

Project Setting

The proposed mine site is situated within the Fish Creek watershed. This system is approximately 94 km^2 measured from the confluence with the Taseko River. Upper Fish Creek flows to the northwest and discharges into the southern arm of Fish Lake. Fish Lake drains into Lower Fish Creek, which then drains into the Taseko River, a tributary of the Chilcotin River, which in turn flows to the Fraser River. Wasp Lake, located at the southern boundary of the Fish Creek watershed drains into the Beece Creek system. Figure 2-6 illustrates the location of water features in relation to the New Prosperity Mine site

Streams in the area are generally characterized by high flows in the spring, due to snowmelt and rainfall combined with snowmelt and low flows in the late summer/early fall and winter.

In general, groundwater flow in the Fish Creek valley is driven by rain and snowmelt in upland areas that flows into the network of streams and lakes that occupy the valley floor. The water table is near or above ground surface in low lying areas and is found at greater depths below ground surface along the ridge tops of the western edge of the Fish Creek watershed. A groundwater divide is present along the ridge top of the western edge of the Fish Creek watershed. This divide separates the Fish Creek watershed from the Taseko River upstream of the point where Fish Creek joins the Taseko River.

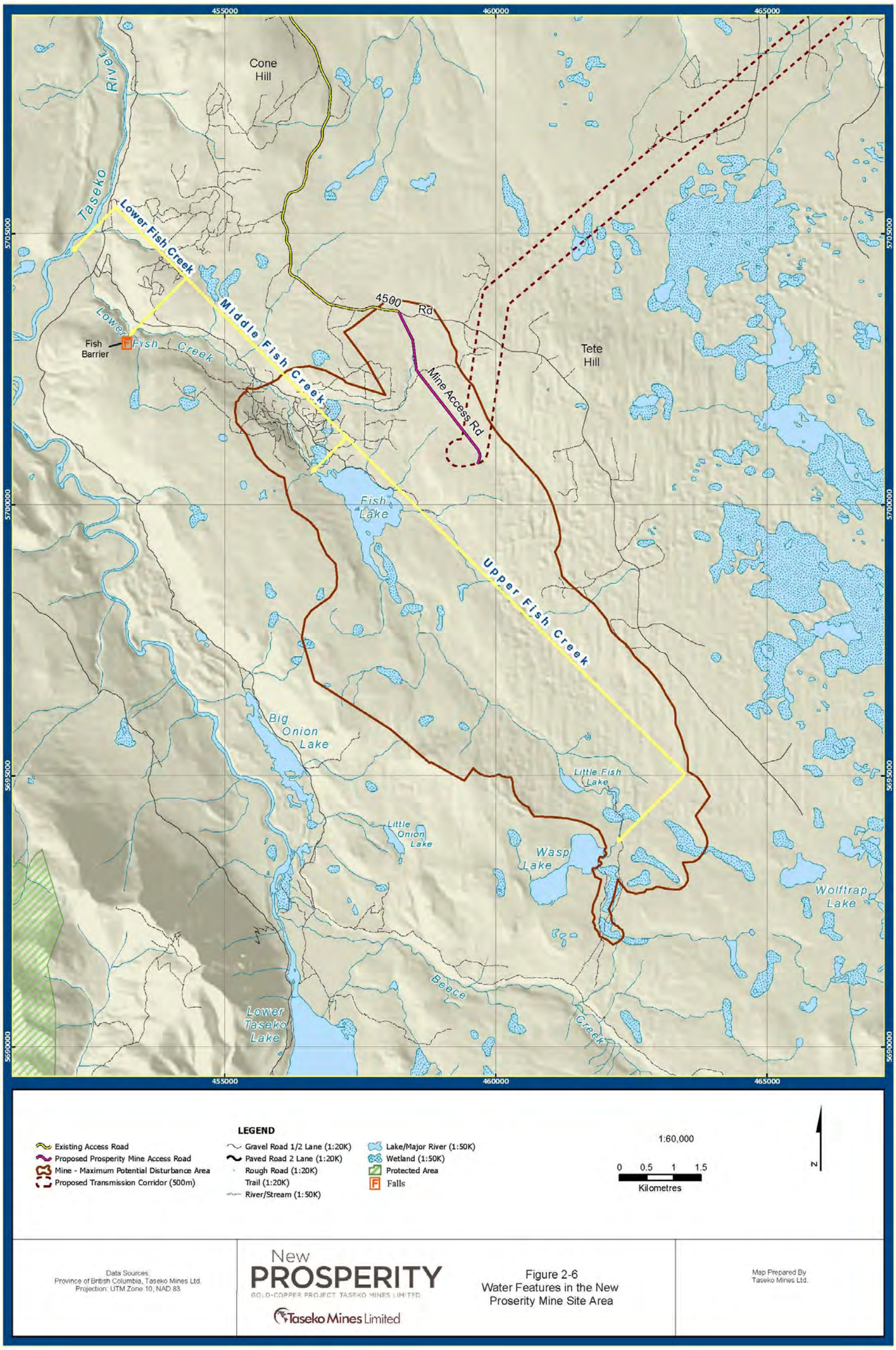
Environmental Effects

With respect to potential effects on hydrology and hydrogeology, the Project will result in the reduction of contributing catchment areas to Fish Lake, while enabling the lake area to be kept intact. Taseko will implement mitigative measures to ensure Fish Lake is maintained as a biologically functioning lake and ecosystem. These mitigative measures may include optimizing flows, including recirculating water from Fish Lake outflow, to ensure adequate inflow of water to Fish Lake. Monitoring of groundwater flows below the TSF during construction and operations will be conducted to confirm predictions of hydrogeological effects on Fish Lake and adaptively manage seepage water.

The decreased surface water streamflow will have an impact on Fish Creek from pre-construction to closure, with an improvement to surface water streamflow upon commencement of the post-closure period. The reclamation of the TSF and open pit to natural flow paths will lead to the re-establishment of near baseline flows in Lower Fish Creek in post-closure.

Small changes to the timing and volume of surface flows diverted to Wasp Lake/Beece Creek drainage are anticipated; however, diversion to Wasp Lake/Beece Creek drainage during spring freshet would not occur until closure. The catchment to the south and east of the TSF would likely be permanently directed towards Wasp Lake and Beece Creek in closure, so that water will not pond south of the TSF. Taseko will propose mitigation measures to capture and contain all water and sediment that originates from the Project area, in an environmentally responsible manner.

Figure 2-6 Water Features in the New Prosperity Mine Site Area



2.5.2 Biotic

2.5.2.1 Water Quality and Aquatic Ecology

Project Setting

Taseko has conducted baseline studies of water quality, sediment, periphyton, and benthic invertebrate characteristics of Fish Creek and other streams, as well as plankton communities of lakes directly affected by the Project.

Baseline metal levels in all streams studied were generally within BC and CCME Water Quality Guidelines (WQG), with few or no exceedances. Exceedances were found in Fish Creek (iron, total aluminum), Taseko River (total and dissolved aluminum, iron and total copper), Beece Creek (total and dissolved aluminum) and Groundhog Creek (iron).

Nutrient levels and aquatic productivity tended to be higher in Fish Creek, reflecting low stream gradients, and lower in Taseko River influenced by glacial melt. Metal levels in the sediment of Fish Creek and in regional streams were generally within provincial Sediment Quality Guidelines (SQG). A few metals such as arsenic, chromium, iron, nickel, antimony and manganese trended higher.

Fish, Little Fish and Wasp lakes were also sampled for sediment metals. Antimony, chromium, copper, and nickel exceed SQG in all three lakes, and iron levels exceed SQG for Wasp Lake. Silver levels were close to the SQG. Arsenic, cadmium, lead, manganese, mercury, selenium and zinc levels in these lakes were lower than the SQG.

Environmental Effects

With respect to potential effects on water quality and aquatic ecology within the maximum disturbance area in the Fish Creek watershed, all water in contact with disturbed areas will remain within the Fish Creek watershed and there will be no discharge from the pit to Lower Fish Creek until post-closure with a commitment to treat water if necessary; and, any TSF seepage will be collected.

During operations, seepage flows will have to be collected and pumped back to the TSF or treated and then released into Middle Fish Creek to supplement flows to Fish Lake. Flow reductions to Fish Lake will occur in comparison to baseline conditions; however, despite reduced flow, the Project configuration is not expected to affect the overall quality of inlet flows to Fish Lake in light of the mitigation strategies available.

Should supplemental flows to Fish Lake be required during operations to meet fish production objectives, water management options include re-circulating water from the Fish Lake outlet, sourcing water from aquifers, or utilizing TSF seepage water. Prior to supplementing Fish Lake inlet flows, water from these sources will be treated as necessary to permitted levels.

With respect to potential effects on water quality and aquatic ecology outside the Fish Creek watershed, there will be minimal environmental risk associated with seepage from the TSF to ground water. Taseko will implement waste and water management practices and accepted industry mitigation strategies.

2.5.2.2 Fish and Fish Habitat

Project Setting

The Upper Fish Creek watershed, including Fish Lake and Little Fish Lake, contains a population of monoculture rainbow trout. These fish utilize 117.6 ha of lake habitat and approximately 6.4 km of associated inlet and outlet streams for spawning and juvenile seasonal rearing. Rainbow trout, chinook salmon, bull trout and mountain whitefish intermittently utilize the Lower Fish Creek drainage near the confluence with the Taseko River. While Beece Creek and Big Onion Lake once supported a rainbow trout fishery, the introduction of coarse fish has decreased this opportunity.

Environmental Effects

The Project‟s configuration will preserve the footprint of Fish Lake and maintain its biological function during operations so that, following closure, the fishery and recreational use may continue for future generations. Use of Fish Lake for recreational and cultural purposes may continue during mine operations provided that provisions regarding access under the Health, Safety and Reclamation Code (BC MEMPR 2008) for Mines in British Columbia are met. At mine closure and through reclamation, it is expected that Fish Lake and its associated catchments will support and sustain a viable population of monoculture rainbow trout. At closure, opportunities will exist to develop a fishery in the TSF and improve habitat in the area.

Of the 62,864 m^2 of fish-bearing in-stream habitat that will be affected in Fish Creek, 20,590 m^2 will be permanently lost as a portion of Reach 5 and 8, a portion of Fish Lake Tributary 1, and all of Reach 6 will become part of the TSF or the pit. The remaining 42,274 m^2 fish-bearing habitat may be altered through a reduction in flows during the life of the mine. Baseline flows will be re-established following post-closure once the pit fills and discharges to Lower Fish Creek.

Currently a spawning population of approximately 15,000 fish use an available 12,000 m^2 of spawning habitat. It would be reasonable to expect that the 2,240 m^2 of available spawning habitat retained by the project design will be sufficient for a spawning population of approximately 1,400 spawning pairs. A spawning population of 1,400 pairs is expected to exceed the minimum requirements needed to maintain a Minimum Viable Population or a population capable of sustaining itself.

It is anticipated that Fish Compensation Works to compensate for the unavoidable loss of Little Fish Lake and upstream and downstream spawning habitat, will have to be developed. To be acceptable it must meet federal (DFO) policy, MOE objectives and policies, and wherever possible, incorporate First Nations priorities and interests.

2.5.2.3 Terrain and Soils

Project Setting

The proposed New Prosperity Project is situated in an area characterized by undulating to rolling plateau dissected by a few valleys and associated rivers. Well-drained glacial till is the most common surficial sediment in the mine site area. Bogs and fens (organic accumulations) account for an additional 14 percent of materials in this area, but only in depressions and areas with poor drainage.

The transmission line corridor for the proposed Project extends across the Fraser Plateau section of the Interior Plateau, crossing the Fraser River Valley between Meason and Word creeks. Slopes are generally low in plateau areas, and steeper on valley walls.

Almost all (99.6 percent) of the mine site area is characterized by low gradient (<60 percent) slopes that show no evidence of instability. Areas of instability are located around the northwest and southwest sides of Fish Lake and the north side of Little Fish Lake. Only one percent of all slopes in the vicinity of the access road are over 50 percent, indicating that there would be very few potentially unstable slopes along this route.

The mine site soil has low nutrient and carbon content, reflected in forest productivity which ranges from moderate to low. Most of the lands within the Agricultural Land Reserve along the transmission line are Class 4 lands, capable of a restricted range of crops but requiring special management considerations.

Mineral soils of the mine site are typically moderately well to well drained, with occurrence of organic soils concentrated in the southern region of the mine site area.

Environmental Effects

The potential for change or alteration of terrain stability results in increased incidence of mass wasting events (such as debris flow, slumps, earth flows, and other forms of slope instability). These issues are related to project activities including site clearing and contouring, road construction, trenching and blasting, and the development of infrastructure components.

Key issues for soil resources associated with the Project are changes to soil physical and chemical properties. Physical properties of soil are affected by the following five conditions: soil improvement, compaction and rutting, erosion, soil loss, and moisture changes. Chemical properties of soil are affected by soil contamination and soil fertility.

Mitigation measures, and terrain and soils mapping will be implemented and conducted during operations and into post-closure to address any issues identified with terrain instability or sensitive soils.

2.5.2.4 Wildlife

Project Setting

The proposed Project area extends across four provincial Management Units and three Forest Districts, with the mine site located in the Chilcotin Forest District. Two Ducks Unlimited Canada projects fall within the area of the proposed transmission line and trapping occurs throughout the Project area. No parks or protected areas overlap with the general mine and transmission line area. In addition, an area known as the Brittany Triangle marginally overlaps the access road.

Many wildlife species known to occur in the Project area. There is an open hunting season for mule deer, white-tailed deer, black bear, coyote, wolf, cougar, lynx, bobcat, snowshoe hare, Columbian ground squirrel, grouse, ptarmigan, chukar, common raven, and various waterfowl within these units. Bighorn sheep hunting occurs in an area bounded by Chilko River to the west, Highway 20 to the north, Big Creek to the east, and Groundhog and Nemala creeks to the south and there is a limited entry hunt for moose in all four of the Management Units.

A number of wildlife inventories and research studies have been completed in the Project area, as well as multiple habitat mapping projects in and around the Project area. Species of conservation interest that are expected in the region of the Project, and those that were assessed as key indicators during the environmental assessment of 2009/2010, are identified in Table 2-3.

Environmental Effects

With regards to wildlife and wildlife habitat, several potential effects are identified related to the Project. These include:

- *effects on habitat availability* resulting from direct habitat loss or alteration or indirect loss or alteration from sensory disturbance and reduction of habitat patch size;
- *disruption of movement patterns* from increased habitat/landscape fragmentation or higher road use levels limiting daily or seasonal wildlife travel;
- *increase in direct mortality risk* from site development, vehicle collisions, transmission line strikes, increased hunting or poaching, lethal control of problem wildlife or reduction in secure habitat availability due to habitat fragmentation; and
- *reduction in animal health* from contamination air, soil, water, or food sources or changes in food source abundance or composition.

Of particular interest is the potential impact on grizzly bear. The New Prosperity Mine configuration avoids areas of moderate and high value feeding habitat. As mitigation measures to address potential cumulative effects of this project in combination with current and future logging and ranching on grizzly bear, Taseko proposes to work with the Ministry of Environment on development of both an education and awareness program as well as a Grizzly bear population monitoring program.

Table 2-3 - Conservation Status of Wildlife Species in the Project Area

Species	Provincial Conservation Status[2]	Federal Conservation Status[3]	Occurrence in Project Area
Selected as Key Indicator for the 2009/2010 Review			
California bighorn sheep[4]	blue	--	Not found in mine site area
Mule deer	yellow	--	Known
Moose	yellow	--	Known
Grizzly bear	blue	Special Concern	Known
Black bear	yellow	--	Known
Fisher	blue	--	Known
American badger	red	Endangered	Not found in mine site area
Townsend's big-eared bat	blue	--	Not found in mine site area
Great blue heron (interior subspecies)	blue	--	Known
Mallard	yellow	--	Known
Barrow's goldeneye (western population)	yellow	--	Known
Sandhill crane	blue[5]	Not at Risk	No nesting or moderate suitability feeding habitat in mine site area
Long-billed curlew	blue	Special Concern	Not found in mine site area
Lewis's woodpecker	red	Special Concern	Not found in mine site area
Yellow-breasted chat	red	Endangered	Not found in mine site area
Sagebrush Brewer's sparrow	red	--	Not found in mine site area
Sharp-tailed grouse (*columbianus* subspecies)	blue	--	Not found in mine site area
Prairie falcon	red	Not at Risk	Known
Short-eared owl	blue	Special Concern	Nesting habitat is not located in mine site area
Flammulated owl	blue	Special Concern	Not found in mine site area
Amphibians	One is blue	One is Special Concern; one is Threatened	Known
Other Species of Conservation Interest in the Project Area			
Woodland caribou, northern ecotype[6]	blue	Threatened	Unlikely
Wolverine, *luscus* subspecies	blue	Special Concern	Known
Spotted bat	blue	Special Concern	Likely

[2] CDC 2007

[3] COSEWIC 2007

[4] At one time, California and Rocky Mountain bighorn sheep were considered to be separate subspecies, but they are now managed in BC as separate ecotypes of the bighorn sheep (BCMWLAP 2004a).

[5] Three subspecies occur in the province: greater sandhill crane (*G. c. tabida*), lesser sandhill crane (*G. c. canadensis*), and Canadian sandhill crane (*G. c. rowani*). However, given the limited information on the status of these subspecies, the CDC listing applies to the species as a whole (BCWLAP 2004l). The *tabida* subspecies is believed to be the most common breeder in the Central Interior, although some *rowani* birds may also breed there (Cooper 1996).

[6] Part of the Southern Mountain National Ecological Area group (COSEWIC 2007)

Species	Provincial Conservation Status[2]	Federal Conservation Status[3]	Occurrence in Project Area
Western small-footed myotis	blue	--	Likely
Fringed myotis	blue	Data Deficient	Known
American avocet	red	--	Possible, not breeding
American bittern	blue	--	Known
American golden-plover	blue	--	Possible, not breeding
Short-billed dowitcher	blue	--	Likely, not breeding
Upland sandpiper	red	--	Possible
Western grebe	red	--	Known, not breeding
Red-necked phalarope	blue	--	Known, not breeding
American white pelican	red	Not at Risk	Possible, not breeding
California gull	blue	--	Unlikely, not breeding
Double-crested cormorant	blue	Not at Risk	Known, not breeding
Surf scoter	blue	--	Known,not breeding
Peregrine falcon anatum subspecies	red	Threatened	Possible, not breeding
Gyrfaclon	blue	--	Unlikely, not breeding
Swainson's hawk	red	--	Possible
Burrowing owl	red	Endangered	Known, not breeding
Great Basin gopher snake	blue	Threatened	Possible
Racer	blue	Special Concern	Possible
Rubber boa	yellow	Special Concern	Possible
Painted turtle	blue	Special Concern	Unlikely
Hagen's blue (damselfly)	blue	--	Possible

2.5.2.5 Vegetation

Project Setting

Five vegetation zones and ten biogeoclimatic units are known to occur in the Project development area. TEM mapping for the mine site and access road, and SEI mapping completed for the transmission corridor supplemented by data from other sources (e.g., CDC, VRI mapping), provides spatially explicit ecological information to support environmental effects predictions.

Old forest ecosystems are primarily pine-leading stands that are over 140 years old. Wetlands in the proposed Project area are dominated by fens and herbaceous meadows, which are home to the provincially blue-listed bird"s foot buttercup. Riparian areas are represented by transition zones adjacent to and within a 30 m buffer of wetlands, as well as isolated streams and lakes. Grasslands are common features in the proposed Project area. The most common grassland type and only ecosystem to be potentially disturbed by Project development is the Juniper-Kinnikinnick ecosystem.

Eleven rare plant populations are known to occur within or immediately adjacent to the proposed mine footprint: six populations of *Drepanocladus longifolius* (blue-listed), seven populations of *Ranunculus pedatifidus* (blue-listed), and one population of *Schistidium heterophyllum* (red-listed) (table 2-4). Conservation Data Center-listed ecological communities in the Project area are listed in Tables 2-5.

Environmental Effects

Effects on vegetation resources associated with the Project may include:

- loss of vegetation until reclamation due to direct environmental effects of clearing and Project activities;
- changes in abiotic conditions due to the direct environmental effects of ground disturbance and the indirect effects of changes to soil moisture or nutrient status (e.g. changes in drainage patterns, water quantity);
- changes in the structure or composition of vegetation communities due to direct environmental effects of clearing and a variety of indirect effects occurring in edge areas adjacent to Project disturbance and areas of activity (e.g. dust deposition, windthrow).

Vegetation disturbance within the mine site layout is approximately 1700 ha. The Project design preserves wetland and riparian ecosystems surrounding Fish Lake, wetland and grassland ecosystems to the southeast of Fish Lake, and portions of Upper Fish Creek, and numerous tributaries of Fish Lake. In addition, the location of the TSF results in the preservation of the 7 rare plant sites located upstream of Fish Lake, and the majority of the provincially red listed Lodgepole pine–trapper's tea–crowberry ecosystem of conservation concern.

Table 2-4 Conservation Status of Rare Plants in the Project Area

Common Name	Species Name	BC Status	Project Component
	Drepanocladus longifolius	Blue	Mine Site
birdfoot buttercup	*Ranunculus pedatifidus*	Blue	Mine Site
	Schistidium heterophyllum	Red	Mine Site
Holobell's rockcress	*Arabis holboellii* var. *pinetorum*	Blue	Transmission Line and Access Road

Table 2-5 Conservation Data Center Listed Ecological Communities in the Project Area

Description	BC Status	Project Component
Baltic rush / field sedge	Blue	Access Road
Big sagebrush / bluebunch wheatgrass	Red	Transmission Line
Douglas-fir / bluebunch wheatgrass / stiff needlegrass	Blue	Transmission Line
Douglas-fir / bluebunch wheatgrass / pinegrass	Blue	Transmission Line
Douglas-fir / common juniper / clad lichens	Red	Transmission Line and Access Road
Douglas-fir / prickly rose / wild sarsaparilla	Red	Transmission Line and Access Road
Douglas-fir / red-stemmed feathermoss / step moss	Blue	Transmission Line and Access Road
Douglas-fir–Rocky Mountain juniper / kinnikinnick	Red	Transmission Line
Douglas-fir / Rocky Mountain juniper / prairie sagewort	Blue	Transmission Line and Access Road
Douglas-fir / Rocky Mountain juniper / shrubby penstemon	Blue	Transmission Line and Access Road
Hard-stemmed bulrush deep marsh	Blue	Transmission Line
Hybrid white spruce / prickly rose / low northern sedge	Blue	Transmission Line
Hybrid white spruce / prickly rose / palmate coltsfoot	Red	Transmission Line and Access Road
lodgepole pine / trapper's tea / crowberry	Red	Mine Site, Transmission Line and Access Road
Northern wormwood / short-awned porcupinegrass	Red	Transmission Line
Nuttall's alkaligrass / foxtail barley	Red	Transmission Line and Access Road
Sand dropseed / needle-and-thread grass	Red	Transmission Line
Spreading needlegrass (with pussytoes)	Blue	Transmission Line
Spreading needlegrass (with baltic rush)	Blue	Transmission Line
Spreading needlegrass	Blue	Transmission Line
Tall willows / Sartwell's sedge	Blue	Transmission Line and Access Road
Trembling aspen / spreading needlegrass / old man's whiskers	Red	Transmission Line
White spruce / horsetails / western meadowrue	Blue	Transmission Line and Access Road
White spruce / prickly rose / wild sarsaparilla	Blue	Transmission Line
White spruce / red-stemmed feathermoss / ragged-mosses	Blue	Transmission Line and Access Road

2.5.3 Socio Economic/Health and Ecological Risk

2.5.3.1 Economic

Project Setting

Economic conditions in the proposed Project area are typical of the rural British Columbia economy with a heavy dependence on activities producing various resource related goods for employment, income, and overall community wealth and stability. More than one third of the area‟s labour force are engaged in primary or manufacturing activities, compared to 21 percent of the provincial labour force. The regional labour market revolves around these activities and is characterized by high levels of trade and technical workers and lower levels of "white collar" and service industry workers. Unemployment in the Cariboo region was 12.0 percent in 2009 compared to the provincial average of 7.4 percent. Unemployment rates for First Nations‟ populations were three times the provincial average in 2007.

Overall, the region is highly dependent on the forest industry. This dependency extends not just to employment and incomes, but to all areas of the economy, including government finances. The Cariboo-Chilcotin Region is one of the most forest-dependent of the province and forestry‟s share of future employment and the region‟s economic base are expected to decline.

Effects

The proposed Project requires a significant number of direct person years annually during the construction and operations phases. To increase the labour market benefits to the local region, Taseko commits to develop local hiring policies, provide education and training opportunities for Taseko employees, develop and implement local procurement policies, and work with First Nations.

The New Prosperity Project will help to diversify the economic base of the area and create new opportunities for contractors and suppliers. As the service center for the Cariboo, Williams Lake will likely be the major beneficiary. To facilitate the participation of local businesses and individuals in contracting for the Project, Taseko commits to:

- consider local and regional capabilities when developing contract scope;
- include local suppliers and contractors in its corporate database;
- expect contractors and suppliers to invest in local community success through their purchasing, hiring, subcontracting, and support practices; and,
- work with local and regional economic development offices.

The Project may partially offset lost contract and supply opportunities due to downturn in the economic activity resulting from the Mountain Pine Beetle epidemic. The Project will have a significant and positive effect on regional economic development.

The Project‟s effect on direct and indirect employment will be positive and significant. Total labour demand will average close to 700 person-years during construction and 1000 person-years during operations. Annual labour supply will average 248 person-years during construction and 588 person-years during operations. The local and provincial labour markets will adjust to this demand. The boost in regional employment will help offset future expected declines in forestry employment.

The direct and indirect employment impacts will induce an overall increase in total community income and average incomes for the region. Local government, provincial and federal government revenues will increase as a result of the Project. Both levels of government will benefit from increased income and taxes.

The Project will result in an increase in business supply and contract opportunities for local companies during construction and operations of the mine, roughly $20 million annually during construction and operations. This spending should stimulate the small business support sector in Williams Lake, and to a lesser extent the remainder of the Cariboo Regional District. First Nations‟ businesses will attract a share of this activity. Potential mitigation measures include discussions with commercial recreation licensees and tourism operators to mitigate effects of noise, atmospheric environment and Project-related transportation effects.

2.5.3.2 Social

Project Setting

The economy in the proposed Project area is heavily dependent on production of resource related goods. The seasonal and cyclical nature of these industries leads to fluctuating economic activity, population levels, and demand for social services. The region is largely rural, sparsely populated with several small settlements and has Williams Lake as the regional service center. The Mountain Pine Beetle epidemic is expected to shift the region‟s economic base and employment opportunities.

The total road distance from Williams Lake to the mine site is 194 km, which takes approximately three hours under present road conditions.

Effects

The proposed Project is expected to increase the population of Williams Lake and surrounding area by 5.5 to 6 percent annually during years 3 to 14 of operations, returning population levels to those experienced in the early 2000s.

The proposed Project is anticipated to create demand for approximately 200 housing units in the construction phase, increasing to almost 500 in year one, maintaining over 600 units from years 5 to 10 and decreasing to 200 by year 20.

Taseko proposes to widen 19 km of the 4500 Road and to build a 2.8 km long and 5 m wide access road to the mine site. To accommodate concentrate from both Gibraltar and New Prosperity, Gibraltar‟s existing concentrate load-out facility will need to be reconfigured within the same footprint to accommodate the additional 195 rail cars expected to be used monthly.

On all other road networks, the projected traffic as a result of the proposed Project will be well under the carrying capacity of local road networks. Highway 97 from Cache Creek to Prince George is currently being upgraded by the Ministry of Transportation and Highways.

Services such as police, fire, education, social services, recreation, infrastructure, justice, commercial, retail, and industrial services are expected to undergo increased demand due to the increased population. The New Prosperity Project is expected to increase demand for services by approximately 3.5 percent during mine operations in years 3 to 10 and less in other years.

Taseko will encourage employees to live in Williams Lake to minimize localized effects on small rural communities.

To address potential traffic issues Taseko commits to the following:

- Designing a traffic management strategy which would include bussing employees and minimizing on-site parking;
- Scheduling proposed Project traffic to avoid peak periods, ensuring proper signage, radio controlling trucks and buses; and
- Monitoring road conditions, providing regular reports to drivers, and ensuring truck drivers have safe driving records.

The proposed Project site would be a dry camp (drug and alcohol free) and Taseko has discussed working with Esketemc First Nation on programs that would minimize the use of drugs and alcohol in neighboring communities of concern.

2.5.3.3 Community and Health Services

Project Setting

Community and health services include hospital and medical, emergency and social services. Health services for all residents in the region, including First Nations" members, are the responsibility of the Interior Health Authority (IHA).

The federal government provides funding to First Nations communities for a range of locally-delivered health programs (in addition to public health services from the province) including tobacco reduction, Aboriginal Head Start, disease prevention/control and Brighter Futures/Building Healthy Communities.

Community and health services in the area are centered in Williams Lake and limited in the outlying rural areas where the population is much more dispersed. Almost all extended and community care facilities are located in Williams Lake.

Williams Lake and the Cariboo Regional District (CRD) offer several emergency services, including 911 service, fire protection and search and rescue. They also work in cooperation with the Provincial Emergency Program (PEP). Williams Lake and the CRD have emergency plans that coordinate local government, health, RCMP, ambulance, hospital and other services as part of the PEP.

The City of Williams Lake is fully covered by firefighting services. Ambulances services are available in Williams Lake, Alexis Creek and Anahim Lake. The Alexis Creek Ambulance station services the area from Riske Creek to Tatla Lake and covers the area south to Nemiah. The Central Cariboo Search and Rescue Unit (CCSAR) is based in Williams Lake and assists the RCMP and ambulance services in attending to motor vehicle accident victims, searching for missing persons and aircraft, responding at disaster sites, and providing back up to the agencies aiding disaster victims. They serve the entire area.

Effects

The demand for health and social services is influenced primarily by population change in the area attributable to new residents working at the mine, and secondarily, to the construction and operation activities of the mine itself. Proposed Project employment conditions such as high incomes and extended shift work may contribute to increased risk behavior of workers. Pressures on certain components of the health care system, such as

drug and alcohol treatment and on-reserve addiction counselors can be affected. These pressures are more deeply felt in rural areas as compared to Williams Lake. It is anticipated that the Project-related increase in demand for services will coincide with the opposite effect due to closure of the Mt. Polley Mine and the loss of forest manufacturing companies in Williams Lake.

2.5.3.4 Land Use

Project Setting

The Cariboo-Chilcotin Region covers an area of 8 million ha. The total proposed Project area accounts for 2,200 ha (mine site and transmission line), most of which is located on Crown land. The mineral tenures associated with the pit, tailings and plant site are 100% owned by Taseko.

There are two area-based forest tenures in the transmission line right-of-way: a 20 ha woodlot license issued to an individual; and the 26,000 ha Community Forest license held the Esketemc First Nations (Alkali Lake Band).

Effects

The mine site will directly impact and displace non-compatible uses of the land such as forestry, grazing, hunting, trapping, recreation and tourism activities for the life of the Project and possibly longer.

Mine site clearing will affect the reforestation of tracts of forest that were recently harvested or planned to be harvested. In addition, during operations, the forest land occupied by the Project would not contribute to the regional timber supply. Taseko, together with the Ministry of Forest and Range, proposes to work with the Esketemc to address issues related to harvesting of commercial timber in a section of the right-of-way that overlaps with the Community Forest, and to discuss options in terms of accommodation for the timber loss or finding a route for the transmission line along existing clearings.

The main effect of the Project on range tenures administered by the Ministry of Forest and Range would be the effects on cattle movement, and the risk of spread of noxious weeds along the transmission right-of-way, and loss of access to forage for two tenure holders on the mine site.

The proposed Project will affect tourism activity within the immediate area, but no effect on regional tourism activities is anticipated. Public recreation at the mine site would be directly affected.

The Project‟s mine configuration preserves Fish Lake and the meadows and wetlands immediately adjacent to the lake; First Nations use of these lands for traditional purposes will be possible during mine operations provided that provisions regarding access under the Health, Safety and Reclamation Code for Mines in British Columbia are met.

2.5.3.5 Human Health and Ecological Risk

Project Setting

The proposed Project area is undeveloped and remote with no existing industrial or mining facilities located within the immediate area.

A considerable amount of baseline data on metal concentrations in soil, sediment, water and vegetation has been collected over the past decade at the proposed mine site.

Effects

There are three key issues associated with the proposed Project that have the potential to change the chemical environment and impact human health:

- Emissions of Criteria Air Contaminants (CAC) from Project activities have the potential to affect human health.
- Deposition of inorganic elements on soil from releases from mining activity would have the potential to increase soil metal concentrations and affect country foods for human consumption and ecological health.
- Release, seepage or discharge of groundwater and surface water and associated metals to watershed post-closure have the potential to increase the metal body burden of fish tissue and thus potentially affect human health and ecological receptors through consumption.

No health specific mitigation is proposed beyond that proposed in the air quality, water quality, and terrain and soils. Taseko commits to implement a monitoring plan for metal concentrations in soils, local surface water and vegetation throughout the Project area.

2.5.3.6 Navigable Waters

Project Setting

Fish Lake and Little Fish Lake are the main water bodies located within the area of the proposed mine site. Water bodies in the Fish Creek watershed and surrounding region are used primarily for angling and fishing. The Fraser River, Big Creek, and approximately 125 smaller streams are located within the transmission line right-of-way.

Effects

The only waterbody directly affected by the proposed Project is Little Fish Lake. Waterways directly affected by the proposed mine site includes Fish Creek.

Waterways affected by the construction of the transmission line include the Fraser River, Big Creek, and roughly 125 smaller stream crossings; navigation of these waters will not be affected as the line will span the crossings.

During the final design phase, the Fraser River crossing would need to be reviewed by Transport Canada (TC) to determine if lighting or marking of transmission line structures would be required to meet safety standards.

2.5.3.7 Archaeological and Heritage Resources

Project Setting

Archaeological sites commonly found within the Montane Spruce and sub-Boreal Pine-Spruce Biogeoclimatic Zones of the proposed Project area reflect a nomadic, hunter-gatherer existence.

Archaeological field studies have been carried out in support of the proposed Project, including surface examination, shovel tests, and the excavation of evaluation units. A comprehensive archaeological impact assessment (AIA) has been completed for the proposed mine site area and one has been initiated for the transmission line.

This AIA conducted in the proposed mine site area resulted in the identification of 69 newly identified pre-1846 archaeological sites, the reassessment of 10 previously recorded pre-1846 sites, identification of 34 post-1846 Culturally Modified Trees, and the identification of nine historic cabins, four historic corrals, and one historic fence.

Effects

Mitigation measures will include avoidance, implementation of site protections measures, and systematic data recovery.

As part of final design and prior to construction of the transmission line, Taseko will complete the AIA of the 30 to 80 m right-of-way (ROW) along the preliminary center line with pole locations being adjusted where possible to avoid any conflict with identified and recorded archaeological sites.

The mine configuration preserves Fish Lake and adjacent archaeological sites of which 25 are of moderate or high importance. The area preserved has the highest concentration of significant archaeological sites in the area. The mine site layout also preserves 31 of the 34 post-1846 culturally modified trees.

2.5.4 Summary of Environmental Effects

The New Prosperity Project has been designed to avoid significant adverse effects on fish and fish habitat, navigation, current use of the land and resources by First Nations for traditional uses, potential or established Aboriginal rights and title, and, in combination with current and future logging and ranching, grizzly bear.

A comparison of potential effects from this Project to the previous proposal reviewed in 2009/2010 is provided in Appendix A: Appendix A.3 provides a discussion on cumulative effects; and, Appendix A.4 provides a summary of potential environmental effects and predictions of significance.

3 Land and Water Use

3.1 Land Ownership and Zoning

The New Prosperity Project is located in the Cariboo-Chilcotin District. The mine site is entirely on Crown land. The new 2.8 km portion of the existing access road is also on Crown land. The transmission line route crosses primarily Crown land; private land flanks the east side of the Fraser River.

The Cariboo-Chilcotin Land Use Plan (CCLUP) provides broad direction for sustainable use of Crown land and resources in this region. The plan divides the area into four zones (see Figure 3-1):

- Enhanced Resource Development Zone
- Integrated Resource Development Zone
- Special Resource Development Zone
- Protected Areas

The mine development area is located within the Integrated Resource Management (IRM) and the Special Resource Development (SRD) Zones, within which the following conditions apply:

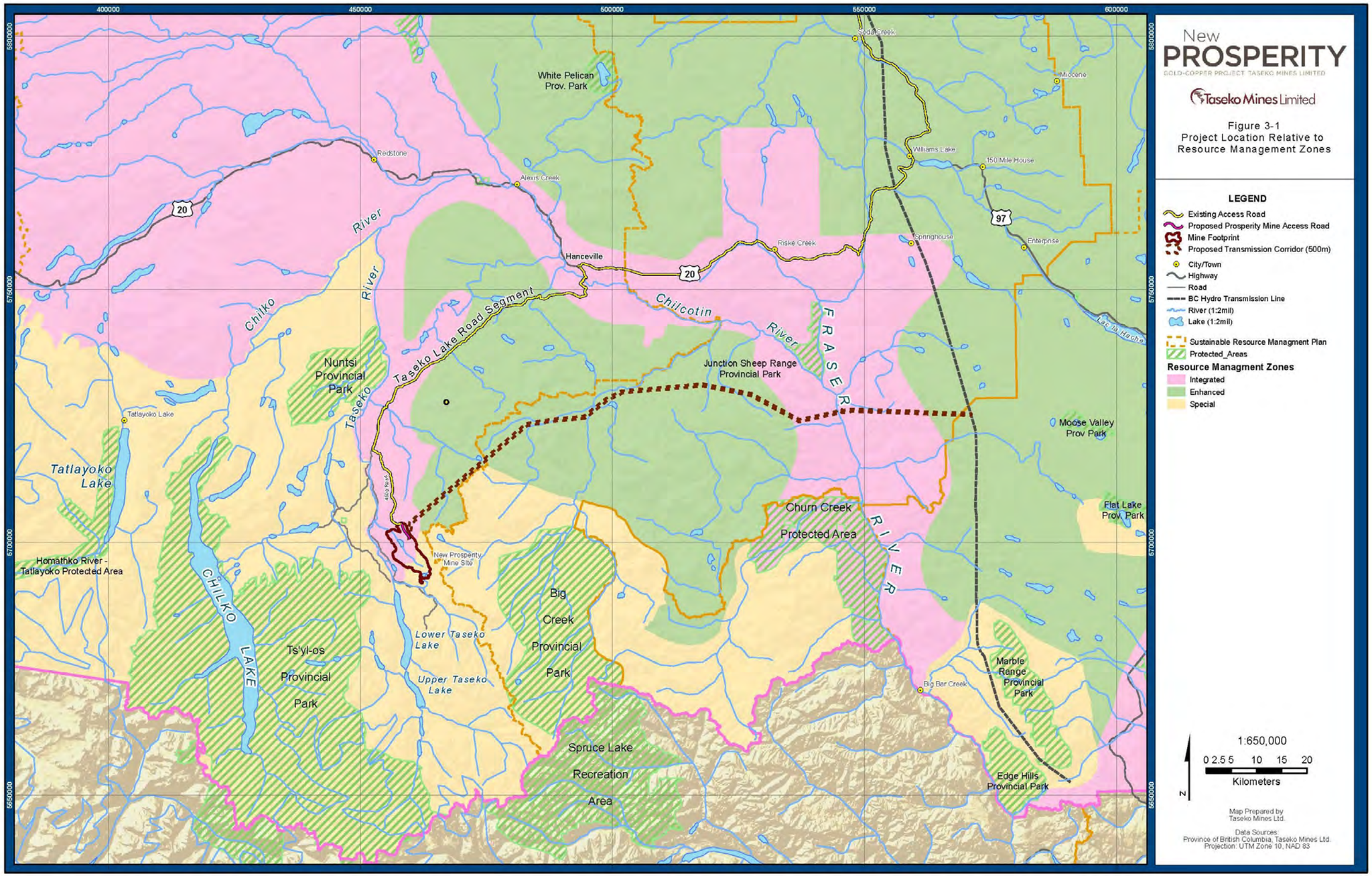
- Some specific sites within this zone will be appropriate for enhanced resource use.
- Forestry, mineral/placer exploration and mining development, cattle grazing, tourism, recreation, wildcraft/agroforestry, fishing, trapping and hunting are appropriate activities, but must take place in a manner that respects fish, wildlife, ecosystem, back country recreation and tourism values.
- Management objectives for this zone will aim to integrate all values: social, environmental and economic.

More specific to mineral exploration and mine development, the CCLUP states:

> "The mineral and placer industries will have full access to all three zones [not Protected Areas] for exploration and mine development, subject to regulations of applicable statutes. Full access means that all (100%) of the land outside of protected areas is available to exploration and development, guided by the *Mineral Tenure Act* and the *Mines Act.* This respects the industries" requirement for as large a land base as possible to explore for "hidden" resources and recognises that the more intensive activities and impacts tend to be focused on the relatively small areas found to have potential for economically viable mineral occurrences."

Most of the issues related to resource uses will occur at, and adjacent to, the mine site. Access to the mine site will be restricted and the natural resources on the land will be affected. In contrast, the transmission line will have limited effect on resource uses during clearing of the right-of-way (ROW) or operation. Access to and use of tenures will continue unimpeded in the corridor. With the exception of the immediate access to the mine site, the remaining road alignment already exists and will not affect resource use. Operations of the load-out facility are not expected to affect resource uses.

Figure 3-1 Project Location Relative to Resource Management Zones



One grazing license overlies the mine site and will be impacted by mine development. Nineteen grazing licenses and permits overly the access road buffer area and 12 overly the transmission line right-of-way; no impact to the access to or use of these tenures is anticipated from the use of the access road or clearing of the transmission line.

There are three commercial recreation tenures which overlap the mine site and will be affected by mine development. Activities associated with these tenures include hiking, nature viewing, trail riding, pack trips, and cross country skiing. Mine development will impact approximately 1 to 2% of their total license areas.

The mine site area intersects with portions of four registered trap lines. The access road buffer and transmission line intersect 3 and 6 traplines, respectively.

3.2 Waterways

There are no water licenses on the land base directly occupied by the mine site. There are no points of diversion for water licenses within the Transmission Line right-of-way. There are 10 recorded licenses in the access road buffer; these are for storage, irrigation, or domestic purposes mainly.

Waterways and water bodies affected by the mine site include: Little Fish Lake and Fish Creek. The Fish Creek mainstem has been broken down into 10 reaches. Reaches 1 to 3 are situated between the confluence with the Taseko River and the impassable falls 3.2 km upstream. Reaches 4, 5 and 6 are situated between the upstream end of the falls and Fish Lake. Reach 7 and 9 are Fish and Little Fish Lake, respectively. Reach 8 meanders between Fish Lake and Little Fish Lake. Reach 10 only exists as a defined continuous channel for 800 to 1000 m upstream of Little Fish Lake above which the channel becomes discontinuous and difficult to follow during the low flow periods as there is no flow. Reaches 5 and 10, and all of Reaches 9 (Little Fish Lake) and 6, will be directly affected by development of the Project. However, the New Prosperity mine site layout preserves Reach 7 (Fish Lake) and 50% of Reach 8.

The transmission line is proposed to cross Big Creek and the Fraser River. The centre line for the proposed 30-80m transmission line right-of-way within the 500 m wide corridor has not yet been finally determined nor has the detailed design of the line been completed. It is anticipated that during the final design phase the crossing will need to be reviewed by TC‟S Aerodromes and Air Navigation Branch to determine if lighting or marking of transmission line structures will be required to meet standards for air safety. Taseko will submit information on the line‟s planned vertical clearance, alignment, and slope stability for the Fraser River crossing; and will submit a completed Aeronautical Obstruction Clearance form once final design details become available. Although no specific concept for the crossing of the 20 m wide Big Creek has been prepared it is understood that the average span between poles will be in the order of 230 m and it is anticipated that for the crossing at Big Creek and at all 125 definite and indefinite stream or river crossing sites the transmission line will span all crossing sites and thus will not have any direct effect on navigable waters.

3.3 Sub-surface rights

The mine is located on Provincial Crown land over which Taseko currently holds a mineral lease (number 787863) and 37 mineral claims. All mineral tenures in the area of the mine are 100% held by Taseko.

For the portion of the mine site access road that is not on claims or lease, Taseko will apply for surface tenure. No surface tenures are known to be currently allocated over the mine site.

3.4 Federal Lands

There is no proposed use of land by the Federal Government within the mine site or within the transmission line and access road corridors.

3.5 Aboriginal Lands

The Project is located within the asserted traditional territories of the following First Nations:

Secwepemc

- Xatʷsull/Cmetem (Soda Creek Indian Band)
- Esketemc (Alkali Indian Band)
- Llenlleneyʷten (High Bar Indian Band)
- Stswecemʷc/Xgatʷtem (Canoe Creek Indian Band)
- Tʷexelcemc (Williams Lake Indian Band)

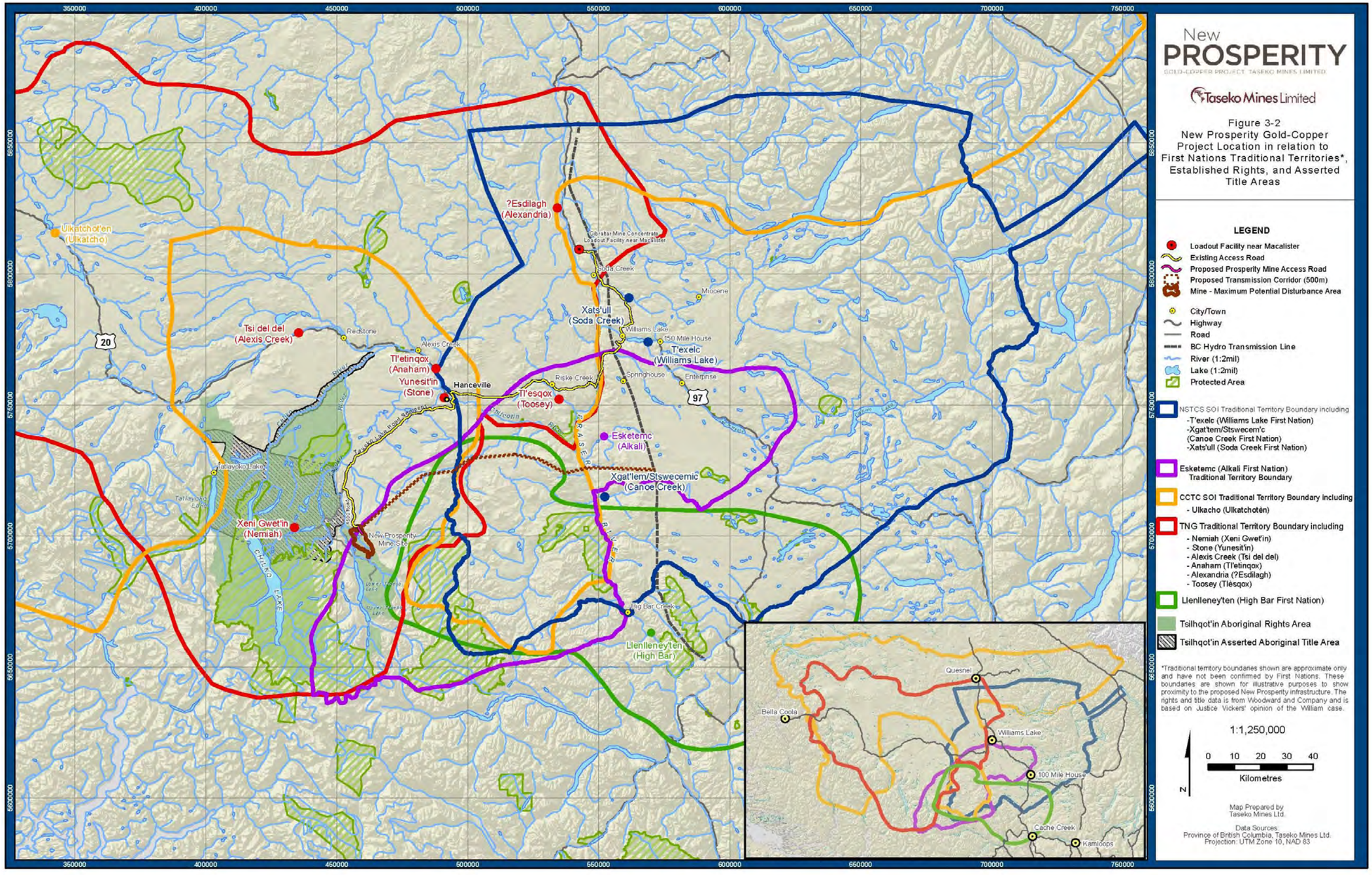
Tsilhqotʷin

- Xeni Gwetʷin (Nemiah Indian Band)
- Yunesitʷin (Stone Indian Band)
- Tlʷesqox (Toosey Indian Band)
- Tsi Del Del (Alexis Creek Indian Band)
- Tlʷetinqox-tʷin (Anaham Indian Band)
- ?Esdilagh (Alexandria Indian Band)
- Tsilhqotʷin people who are members of the Ulkatcho Indian Band

The Xeni Gwetʷin, Yunestiʷin, Tsi Del Del and ?Esdilagh are, to the best of Taskoʷs knowledge, represented by the Tsilhqotʷin National Government (TNG).

The project also falls within the William case (also known as *Tsilhqot'in Nation* vs. *British Columbia*) Claim Area, and specifically within the portion which Justice Vickers declared Tsilhqotʷin rights to hunt and trap birds and animals, but not title. The declared rights area is illustrated in Figure 3-2.

Figure 3-2 New Prosperity Gold-Copper Project Location in Relation to First Nations Traditional Territories, Established Rights and Asserted Title Areas.



4 Engagement and Consultation

First Nations and stakeholder engagement proposed for New Prosperity is outlined in this section. A general summary of the issues and concerns raised during consultation on the previous proposal for mine development and transmission line construction are provided, as are mitigation measures proposed to address the concerns.

4.1 First Nations Engagement and Consultation

Taseko recognizes and has appreciation for the rich histories, cultures, traditions, languages and values of British Columbia‟s First Nations people. The First Nations of British Columbia have a unique and distinct status in our province and Taseko acknowledges and respects their assertion of traditional rights and title. Taseko understands the value of developing strong, long lasting relationships with local communities that are affected by, or that affect, the Company‟s various endeavours. The following principles which are a part of Taseko‟s Aboriginal Policy (Appendix F) will guide our decisions and the conduct of our employees. In accordance with the principles of Towards Sustainable Mining (TSM) we will:

- Respect Aboriginal and Treaty rights and seek to understand local perspectives on those rights;
- Acknowledge and respect the social, economic, environmental and cultural interests of Aboriginal Peoples;
- Engage with Aboriginal Peoples, in accordance with the *TSM Guiding Principles*, to develop open and effective relationships throughout the mining lifecycle. This includes:
    - Building a cross-cultural understanding so that company personnel understand Aboriginal Peoples‟ culture, values and aspirations, and Aboriginal Peoples understand the company‟s principles, objectives, operations and practices;
    - Undertaking early, timely and culturally appropriate engagement with Aboriginal peoples, including within the environmental assessment process, to ensure their interests in a project and its potential impacts are understood;
    - Consideration of traditional knowledge to minimize or mitigate potential adverse environmental and social impacts, and enhance positive benefits of mining and related activities;
    - Developing agreements for participation, where appropriate, either directly with local Aboriginal communities or in conjunction with governments;
    - Working with governments and communities to support and encourage community development programs, which may include education, training, health, culture, employment and business development, or other community needs and priorities such as capacity building;
    - Supporting and encouraging Aboriginal involvement in environmental monitoring, closure planning and reclamation and other environmental activities that may be of interest to them; and
- Developing and implementing company policies and systems that support these commitments and encourage suppliers of goods and services to the industry to do the same.

Over the many years leading up to the submission of this Project Description, Taseko has undertaken extensive consultation with First Nations which has been documented in reports elsewhere during the 2009/2010 environmental reviews of the previous proposal. The purpose of this consultation was

been to seek to develop a working relationship with First Nations; to identify potential opportunities for mutual benefit; to identify aboriginal concerns and consider options to mitigate or accommodate those concerns; and, to perform certain procedural aspects of the Crown‟s duty to consult.

Consultation in the form of community meetings; community hearings; the exchange of letters with First Nations communities; and meetings, phone calls and email exchanges has occurred over a period of 17 years. In addition, Taseko has encouraged participation in baseline and archaeology studies and provided capacity funding to ensure resources were available for reviewing reports and understanding the project, attending meetings and participation in environmental reviews.

4.1.1 Issues and Concerns

A summary of what Taseko understands First Nations concerns with regard to mine development near Fish Lake and construction of the transmission line to be is provided below. In general, key issues raised by Esketemc (Alkali) and Stswecem‟c/Xgat‟tem (Canoe Creek) include, but are not limited to:

- wildlife impacts along the transmission line, including habitat fragmentation and increased access for hunters and poachers;
- disturbance of sites of cultural and spiritual importance, and potential archaeological impacts along the transmission line;
- cumulative effects of logging, climate change and drought, risk to habitat in conjunction with the damage of the pine beetle;
- potential increased pollution and contamination of waters and lands;
- potential impacts on the collection of plant food, berries and medicines;
- concern that bringing power to the region would result in increased further development;
- concern that jobs from the proposed Project would not benefit First Nations; and,
- concern over impacts of transmission line construction on the forest resources in the Esketemc Community forest.

Key issues raised by the Tsilhqot‟in include, but are not limited to:

- the loss of access to Fish Lake (Teztan Biny) and concern over impacts to fish present in the lake;
    - Loss of the ability to fish at Fish Lake (Teztan Biny)
    - Fish Lake (Teztan Biny) is a sacred area for ceremonies
    - Potential loss of genetically unique species of rainbow trout
- potential impacts on fisheries throughout the Taseko, Chilko, Chilcotin and Fraser River watersheds (including impacts to salmon, steelhead and sturgeon);
- potential contamination of plants and berries gathered by Tsilhqot‟in people;
- increased access to the area (mine site, roads, and transmission corridor) by non-aboriginal people;
- influx of money that would have the potential to create issues of drugs and alcohol abuse;

- impacts to wildlife species of importance to the Tsilhqotʼin due to habitat fragmentation, alienation of hunting grounds, and increased access of non-aboriginal hunters;
- bird mortality from collisions with the transmission line;
- concern that jobs from the proposed Project would not benefit First Nations; and,
- light and noise from the mine would impact residents of the Nemiah Valley.

The Tsilhqotʼin have expressed the opinion that if the mine is approved and built, the loss of tangible, physical artifacts, and intangible cultural heritage sites would result from activities related to the construction and operation of the mine. One of the significant cultural heritage sites which is reportedly of spiritual significance is the island in Teztan Biny (Fish Lake). The Tsilhqotʼin have stated that this island is a site of spiritual power where present-day and past generations of Tsilhqot'in conduct ceremonies to receive their spiritual powers. During community hearing sessions conducted for the 2009/2010 review, Taseko heard many Tsilhqotʼin describe the importance of the Teztan Biny (Fish Lake) area for cultural gatherings.

4.1.2 Mitigation Measures to Address First Nations' Concerns

The New Prosperity Mine site layout preserves Fish Lake in attempt to a balance that addresses the concerns of First Nations and at the same time allow for the development of a resource resulting in significant social and economic benefits for both the Tsilhqotʼin and the wider community.

Taseko plans to address specific First Nations concerns around archaeological and cultural heritage sites by avoiding construction near the shore of Fish Lake where the majority of archaeological sites are concentrated and avoiding physical impacts to the lake footprint, including the island. By preserving Fish Lake the cultural heritage associated with the lake and the island in the lake will be maintained for future generations.

Taseko is committed to implementing the following measures to ensure that potential impacts to First Nations asserted and established rights are avoided, mitigated or otherwise minimized to the extent possible:

- Taseko has committed to develop and implement a plan for achieving compensation for adverse impacts to wildlife, wildlife habitat and the critical habitat of species at risk. Taseko has proposed a joint undertaking with BC MOE and Canadian Wildlife Service, with additional possible partners including First Nations.
- Prior to the construction of the transmission line, should information become available from First Nations identifying habitat, vegetation, or features of importance not previously considered in the constraints analysis undertaken to select the centre-line, Taseko will make reasonable efforts to avoid or mitigate impacts to those features.
- Taseko has further committed to mitigation measures specific to minimizing impacts along the transmission line during construction. These include:
    - pre-construction surveys of the transmission line right-of-way for the occurrence of rare plants and rare ecosystems (completed 2010);
    - avoiding impacts to sensitive wildlife habitat during denning or breeding windows;
    - avoiding any identified wildlife habitat features wherever possible;
    - adhering to timing windows for construction;

- protecting vegetation within 30 m of wetlands or riparian areas; and,
- avoiding non-pine forests of any age wherever possible.

- With respect to concerns of water quality (and the associated potential impacts to wildlife and fish) Taseko has committed to operate a compact closed system that contains all mine waters on the New Prosperity site until after the cessation of pit operations when the pit is flooded, and directs any surface drainage, sewage treatment plant water, sediment or metal-laden water to the TSF during operations
- Taseko has committed to develop an Air Quality and Emissions Management Plan which would include ensuring that dust from the tailings beach is monitored and impacts on country foods are minimized.
- Taseko has committed to further archaeological work including further systematic excavation at the mine site and conducting an Archaeological Impact Assessment (AIA) of the transmission line to further assess the route. The results of the AIA will be used to avoid or minimize impacts of the final 50 m right-of-way.
- Taseko will enable First Nations access to Fish Lake for the purposes of fishing, hunting, trapping and cultural and spiritual use during construction, operation and closure of the New Prosperity Mine, provided that provisions regarding access under the Health, Safety and Reclamation Code (BC MEMPR 2008) for mines in British Columbia are met.

The Province has recently entered into two Revenue Sharing agreements with other First Nations, which are expected to result in very significant economic benefits to their communities. Taseko anticipates that Revenue Sharing will be available in connection with the New Prosperity Project. In addition, Taseko remains committed to the principles identified in its Aboriginal Policy (Appendix F) for working with First Nations to ensure local people benefit from the Project through employment, contracting and education/training opportunities.

4.1.3 Ongoing First Nations Consultation for New Prosperity

Taseko will continue to be open to full engagement and consultation with First Nation communities regarding their Aboriginal and community interests and to the discussion of ideas on how the Project can best reflect and contribute to the advancement of their interests and ideas through the construction, operations and closure of the New Prosperity Mine.

Taseko has made numerous and regular attempts to contact, engage and share information with First Nations since December, 2010. Over the past eight months, Taseko has exchanged letters with the communities in whose traditional territories the project is located. In its letters, Taseko requested to meet with either the Chief and Council, or communities, to exchange information about the project and receive input on the New Prosperity Project Description. To date, one initial meeting with the Chief and Council of Esketemc has been held. Attempts to engage with any of the Tsilhqot‟in communities, however, have so far been unsuccessful; the TNG has declined to meet with Taseko to discuss the project.

It is Taseko‟s intent to work closely and cooperatively with participating First Nations throughout the application review phase to ensure that potential project-related impacts on identified interests are appropriately addressed.

Involvement and input from First Nations throughout the project description and EA application review phase will be encouraged, facilitated and supported by the Company through the provision of Project-related information as well as in-house expertise to explain that information. Further, Taseko will implement federal Review Panel‟s recommendations from the 2009/2010 review

including: collaborating with the Secwepemc during determining the final transmission line alignment; and, the establishment of a joint committees for building trust and sharing information.

Joint Implementation Committee

Taseko proposes to establish and support a Joint Implementation Committee with First Nations to assist in building trust and to operate in a fully transparent manner with them, and implement the principles identified in Taseko"s Aboriginal Policy.

The Committee is envisioned as an equal number of members representing local First Nations and Taseko, with their initial function being to improve communications. Initial tasks or objectives included in their terms of reference may include the following:

- To assist Taseko to understand Aboriginal Peoples" culture, values and aspirations, and assist Aboriginal Peoples to understand the company"s principles, objectives, operations and practices.
- To assist in the communications and the exchange of information between the parties, that ensures early, timely and culturally appropriate engagement with Aboriginal peoples.
- To seek and consider suggestions as to how to make the consultation process during the Project Description review and future EA review phases more meaningful for First Nation communities.
- To provide a forum to gather concerns and issues raised during future review processes.
- To help coordinate community discussions and presentations as required.

The terms of reference for the Joint Implementation Committee are envisioned to be further expanded, as relationships develop, to include:

- Working as a team to:
    - identify opportunities to participate in existing education and training programs, or recommending the development of new ones;
    - communicate to adults the existing employment opportunities, and to youth the career opportunities in mining and education/training requirements;
    - identify or recommend approaches for developing business opportunities; and,
    - recommend approaches for addressing other community needs and priorities in the areas of health, culture, and capacity building
- Developing agreements for participation for Taseko and First Nations consideration; and,
- Taking appropriate steps to fulfill the objectives of any future agreements which may be established between First Nations and Taseko.

Until the establishment of a Joint Implementation Committee, Taseko will continue to make efforts to communicate with and provide information to First Nations at regular intervals via personal contact, phone, letter and email.

4.2 Stakeholder Engagement and Consultation

The stakeholders who could be affected by the construction, operation and decommission of the New Prosperity Project include: local communities and residents; tenure holders and licensees; recreational users; and local business owners. Table 4-1 lists all stakeholders which Taseko has identified to date as being potentially affected by or interested in the Project.

The objectives of the Project‟s stake holder consultation program are to:

- provide and distribute information on the Project, and all related environmental, economic and social studies where relevant;
- provide each consultation group with the opportunity to participate and/or provide input regarding the Project Description, EA Application and all future permit applications;
- identify, document, and resolve all issues raised by each consultation group; and
- incorporate comments and input from consultation groups at a strategic level related to Project development, environmental mitigation, management and monitoring plans.

Table 4-1 – List of Stakeholders

Private Land Owners Iris Witte Lyle James **Communities of:** Alexis Creek Big Creek Williams Lake 100 Mile **Guide Outfitters** Collins Keeler Hawkridge Siegfried Reuter **Commercial Tourism Operators** Adrenalin Mountain Adventures Big Creek Lodge Collins Siegfried Reuter – Taseko Lake Lodge Uva Brauns – Tee Pee Heart Ranch **Local Business Owners** As identified through Williams Lake Chamber of Commerce	**Trappers** Anaham Band Alkali Lake Canoe Creek Heidi Gutfrucht Leo Rufiange Lonnie Russell Norman George Robert Russell Sonny Lulua Toosey Band Woodridge **Recreationalists Groups** **Conservation Organizations** Cariboo Chilcotin Conservation Society Field Naturalists **Sportsman Associations** Williams Lake Rod and Gun Club Alexis Creek Rod and Gun Club **Social Organizations and Clubs** Social Planning Council of Williams Lake Rotary Club (Daybreak and Williams Lake) Lions and Lioness Clubs Kiawanis Clubs	**Forest Tenure Holders** Esketemc Community Forest Pal lumber Co. Ltd. Sigurdson Bros. Logging Company Ltd. Thomas Hodgson Tolko Industries Ltd. West Fraser Mills Ltd. **Grazing Tenure Holders** Gang Ranch Ltd. Gordon Puhallo Iris Witte James Cattle Co. Joan Fisher John Weetman and Bob Russel Siegfried Reuter 482019 British Columbia Ltd

4.2.1 Issues and Concerns

For over a period of 17 years, consultation on mine development and transmission line construction has occurred in the form of public and community meetings, community hearings, and the exchange of letters, meetings, phone calls and emails with individuals. Issues and concerns raised by stakeholders has been summarized in various reports for the 2009/2010 environmental review.

A general summary of what Taseko understands to be stakeholder concerns is provided in Table 4-2.

4.2.2 Mitigation Measures To Address Stakeholder Concerns

Many of the stakeholders expressed environmental concerns similar to those expressed by local First Nations. In addition to the measures outlined in the previous section, Taseko is committed to implementing measures to ensure that potential impacts to stakeholders are avoided, mitigated or otherwise minimized to the extent possible. Table 4-2 summarizes measures which will be implemented to mitigate stakeholder concerns.

Table 4-2 General Summary of Measures to Mitigate Stakeholder Concerns

Stakeholder Concern	Mitigation Measure
Transmission Line	
The visibility of the transmission line The transmission line alignment in relation to private property and woodlots The impacts to local trap lines	Taseko is committed to continued discussions with ranchers, trappers, guide outfitters, and local residents who may be impacted by construction of the transmission line. Taseko has obtained input from local residents of Big Creek as to the location of the final alignment so as to minimize any impacts the line may have and will continue with the discussions.
The loss of natural range barriers and the closing of gates arising from the transmission line construction	Taseko has committed to replacing lost natural range barriers on Crown land with fencing to offset lost natural barriers
Increased access to or damage of grasslands surrounding the Fraser River	Taseko has committed to avoiding the construction of new roads in grasslands and constructing those portions of line which cross the grasslands during the winter when the land is frozen, or during the summer months when grasslands are dry.
Increased access	Taseko has committed to utilizing existing access during the final alignment of the transmission line in order to avoid new road construction, and to work with regulatory agencies, First Nations, and stakeholders to develop an access management plan
The spread of invasive weeds	To manage the spread of invasive weeds, Taseko has committed to implementing an invasive weeds management plan applicable to all mine components.
Disruptions or disturbance of cattle grazing from the construction of the transmission line	Taseko is committed to constructing the transmission line during timing windows so as to minimize impact to cattle.
The destruction of a lake	The New Prosperity mine site layout avoids all physical impacts to the Fish Lake
Impacts of the construction of the transmission line on vegetation and wildlife in the area	Taseko has committed to mitigation measures specific to minimizing impacts along the transmission line during construction. These include: o pre-construction surveys of the transmission line right-of-way for the occurrence of rare plants and rare ecosystems (completed 2010); o avoiding impacts to sensitive wildlife habitat during denning or breeding windows; o avoiding any identified wildlife habitat features wherever possible; o adhering to timing windows for construction; o protecting vegetation within 30 m of wetlands or riparian areas; and, o avoiding non-pine forests of any age wherever possible.
Mine Site	
Impacts to water quality and Taseko River	With respect to concerns of water quality (and the associated potential impacts to wildlife and fish) Taseko has committed to operate a compact closed system that contains all mine waters on the New Prosperity site until approximately 27 years after the cessation of pit operations when the pit is flooded, and directs any surface drainage, sewage treatment plant water, sediment or metal-laden water to the TSF during operations
Impacts of construction of the mine will have on vegetation and wildlife in the area	Taseko has committed to develop and implement a plan for achieving compensation for adverse impacts to wildlife, wildlife habitat and the critical habitat of species at risk. Taseko has proposed a joint undertaking with BC MOE and Canadian Wildlife Service
Impacts to local grizzly bear populations	To address concerns with respect to the cumulative effect of human interaction and resource development on grizzly bears within the Cariboo-Chilcotin Grizzly Bear Management Unit, Taseko will engage the BC MOE for the purposes of discussing a concept of the Province developing an education and awareness program geared towards the general public, ranchers and land owners in the region that the tourism, forest and mining industries can participate in and support. In addition, Taseko will work with the Ministry to develop a bear population monitoring program, including DNA sampling to improve quality of population data for the Grizzly Bear Management Unit, and support this program during construction and operations.
Traffic, noise, dust and visibility of the mine site	Taseko has committed to develop an Air Quality and Emissions Management Plan which would include ensuring that dust from the tailings beach is monitored and impacts on country foods are minimized.
Impacts to local tourism businesses, particularly to Taseko Lake Outfitters -Impacts to guide outfitters and their license areas	Consistent with the federal Review Panel"s recommendations from the 2009/2010 review, Taseko will meet with affected tourism business owners to discuss compensation for lost business as a form of mitigation.

The New Prosperity mine site layout, and in particular the preservation of Fish Lake, will provide a balance, addressing the concerns of many stakeholders and at the same time allow for the development of a resource resulting in significant social and economic benefits for both to local residents and the wider community.

4.2.3 Ongoing Stakeholder Consultation

Taseko will continue to engage with stakeholders to discuss ideas on how the Project can best reflect and contribute to the advancement of their interests and ideas through the construction, operations and closure of the New Prosperity Mine.

The New Prosperity stakeholder consultation program will include:

- general meetings for information sharing with all stakeholders,
- meetings with technical Working Groups as directed by federal and provincial environmental assessment offices;
- formal notification of Project related events through advertising and gazetting;
- Project information sessions in relevant communities;
- Meetings with individuals directly affected, including ranchers, land owners near the transmission line, guide outfitters, tourism business owners, and trappers,; and,
- Engagement with public interest group representatives which have indicated an interest in a mine proposal to make presentations.

5 Federal Funding

There is no Federal funding for this Project.

6 Regulatory Approvals

6.1 Environmental Assessment Review Processes

Provincial

In 2009 the mine proposal was subject to review under the BC *Environmental Assessment Act* (BC *EAA*), S.B.C. 2002, c.43 and the *Canadian Environmental Assessment Act* (*CEAA*), SC 1992, c.37. In accordance with the BC *EAA*, Environmental Assessment Certificate M09-02 was issued to Taseko by the BC MOE and BC MEMPR on January 14, 2010.

The mine site layout for New Prosperity and is proposed to disturb approximately 1700 hectares, a reduction in land and water disturbance from the 2200 hectares previously reviewed in 2009. Approximately 850 hectares is land proposed for disturbance by mine site components that was not previously disturbed by mine site components reviewed in 2009, although all components still remain within the maximum disturbance boundary (also referred to as local study area or LSA) assessed in the 2009 Provincial review. As per condition 1.1 of the BC EAO certificate #M09-02, Taseko has modified the design of the mine site portion of the Project which exceeds the 750 hectare threshold for a modification on an existing metal mine project as specified in the Reviewable Projects Regulation, but the modifications are consistent with the commitments set out in the Schedule B of the Certificate (Appendix B). This document outlines where the modifications are likely, if any, to result in a significant adverse effect, or, are an improvement or reduced effect from those identified and approved of during the Provincial environmental assessment.

Federal

As required under Section 9.2 of the Canadian Environmental Assessment Act, an environmental assessment of a Project shall be conducted where Federal permit or licence is required for enabling the project, and if the metal mine project has an ore production capacity of 3,000 t/day or metal mill has an ore input capacity of 4,000 t/day. In the case of the New Prosperity Project, federal authorizations are required from DFO, NRCan and TC.

A federal Review Panel appointed by the federal Minister of the Environment, in accordance with the requirements of the *CEAA*, conducted a review of the environmental effects of the previous mine proposal in 2010 and released their report on July 2, 2010.

For that proposal, the Federal Panel concluded that there would be significant adverse environmental effects on: fish and fish habitat; navigation; current use of lands and resources for traditional purposes by First Nations and on cultural heritage; and, certain potential or established Aboriginal rights or title. The federal Review Panel also concluded that the Project, in combination with past, present and reasonably foreseeable future projects would result in a significant adverse cumulative effect on grizzly bears in the South Chilcotin region.

On November 2, 2010, the Government of Canada determined that the significant adverse environmental effects of the Project as proposed could not be justified, but that the decision does not preclude the proponent from submitting a project proposal that includes addressing the factors considered by the federal Review Panel.

The revisions to the mine site layout to address the federal Review Panel‟s findings were made and incorporated into New Prosperity, which is the subject of this Project Description.

6.2 Licenses and Approvals

Table 6-1 presents a list of likely British Columbia authorizations, licenses and permits required to develop the New Prosperity project. A BC *Mines Act* permit is required that authorizes construction, operation and closure of the mine (Section 10 of the *Mines Act* (RSBC 1996, Chapter 293)). Surface rights-of-way, and licenses of occupation, and mining leases are required under the *Land Act and Land Title Act*. Numerous licenses and permits are required under the *Environmental Management Act,* including permits for emissions to the air, discharge of effluent, the storage and handling of industrial waste and solid refuse, a permit establishing water quality requirements for the discharge of water, and an air discharge permit.. The camp facilities at the mine site for employees will require construction and operations permits issued by the Ministry of Health. Numerous other permits issued by the Ministries of Transportation, Tourism, and Forests and Range prior to construction.

Table 6-1 Provincial Permits and Licenses Required

Approval/Permit/License	Act
Permission for transportation and utilities use	*Agricultural Land Commission Act*
Permit approving Work System and Reclamation (mine site - initial development; pre-production; production)	*Mines Act*
Licenses of Occupation for borrow/gravel Pits; staging areas during construction	*Land Act*
Statutory Right of Way for the transmission line	
Statutory Rights of Way, Easements on private land for the transmission line	*Land Title Act*
License to Cut for mine site, gravel pits/ borrow areas; access road, transmission line corridor	*Forest Act*
Road Use Permits	*Forest and Range Practices Act* (previously under Forest Act Sec. 47)
Special Use Permit for the access road	Forest Practices Code of BC (Provincial Forest Regulation, BC Regulation 562/78)
Authorization for public highway and overhead power line crossings	*Transportation Act*
Water Licenses for storage and diversion; water use	*Water Act*
Approval for the short-term use of water, or approval for changes in and about a stream	
Waste Management Permit for effluent discharge (sediment, tailings & sewage); air discharge (crushers, concentrator); refuse	*Environmental Management Act*
Special Waste Generator Registration and Transport License for waste oil, grease, automotive batteries	*Environmental Management Act* (Special Waste Regulations)
Amendment to Closed Area Regulation 221/2005	*Wildlife Act*
Camp Operation Permits for drinking water, sewage disposal, sanitation and food	*Health Act*
Alteration Permit for disruption of archaeological resources	*Heritage Conservation Act*

Once the Government of Canada approves the Project, federal regulators can then proceed to exercise their statutory decision making authority. Federal authorities required for the New Prosperity Project (Table 6-2) include authorizations from DFO under the *Fisheries Act*. The Metal Mining Effluent Regulation under the *Fisheries Act* and administered by EC will require a Schedule II authorization to permit discharge of deleterious substances to the tailings impoundment because the Upper Fish Creek site for the tailings impoundment contains fish. Approvals for water crossings will also be required from TC under the *Navigable Waters Protection Act*. An explosive factory license and explosives magazine license will be required from NRCan under the *Explosives Act,* as will an approval for storage of explosives from NRCan under the *National Transportation Act*. Other federal requirements such as those in respect of radio communication and aviation matters will need licenses.

Table 6-2 Federal Authorizations and Licenses Required

Approval/License	Act
Section 32 **Authorization** for killing fish by means other than fishing	*Fisheries Act*
Section 35(2) **Authorization** Fish Habitat Compensation Agreement	
Schedule 2 **Amendment**	Metal Mining Effluent Regulations (*Fisheries Act*)
Navigable Water: Stream Crossings **Authorization**	*Navigable Waters Protection Act*
Explosives Factory License **Explosives Magazine License**	*Explosives Act*
Approval Ammonium Nitrate Storage Facilities	*National Transportation Act*
Radio Licenses	*Radio Communication Act*
Radioisotope License (Nuclear Density Gauges/X-ray analyzer)	*Atomic Energy Control Act*

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A1 Comparison of New Prosperity and the Project Reviewed in 2009/2010

Changes Made to Project Components

Project components and activities are described in Sections 2.1 through 2.4 of this document. For readers that are interested in the comparison of this project, New Prosperity, with the previous project reviewed in 2009/2010, a summary of changes to components is proved in Table A.1-1.

There are no changes to the proposed access road, transmission line or rail load-out facility components of this project in comparison to the 2009/2010 reviewed project.

There have been changes to the tailings storage facility, waste rock and ore stockpiling locations as part of the mine development plan in order to preserve Fish Lake; however, there have been no changes to the propose open pit or milling operations and facilities.

Table A.1-1 Summary of Changes to the New Prosperity Mine Site in Comparison to the 2009/2010 submission

Project Description Section	Section Heading	Sub Heading	Summary of Change	Comments – How the New Project Description Differs from that Reviewed in 2009/2010
2.1.3	Site Layout of Components	Mine Development	No Change	The project proposal continues to be for an open pit mine with a 20 year operating life
		Mine	Change	The mine site layout has been modified from the project reviewed in 2009/2010 in order to preserve Fish Lake.
		Transmission Line	No Change	There is no change to the power supply to the mine site during construction or operation.
		Access Road and Transportation Corridor	No Change	There is no change to the site access from that presented in the previous proposal for transportation of goods, services and concentrate, or the construction of approximately 3 km of new road required to access the plant site.
		Concentrate Rail Load-Out Facility	No Change	There is no change to the concentrate rail load-out facility
		Fish Compensation Plan	Change	As a result of the changes made to the mine site layout to preserve Fish Lake, the fish compensation works will no longer include Prosperity Lake and the infrastructure required to support Prosperity Lake.
2.2.1.1	Mine Site	General	Change	There are no changes to the locations of the open pit, primary crusher and overland conveyor, or the plant site. The changes made to the mine site layout include the following: • The TSF will be located in the Upper Fish Creek valley, starting approximately 2 km upstream of Fish Lake with corresponding

			changes in embankment elevations. The TSF no longer includes a headwater channel or headwater retention pond. • Non-potentially acid generating (non-PAG) waste rock and overburden produced during active mining and not used in TSF embankment construction, and the ore stockpile, will be located in the waste storage area to the northeast of the open pit rather than in Fish Lake .
	Mining Method	No Change	The mining method is unchanged, and is a conventional open pit shovel/truck operation.
	Open Pit	No Change	The dimensions of the open pit are unchanged
	Open Pit Dewatering	No Change	There is no change to pit dewatering activities with the exception that there will no longer be a process water pond near the north end of Fish Lake, and pit water will now go directly to the mill.
	Waste Rock Storage	No Change	There is no change to the waste or non-ore material types mined from the pit which are subdivided into overburden and waste rock; or to the way these materials are further subdivided into PAG and non-PAG proportions of each respective material type. The volumes of waste rock for storage are unchanged from the project description in the EIS/Application.
	Waste Rock Storage	Change	The non-PAG and ore stockpile locations have been modified from the previously proposed Fish Lake area
	Waste Rock Storage	No Change	There is no change to the sub-aqueous storage proposed for PAG overburden and waste rock.
	Primary Crusher and Overland Conveyor	No Change	Ore will be hauled from the open pit mining operation to the primary crushing facilities close to the southeast rim of the open pit.
	Explosives	No Change	The mining process requires the use of explosives to break apart the rock in the open pit for recovery of the ore for processing and separation from the surrounding waste rock. Due to the large volumes of explosive required and the remote location of the mine site, explosives will be manufactured at the mine site.
	Mineral Processing	No Change	No changes have been made to the plant site location. There is no change in the conventional crushing, grinding and flotation process proposed in the proviso project description
	Tailings Impoundment and Storage	Change	The location of the TSF for impounding tailings has changed. The TSF will be located in the Upper Fish Creek valley 2 km south of Fish Lake and will have a smaller footprint with corresponding changes in embankment elevations. The Main Embankment will be further upstream in the Fish Creek Valley; the West Embankment will be constructed along the western ridge which separates

			the Fish Creek drainage basin from the Big Onion Lake drainage basin; and, the South embankment will be constructed across the Fish Creek Valley between Little Fish Lake and Wasp Lake.
	Tailings Impoundment and Storage	Change	As a result of the relocation of the TSF to the Upper Fish Creek valley, with corresponding changes in embankment elevations, tailings will not be gravity fed for the first four years of operation followed by pumping in subsequent years as described in the project description, but will instead be pumped from the onset of operations.
	Tailings Impoundment and Storage	No Change	There is no change to the principle objectives of the design of the TSF. Those objectives are to ensure protection of the regional groundwater and surface waters both during operations and in the long-term, and to achieve effective reclamation at mine closure. In the 2009 design the upper section of the main embankment incorporated a permeable core. In the New Prosperity design all embankments will be constructed as water-retaining structures. As described in the previous project description, seepage losses will be returned to the TSF via a seepage collection and recycle system.
	Administration Building	No Change	There is no change to the administration and change house facilities.
	Camp	No Change	There is not change to the proposal that workers reside in an on-site camp.
	Truck Shop	No Change	There is no change to the proposed truck shop and maintenance facilities, housed in a pre-engineered building located next to the Administration Building south of the Concentrator Building.
	Laboratory	No Change	There is no change to the assay and environmental laboratory, located in a separate building near the service complex.
	Warehouse	No Change	There is no change to the warehouse, located immediately south of the Concentrator Building in a stretch fabric structure.
	Process Water	Change	There will no longer be a water collection pond at the toe of the waste storage area as a source of process water
	Potable Water	No Change	There is no change to the potable water, which will be supplied by wells.
	Communications	No Change	There is no change to the telephone and facsimile communications from the Project site, which will be via microwave. Radio and internal telephone communications system will be provided from the administration office area to all remote locations on the network.
	Plan Power Distribution	No Change	There is no change to the plant substation is designed with a single 3-phase 100/133 MVA transformer (230/25 kV) and associated high voltage switch gear

				circuit breakers and isolation capable of meeting the peak plant power demand requirements.
2.2.1.2	Transmission Line		No Change	There is no change to the transmission line and no change to the proposed 500 m corridor. The description of the transmission line presented in this project description is the same as that reviewed in 2009/2010.
2.2.1.3	Access Road and Transportation Corridor		No Change	There is no change in the access road and transportation corridor from that reviewed in 2009/2010.
2.2.1.4	Concentrate Rail Load-Out Facility			There is no change in the rail load-out facility from that reviewed in 2009/2010.
2.2.2	Alternatives Assessment	Mine Site	No Change	The alternatives assessment for the mine site is unchanged from that reviewed in 2009/2010; however, due to changes in long-term commodity pricing, the preferred option presented in this Project Description is based on Option 2 rather than Option 3.
		Transmission Line	No Change	The alternatives assessment for the transmission line route remains unchanged from that reviewed in 2009/2010.
2.3	Emissions, Discharges and Waste	General	No Change	There is no change to the commitments to the development of an Environmental Management System to encompass continual improvement in sustainability and the protection of human health and stewardship of the natural environment and the development of Environmental Management Plans as an integral part of the Project, converting the mitigation measures and best management practices into actions intended to minimize or eliminate negative environmental effects.
2.3.2	Sources of Atmospheric Contaminant Emissions	General	No Change	There is no change to the management of emissions and mitigation measure for protection of atmospheric environment.
2.3.2	Water Management and Water Discharge	General	Change	Unchanged from the previous proposal, the main objective of the Water Management Plan is to control all water that originates from within the project area in an environmentally responsible manner including optimizing the use of available water sources to supply Fish Lake, and the milling process and related mining activities, eliminating the demand for external make-up water. In a departure from the water management approach set out in the previous proposal, water management activities no longer include the following: • Construction of a Headwater Channel along the east slope of the Fish Creek Valley during the pre-production period to collect and divert clean runoff north towards Fish Creek and south towards Prosperity Lake,

				Wasp Lake and Beece Creek. • Pumping down of Fish Lake prior to construction of the Stage Ia embankment. • Installation of a sump and cofferdam downstream of the Main Embankment to prevent flow from Fish Lake into initial foundation excavation. • Use of the Fish Lake basin area as a natural sediment pond. Water volume flowing into Fish Lake will be optimized to meet aquatic and fisheries objectives. The outflow from the lake may be utilized to supplement inflows to Fish Lake, as required. The majority of water volumes from the lake outflow will be directed to the TSF to assist operational water needs.
2.3.2	Sewage and Solid Waste	General	Change	There is no change to sewage and solid waste management.
2.4	Phases and Scheduling	General	No Change	The four phases of the Project (construction, operation, closure, and post-closure) are unchanged from those defined in the previous project description
2.4.2	Operation Phase	General	No Change	The main activities in the operations phase are consistent with those presented in the previous project description
2.4.3	Closure Phase	General	Change	The conceptual closure plan is unchanged. Site features at closure no longer include an overburden dump west of Fish Lake but include a non-PAG waste dump to the east of the pit. General aspects of the closure plan for the tailings facility remain as those previously presented with the following exceptions: • There will no longer be construction of an outlet channel/spillway at the east abutment of the South Embankment to enable discharge of surface water from Prosperity Lake to the TSF. • The construction of an outlet channel/spillway at the east abutment of the Main Embankment to enable discharge of surface water from the TSF will first be directed to Fish Lake when water quality is suitable, then flow to the open pit and ultimately to Lower Fish Creek.
2.4.3	Closure Phase	Premature Closure	No Change	In the event of premature mine closure, activities proposed are unchanged from those previously reviewed but may require pumping of TSF supernatant water directly to the open pit as a temporary measure until water quality is suitable for direct discharge to Fish Lake.

2.4.4	Post-Closure Phase	General	No Change	Post-closure activities are unchanged
3.2	Waterways	General	Change	Unchanged from the mine site layout presented in the previous project description are effects on portions of Reaches 5 and 10, and all of Reaches 9 (Little Fish Lake) and 6, which remain directly affected by development of the Project. As a departure from the mine site layout in previous project description, the New Prosperity mine site layout preserves Reach 7 (Fish Lake) and 50% of Reach 8.

A2 Potential Environmental Effects of New Prosperity Compared to Proposal Reviewed in 2009/2010

Project setting and environmental effects are described in general in Section 2.5 of this document. For readers that are interested in the comparison of this project, New Prosperity, with the previous project reviewed in 2009/2010, a summary of issues and effects reviewed in 2009/2010, mitigation measures proposed to minimize effects, and conclusions of BC EAO and the Federal Review Panel are provided in the sections below. In addition, a preliminary analysis of the effects of currently proposed New Prosperity Project is also provided.

Note that the numbering system used in this appendix has been made consistent with that in Section 2.5 of the project description for ease of reference.

A.2.1 Physical

A.2.1.1 Atmosphere

Project Setting

Effects on the atmosphere routinely examine Criteria Air Contaminants (CAC) and Greenhouse Gases (GHG). CAC (identified as nitrogen dioxide, carbon monoxide, sulphur dioxide and particulate matter) are a primary indicator of air quality and are associated with human health impacts (primarily through inhalation) and environmental impacts, including aesthetic, visibility, depositional effects and formation of acid rain. GHG (identified as carbon dioxide, methane and nitrous oxide) emissions potentially contribute to climate change.

As the proposed Project mine site is undeveloped and remote, existing CAC and GHG emissions are expected to be minimal, with few industrial emission sources (mainly related to forestry activities) and some local or recreational traffic. Aside from the occasional influence of wildfires or prescribed burning, baseline ambient CAC concentrations are expected to reflect typically low regional background values.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

As a component of the EIS/Application, CAC effects were predicted through a CALPUFF/CALMET dispersion modeling assessment. In order to assess the potential contribution of GHG associated with the Project an inventory of emission was developed. These emissions were then compared with provincial and national totals of GHG emissions. An analysis of regional climate data was conducted for the region surrounding the Project. This analysis involved the acquisition and processing of temperature, precipitation, wind, visibility, relative humidity, solar radiation, and severe weather data from several Canadian Climate Normal Stations.

Within the proposed mine site area, the CALPUFF/CALMET predictions showed that for both the construction and operational phase of the previously proposed Project the maximum predicted ground-level concentrations for all CACs occurs on the northern extremity of the mine disturbance boundary. For NO2, CO, SO2 and Pb the maximum predicted ground-level concentrations were less than the applicable objective. For PM2.5, PM10, TSP and dustfall the maximum predicted ground-level concentrations were greater than the applicable objectives or standards. In each instance, the area over which the predicted exceedances occur was predicted to be very small. Of the four sensitive receptors modeled, there is only one at which the maximum ground-level concentrations were predicted to be in excess of the applicable objectives or standards. This receptor (the proposed construction operations camp) lay within the mine disturbance boundary.

Potential CAC"s resulting from the burning of vegetative debris from the clearing of the proposed transmission line right-of-way were included in the assessment of potential CAC effects. Potential effects arising from the construction and operation of the proposed transmission line, construction of the proposed 2.8 km access road, vehicular traffic and potential effects on the atmospheric environment associated with the operation of the existing rail load out facility were not considered in the previous EIS/Application.

The previously proposed Project would have resulted in the emission of GHGs, thereby contributing to national and provincial GHG emission totals. In order to assess the potential contribution of GHG an inventory of emissions was developed. These emissions were then compared with provincial and national totals of GHG emissions.

At the community hearings and considered by the federal Review Panel was the note that the predictions did not include receptors closer than the Nemiah Valley, and concerns were raised about the fact that the assessment did not address the potential for the tailings beaches to dry out and be a source of fine dust (PM2.5). Concerns about dust from the mine site and from roads were also raised. Light pollution was identified as a concern by local residents near the mine site.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effects of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C of this document.

Mitigation measures to counter the effects of CACs and reduce the emission of GHGs incorporated within the previous EIS/Application included:

- using Best Available Technology that was Economically Achievable measures and best practices to reduce CAC emissions and GHG wherever possible;
- meeting or exceeding relevant regulatory emissions standards for all mine equipment;

- installing covered conveyor belt ore transportation systems and housing of the rail loading facilities to minimize fugitive particulate emissions;
- installing cost-effective dust control measures at the primary crusher truck dump to control dust emissions;
- covering of trucks used to transport concentrate;
- ensuring application of surface-binding chemicals or water on site roads and exposed surfaces as appropriate;
- minimizing disturbances and managing all land clearing to minimize burning; and,
- maximizing revegetation in post-closure to actively sequester carbon.

During their review of the previously proposed Project the provincial government indicated that it was addressing the need to reduce GHG in two ways. First, the provincial government imposed an escalating carbon tax to induce all stakeholders, including industry, to make economically sound choices in minimizing the use of fossil fuels and to explore alternate energy sources. In addition, the provincial government, in collaboration with partners signatory to the Western Climate Initiative, was developing a cap-and-trade system that would apply to all industry, including mining.

During the review of the previous EIS/Application, Taseko responded to issues raised concerning potential tailings beach dust by committing that the Operational Deposition Plan would require that, during operations, active tailings deposition across all beaches would be kept sufficiently moist such that fugitive dust would not leave the facility. At closure, tailings beaches were to be capped as part of the reclamation and closure plan. In the event of a premature closure, it was assumed that permit level discussions at the time would ensure appropriate measures to manage dust would be implemented.

During the review of the previous EIS/Application, additional issues were raised by the responsible provincial ministry and First Nations. These issues, Taseko‟s responses and the EAO‟s assessment of the adequacy of responses were detailed in Appendix C, Part 2 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009. Taseko developed a Table of Commitments which included commitments addressing the monitoring and reduction of air emissions (Commitments 17.1 – 17.9).

FINDINGS AND CONDITIONS OF APPROVAL

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the previously proposed Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

Accounting for the conservative nature inherent in dispersion modeling exercises in general, and the location and limited areas over which predicted concentrations were predicted to be in exceedance of the objectives and/or standards, it was concluded by the provincial government that residual project effects for all phases of the previously proposed project on the atmosphere were not significant.

During the federal Panel"s review of the previously proposed Project, Health Canada indicated it was satisfied that there would be no significant adverse effects to health related to air quality, provided that mitigation measures and commitments were implemented.

The federal Review Panel noted that, with the exception of Taseko Lake Outfitters (due to the close proximity of Taseko Lake Lodge to the tailings storage facility), Project effects on the atmospheric environment would be comparatively minor, limited in geographic extent, of medium term duration, and reversible over time and the Panel concluded that emissions of particulate matter from the Project would not result in significant adverse effect. With respect to greenhouse gas emissions, the Panel noted that the total contribution of the Project would be very small compared to national and provincial emission totals noting that Taseko would apply best management practices and mitigation to minimize greenhouse gas emissions. The Panel concluded that the contribution to greenhouse gases from the Project would not result in a significant adverse effect. Regarding light pollution, with the exception of Taseko Lake Outfitters, due to factors such as distance and topography, effects from light pollution were not expected for most receptors.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF has been relocated to an area further south and away from Fish Lake. The previously proposed headwater channel, headwater collection pond and Prosperity Lake are not included in the currently proposed Project.

With respect to potential effects on the atmosphere from the proposed Project, the source of 89% of the GHG emissions is the open pit and there is no change in mobile equipment hours or the source of GHG emissions within the open pit. The additional truck hours required outside the pit to move material to the TSF will increase GHG total project emissions by less than 1%. Assumptions for fugitive PM emission sources used in the 2009 EA dispersion modeling remain valid for the revised project design. As a result the dispersion models and conclusions remain unchanged. Maximum predicted concentrations for NO2, CO, SO2, and Pb ranged from 50% to 0.1% of the regulatory objectives in the previous design. Any slight increase as a

result of additional mobile equipment hours will not be material in respect of regulatory objectives.

Tailings beach dust was a subject of concern during the previous review. The tailings beach is ultimately 25% smaller in area in the revised mine site layout than in the previous project design; therefore, dust effects may be reduced. Potential effects arising from light pollution and visibility are expected to be similar even with the change in TSF location and increase in embankment elevations as most light is associated with the pit and plantsite activities.

The BC EAO and federal Review Panel concluded ***no significant effect on atmosphere*** for the previous project proposed.

There are no changes to the mine site in the new Project that would have an effect on the previous analysis of the environmental effects.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented to ensure no significant effects on atmospheric environment with the new Project.

A.2.1.2 Acoustic

Project Setting

The proposed Project area is in the Chilcotin Region of south central British Columbia with no existing industrial or mining facilities located within the immediate area. The existing acoustic environment for remote rural areas is expected to be quiet and dominated by sounds of nature (e.g., wind noise, vegetation rustling, bird chirping, etc.). The location of the proposed mine site is remote and the existing night-time acoustic environment (i.e., ambient conditions) is expected to be similar to the average night-time ambient sound level for a remote rural area.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The key acoustic environment issue for the previously proposed Project was the likelihood that the activities associated with the Project would result in an increase to the existing acoustic environment during construction, operations, and closure. After closure of the Project, the acoustic environment would be expected to return to the original ambient conditions.

A noise effect assessment was completed to fulfill the requirements under the *CEAA*. Noise emission sources from the previously proposed Project were identified and quantified. A modeling approach was then applied to predict and evaluate Project compliance with appropriate regulatory noise guidelines. As British Columbia has no specific regulatory guidance documents that relate to noise effects on the general public, guidelines from other jurisdictions were utilized.

The effect of noise on the general public was evaluated based on a number of guidelines available from other provinces, namely the Alberta Energy Resources Conservation Board guidelines, and in particular their Noise Control Directive 38. For acceptable construction and blasting noise level limits, Taseko considered guidance obtained from the Environment Canada and the Ontario Ministry of Environment.

The primary sources of noise at the mine site during construction and at closure would be generated by the heavy equipment. During operations, blasting, the operation of ore extraction equipment, ore crushing and hauling, conveyer systems, ore stockpiling and mill ore processing activities would be the primary sources of noise. Noise along the access road would be generated as part of the road upgrade activities, construction traffic, and vehicular traffic during operation and closure. The EIS/Application estimated that the increase of noise at the Gibraltar load-out facility would be minimal relative to the existing use. Noise associated with the construction phase of the electrical power transmission line would be limited to those generated by the associated construction equipment. Equipment would be operated along the transmission line right-of-way (ROW) and at the site of the proposed switching station and substation.

During the hearings, the federal Review Panel heard and considered noise as a general issue that was identified by many participants. Issues raised were mostly related to disturbing wildlife and impacting corresponding hunting, trapping, fishing and other traditional activities near the mine site and as a result of increased traffic along the access road.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the previous EIS/Application, numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

The previously proposed Project included a number of building design and other mitigation measures to reduce noise effects during construction, operations and closure. These included:

- Scheduling construction activities during daytime hours where practical;
- Maintaining equipment and providing effective mufflers on construction equipment;
- Where practical turning equipment off when not in use;

- Where practical, restricting truck related traffic to daytime hours (i.e., 07:00 to 22:00)
- Installing appropriate mufflers on vehicles, mining equipment and transportation systems where applicable;
- Enforcing speed limits;
- Maintaining Project roads to reduce noise associated with vibration;
- Housing the majority of noise generating equipment inside buildings with insulation and metal cladding for improved noise suppression;
- Enclosing conveyors;
- Where possible, restricting blasting activities to daytime hours (i.e., 07:00 to 20:00)
- For employees working within the Project site, BC‟s Occupational Health and Safety Regulations Part 7 of the Worker‟s Compensation Act would be applicable during blasting.

FINDINGS AND CONDITIONS OF APPROVAL

Given the Project design and noise mitigation measures described in the previous EIS/Application, as well as the absence of human dwellings within the proposed mine site area and along the proposed access road, the overall residual effect of the Project on noise was predicted by Taseko to be not significant. Traffic noise associated with Project-related vehicle traffic was predicted to result in insignificant changes in the existing acoustic environment along Highway 20, the Taseko Lake and 4500 Roads.

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B to the Environmental Assessment Certificate #M09-02 issued on 14 January 2010.

The federal Review Panel recognized that there would be some sensory disturbance to wildlife during construction and operation of the Project, however, this was considered to be low magnitude and reversible. The Panel noted that the EIS/Application did not specifically assess the effects of noise on lodges that would be in closer proximity to the mine site, such as the Taseko Lake Lodge. Further, Health Canada indicated that it was also unable to assess the effect of blasting noise on the Taseko Lake Lodge. Therefore, the Panel noted that there was some uncertainty regarding the effects of noise on receptors in the immediate area of the Project.

The federal Review Panel found that, with the exception of Taseko Lake Outfitters, the Project effects on the acoustic environment would be comparatively minor, limited in geographic extent, and of medium term duration, and reversible over time.

The Panel concluded that Project-related noise would not result in a significant adverse environmental effect.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF has been relocated to an area further south and away from Fish Lake. The previously proposed headwater channel, headwater collection pond and Prosperity Lake are not included in the currently proposed Project.

With respect to potential effects on the acoustic environment the proposed Project will give rise to a slight increase in engine hours for hauling equipment but at low power as they will be operating on an increased length of low gradient haul road. It is expected that with the change in TSF location, embankment alignments and elevations, the uncertainty regarding the effects of noise on receptors in the immediate area of the Project would remain.

The BC EAO and federal Review Panel concluded ***no significant effect on acoustic environment*** for the previous project proposed.

There are no changes to the mine site in the new Project that would have an effect on the previous analysis of the environmental effects.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented to ensure no significant effects on acoustic environment in the new Project.

A.2.1.3 Hydrology and Hydrogeology

Project Setting

The proposed mine site is situated within the Fish Creek watershed. This system is approximately 94 km^2 measured from the confluence with the Taseko River. In

addition to Fish, Little Fish and Wolftrap Lakes, the Fish Creek watershed contains several smaller unnamed lakes, swamps and creeks. Upper Fish Creek flows to the northwest and discharges into the southern arm of Fish Lake. Fish Lake drains into Lower Fish Creek. Fish Creek drains into the Taseko River, a tributary of the Chilcotin River, which in turn flows to the Fraser River. Wasp Lake, located at the southern boundary of the Fish Creek watershed drains into the Beece Creek system.

Streams in the area are generally characterized by high flows in the spring, due to snowmelt and rainfall combined with snowmelt and low flows in the late summer/early fall and winter. This produces an annual hydrograph with one high flow season with the hydrograph peak generally occurring in April / May. However in some years, a second hydrograph peak can occur in August/September as a result of rainfall. All creeks are affected by ice formation during the winter. Baseline surface water hydrological conditions of the Fish Creek watershed were determined based on historical streamflow data collected at 17 manual staff gauge and automated depth recording locations within and around the Project area between 1992 and 2000 and again in 2006.

Detailed hydrogeological and geotechnical investigations were undertaken in 1992, 1993, 1994, 1996 and 1998 to sample groundwater quality and measure groundwater levels and additional groundwater level measurements were taken from existing monitoring wells during 2006 and 2007 to confirm earlier findings.

The proposed Project area contains three main hydrogeologic units: glacial till that blankets the majority of the site, fluvial deposits present along Beece Creek and the Taseko River, and a bedrock unit consisting of basalt, buried overburden, volcanics and sedimentary rock. In general, groundwater flow in the Fish Creek valley is driven by rain and snowmelt in upland areas that flows into the network of streams and lakes that occupy the valley floor. The water table is near or above ground surface in low lying areas and is found at greater depths below ground surface along the ridge tops of the western edge of the Fish Creek watershed. A groundwater divide is present along the ridge top of the western edge of the Fish Creek watershed. This divide separates the Fish Creek watershed from the Taseko River upstream of the point where Fish Creek joins the Taseko River.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Project effects on surface water streamflow were assessed against baseline conditions for changes in flow paths and watershed areas, annual flow volumes and seasonal distributions of flow for the Fish Creek and Beece Creek watersheds. It was determined that the previously proposed Project would have had adverse effects to surface water streamflow in Fish Creek, particularly during operations, in which the watershed area would have been decreased, resulting in a reduction in annual flow volume by 65%. However, during post-closure, the Fish Creek watershed would have surpassed the baseline area to 104% of the original contributing area, with a corresponding increase of annual flow by 21% over baseline conditions. Conversely, for the Beece Creek watershed, the contributing watershed area would have been

increased by 14% during operations and decreased by 1.4% in post-closure. Annual flow volume would have increased by 3.8% and seasonal flow distribution would have experienced only minor changes due to the diversion of water from the Upper Fish Creek watershed during operations.

The effects of Project activities on groundwater quantity were assessed for the Fish Creek catchment area, the peripheral Big Onion Lake catchment area and portions of the Beece Creek and Taseko River catchments. A conceptual model of the groundwater flow regime based on available baseline data was developed, calibrated and used to predict the effects of the Project on groundwater. This 3D numerical model predicted project effects by simulating the effects of major mine facilities (i.e., the open pit, impoundment of Prosperity Lake, proposed surface water diversion and the TSF) on groundwater elevations. Predicted project effects on groundwater discharge as baseflow to the Taseko River, Lower Fish Creek and as groundwater inflow to Big Onion, Little Onion and Wasp lakes were included in the assessment.

Predicted effects of the previously proposed Project on groundwater quantity were identified as follows:

- a temporary, reversible decline in groundwater elevation around the open pit of approximately 500 m by the end of active pit development (end of Year 16);
- a temporary, reversible shift of 200 m in the position of the groundwater divide located between the open pit and the Taseko River.
- a permanent, irreversible rise in groundwater elevations in proximity to the TSF;
- a permanent, irreversible loss of the groundwater divide separating the Fish Creek and Taseko River valleys along the majority of the length of the western embankment of the TSF and corresponding potential for migration of seepage from the TSF towards the Big Onion Lake catchment; and
- increases and/or decreases in average annual groundwater discharges to the Taseko River Lower Fish Creek, Big Onion Lake, Little Onion Lake and Wasp Lake.

The federal Review Panel identified and reported on key issues relating to surface water (hydrology and water quality) including changes to streamflow and watershed areas, the annual water balance, the role of acid rock drainage and metal leaching in developing the water quality model, receiving water quality and the associated effects on fish health. Key issues relating to groundwater (quantity and quality) identified by the Panel include changes to groundwater flow and the effects of seepage through the west embankment of the TSF.

During the review of the previous EIS/Application, additional issues were raised by the responsible provincial ministry and First Nations. These issues, Taseko‟s responses and the EAO‟s assessment of the adequacy of responses were detailed in Appendix C, Part 8 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009.

The BC MOE and EC had concerns about the ability of the hydrometerological data to adequately predict the amount of water available to meet the needs of the previously proposed Project. In response to this concern Taseko indicated that in the event that there is insufficient water to maintain the volume of water required due to drought conditions, mine production would have to be slowed or water would have to be obtained from alternate sources

The MOE cited concerns regarding the potential impact of climate change in reducing glacial run-off to the Taseko River, and how this could influence flow and predicted dilution rates post-closure. The MOE requested Taseko commit to additional baseline sampling on Taseko River flows at least five years prior to the predicted timing of discharge to Fish Creek to validate predictions of flow reduction due to glacier melt.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

Taseko proposed a number of mitigation measures to minimize Project effects on surface water hydrology, including diverting a portion of the undisturbed Upper Fish Creek watershed north of the open pit via the headwater diversion channel. Additionally, Taseko proposed to restore the natural flow paths to Lower Fish Creek in post-closure. Finally, at closure, Taseko also proposed to construct a spillway in the crest of the main embankment of the TSF to allow the supernatant pond to overflow and contribute to the surface water runoff to Lower Fish Creek via the open pit. To minimize the previously proposed Project effects on groundwater elevations and quantity, surface water would be diverted to fill the pit thus restoring groundwater levels to near baseline conditions post-closure in the pit vicinity.

Prior to major surface disturbance for site construction, water management and sediment control plans would have been implemented to mitigate any adverse effects to the surrounding environment. Mitigation measures would have been adopted to capture and contain all water and sediment that originates within the Project area, in an environmentally responsible manner. The water management and sediment control measures would have included:

- natural and constructed ponds to remove sediment from the water prior to use within the mine site; and,
- drainage ditches to divert and control water around the mine site facilities.

Sediment ponds would have been designed in accordance with the *Guidelines for Assessing the Design, Size and Operation of Sedimentation Ponds Used in Mining* (BC MOE 1997). Best management practices for water management would be adapted from *Standards and Best Practices for Instream Works* (BC MWLAP 2004).

Primary mitigation measures to prevent seepage from the TSF such as the design of the west embankment (e.g. low permeability till core and cut-off keyed into the native till, glacial till liner, embankment drains) and cutoff ditches to collect and divert seepage to seepage collection ponds were proposed. Additionally, tailings could have been deposited so as to create beaches along the west embankment which would force the supernatant pond away from the embankment crest to mitigate seepage through the west embankment. If necessary, secondary mitigation measures such as recycle wells where seepage was found to bypass the ditches could be implemented.

Taseko developed a Table of Commitments which included commitments addressing hydrology and hydrogeology issues (Commitments 8.1 – 8.7 and 16.5).

FINDINGS AND CONDITIONS OF APPROVAL

The BC EAO and federal Review Panel concluded that, in consideration of the mitigation measures proposed, the previously proposed Project would not likely have significant adverse effects on surface or groundwater quantity or quality.

Environment Canada concluded that the hydrology and water balance assessment was performed using accepted hydrologic methods given that the Project area was located in an ungauged area and therefore, that the water balance results were plausible. NRC accepted Taseko‟s conclusion that it was unlikely that groundwater would be required to supplement flows into the TSF, it noted that if makeup requirements exceeded the groundwater extraction rate estimated for pit dewatering purposes, the environmental effects of the additional pumping would not have been implicitly taken into account.

The federal Review Panel concluded that the retention of water at the mine site during operations and closure would considerably reduce flows from the Teztan Yeqox (Fish Creek) watershed into the Dasiqox (Taseko River). However, the Panel considered these flows to be a small portion of the total flow in the Taseko River even during the spring freshet. During operations the Panel considered these changes to be low in magnitude and would be reversible at closure. With respect to Bisqox (Beece Creek), the Panel noted that concerns were raised by the owners of the Taseko Lake Lodge that even a small (4%) increase in flow could result in flooding of their property. However, the Panel noted that any increase in flow levels in Bisqox would be within the range of natural variability and that the flow regime would be restored to near baseline conditions at closure. Given the concerns raised regarding flooding at Taseko Lake Lodge, the Panel encouraged Taseko to explore options for water management during the spring freshet in order minimize potential flooding at this location.

With respect to the matter of ensuring sufficient water to supply Prosperity Lake and provision of cover for the TSF, the federal Review Panel noted that while limited site specific data was available to input into the model, the predictive modeling used by Taseko was consistent with good practice. However, even if the model underestimated the amount of water available in the Teztan Yeqox (Fish Creek) watershed, the Panel noted that adequate contingency plans would be available to

ensure sufficient water cover in the TSF. These included diverting north-flowing water from the headwater diversion channel to Prosperity Lake and using groundwater as a supply if necessary. The Panel was of the opinion that there would be sufficient water for mine operations and environmental protection.

On the matter of changes in groundwater flow, the Panel noted that groundwater levels in the area of the open pit would be restored to pre-construction conditions once the open pit was filled with water. The effects on groundwater levels would be limited in geographic extent and reversible. The Panel noted that alterations to groundwater flows would not necessarily result in adverse environmental effects in and of themselves. However, as contaminates can be transported in groundwater to receiving water bodies, the Panel considered changes to groundwater flow in the context of effects to receiving water bodies, such as Jidizay Biny (Big Onion Lake). Seepage from the main embankment would flow ultimately to the open pit. As outlined in the EIS/Application, water from the open pit would not be discharged until it was of acceptable quality, or it would be treated by a water treatment system. The Panel considered this approach to be an effective means to prevent discharge of contaminated seepage from the main embankment of the TSF to the environment.

With respect to the loss of the groundwater divide between the Teztan Yeqox (Fish Creek) basin and Jidizay Biny (Big Onion Lake) watershed, the Panel noted that this effect would be permanent and could result in a potential introduction of contaminants into the lake in perpetuity. The Panel noted that there remained a disagreement between experts with respect to timing, volume and contamination of groundwater flows reaching Jidizay Biny (Big Onion Lake). The Panel noted that should the Project proceed, Taseko would have sufficient time to undertake its commitments (Table of Commitments 8.6) to gather further hydrogeological information to be incorporated in the final design of the seepage collection system. Further, the Panel recognized that interception wells are considered to be an appropriate practice to intercept seepage and that the seepage collection and pump back system may need to be in place for many years after operations ends and would require ongoing maintenance. The Panel was of the view that the proposed mitigation measures would likely reduce the effects on Jidizay Biny (Big Onion Lake).

The federal Review Panel reached the following conclusions:

- That the Project would not result in a significant adverse effect on surface water hydrology in the Project area; and
- That seepage from the TSF would not result in a significant adverse effect on water quality in Jidizay Biny (Big Onion Lake).

In reaching the above noted conclusions the federal Review Panel recommended the following:

- RECOMMENDATION 2 - If the Project proceeds, that Taseko monitor water levels in Bisqox (Beece Creek) and implement appropriate corrective action in order to minimize flooding at Taseko Lake Lodge; and

- RECOMMENDATION 3 - If the Project proceeds, a long-term follow-up and monitoring program be designed and implemented to verify the predicted seepage rates and concentration of contaminants from the TSF toward Jidizay Biny (Big Onion Lake) and the effectiveness of the proposed primary mitigation measures. Should the results show that the movement and concentration of contaminants is higher than predicted, additional mitigation measures should be put in place, such as the addition of more interception wells.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake. Water management activities no longer include the following:

- Construction of a Headwater Channel along the east slope of the Fish Creek Valley during the pre-production period to collect and divert clean runoff north towards Fish Creek and south towards Prosperity Lake, Wasp Lake and Beece Creek;
- Pumping down of Fish Lake prior to construction of the Stage Ia embankment;
- Installation of a sump and cofferdam downstream of the Main Embankment to prevent flow from Fish Lake into initial foundation excavation; and
- Use of the Fish Lake basin area as a natural sediment pond.

With respect to potential effects on the hydrology and hydrogeology within the maximum disturbance area in the Fish Creek watershed, the new mine site layout no longer requires the dewatering of Fish Lake and will preserve surface water flows to Reach 7 (Fish Lake) and 50% of surface flows to Reach 8. The water balance for the construction, operations, closure and post-closure phases of the project will need to be updated with the revised layout. The updated site water balance will delineate the required water to service the Fish Lake system, as well as the needs for the operations of the mine. Monitoring of groundwater flows below the TSF during construction and operations will be required to confirm predictions of hydrogeological effects on Fish Lake and adaptively manage seepage water.

Changes to potential effects to pit water quality and to Lower Fish Creek are not anticipated as a result of the new mine site layout. Due to the elimination of a headwater channel in the new project design, flows to Fish Creek until post-closure would be reduced from that in the previous project. The federal Review Panel

previously assessed the retention of water at the mine site during operations and closure and the impact of considerably reduced flows from the Teztan Yeqox (Fish Creek) watershed into the Dasiqox (Taseko River), and concluded that these flows are a small portion of the total flow in the Taseko River even during the spring freshet, these changes would be low in magnitude and would be reversible at closure.

Small changes to the timing and volume of surface flows diverted to Wasp Lake/Beece Creek drainage are anticipated. Diversion to Wasp Lake/Beece Creek drainage during spring freshet would not occur until closure, rather than annually during operations as proposed in the previous project design. This change eliminates the previous concern of increased flow levels in Bisqox (Beece Creek) and flooding during freshet for the period of operations, but continues to require Taseko to explore options for water management during spring freshet at closure.

With the smaller footprint and higher elevation West Embankment, seepage and potential effects on Jidizay Biny (Big Onion Lake) may be reduced. Seepage through the new South Embankment to the Wasp/Beece area is anticipated. Taseko would have sufficient time to undertake its commitments (Table of Commitments 8.6) to gather further hydrogeological information to be incorporated in the final design of the seepage collection system. Interception wells, previously considered in the EA review to be an appropriate practice to intercept, collect, and pumpback seepage if required, would still be proposed as a mitigation measure to reduce any effects.

With the new mine site layout it is anticipated that additional mitigation measures will reduce the potential for any significant environmental effects. Additional mitigation measures to consider include the following:

- A commitment to optimize flows, including re-circulating water from Fish Lake outflow, to ensure adequate inflow of water to Fish Lake; and
- A commitment to adjust the previously proposed plan for installation and groundwater wells and monitoring to include the South Embankment area to inform the need for further mitigation measures (if any) during early years of TSF operation

Actions associated with Panel recommendations 2 and 3 will be implemented for the new Project design.

The BC EAO and federal Review Panel concluded ***no significant effect on hydrology and hydrogeology*** for the previous project proposed.

Effects on hydrology and hydrogeology for the mine site component of the Project have changed; however, Taseko predicts the effects to be similar for the new Project. The above noted additional measures, together with all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, as will Panel recommendations, to ensure ***no significant effect on hydrology and hydrogeology*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

A.2.2 Biotic

A.2.2.1 Water Quality and Aquatic Ecology

Project Setting

Taseko conducted baseline studies of water quality, sediment, periphyton, and benthic invertebrate characteristics of Fish Creek and other streams, as well as plankton communities of lakes directly affected by the project. Baseline data was collected from 1992 to 1998 and again in 2006 and 2008.

Baseline metal levels in all streams studied were generally within BC and CCME Water Quality Guidelines (WQG), with few or no exceedances. Exceedances were found in Fish Creek (iron, total aluminum), Taseko River (total and dissolved aluminum, iron and total copper), Beece Creek (total and dissolved aluminum) and Groundhog Creek (iron).

Nutrient levels and aquatic productivity tended to be higher in Fish Creek, reflecting low stream gradients and lower in Taseko River influenced by glacial melt. Metal levels in the sediment of Fish Creek and in regional streams were generally within provincial Sediment Quality Guidelines (SQG). A few metals such as arsenic, chromium, iron, nickel antimony and manganese trended higher.

Fish, Little Fish and Wasp lakes were also sampled for sediment metals. Antimony, chromium, copper, and nickel exceed SQG in all three lakes, and iron levels exceed SQG for Wasp Lake. Silver levels were close to the SQG. Arsenic, cadmium, lead, manganese, mercury, selenium and zinc levels in these lakes were lower than the SQG.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Water quality and aquatic ecology can be directly affected by mine construction activities in or near aquatic environments, and directly or indirectly affected by various mine discharges during operation.

Seepage of groundwater from the main and west embankments of the TSF and dam was predicted to start in year eight of operations. Changes in groundwater quality were predicted to result in a gradual increase in the concentrations of the levels of several metals in Big Onion Lake over time, but were not expected to result in any metals exceeding WQG.

During construction and operations the mine site area was to remain a closed system with no discharges to the receiving environment. During post-closure, at year 44 from the start of operations, the pit was forecast to overflow and discharge to Fish Creek. As noted in the original EIS/Application the predicted pit water quality would have exceeded WQG for several parameters in Fish Creek, with the highest magnitude exceedances predicted for sulphate, cadmium and selenium. Also as noted in the EIS/Application if the discharge was not at acceptable water quality, it would be pumped back to the TSF or treated.

Metal Leaching (ML) and Acid Rock Drainage (ARD) are naturally occurring processes caused when minerals containing metals and sulphur (called sulphides) come into contact with both air and water. When sulphides are exposed to water and oxygen from air, they rust or oxidize. Oxidation of sulphides can also produce acid. If this acid is carried by streams it is called ARD.

The previously proposed Project produced three types of waste material that had the potential to be sources of ARD and ML:

- overburden: soils overlying the ore deposit and stripped prior to mining;
- waste rock: non ore-bearing rock removed during the mining process; and,
- tailings: sulphide waste material removed during the ore concentration process.

Taseko planned to place bulk tailings in a purpose-built TSF in the Upper Fish Creek valley. The TSF was designed to provide environmentally secure storage for the co-disposal of approximately 480 Mt of tailings and 237 Mt of PAG waste materials, and had the potential for increased storage capacity. Taseko planned to flood PAG material within two years of its placement in the TSF to ensure that PAG rock would not become acidic.

The ore stockpile was expected to remain pH neutral well beyond the 19 year period of operations. Blasted ore would have been exposed in the pit for approximately one month prior to milling. Acid Base Accounting (ABA) results showed that there was sufficient neutralization potential in the ore to maintain pH neutral drainage conditions over this period.

MOE identified a number of concerns during the course of the review of the EIS/Application including uncertainties in the modeling and predicted water quality of the open pit. MOE indicated it would require more precise predictions based on actual data as the open pit filled with water. MOE also expressed concern that Taseko had not proposed sufficient monitoring beyond the life of the Project, and indicated that bonding would be required to ensure that monitoring occurred until water quality was within prescribed guidelines and could be discharged into Teztan Yeqox (Fish Creek). However, MOE indicated that it would be satisfied if Taseko met the commitments in the provincial Environmental Assessment Certificate, including the commitment to meet either site specific or generic water quality guidelines through a combination of natural attenuation processes in the open pit and, if required, the implementation of water treatment.

During the course of the federal Review Panel review, various participants raised concerns regarding the methodology used by Taseko in predicting the lag time prior to the onset of acid rock drainage and metal leaching, the likelihood of neutral pH metal leaching, and the source terms used for site water chemistry predictions. EC agreed that Taseko‟s findings were conservative with respect to the acid generating potential of mine wastes and Taseko‟s predictions regarding the amount of potentially acid generating material that would be produced. Overall, EC stated that Taseko had recognized that all potentially acid generating materials would need to be appropriately managed to prevent acid rock drainage. NRCan expressed concern that Taseko did not adequately explain the rationale for the lag time applied before the onset of acid rock drainage and metal leaching. Further, the department noted that the extrapolation of laboratory test results to the field resulted in uncertainties in the water quality predictions. However, as a result of further discussions with Taseko, NRCan indicated that it was satisfied that these issues had been adequately addressed and stated during its presentation to the Panel that "there are no fatal flaws in the acid rock drainage metal leaching assessments performed by the Proponent."

With respect to receiving water quality, EC concluded that no significant deleterious effects on water quality were expected if Taseko followed the good waste and water management practices identified in the EIS/Application. EC also highlighted uncertainties with respect to Taseko‟s use of dissolved metals in the modeling exercise rather than total metals, indicating that this may have underestimated water quality effects. Further, the department stated that it was possible that traditional water quality modeling methods may have underestimated potential selenium levels in receiving waters. EC stated that underestimating selenium levels could potentially be the most significant risk associated with Taseko‟s modeling. With respect to the requirement for water treatment, EC stated that if Taseko‟s predictions as outlined in the EIS/Application were realized, it was likely that water treatment would be required. The importance of the treatment plant was further discussed by EC, as it indicated that the construction and operation of a treatment plant would be necessary to assure that water quality in the Dasiqox (Taseko River) would not be significantly affected. EC highlighted a number of uncertainties regarding the proposed water treatment plant during its presentation to the Panel, including the high cost of reverse osmosis technology and issues with ongoing maintenance, particularly in the long-term.

Natural Resources Canada questioned whether the high levels of dissolved organic carbon in Teztan Yeqox (Fish Creek) would affect the conservatism Taseko stated was built into its water quality modeling results. Therefore, NRCan was of the opinion that an appropriate treatment of water from the mine site would be required prior to discharge to the receiving environment.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect

of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

The previously proposed Project would have avoided construction-related impacts to water quality by employing standard management practices for sediment and erosion control, using clean water diversions around disturbed areas, and constructing holding ponds to collect runoff from disturbed areas. Surface water collected in the pit would have been pumped to the mill or the water collection pond. Drainage ditches would capture and control runoff within the proposed Project site, diverting this water to the TSF or the water collection pond. All water collected would have been contained within the proposed Project site and used in mill processing, dust control or other uses. During operations there would have been no discharge of surface water from disturbed areas within the proposed Project area and consequently, impacts to water quality were not anticipated.

Mitigation measures, expected to minimize the potential for TSF seepage and surface water effects, outlined in the EIS/Application, include the following:

- incorporating primary seepage control measures in the design of the west embankment of the TSF (e.g. using low permeability soils and planning to capture seepage in seepage collection ponds); and,
- deposition of tailings to create a beach along the west embankment that would build a larger barrier on the west side and force the supernatant pond and TSF away from the embankment crest to mitigate seepage through the west embankment.

Implementation of activities in the Environmental Management Plan would provide routine sediment and erosion control methods. While the previously proposed Project design would have contained all mine waters on site during the operations period, there would have been anticipated discharges after that time. Taseko would have employed several design aspects and measures to reduce the potential effects to water quality and aquatic ecology, including:

- encouraging slope stability and minimizing soil quality degradation and water contamination from surface runoff through grass reseeding and slope revegetation. All plants and seeds used for revegetation would be appropriate for use in the Chilcotin district;
- managing potential surface water contamination by aligning and containing all mine site works and facilities within a single drainage with the pit serving as the downstream catchment basin;
- potential contamination discharge effects from the pit waters would have been reduced by diluting the TSF water with clean runoff water from the watershed, prior to discharge to the pit;
- a seepage control system for the west embankment, consisting of seepage collection ditches and ponds, groundwater monitoring and recovery wells and a seepage pump back assembly; and,

- use of TSF and pit as depositional area to reduce sediment and metal loading to surface waters. If particulate levels and dissolved metals were too high post-closure for the water to be released to Lower Fish Creek (following up to 27 years of settling) measures would have been taken to clean the water, such as liming or construction of a treatment plant.

PAG waste rock and PAG overburden would be segregated and placed in a PAG disposal facility within the TSF, and would be covered with tailings over the life of the mine such that at the end of operations, the PAG disposal facility would be enclosed with saturated tailings.

During the review of the previous EIS/Application, additional issues were raised by the responsible provincial ministry and First Nations. These issues, Taseko‟s responses and the EAO‟s assessment of the adequacy of responses were detailed in Appendix C, Part 14 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing water management, environmental management systems and ARD/ML.

FINDINGS AND CONDITIONS OF APPROVAL

With the exception of a few receiving sites which naturally exceed WQG, receiving water sites were predicted to meet WQG during all phases of mining. As a result, residual effects on water quality from mining activities were predicted to be negligible. Other than a relatively small amount of seepage which would have been reduced at source by TSF mitigation measures and further addressed by a seepage collection and monitoring system, the previously proposed Project was designed to completely contain contaminants and water in contact with disturbed areas. In addition, Taseko had committed to monitor and treat pit water if necessary.

During the review of the EIS/Application, the provincial MEMPR provided commentary on the environmental risk associated with seepage from the TSF, examined the hazard potential and the probability of occurrence and the consequence. The Ministry concluded that the hazard potential was low, as the concentrations of parameters in the seepage water would be relatively low compared to other mine sites in British Columbia and given natural attenuation along the groundwater flow path. The MEMPR noted that while there was some uncertainty with the assessment due to potentially unknown geologic conditions, the risk to Jidizay Biny (Big Onion Lake) from seepage from the TSF appeared to be low. The Ministry also stated that the mitigation proposed by Taseko was considered to be accepted, industry strategy. Therefore, given Taseko‟s commitment to undertake additional hydrogeologic studies in the area of the west embankment and the proposed mitigation measures (Commitment 8.6), the Ministry indicated that it was satisfied with the resolution of the seepage issue for the purposes of the environmental assessment.

Based on the above and having regard to the Proponent‟s commitments (which would become legally binding as a condition of a Certificate), EAO was satisfied

that the previously proposed Project would not likely have significant adverse effects on water quality and aquatic ecology and would not likely have significant adverse effects in respect of ML/ARD.

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel was of the view that Taseko"s commitments to mitigation and the application of monitoring and adaptive management principles would ensure that a suitable technology would be applied to treat the discharge to meet regulatory requirements and therefore, the effects on water quality and on fish health could be mitigated. The Panel also noted that Taseko confirmed that water treatment would not affect the economic viability of the Project.

The federal Review Panel reached the following conclusions:

- That the Project would not result in a significant adverse effect on surface water quality;
- That the Project would not result in a significant adverse effect on fish health in the Dasiqox (Taseko River).

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake. Water management activities no longer include the following:

- Construction of a Headwater Channel along the east slope of the Fish Creek Valley during the pre-production period to collect and divert clean runoff north towards Fish Creek and south towards Prosperity Lake, Wasp Lake and Beece Creek;
- Pumping down of Fish Lake prior to construction of the Stage Ia embankment;
- Installation of a sump and cofferdam downstream of the Main Embankment to prevent flow from Fish Lake into initial foundation excavation; and
- Use of the Fish Lake basin area as a natural sediment pond.

With respect to potential effects on water quality and aquatic ecology within the maximum disturbance area in the Fish Creek watershed, although the new mine site layout is changed from the previously proposed design, all water in contact with disturbed areas will still remain within the Fish Creek watershed and, as in the previous project, there will be no discharge from the pit to Lower Fish Creek until post-closure with a commitment to treat water if necessary; and, TSF seepage will be collected. Changes to potential effects to pit water quality and to Lower Fish Creek are not anticipated as a result of the new mine site layout.

Water quality from the main embankment seepage flow into Upper Fish Creek may contain levels of arsenic, iron and mercury which exceed the guideline levels for the protection of aquatic life; during operations seepage flows will have to be collected and pumped back to the TSF or treated and then released into Middle Fish Creek to supplement flows to Fish Lake. Flow reductions to Fish Lake will occur in comparison to baseline conditions; however, despite reduced flow, the new Project configuration is not expected to affect the overall quality of inlet flows to Fish Lake in light of the mitigation strategies available.

Should supplemental flows to Fish Lake be required during operations to meet fish production objectives, water management options include re-circulating water from the Fish Lake outlet, sourcing water from aquifers, or utilizing TSF seepage water. Prior to supplementing Fish Lake inlet flows, water from these sources will be treated as necessary to permitted levels.

With respect to potential effects on water quality and aquatic ecology outside the Fish Creek watershed, there will be minimal environmental risk associated with seepage from the TSF to ground water. Taseko will implement good waste and water management practices, accepted industry mitigation strategies and commitments identified in the previous EIS/Application.

With the new mine site layout it is anticipated that additional mitigation measures will reduce the potential for any significant environmental effects. Additional mitigation measures to consider include the following:

- A commitment to divert clean water in the vicinity of the plantsite to Fish Lake, treating for suspended solids when necessary;
- A commitment to re-model TSF seepage water and groundwater seepage quality to predict potential impacts on Fish Lake and inform groundwater management plans; and
- A commitment to ensure water quality entering Fish Lake is consistent with goals of maintaining a functioning ecosystem.

The BC EAO and federal Review Panel concluded ***no significant effect on water quality and aquatic ecology*** for the previous project proposed.

Effects on water quality and aquatic ecology for the mine site component of the Project have changed; however, Taseko predicts the effects to be similar for the new Project. The above noted additional measures, together with all mitigation measures,

monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, as will Panel recommendations, to ensure ***no significant effect on water quality and aquatic ecology*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components in the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

A.2.2.2 Fish and Fish Habitat

Project Setting

The Upper Fish Creek watershed, contains a population of monoculture rainbow trout with about 85,000 residing in Fish Lake and 5,000 in Little Fish Lake. These fish utilize a total of 117.6 ha of lake habitat, of which 904,203 m^2 is shoal area (<6m deep), and approximately 6.4 km of associated inlet and outlet streams for spawning and juvenile seasonal rearing. Fish Lake supports up to 653 recreational angling days with up to 4,900 fish caught annually. Rainbow trout, chinook salmon, bull trout and mountain whitefish intermittently utilize the Lower Fish Creek drainage near the confluence with the Taseko River. While Beece Creek and Big Onion Lake once supported a rainbow trout fishery, the introduction of coarse fish has decreased this opportunity.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Key fish and fish habitat issues for the Middle and Upper Fish Creek drainage identified in the previous EIS/Application included:

- loss/alteration of in-stream habitat quality or quantity as a result of pit dewatering, infrastructure development, and water sourcing and diversion activities;
- potentially elevated suspended solids as a result of erosion and runoff from disturbed areas at the mine site during construction;
- loss/alteration of lake habitat quality and quantity as a result of Fish Lake and mine site dewatering, infrastructure development, and water sourcing and diversion activities; and
- loss/alteration of fish populations and angling opportunities in the Fish Creek drainage.

During the EAO led review of the EIS/Application, additional issues were raised by MOE, DFO, Working Group members, and First Nations. While these issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed

fully in Appendix C, Part 6 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009, key issues and outcomes included:

- First Nations asserted a Fish Lake trout fishery, that Fish Lake is a site of importance and the loss of Fish Lake was unacceptable;
- MOE developed a Benchmark Statement and specific Performance Measures to guide the development of Taseko"s Fisheries Compensation Plan. Once finalized provincial objectives were met by outplanting, hatchery work, and the creation of Prosperity Lake;
- MOE and DFO did not reach agreement on the productive capacity of Lower Fish Creek habitat and the species found there and DFO indicated that the information provided in the Application did not adequately demonstrate that the proposed Prosperity Lake is likely to be technically and economically feasible;
- DFO determined that the proposed plan would not offset the loss of stream and riparian habitat in Middle and Upper Teztan Yeqox (Fish Creek); and
- DFO concluded that the compensation works proposed by Taseko were not consistent with its Policy for the Management of Fish Habitat and legislation and stated that the information provided in the EIS/Application regarding the fish and fish habitat compensation plan did not adequately demonstrate that the plan would be both technically and economically feasible.

Issues of importance identified by the federal Review Panel include the permanent alteration and loss of fish and fish habitat in the Teztan Yeqox (Fish Creek) watershed, the effects of the Project on recreational and sport fishing opportunities, and the proposed fish and fish habitat compensation plan, including the use of artificial propagation.

The federal Review Panel received information from various participants outlining a number of concerns and issues with respect to the previously proposed fish habitat compensation plan. The concerns raised are summarized below:

- there was a risk that the proposed spawning channel would only function with regular maintenance, and therefore would not be viable in the long term;
- flows to the spawning channel from the headwater retention pond may have required constant human intervention;
- the conversion of existing creek and stream habitat to a shorter engineered channel may have significantly lower primary productivity;
- the proposed plan may not have supported enough individuals of rainbow trout to reach the target population in Prosperity Lake;
- irreversible changes may have been made to the existing environment before success of the proposed plan would be demonstrated;
- the ability to establish aquatic vegetation in a relatively short time frame may be problematic;

- the temperature of the water in the headwater retention pond may be higher than predicted, resulting in effects to the thermal regime downstream;
- uncertainty regarding whether productive populations of rainbow trout could be established in the headwater diversion channel in the closure period in the absence of spawning channels;
- the potential risk that local fishing opportunities may not be replaced; and
- uncertainty regarding whether First Nations would be able to meet their food, social and ceremonial needs for fish.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

An extensive assessment of alternative mine development plans was undertaken in an unprecedented effort to avoid the loss of fish and fish habitat.

Once the preferred mine development plan was finalized and the loss of fish and fish habitat was unavoidable, Taseko designed the Fish Compensation Plan around the objectives of the MOE Benchmark Statement (BC MOE 2008) and the "No Net Loss" principle of DFO‟s Habitat Management Policy. The specific objectives of the Fisheries Compensation Plan were the maintenance of genetic integrity, maintenance of the recreational and First Nations‟ fishery, and maintenance of productive capacity.

Key components of the Fisheries Compensation Plan included as a component of the previous Project Description were as follows:

- Construction of Prosperity Lake as compensation fish habitat, and a refuge for the Fish Lake rainbow trout genetic stock. Prosperity Lake was planned to be larger and slightly deeper than Fish Lake. The depth of Prosperity Lake was chosen to reduce risk of winterkill;
- Retention of Little Fish Lake until the completion of construction of Prosperity Lake as a refuge for Fish Lake rainbow trout genetic stock;
- Construction of channels and headwater retention pond at the Fish Creek headwaters to provide additional stream habitat, a spawning channel, and to enable fish passage upstream of Prosperity Lake;
- Outplanting of trout from Fish Lake to a minimum of two regional priority lakes. Some trout would have been moved from Fish Lake to a number of MOE-identified Chilcotin lakes until such time as monitoring concluded that Prosperity Lake provided a trout fishery of at least a similar character to what is supported by Fish Lake under current conditions; and,
- Use of fish culture to maintain the Fish Lake rainbow trout genetic stock, for the eventual re-creation of the Fish Lake fishery in Prosperity Lake, and to increase the fishery on a number of small lakes in the vicinity of the mine.

The Fish Compensation Plan, described above, was intended to address the loss of Fish Lake through the creation of Prosperity Lake, spawning channels and

preservation of genetic stock at a hatchery. Prosperity Lake was intended to address the loss of lake habitat, the spawning channels would have addressed the loss of Lower Fish Creek spawning areas and the culture of Fish Lake trout at a hatchery would have ensured continued stock in Prosperity Lake until such time as it is determined to be self-sustaining. Outplanting of Fish Lake trout to regional lakes and the preservation of Little Fish Lake until proposed Project year seven would have ensured that recreational and aboriginal fishery opportunities were not lost during this time.

FINDINGS AND CONDITIONS OF APPROVAL

The EAO concluded that the proposed plan to dewater Fish Lake would have had significant adverse effects with respect to fish and fish habitat. Subsequently the provincial government undertook an assessment of whether the conclusion of significant adverse effects to fish and fish habitat should be considered justified. The Environmental Assessment Certificate was issued on the condition that Taseko cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel considered the comments received during the Panel hearings and concluded that as proposed, the fish and fish habitat compensation plan posed an unacceptable level of risk that raised considerable doubt regarding its ability to meet the requirements of DFO‟s No Net Loss policy and to be a functioning, self-sustaining system in the future. In the Panel‟s view, the Project‟s effects on fish and fish habitat would have been high magnitude, long-term and irreversible and would include the loss of an area that was stated to be of value as both a First Nation food fishery and recreational fishery.

The federal Review Panel concluded that the Project would result in a significant adverse effect on fish and fish habitat in the Teztan Yeqox (Fish Creek) watershed.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project for the expressed purpose of preserving Fish Lake and a portion of its associated ecosystem. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake.

With respect to potential effects on fish and fish habitat the revised mine layout will preserve Fish Lake as well as portions of Upper Fish Creek and numerous tributaries

feeding in to the lake. A comparison between the revised mine layout and the losses and alterations of instream, riparian and lake habitat reported in the previous submission (Taseko, 2009: Vol 5, Section 3) is summarized in Table A.2-1.

Table A.2-1 Altered and Lost Habitat in the New Project Design Compared to the Previous Project

	Baseline	*Effects of Previous Project Reviewed in 2009/2010*	*Effects of Revised New Prosperity Project*	*Amount of Habitat Retained or Unaltered*	*% Change in Revised Project Compared to Previous*
Lake Habitat					
Area	**1,176,000 m^2**	**1,176,000 m^2**	**66,000 m^2**	**1,110,000**	**94%**
Volume	**4,038,000 m^3**	**4,038,000 m^3**	**133,280 m^3**	**3,904,720**	**90%**
Angler days	**512**	**512**	**0**	**512**	**100%**
Fish-Bearing Stream Habitat					
Middle and Upper	47,646 m^2				
Lost		34,817 m^2	20,590 m^2	14,227 m^2	
Altered		12,829 m^2	25,903 m^2	-13,074 m^2	
Lower Fish Creek	16,371 m^2				
Lost		0 m^2	0 m^2	0 m^2	
Altered		16,371 m^2	16,371 m^2	0 m^2	
Total Fish-Bearing	**64,017 m^2**	**64,017 m^2**	**62,864 m^2**	**1,153 m^2**	**2%**
Non Fish-Bearing Stream Habitat					
Middle and Upper	111,425 m^2				
Lost		53,444 m^2	20,633 m^2	**32,811 m^2**	
Altered		0 m^2	0 m^2	**0 m^2**	
Lower Fish Creek	0 m^2				
Lost		0 m^2	0 m^2	**0 m^2**	
Altered		0 m^2	0 m^2	**0 m^2**	
Total Non Fish-	**111,425 m^2**	**53,444 m^2**	**20,633 m^2**	**32,811 m^2**	**61%**
Riparian Habitat along Streams					
Riparian Middle and	85,515 m^2	85,000 m^2	20,072 m^2	**64,928 m^2**	**76%**
Riparian Lower Fish	2,627 m^2	0 m^2	0 m^2	**0 m^2**	**0%**
Total Riparian	**88,142 m^2**	**85,000 m^2**	**20,072 m^2**	**64,928 m^2**	**76%**

The new mine configuration will result in the retention of approximately 94% of existing lake habitat; 14,000 m^2 of fish-bearing stream habitat and 32,000 m^2 of non-fish-bearing stream habitat in Middle and Upper Fish Creek. In addition, the new mine configuration will result in the retention of ~65,000 m of linear riparian habitat and 2,200 m^2 of natural spawning habitat over the original proposal.

The new mine configuration will preserve the footprint of Fish Lake and maintain its biological function during operations so that following closure, the fishery and recreational use may continue for future generations. Use of Fish Lake for recreational and cultural purposes may continue during mine operations provided

that provisions regarding access under the Health, Safety and Reclamation Code (BC MEMPR 2008) for Mines in British Columbia are met.

At mine closure and through reclamation, it is expected that Fish Lake and its associated catchments will support and sustain a viable population of monoculture rainbow trout. Opportunities will exist to develop a fishery in the TSF and improve habitat in the area.

The revised Project will not affect the size of Fish Lake. Although a reduction in local watershed area will occur, Fish Lake will still fall within the range of other "small" monoculture lakes in the Cariboo-Chilcotin (Triton 1997).

Currently a spawning population of approximately 15,000 fish use an available 12,000 m^2 of spawning habitat. It would be reasonable to expect that the 2,240 m^2 of available spawning habitat retained by the new project design will be sufficient for a spawning population of approximately 1,400 spawning pairs. A spawning population of 1,400 pairs is expected to exceed the minimum requirements needed to maintain a Minimum Viable Population or a population capable of sustaining itself.

Two primary tributaries that provide rearing habitat will be unaffected by the revised mine layout. Combined, these tributaries will provide approximately 3,700 m^2 of rearing habitat during the Critical Stream Flow Period generally corresponding to the period represented by spring freshet from March through to June. Based on predicted flow reductions, the inlet to Fish Lake (Reach 8) will provide roughly a further 2,000 m^2 of rearing habitat during the Critical Stream Flow Period. Although the new Project design could result in reduced inflows to Fish Lake, up to 86% of the baseline annual flow will still occur during freshet when spawning occurs.

If similar densities of rainbow trout can be maintained in Upper Fish Creek, the combined area for tributaries to Fish Lake would provide rearing habitat for approximately 15,000 juvenile rainbow trout. This habitat would be sufficient for a managed lake population (e.g., fewer, larger fish) and as indicated above could support a minimum viable population.

The current proposal preserves the highest value overwintering habitat in the system (Fish Lake) and results in the loss of Little Fish Lake. Little Fish Lake provides low value overwintering values (i.e., subject to winterkill), and has no record of use as a fishery for sport or sustenance.

The addition of seepage, groundwater sources, and/or collecting and pumping back of outlet flows from Fish Lake into the lake inlet may be considered as a means of improving retention time and flushing rate of Fish Lake. Management inputs during operations may also include measures to optimize oxygen to avoid winterkill, and nutrient inputs. As necessary, measures consistent with the objectives of maintaining the productive capacity, a functional ecosystem and an available fishery, including the potential need for water treatment will be incorporated into the compensation plan.

It is anticipated that Fish Compensation Works to compensate for the unavoidable loss of Little Fish Lake and upstream and downstream spawning habitat, will have to

be developed. To be acceptable it must meet federal (DFO) policy, MOE objectives and policies, and where possible, incorporate First Nations priorities and interests.

The BC EAO and federal Review Panel concluded ***significant adverse effects on fish and fish habitat*** for the previous project proposed.

Effects on fish and fish habitat for the mine site component of the Project have changed; Taseko predicts the effects to be significantly reduced for the new Project. A new compensation plan, together with all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, to ensure ***no significant effect on fish and fish habitat*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

A.2.2.3 Terrain and Soils

Project Setting

The proposed Project is situated in the Fraser Plateau Section of the Interior Plateau, an area characterized by undulating to rolling plateau dissected by a few valleys and associated rivers. Slopes ranging from 5 to 15 percent dominate both the mine site and the access road areas. Only one percent of all slopes in the vicinity of the access road are over 50 percent, indicating that there would be very few potentially unstable slopes along this route. Well-drained glacial till is the most common surficial sediment in the mine site area, accounting for 78 percent of all deposits mapped within the mine site. Bogs and fens (organic accumulations) account for an additional 14 percent of materials in this area, but only in depressions and areas with poor drainage.

The transmission line corridor for the proposed Taseko Mine extends across the Fraser Plateau section of the Interior Plateau; it crosses the Fraser River Valley between Meason and Word creeks. Slopes are generally low in plateau areas, and steeper on valley walls. The transmission line corridor generally falls between 1050 and 1250 masl but adjacent to the Fraser River elevations decline quickly to less than 500 masl. Near the mine site, the route gains elevation relatively quickly to a maximum of just over 1600 masl where the transmission line enters the mine site.

The access road begins at just over 1600 masl where the road leaves the mine site area. It quickly loses elevation to between 1350 and 1400 masl approximately 15 km from the mine site. As the road nears the Chilcotin River valley the elevations

decrease quickly with the last point sampled north along the road corridor being measured at 722 masl.

Almost all (99.6 percent) of the mine site area is characterized by low gradient (<60 percent) slopes that show no evidence of instability. Areas of instability are located around the northwest and southwest sides of Fish Lake and the north side of Little Fish Lake. Areas showing evidence of mass wasting along the access road are at the Chilcotin River and Tete Angela Creek crossings, and at a point 10 km north of the mine site area.

The mine site soil has low nutrient and carbon content, reflected in forest productivity which ranges from moderate to low. Most of the lands within the Agricultural Land Reserve along the transmission line are Class 4 lands, capable of a restricted range of crops but requiring special management considerations.

Mineral soils of the mine site are typically moderately well to well drained, with occurrence of organic soils concentrated in the southern region of the mine site area. Within the mine site, arsenic, copper, nickel, selenium, and zinc have been found in topsoil and subsoil samples to exceed recommended guidelines, but as these metals were not reflected in vegetation samples, elevated metals in the soil do not appear to limit the reclamation suitability of the soil. Overburden material has been deemed unsuitable for reclamation due to high pH (8.1 to 8.8) and mix of fine textures and course fragment content.

A number of relevant soil studies have been completed in the past decade within or immediately adjacent to the proposed mine site. Additional studies were conducted in the summer and fall of 2006 to better define baseline conditions, address new data collection standards and meet current regulatory requirements for both the EA and regulatory requirements under Mines Act Permit Application (MAPA).

Terrain field data have been collected as part of the overall TEM and soils field programs conducted between June to August 2006, and again in October 2006 for terrain mapping of the transmission line corridor. The field programs recorded information on surficial sediment types (e.g., till, colluvium, organic, etc.), surface expression, slope, drainage and geologic modifying processes (including mass wasting).

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The key issues for terrain resources associated with the previously proposed Project were the potential for change or alteration of terrain stability resulting in increased incidence of mass wasting events (such as debris flow, slumps, earth flows, and other forms of slope instability). These issues were related to proposed Project activities such as site clearing and contouring, road construction, trenching and blasting, and the development of infrastructure components.

The dewatering of the pit and the filling of the previously proposed Prosperity Lake, the TSF and the pit would all affect groundwater hydrology and thus potentially

affect terrain stability. The rise in the water table in the pit and TSF areas during post-closure would create areas of mass wasting hazard and thus were assessed.

Key issues for soil resources associated with the previously proposed Project were changes to soil physical and chemical properties, including soil contamination. Physical properties of soil are affected by the following five conditions: soil improvement, compaction and rutting, erosion, soil loss, and moisture changes. Chemical properties of soil are affected by soil contamination and soil fertility.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

Taseko proposed a number of mitigation measures to minimize or eliminate potential negative effects on soil and terrain resources within the Project area. In order to avoid, eliminate, or reduce mass wasting, the following measures were to be implemented where appropriate:

- Installation of groundwater monitoring equipment to identify and measure subsurface water in areas of suspected or known slope instability;
- Stabilization, restoring, and re-vegetating banks and slopes to increase stability and minimize the rate of surface water run-off or groundwater infiltration;
- Minimize work during periods of heavy rainfall or snowmelt;
- Reduction of construction activity that undercuts or overloads dangerous slopes, or that redirects the flow of surface or groundwater;
- Rip-rapping and/or diversion of streams that undercut potentially unstable slopes;
- Increase holding strength of slope by pinning individual blocks, covering the slope in net or mesh, or installing rock anchors or rock bolts on dense spacing;
- Protect the site from failure by constructing catchment structures such as basins or protective structures such as walls and embankments;
- Reducing the weight of potential slide mass, flattening the surface slope angle through grading, preventing water infiltration by controlling surface drainage, or reducing the accumulation of subsurface water by installing sub-drains;
- Diverting the flow away from the previously proposed Project area using diversion barriers or channels, or providing catchment structures to contain the landslide material; and ,
- Shoreline reinforcement at post-closure for the pit.

Mitigation for effects on soils would have been implemented in conjunction with the Conceptual Reclamation Plan. These included:

- salvaging soils within the mine disturbance area and stockpiling away from proposed Project activities associated with high metal deposition rates, such as the area surrounding the proposed open pit; and,
- re-establishment of drainages during re-contouring at closure to reduce erosion.

During the EAO led review of the EIS/Application, additional issues were raised by MOE, DFO, Working Group members, and First Nations. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed fully in Appendix C, Part 11 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing a plan to monitor and ensure open pit stability and to protect worker safety.

FINDINGS AND CONDITIONS OF APPROVAL

The EAO was satisfied that the proposed Project was not likely to have significant adverse effects on terrain and soils.

The federal Review Panel noted that while effects on terrain and soils were long term at the mine site, some effects, such as those along the transmission line right-of-way, were potentially reversible over time. The Panel also noted that with the prescribed mitigation measures outlined in the EIS/Application, no measurable detrimental effects from soil mixing, compaction, rutting and erosion were predicted as a result of Project activities.

Taking into consideration the mitigation proposed by Taseko, and implementation of the Panel‟s recommendations, the Panel found that the effects of the previously proposed Project on soils and terrain were considered to be moderate overall and concluded that the Project would not result in a significant adverse effect on terrain and soils.

In reaching the above noted conclusion the federal Review Panel recommended the following:

- RECOMMENDATION 4 - If the Project proceeds, further detailed terrain hazard and soils mapping should be done by Taseko in areas of the transmission line right-of-way that have been identified as having potentially hazardous terrain and sensitive soils to assist in finalizing the centerline;
- RECOMMENDATION 5 - If the Project proceeds, Taseko complete an additional assessment of areas of slope instability on the access road at the Tete Angela Creek crossing; and
- RECOMMENDATION 6 - If the Project proceeds, areas identified as unstable undergo a detailed on-site terrain stability assessment by a qualified professional so that appropriate planning and mitigation measures can be undertaken prior to the commencement of construction activities.

- RECOMMENDATION 21 - If the Project proceeds, the Panel recommended that Taseko investigate pit wall stability prior to closure to minimize any post-closure stability problems.
- RECOMMENDATION 22 - If the Project proceeds, the Panel recommended that Taseko develop a revised emergency response plan before mine closure to address a possible embankment failure.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake.

With respect to potential effects on soils and terrain within the maximum disturbance area in the Fish Creek watershed, areas of instability located at the south west side of Fish Lake now will be avoided thus reducing the potential for negative effects on soils and terrain. Prosperity Lake is no longer included within the proposed Project. The mine components in the new layout will be located on similar surficial materials, slopes and soils in comparison to the original design. Impacts to terrain and soils due to mine construction would be reduced in comparison to the original proposal as the new mine site layout results in a 19% reduction in land disturbance and there will be fewer disturbances to areas having a moderate soil erosion hazard.

Actions associated with Panel recommendations 4, 5, 6, 21, and 22 will be implemented for the new Project design.

The BC EAO and federal Review Panel concluded ***no significant effect on terrain and soils*** for the previous project proposed.

Effects on terrain and soils for the mine site component of the Project have changed; Taseko predicts the effects to be reduced for the new Project. There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented, as will Panel Recommendations, to ensure no significant effect on terrain and soils with the new Project.

A.2.2.4 Wildlife

Project Setting

A number of wildlife inventories and research studies have been completed in the Project area. There have also been multiple habitat mapping projects completed in and around the Project area. Baseline conditions for nine wildlife groups (ungulates, large and medium sized mammals, small mammals, bats, birds, amphibians, reptiles, terrestrial invertebrates and threatened and endangered species) were reported in the EIS/Application and associated Appendices.

The Project area extends across four provincial Management Units. There is an open hunting season for mule deer, white-tailed deer, black bear, coyote, wolf, cougar, lynx, bobcat, snowshoe hare, Columbian ground squirrel, grouse, ptarmigan, chukar, common raven, and various waterfowl within these units. Bighorn sheep hunting occurs in an area bounded by Chilko River to the west, Highway 20 to the north, Big Creek to the east, and Groundhog and Nemala creeks to the south and there is a limited entry hunt for moose in all four of the Management Units.

Two Ducks Unlimited Canada projects fall within the area of the proposed transmission line and trapping occurs throughout the Project area. No parks or protected areas overlap with the general mine and transmission line area. In addition, an area known as the Brittany Triangle marginally overlaps the access road.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The previous EIS/Application identified and assessed several potential issues for wildlife and wildlife habitat. These included:

- Effects on habitat availability – Resulting from direct habitat loss or alteration and/or indirect loss or alteration from sensory disturbance and reduction of habitat patch size.
- Disruption of movement patterns – Resulting from increased habitat/landscape fragmentation or higher road use levels limiting daily or seasonal wildlife travel.
- Increase in direct mortality risk – Resulting from site development, vehicle collisions, transmission line strikes, increased hunting or poaching, lethal control of problem wildlife, or reduction in secure habitat availability due to habitat fragmentation.
- Reduction in animal health – Resulting from contamination of air, soil, water, or food sources or changes in food source abundance or composition.

Of the many wildlife species known to occur in the Project area a list of twenty species (California bighorn sheep, mule deer, moose, grizzly bear, black bear, fisher, American badger, Townsend‟s big-eared bat, great blue heron, mallard, Barrow‟s golden eye, sandhill crane, long-billed curlew, Lewis woodpecker, yellow-breasted

chat, sagebrush Brewer‟s sparrow, sharp-tailed grouse, prairie falcon, short-eared owl, flammulated owl) and one wildlife group (amphibians) was first selected in 1998 through consultation with the Provincial Government and Canadian Wildlife Service to be assessed with respect to the potential effects of the Project. This list of species was subsequently updated by agency personnel in 2006. All 21 were assessed with respect to the environmental effects of the transmission line corridor and access road and twelve were assessed with respect to the environmental effects of the mine development area.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

In addition to the general mitigation measures identified for wildlife in the EIS/Application, Taseko indicated that it would work with the British Columbia Ministry of Transportation and Highways to reduce traffic speed along the section of Taseko Lake / Whitewater Road that was within occupied grizzly bear range, in order to reduce the Project‟s effects on direct mortality risk to grizzly bears (Commitment 10.3).

Comments received during the Application review from MOE and the First Nations indicated that additional assessment of proposed Project effects on wildlife was required to characterize effects at a sub regional scale to reflect more local effects. Working with MOE, additional assessments to address impacts at a sub regional scale were completed by Taseko. With the addition of bald eagles further analysis taking into consideration habitat loss and population density was undertaken for all species and amphibians. Local population effects were expressed in terms of number of individuals affected. An equivalency matrix to demonstrate how impacts to additional species could be inferred listed 112 additional species, 23 of which were species mentioned in the William court case, 98 of which were species identified in MOE‟s Conservation Framework, and 52 of which were species of regional interest, as listed in MOE‟s Identified Wildlife Management Strategy. At the conclusion of this additional assessment Taseko determined that there were no significant effects on any of these additional species.

During review of the EIS/Application, MOE requested compensation for the fish population, fish habitat, the productive capacity of the lake (Fish Lake), recreational values, wildlife, wildlife habitat, and the habitat of species at risk that may be adversely affected should the previously proposed Project have proceeded as planned. Further, MOE indicated that the Proponent be responsible for designing a program of compensation that is adequate to fully offset the effects of mine development. The Canadian Wildlife Service (CWS) expressed interest in habitat compensation for migratory birds, and submitted data to characterize local population effects for dabbling ducks and diving ducks in late October. Taseko committed to develop and implement a plan for achieving compensation for adverse

impacts to wetland habitat, the productive capacity of the lake, recreation values, wildlife, wildlife habitat and the critical habitat of species at risk (Commitment 11.1 and 11.2).

The federal Review Panel focused its attention on effects of the Project on grizzly bears, mule deer migration and ungulate winter habitat, increased accessibility to the land, and issues surrounding the wildlife habitat compensation plan to address effects on wetlands and riparian habitats and corresponding effects on waterfowl, migratory birds and species at risk.

During the EAO led review of the EIS/Application, additional issues were raised by MOE, DFO, Working Group members, and First Nations. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed fully in Appendix C, Part 13 of the Assessment Report completed by the Environmental Assessment Office and issued on December 17, 2009.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing habitat compensation.

FINDINGS AND CONDITIONS OF APPROVAL

For each of the twenty species and one wildlife group considered in the previous EIS/Application, the potential effects on habitat availability, disruption of movement patterns, increase in direct mortality risk and reduction in animal health were identified. Mitigation measures to reduce and in many instances eliminate potential adverse effects were specified.

An additional, qualitative assessment of the combined Project effect on the sustainability of wildlife in the Region and the province as a whole was also undertaken. A number of points were considered in the assessment of the combined Project effect as follows:

- while many species in Region 5 are widespread regionally and elsewhere in the province (e.g., moose, mule deer), there were species that are at the limits of their range or that are part of small populations (e.g., long-billed curlew, flammulated owl), or are part of population units that are considered a conservation concern (e.g., grizzly bear) or are a subspecies or species of conservation concern (e.g., prairie falcon, fisher);
- largest loss of habitat area and the area of permanent habitat loss occurred in the mine site area;
- the Project effect on the grasslands, where the greatest number of species of conservation concern occur in Region 5, was relatively minor;
- the increased mortality risk along the access road and transmission line was relatively minor for most species, there were uncertainties for many bird species, and the consequences of increased mortality risk were considered to be high for grizzly bears;
- the Project effect on mortality risk would be largely reversed at post-closure;

- loss of habitat may increase direct mortality risk associated with the transmission line for hunted species by decreasing the availability of security cover, although this was not predicted to measurably increase the overall effect of the Project on the sustainability of wildlife in Region 5;
- the effectiveness of proposed mitigation measures was contingent upon successful implementation, and varied with the species and type of effect being mitigated. The effectiveness of some mitigation measures (e.g., reclamation) may not be discernible until well into the future.

In the previous EIS/Application Taseko concluded that there were no significant residual environmental effects and no significant Project-related incremental contributions to residual cumulative effects for any species or groups examined. With the implementation of the proposed mitigation measures, the combined residual environmental effect of the previously proposed Project on the sustainability of wildlife in Region 5 was predicted to be not significant.

Having regard to Taseko‟s commitments (which would become legally binding as a condition of a Certificate), the EAO was satisfied that the previously proposed Project would not likely have had significant adverse effects on wildlife.

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel reached the following conclusions:

- That the Project would not result in a significant adverse effect on mule deer and moose and their habitat; and
- That provided a wildlife habitat compensation plan was developed and implemented, the Project would not result in a significant adverse effect on migratory birds and their habitat.
- That, together with past, present and reasonably foreseeable future forestry activities in the area, the Project would result in a significant adverse cumulative effect on the South Chilcotin grizzly bear population.

In reaching the above noted conclusions the federal Review Panel made a number of recommendations as follows:

- RECOMMENDATION 7 - If the Project proceeds, that Taseko construct the transmission corridor right-of-way in such a manner as to avoid long straight-line of sight distances to reduce the negative effect of the right-of-way on predator-prey relationships.
- RECOMMENDATION 8 - If the Project proceeds, that Taseko begin discussions immediately with the British Columbia MOE and the affected First Nations to develop a wildlife habitat compensation plan for mule deer.

- RECOMMENDATION 9 - If the Project proceeds, that Taseko involve the affected First Nations in the development and implementation of the mitigation measures to address the concerns regarding access along the transmission line right-of-way.
- RECOMMENDATION 10 - If the Project proceeds, that Taseko develop and implement a wildlife habitat compensation plan that provides for the creation of additional wetland/riparian habitat beyond that proposed by Taseko at the mine site, in collaboration with EC, the British Columbia MOE, affected First Nations and appropriate environmental organizations such as Ducks Unlimited.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake.

Within the maximum disturbance area the area of wetland, riparian and lake habitat permanently lost will be significantly reduced with a corresponding increase to the amount of upland habitat affected by the proposed Project. For each of the twenty species and wildlife group assessed in the previous EIS/Application a qualitative assessment of the proposed Project effects was undertaken and is summarized in Table A.2-2.

Table A.2-2Wildlife Effects in the New Prosperity Project Design Compared to the Previous Project Reviewed in 2009/2010

Wildlife Key Indicator	Determination of Original Project Effects in 2009/2010		Predicted Effects of Revised Mine Layout in New Prosperity on Wildlife Key Indicators	Change in Effects Compared to Previous Project Reviewed in 2009/2010
	EAO	CEA Agency		
California big horn sheep	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Mule deer	No Significant Adverse Effect	No Significant Adverse Effect	Similar disturbance of mule deer habitat.	Similar Impact
Moose	No Significant Adverse Effect	No Significant Adverse Effect	Similar disturbance of moose habitat	Similar Impact
Grizzly bear	No Significant Adverse Effect	Significant Cumulative Adverse Effect	Reduced disturbance of moderate value Grizzly bear spring feeding habitat, to moderate and moderately high value summer feeding habitat and moderate value fall feeding habitat.	Improvement
Black bear	No Significant Adverse Effect	N/A	Similar disturbance of black bear denning habitat.	Similar Impact
Fisher	No Significant Adverse Effect	N/A	Reduces disturbance of moderate fisher natal denning habitat	Improvement
American Badger	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Townsend‟s big-eared bat	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Great blue heron	No Significant Adverse Effect	N/A	Reduces disturbance of low and moderate value heron feeding habitat	Improvement
Mallard	No Significant Adverse Effect	N/A	Reduces disturbance of low and moderate value mallard duck feeding habitat and low value nesting habitat	Improvement
Barrow‟s goldeneye	No Significant Adverse Effect	N/A	Reduces disturbance of low and moderate value Barrow‟s goldeneye nesting habitat	Improvement
Sandhill crane	No Significant Adverse Effect	N/A	The EA found that there is no nesting habitat and no areas of moderate or high suitability feeding habitat in the mine site LSA.	No Change
Long-billed curlew	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Lewis woodpecker	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Yellow-breasted chat	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Sagebrush Brewer‟s sparrow	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Sharp-tailed grouse	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Prairie falcon	No Significant Adverse Effect	N/A	Nesting habitat is not located in the mine site LSA	No Change
Short-eared owl	No Significant Adverse Effect	N/A	Similar disturbance of short-eared owl feeding habitat	Similar Impact
Flammulated owl	No Significant Adverse Effect	N/A	Not found in the mine footprint.	No Change
Amphibians	No Significant Adverse Effect	N/A	Reduce disturbance of wetlands and riparian areas therefore reduced disturbance of amphibian habitat	Improvement
Summary: Wildlife	**No Significant Adverse Effect**	**No Significant Adverse Effect with Exception of Cumulative Effect on Grizzly Bear**		**Improvement**

Nine of the 21 identified wildlife KI‟s are not found within the mine site area (California big horn sheep, American badger, Townsend‟s big-eared bat, long-billed curlew, Lewis woodpecker, Yellow-breasted chat, sagebrush Brewer‟s sparrow, sharp-tailed grouse or flammulated owl). As a result, the new project design will not change impacts previously identified in the EIS/Application. The new project design will have no change in effect on sandhill crane as there is no nesting habitat and no areas of moderate or high suitability feeding habitat in the mine site area.

Impacts to mule-deer winter habitat; moose winter feeding and shelter habitat; black bear denning habitat; and, short-eared owl feeding habitat are expected to be similar from the revised mine site layout in comparison to the previously proposed design.

Impacts are now reduced to fisher, blue heron, mallard duck, Barrow‟s goldeneye and amphibians with the new mine site layout due to the avoidance of Fish Lake and the immediately surrounding area resulting in less disturbance to feeding and nesting habitat of higher values. Additionally, impacts to migratory birds and their habitat are expected to be reduced as the revised mine layout now preserves Fish Lake and numerous wetlands to the south and southeast of the lake.

With regard to grizzly bear, the revised mine configuration will avoid more areas of moderate value spring feeding habitat, moderate and moderately high value summer feeding habitat, and moderate value fall feeding habitat in comparison to the previous design. To address the federal Review Panel‟s conclusion on the cumulative effect of human interaction and resource development on grizzly bears within the Cariboo-Chilcotin Grizzly Bear Management Unit, Taseko would engage the BC MOE for the purposes of discussing a concept of the Province developing an education and awareness program geared towards the general public, ranchers and land owners in the region that the tourism, forest and mining industries can participate in and support. In addition, Taseko will work with the Ministry to develop a bear population monitoring program, including DNA sampling to improve quality of population data for the Grizzly Bear Management Unit, and support this program during construction and operations.

Actions associated with Panel recommendations 7, 8, 9 and 10 will be implemented for the new Project design.

The BC EAO and federal Review Panel concluded ***no significant effect on wildlife and wildlife habitat*** for the previous project proposed with the exception of the federal Review Panel‟s conclusion of ***cumulative adverse effects on grizzly bear***.

Effects on wildlife and wildlife habitat for the mine site component of the Project have changed; Taseko predicts the effects to be reduced for the new Project. The above noted additional measures, together with all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, as will Panel recommendations, to ensure ***no significant effect on wildlife and wildlife habitat, including grizzly bear,*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

A.2.2.5 Vegetation

Project Setting

Five vegetation zones (Bunchgrass, Engelmann Spruce-Subalpine fir, Interior Douglas-fir, Montane Spruce and Sub-boreal Pine and Spruce) and ten biogeoclimatic units are known to occur in the Project development area. TEM mapping for the mine site and access road, and SEI mapping completed for the transmission corridor supplemented by data from other sources (e.g., CDC, VRI mapping), provides spatially explicit ecological information to support environmental effects predictions.

Based on the 1998 finalized Project Report Specifications and the 2009 Application guidelines, as well as an informed understanding of proposed Project-environment interactions vegetation key indicators (KI) were chosen for vegetation studies (old forest, wetland ecosystems, riparian ecosystems, grassland ecosystems, rare plants, ecological communities of conservation concern, and forest capability).

Old forest ecosystems are primarily pine-leading stands that are over 140 years old. Wetlands in the proposed project area are dominated by fens and herbaceous meadows, which are home to the provincially blue-listed bird's foot buttercup. Riparian areas are represented by transition zones adjacent to and within a 30 m buffer of wetlands, as well as isolated streams and lakes. Grasslands are common features in the proposed Project area. The most common grassland type and only ecosystem to be potentially disturbed by Project development is the Juniper-Kinnikinnick ecosystem. Grassland areas typically have thin soils and are sensitive to disturbance. Eleven rare plant populations are known to occur within or immediately adjacent to the proposed mine footprint: six populations of *Drepanocladus longifolius* (blue-listed), seven populations of *Ranunculus pedatifidus* (blue-listed), and one population of *Schistidium heterophyllum* (red-listed). A total of 32 Conservation Data Center-listed ecological communities have the potential to occur in the overall Project area in the southern Chilcotin. Of these, 11 red-listed and 13 blue-listed have been mapped in one or more of the proposed Project areas.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Key issues for vegetation resources discussed and assessed in the previous EIS/Application include:

- loss of vegetation due to the direct environmental effects of clearing and the indirect environmental effects of proposed Project activities;
- changes in abiotic conditions necessary for vegetation development due to the direct environmental effects of ground disturbance and indirect environmental effects of changes to soil moisture or nutrient status; and,
- changes in the structure or composition of vegetation communities due to the direct environmental effect of clearing and a variety of indirect environmental effects occurring in edge areas adjacent to proposed Project disturbance and areas of activity.

Site clearing and grubbing, including the removal of all vegetation and active soil layers over the majority of the mine site, would result in vegetation loss for all key indicators and may also cause change in composition or change in abiotic community. Further, changes in drainage patterns, lake dewatering and the reclamation of waste rock stockpiles were anticipated to negatively affect the key indicators. Clearing and construction of the transmission line would involve the removal of mature trees and brush within a 30 to 80 m path extending 125 km from Dog Creek to the mine site. This activity would change the structure and composition of the vegetation communities and may result in the loss of rare plant species and removal of old forest. Clearing and ground disturbance along the 2.8 km new access road could potentially result in the loss of rare plants or vegetation communities, changes in structure or composition of vegetation communities, or changes in abiotic conditions necessary for wetlands or rare plant species. Vehicular traffic along the access road during construction and operations could also affect vegetation KI due to dust generation.

Key issues to wetlands are wetland loss and changes in wetland composition and structure. Wetlands in the mine RSA are dominated by fens and herbaceous meadows, which are home to the provincially blue-listed bird‟s foot buttercup. The combined effects of lake dewatering, clearing and grubbing would result in the loss of wetlands in the mine footprint area for a total loss of 403.5 ha or 19.5 percent of all wetlands in the mine site RSA.

The effects of decreased flow during operations to wetlands and vegetation in Lower Fish Creek were assessed in the Application. Key issues of concern for rare plants include the specific habitat requirements and regional availability of each species. At the mine site, site clearing and grubbing, including the removal of all vegetation and active soil layers over the majority of the mine site, would result in vegetation loss and may also cause change in composition or change in the abiotic community. Reclamation would be expected to restore soil productivity and vegetation cover to the mine site area at closure, and initiate conditions that would facilitate the eventual recovery of natural vegetation communities.

There would be no incremental disturbance of vegetation at the concentrate rail load-out site as all activities would occur within the current footprint of the existing facility.

During the review of the Application, additional issues and concerns were raised by MOE and First Nations. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed in Appendix C, Part 12, Vegetation.

During the EIS/Application review phase, a number of participants raised issues regarding the fact that both the mine site and transmission line corridor would be cutting through mature and old growth forest areas, and that more information was required to adequately assess the effect of the Project on mature and old growth forests. However, during the public hearing, most of the issues related to old growth forests were raised by the Esketemc (Alkali Lake Band) as the proposed transmission corridor would cross through their Community Forest. Many of the comments from participants highlighted concerns regarding the threat of invasive species being transported along the transmission line and access corridors and the use of herbicides to control their spread.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

Mitigation measures designed to avoid adverse effects on vegetation were presented and discussed in the EIS/Application. These included:

- planning and implementing environmentally sensitive project design such as the pre-engineering environmental constraints mapping and the site specific rare plant and rare ecosystem surveys that are recommended to precede construction activities;
- design of proposed Project disturbance boundaries to minimize risk of windthrow;
- planning roads and watercourse crossings in a manner that maintains natural drainage patterns;
- collaboration with government agencies and forest licensees to minimize the removal of non-pine species of all ages;
- minimizing disturbance, especially within the 30 m buffer adjacent to wetland and riparian areas; and,
- avoiding vegetation loss through proper project design and mapping, such as avoiding construction activities on south-facing slopes over 15 percent and retaining humus layer and vegetation mat whenever possible.

Mitigation designed to minimize environmental effects of the previously proposed Project during operations included dust suppression, erosion control, and measures to control the introduction and dispersal of noxious weeds. An invasive plant management plan would have been prepared to avoid establishment or dispersal of non-native invasive plant species within the proposed Project area and to monitor

invasive species. This would include a weed management strategy for the maintenance of the transmission line developed in consultation with regulatory agencies, land owners, and First Nations (commitment 12.6).

Mitigation measures designed to restore pre-disturbance ecological values were discussed in the EIS/Application. Mitigation measures presented included the planting of appropriate mixes of deciduous and coniferous species to reforest cleared areas; and salvage, storage and replacement of fertile soil layers and vegetation mats.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing vegetation, wetland and riparian habitat, protection of ecological values and monitoring.

FINDINGS AND CONDITIONS OF APPROVAL

Reclamation planting of grasslands and Taseko‟s commitment to mitigation (Commitments 11.1, 12.2, 12.3, and 12.4) designed to mitigate and compensate effects on wetlands were expected to offset the losses to these ecosystems. While rare plant communities would have been extinguished in the mine footprint, mitigation would have been established to protect species with no other known occurrences and Taseko was working to design the transmission line to avoid ecological communities of conservation concern.

Based on the above analysis and having regard to Taseko‟s commitments (which would become legally binding as a condition of a Certificate), the EAO was satisfied that the proposed Project was not likely to have significant adverse effects on vegetation.

With respect to old growth forest, the federal Review Panel noted that the total loss of old growth forest would be small at both the mine site and along the transmission line. Overall, the Panel considered the effects on old growth forest to be small in magnitude.

With respect to grasslands, the main area affected by the previously proposed Project would be along the transmission line right-of-way. The Panel noted that there would be considerable flexibility in the location of the centreline within the right-of-way and the placement of individual poles and they agreed that the construction of the transmission line would only affect a very small area of grasslands. The Panel determined that the potential effects on grassland ecosystems would be relatively short term and small in areal extent. With the proposed mitigation and environmental management measures, the Panel was of the opinion that the residual effects would be moderate.

The Panel determined that the loss of the Teztan Biny (Fish Lake) and Nabas areas for current use activities, ceremonies, teaching, and cultural and spiritual practices would be irreversible, of high magnitude and have a long-term effect on the Tsilhqot‟in. The federal Review Panel reached the following conclusions:

- That the Project would not result in a significant adverse effect on old growth forest;

- That the Project would not result in a significant adverse effect on grassland ecosystems;
- That the Project would have a significant adverse effect on the Tsilhqot‟in Nation regarding their current use of lands and resources for traditional purposes and on cultural heritage resources; and
- That the Project would not result in significant adverse effects on the Secwepemc Nation‟s current use of land and resources for traditional purposes and on cultural heritage.

In reaching the above noted conclusions the federal Review Panel made the following recommendation:

- RECOMMENDATION 19 - If the Project proceeds, the Panel recommended that Taseko collaborate with the Secwepemc when determining the final alignment of the transmission line centerline in order to minimize disturbance resulting from the Project to areas of importance to the Esketemc (Alkali Lake Band) and Stswecem'c/Xgat‟tem (Canoe Creek Band).
- RECOMMENDATION 20 - If the Project proceeds, the Panel recommended that Taseko commit to monitoring the transplanted *Schistidium heterophyllum* populations and the implementation of appropriate adaptive management measures to ensure its survival.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components of the previously proposed and assessed Project. Changes have been made to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project. As shown in Figure 2-3, while remaining within the previously assessed maximum disturbance area, the ore stockpile and non-PAG waste pile have been moved from Fish Lake to an upland area north and east of the proposed open pit. The TSF, including a smaller West Embankment and a new South Embankment, has been relocated to an area further south and away from Fish Lake.

Vegetation communities affected within the maximum disturbance area would be different but not greater in area due to the changes in location of various mine components. For each of the vegetation Key Indicators assessed in the previous EIS/Application a qualitative assessment of the proposed Project effects was undertaken and is summarized in Table A.2-3.

Table A.2-3 Vegetation Effects in the New Prosperity Project Design Compared to the Previous Project Reviewed in 2009/2010

Vegetation Key Indicator	Determination of Original Project Effects in 2009/2010		Predicted Effects of Revised Mine Layout in New Prosperity on Vegetation, Key Indicators	Change in Effects Compared to Previous Project Reviewed in 2009/2010
	EAO	CEA Agency		
Old Forest	No Significant Adverse Effect	No Significant Adverse Effect		Similar Impact
Wetland Ecosystems	No Significant Adverse Effect	N/A		Similar Impact
Riparian Ecosystems	No Significant Adverse Effect	N/A	Avoidance of Fish Lake, sections of Upper Fish Creek and tributaries to Fish Lake.	Improvement
Grassland Ecosystems	No Significant Adverse Effect	No Significant Adverse Effect	Avoidance of grasslands in Fish Creek Valley	Improvement
Rare Plants	No Significant Adverse Effect	N/A	Avoidance of 7 rare plant sites.	Improvement
Ecological Communities of Conservation Concern	No Significant Adverse Effect	N/A	Avoidance of majority of ecosystem of conservation concern	Improvement
Forest Capability	No Significant Adverse Effect	N/A		Similar Impact
Summary: Vegetation	**No Significant Adverse Effect**	**No Significant Adverse Effect**		**Improvement**

The revised mine site layout is expected to have a reduced impact on vegetation in comparison to the original Project. Vegetation disturbance within the revised mine site layout is approximately 1700 ha, which represent a 19% reduction from the design presented in the previous EIS/Application. The new mine configuration is estimated to have similar effects on old forests and forest capability in comparison to the original layout as the new configuration avoids old forest ecosystems and forest stands of moderate capability in the vicinity of Fish Lake while impacting others located southeast and southwest of Little Fish Lake.

The Project design now preserves wetland and riparian ecosystems surrounding Fish Lake, wetland and grassland ecosystems to the southeast of Fish Lake, and portions of Upper Fish Creek, and numerous tributaries of Fish Lake. In addition, the modified location of the TSF results in the preservation of the 7 rare plant sites located upstream of Fish Lake, and the majority of the provincially red listed Lodgepole pine–trapper's tea–crowberry ecosystem of conservation concern that would have been lost under the previously proposed Project design.

Actions associated with Panel recommendations 19 and 20 will be implemented for the new Project design.

The BC EAO and federal Review Panel concluded ***no significant effect on vegetation*** for the previously proposed project.

Effects on vegetation for the mine site component of the Project have changed; Taseko predicts the effects to be reduced for the new Project. There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of environmental effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented, as will Panel Recommendations, to ensure no significant adverse effect on vegetation with the new Project.

A.2.3 Socio Economic/Health and Ecological Risk

A.2.3.1 Economic

Project Setting

Economic conditions in the proposed Project area are typical of the rural British Columbia economy with a heavy dependence on activities producing various resource related goods for employment, income, and overall community wealth and stability. More than one third of the area‟s labour forces are engaged in primary or

manufacturing activities, compared to 21 percent of the provincial labour force. The regional labour market revolves around these activities and is characterized by high levels of trade and technical workers and lower levels of "white collar" and service industry workers. Unemployment in the Cariboo region was 6.8 percent in 2008 compared to the provincial average of 4.6 percent. Data from BCStats for November 2009 indicates the unemployment rate increased to 12.0 percent, compared to the provincial average of 7.4 percent for the same month. Unemployment rates for First Nations" populations were three times the provincial average in 2007.

Overall, the region is highly dependent on the forest industry. This dependency extends not just to employment and incomes, but to all areas of the economy, including government finances. The Cariboo-Chilcotin Region is one of the most forest-dependent of the province and, while forestry is currently buoyed by increases in the Crown timber supply as a result of salvage and control logging due to the Mountain Pine Beetle epidemic, forestry"s share of future employment and the region"s economic base are expected to decline.

Previously Reviewed Project in 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Key economic issues addressed in the EIS/Application concern employment, income, government finances and regional economic development. The previously proposed Project was expected to result in economic effects at the local and regional scale during construction, operations and decommissioning. The EIS/Application also considered the previously proposed Project effects on current economic drivers, such as tourism and non-resident hunting.

During construction and operations, sales tax and consumption tax revenues would have been generated by the workforce and by Taseko. After the start of operations, government revenues would have included property tax at the mine site, mining taxes and corporate business taxes. A portion of all of these revenues would have flowed back to the study area through government programs spending.

The previously proposed Project would have resulted in an increase in local construction employment income within the area for the construction phase of the Project. During operations the majority of the Project"s annual payroll was expected to be paid locally. Spin-off income (indirect income) was expected as a result of local purchases for operational activities and spending associated with the mine workforce.

Within the Project area, tourism, described as commercial activities other than fishing or hunting purchased by non-residents, consists mostly of freshwater fishing, guide outfitting and adventure tourism. Project effects on tourism assessed within the EIS/Application included the loss of tenure area, air quality effects, visual quality effects, and noise. Positive effects of the previously proposed Project included road improvements and the potential for increased mine-related business that could have resulted in increased revenues for operators in the local area, particularly in the tourism off-season.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

The previously proposed Project would have required a significant number of direct person years annually during the construction and operations phases. To increase the labour market benefits to the local region, Taseko committed to develop local hiring policies, provide education and training opportunities for Taseko employees, develop and implement local procurement policies, and work with First Nations.

Proposed mitigation included discussions with commercial recreation licensees and tourism operators to mitigate effects to noise, atmospheric environment and Project-related transportation effects. In terms of Project benefits, procurement agreements would have been considered with local area operators for accommodation, food and beverage.

To maximize local employment income Taseko committed to undertake partnership training opportunities, recruit local workers and provide flexible employment policies.

As Project effects on government revenue would have been significant and positive, no mitigation was identified or required.

The previously proposed Project would have helped diversify the economic base of the area and create new opportunities for contractors and suppliers. As the service center for the Cariboo, Williams Lake would likely have been the major beneficiary. To facilitate the participation of local businesses and individuals in contracting for the Project, Taseko committed to:

- consider local and regional capabilities when developing contract scope;
- include local suppliers and contractors in its corporate database;
- expect contractors and suppliers to invest in local community success through their purchasing, hiring, subcontracting, and support practices; and,
- work with local and regional economic development offices.

During the review of the EIS/Application, additional issues were raised by the Working Group, First Nations or members of the public. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed in Appendix C, Part 10.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing direct employment, training and business opportunities.

FINDINGS AND CONDITIONS OF APPROVAL

The previously proposed Project‟s effect on direct and indirect employment would have been positive and significant.

The Project may have partially offset lost contract and supply opportunities due to downturn in the economic activity resulting from the Mountain Pine Beetle epidemic. The proposed Project would have had a significant and positive effect on regional economic development.

Having regard to Taseko‟s commitments (which would become legally binding as a condition of a Certificate), the EAO was satisfied that the previously proposed Project would not likely have significant adverse effects on local, regional, and provincial economies. The BC EAO recognized the Project would have significant positive economic benefits that would flow for 22 years and would accrue to the present and the next generation.

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel noted that, consistent with how environmental effects are set out in the *CEAA*, its mandate was limited to assessing the effects of the Project on socio-economic conditions that resulted from a change in the environment. Further, the directions provided by the EIS/Application Guidelines clearly indicated that the Panel would be unable to assess the full spectrum of socio-economic issues that are outside of the *CEAA*. As such, the Panel did not reach any specific conclusions on changes in socio-economic conditions (such as employment, income, government finances and economic and regional development) or on education and training that would not result from a change in the environment. The federal Review Panel further concluded that there was no expected cost to future generations except the loss of Fish and Little Fish Lake, which may be offset by the replacement lake.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components and only changes to the location of various elements within the maximum disturbance area of the previously proposed and assessed Project. A slight increase in direct employment due to longer haul distances within the mine site area is anticipated.

With respect to potential effects on economics the cost to future generations due to the loss of Fish and Little Fish Lakes would be reduced as Fish Lake is no longer lost. All other local, regional, provincial, and federal economic benefits are expected to remain unchanged. Total labour demand will average close to 700 person-years

during construction and 1000 person-years during operations. Annual labour supply will average 248 person-years during construction and 588 person-years during operations. The local and provincial labour markets will adjust to this demand. The boost in regional employment will help offset future expected declines in forestry employment.

Average wages and benefits for construction and mine jobs are considerably higher than average provincial or regional personal incomes. Average wages among many supply businesses (trades, professionals, specialized services) also are above the average wage. The direct and indirect employment impacts will induce an overall increase in total community income and average incomes for the region. Local government, provincial and federal government revenues will increase as a result of the Project. Both levels of government will benefit from increased income and taxes.

The Project will result in an increase in business supply and contract opportunities for local companies during construction and operations of the mine, roughly $20 million annually during construction and operations. This spending should stimulate the small business support sector in Williams Lake, and to a lesser extent the remainder of the Cariboo Regional District. First Nations‟ businesses will attract a share of this activity.

The BC EAO concluded ***many positive economic benefits and no significant adverse economic effects*** for the previous project proposed.

There are no changes to the mine site in the new Project that would have an effect on the previous analysis of the economic effects.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of economic effects for these components.

A.2.3.2 Social

Project Setting

The economy in the proposed Project area is heavily dependent on production of resource related goods. The seasonal and cyclical nature of these industries leads to fluctuating economic activity, population levels, and demand for social services. The region is largely rural, sparsely populated with several small settlements and has Williams Lake as the regional service center. The Mountain Pine Beatle epidemic is expected to shift the region‟s economic base and employment opportunities.

The total road distance from Williams Lake to the mine site is 194 km, which takes approximately three hours under present road conditions.

Previously Reviewed Project in 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The previous EIS/Application addressed changes in population structure, workforce settlement and housing, transportation needs and traffic, and community services. The community services identified for consideration were commercial, retail and industrial services, recreation, basic infrastructure (water, sewer, and transportation), police, fire, justice, and education.

The previously proposed Project was expected to increase the population by 5.5 to 6 percent annually during years 3 to 14 of operations, returning population levels to those experienced in the early 2000s.

The previously proposed Project was anticipated to create demand for approximately 200 housing units in the construction phase, increasing to almost 500 in year one, maintaining over 600 units from years 5 to 10 and decreasing to 200 by year 20.

Taseko proposed to widen 19.4 km of 4500 Road from 5 to 8 meters and add turnouts. A 2.8 km long and 5 m wide access road to the mine site would have been built off of the 4500 Road. To accommodate concentrate from both Gibraltar and Prosperity, Gibraltar‟s existing concentrate load-out facility would have been reconfigured within the same footprint to accommodate the additional 195 rail cars expected to be used monthly.

On all other road networks, the projected traffic as a result of the previously proposed Project would be well under the carrying capacity of local road networks. Highway 97 from Cache Creek to Prince George is currently being upgraded by the Ministry of Transportation and Highways.

Services such as police, fire, education, social services, recreation, infrastructure, justice, commercial, retail, and industrial services were expected to undergo increased demand due to the increased population. The previously proposed Project was expected to increase demand for services by approximately 3.5 percent during mine operations in years 3 to 10 and less in other years.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

To manage potential housing pressures in the previous EIS/Application Taseko committed to the following:

- Working with the CRD, City of Williams Lake, local communities, and the local real estate industry to anticipate, quantify and monitor housing demand and potential supply;

- Alerting and informing landlords and other accommodation suppliers in local communities to anticipate demand for short-term rental units to facilitate settlement; and
- Assisting in establishing a housing placement service for all new employees.

Taseko would encourage employees to live in Williams Lake to minimize localized effects on small rural communities.

To address potential traffic issues Taseko committed to the following:

- Designing a traffic management strategy which would include bussing employees and minimizing on-site parking;
- Scheduling proposed Project traffic to avoid peak periods, ensuring proper signage, radio controlling trucks and buses; and
- Monitoring road conditions, providing regular reports to drivers, and ensuring truck drivers have safe driving records.

During the EIS/Application review Esketemc First Nation members expressed concerns about an increase in drug and alcohol use in neighbouring communities. The previously proposed Project site would be a dry camp (drug and alcohol free) and Taseko discussed working with Esketemc First Nation on programs that would minimize the use of drugs and alcohol in neighbouring communities of concern.

Mitigation also included design of a traffic management strategy which would include bussing employees, minimizing on-site parking, scheduling proposed Project traffic to avoid peak periods, ensuring proper signage, radio controlling trucks and buses, monitoring road conditions, providing regular reports to drivers, and ensuring truck drivers have safe driving records.

During the review of the EIS/Application, additional issues were raised by the responsible provincial ministry and First Nations. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed in Appendix C, Part 10.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing health and safety and emergency response.

FINDINGS AND CONDITIONS OF APPROVAL

The EAO was satisfied that the proposed Project was not likely to have significant adverse social effects and the Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

With respect to social services, the federal Review Panel did not reach any specific conclusions on changes to social services not resulting from a change in the

environment. However, the Panel was of the opinion that some changes in the environment would result in a change in social services. For instance, the loss of the Teztan Biny (Fish Lake) and Nabas areas for harvesting would result in the reduction in the availability of traditional foods, which could result in negative effects to human health. This could lead to an increase in demand for community health services if First Nation members supplement their diet with less nutritious alternatives. Similarly, the Panel was informed that First Nations would be unlikely to harvest traditional foods along the proposed transmission line due to the perception of contamination. This could also result in increased demand on community services such as food banks if community members are unable to meet their dietary needs through traditional foods.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components and only changes to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project.

With respect to potential social effects, the slight increase in workforce as a result of the new mine site configuration is not likely to change the previous finding of no significant adverse effects. The population of the area will still increase in response to new employment generated by the mine during construction as well as operations. The demand for workforce settlement and housing will be a function of employment and population patterns at the mine. As with population, these effects will be greatest during the last year of construction and first year of operations when approximately 400 households will need to be accommodated. This is within the capacity of the regional housing market.

Highway traffic volume will peak in Year 1 of operations. The peak volume plus existing non-Project traffic will be accommodated by existing roads without reduction in service. During operations, rail shipments from the load-out facility will add about 195 railcars per month. The facility will be expanded to accommodate this volume and increase production from Gibraltar. The rail and port operators indicate the incremental volume can be accommodated.

The added demand to public infrastructure (e.g. water/sewer) and public services (e.g. police, education, justice, trade) is not expected to lead to a deterioration of existing service levels.

The BC EAO concluded ***no significant adverse social effects associated with population change, workforce, settlement and housing, and transportation*** for the previous project proposed.

There are no changes to the mine site in the new Project that would have an effect on the previous analysis of these social effects.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of social effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented to ensure no significant adverse effects with the new Project.

A.2.3.3 Community and Health Services

Project Setting

Community and health services include hospital and medical, emergency and social services. Health services for all residents in the region, including First Nations" members, are the responsibility of the Interior Health Authority (IHA).

The federal government provides funding to First Nations communities for a range of locally-delivered health programs (in addition to public health services from the province) including tobacco reduction, Aboriginal Head Start, disease prevention/control and Brighter Futures/Building Healthy Communities.

Community and health services in the area are centered in Williams Lake and limited in the outlying rural areas where the population is much more dispersed. Almost all extended and community care facilities are located in Williams Lake.

Williams Lake and the Cariboo Regional District (CRD) offer several emergency services, including 911 service, fire protection and search and rescue. They also work in cooperation with the Provincial Emergency Program (PEP). Williams Lake and the CRD have emergency plans that coordinate local government, health, RCMP, ambulance, hospital and other services as part of the PEP.

The City of Williams Lake is fully covered by fire fighting services. Ambulances services are available in Williams Lake, Alexis Creek and Anahim Lake. The Alexis Creek Ambulance station services the area from Riske Creek to Tatla Lake and covers the area south to Nemiah. The Central Cariboo Search and Rescue Unit (CCSAR) is based in Williams Lake and assists the RCMP and ambulance services in attending to motor vehicle accident victims, searching for missing persons and aircraft, responding at disaster sites, and providing back up to the agencies aiding disaster victims. They serve the entire area.

Williams Lake has a full range of social services, including advocacy counseling, alcohol and drug treatment, support groups, day care and babysitting. Services specific to men, women, children, families and the disabled are available. The primary provider of social services is the Ministry of Children and Family Development. Services include child protection, family development, adoption, foster care, early childhood development, child care, child and youth mental health, youth justice and services, special needs children and youth, and adult community living services.

Previously Reviewed Project in 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The previous EIS/Application examined the effects of the Project on the demand for community and health services, and the region‟s response to that demand. The demand for health and social services is influenced primarily by population change in the area attributable to new residents working at the mine, and secondarily, to the construction and operation activities of the mine itself.

Hospital and medical, emergency, and social services can be affected by increased populations. In addition, proposed Project employment conditions such as high incomes and extended shift work may contribute to increased risk behaviour of workers. Pressures on certain components of the health care system, such as drug and alcohol treatment and on-reserve addiction counselors can be affected. These pressures are more deeply felt in rural areas as compared to Williams Lake. It was anticipated that the Project-related increase in demand for services would have coincided with the opposite effect due to closure of two mines and the loss of forest manufacturing capacity in Williams Lake.

In the federal Review Panel hearings health practitioners who presented at the community hearing sessions focused on a holistic view of health and the potential effects of the Project on the health of community members, rather than on specific health services. Presenters for the Tsilhqot'in National Government stated that the population of the Tsilhqot‟in Nation was growing rapidly and that their birth rate was higher than non-First Nations communities. Therefore, there would be a growing need for health and social services. This in turn would manifest in a greater need for traditional foods to support a healthy community. It was expressed that the Project would negatively affect these services and needs.

In the federal Review Panel hearings Mayor Kerry Cook raised concerns about social health issues in Williams lake, including crime rates being high, as well as high unemployment and declining school enrollment. She presented that the city needed the Project and the social situation would improve with the Project. Councilor Dave Mingo in 100 Mile House presented similar views regarding social risk factors and the community‟s need for the Project.

The Esketemc First Nation members expressed concerns about an increase in drug and alcohol use in neighbouring communities.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

Mitigation measures were not needed for community and health services as the direction of effects from the proposed Project were anticipated to be positive. For First Nations members employed by the Project, it was anticipated that the demand for health services might increase where access is constrained (i.e. on reserve) but hiring, scheduling and contracting with First Nations‟ workers in a manner that is sensitive to their family and social needs would help minimize these effects.

The Project site would be a dry camp (drug and alcohol free) and Taseko has discussed working with Esketemc First Nation on programs that would minimize the use of drugs and alcohol in these communities.

FINDINGS AND CONDITIONS OF APPROVAL

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel agreed with Taseko's conclusion that while the demand on health services may increase, any such increase in pressure on health services would be offset by the surplus of service availability that existed due to the population declines that have accompanied the downturn in the forest industry in the region. The Panel concluded that the Project would not result in a significant adverse effect on community health services.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components and only changes to the location of various elements of the mine site within the maximum disturbance area of the previously proposed and assessed Project.

The BC EAO and federal Review Panel concluded ***no significant effect on community and health services*** for the previous project proposed.

The slight increase in workforce as a result of the new mine site configuration is predicted by Taseko to result in similar effects on community and health services for the new Project.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of effects on community and health services for these components.

A.2.3.4 Land Use

Project Setting

The EIS/Application reported that the Cariboo-Chilcotin Region covers an area of 8 million ha. The total proposed Project clearing area accounts for 2,000 ha (including the mine site and transmission line right of way), most of which is located on Crown land. The mineral tenures associated with the pit, tailings and plantsite are 100% owned by Taseko.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

The mine site, transmission line right-of-way and the access roads would have directly impacted and displaced non-compatible uses of the land such as forestry, grazing, hunting and trapping and recreation and tourism activities for the life of the Project and possibly longer.

Key issues relating to land and resource uses identified by the Panel include potential effects on forestry, agriculture and ranching, hunting and trapping, and recreation and tourism activities. Mine site clearing would have affected the reforestation of tracts of forest that were recently harvested or planned to be harvested. In addition, during operations, the forest land occupied by the Project would not contribute to the regional timber supply.

There are 2 area-based forest tenures in the transmission line right-of-way: a 20 ha woodlot license issued to an individual; and the 26,000 ha Community Forest license held the Esketemc First Nations (Alkali Lake Band).

The main effect of the previously proposed Project on range tenures administered by the Ministry of Forest and Range would be the availability of forage for livestock, effects on cattle movement, and the spread of noxious weeds, particularly along the transmission right-of-way.

The proposed mine site area would affect land licensed for use by 7 registered guide outfitters and the mine site access road would overlap with 3 guide outfitter licenses. The proposed transmission line would overlap another 5 guide outfitter licenses. The proposed Project would affect tourism activity within the immediate area, but no effect on regional tourism activities was anticipated.

Public recreation at the mine site would be directly affected. The mine and associated infrastructure could affect the quality of the recreational experience for some users by affecting visual quality, noise levels and remoteness.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

Taseko indicated that, together with the Ministry of Forest and Range, it would work with the Esketemc to address issues related to harvesting of commercial timber in a section of the right-of-way that overlapped with the Community Forest, and to discuss options in terms of accommodation for the timber loss or finding an alternate location for the transmission line.

Taseko further indicated it would pursue measures to mitigate potential negative effects to trappers affected by the Project by exploring settlement and compensation agreements such as relocation or other management strategies that would maintain trapping potential without incurring costs to Taseko.

While there are no commercial recreation tenures at Fish Lake, the previously proposed Project would have eliminated recreational and guided sports fishing at Fish Lake and the associated fishery. Key issues for public recreation were the loss of Fish Lake and the adjoining recreation site, as well as changes in the quality of recreational activities as a result of the previously proposed Project.

With respect to trapping, while the economic value from trapping in the area is small, it is an important recreational activity for those involved. In the EIS/Application, Taseko proposed to impose a hunting ban for mine employees and to work with affected trappers on relocation of traplines or other management strategies.

In the EIS/Application Taseko proposed mitigation and compensation, which included the creation of Prosperity Lake and associated stream habitat, to increase opportunities for First Nations‟ fisheries and anglers. In addition Taseko committed to instituting fishing and hunting bans for contractors and mine employees to protect stocks from over exploitation.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing the protection of ecological values and consultation with communities and First Nations.

FINDINGS AND CONDITIONS OF APPROVAL

The EAO concluded that while the loss of Fish Lake and associated recreation site would have adverse effects on a local scale, there are nearby areas to absorb that recreational activity. They concluded that having regard to Taseko‟s commitments (which became legally binding as a condition of the Certificate), they were satisfied that the previously proposed Project was not likely to have significant adverse social effects.

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

The federal Review Panel reached the following conclusions:

- That the Project would not result in a significant adverse effect on the forest industry;
- That the proposed mine site would result in a locally significant adverse effect on the users of the meadows within the Teztan Yeqox (Fish Creek) watershed due to the loss of grazing lands;
- That the Project would not result in a significant adverse effect on ranching and grazing along the transmission line corridor;
- That the Project would not result in a significant adverse effect on hunting in the region;
- That the Project would not result in a significant adverse effect on trapping in the region, but would result in a significant adverse effect on the Xeni Gwet"in (Nemiah Band)/Sonny Lulua trapline that would be most affected by the mine site footprint; and
- That the Project would not result in a significant adverse effect on tourism and recreation in the region, but would result in a significant adverse effect on Taseko Lake Outfitters tourism business.

In reaching the above noted conclusions the federal Review Panel made the following recommendation;

- RECOMMENDATION 12 - If the Project proceeds, the Panel recommended that Taseko consider relocating the transmission line outside the Esketemc Community Forest, or consider options mutually agreeable to all parties involved to minimize or compensate for the effects on the Community Forest.
- RECOMMENDATION 13 - If the Project proceeds, the Panel recommended that Taseko meet with the affected tourism business owners to discuss compensation for lost business as a form of mitigation.
- RECOMMENDATION 14 - If the Project proceeds, the Panel recommended that Taseko monitor ground level concentrations of particulate matter at the Taseko Lake Lodge.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility

components and only changes to the location of various elements within the maximum disturbance area of the previously proposed and assessed Project.

With respect to potential effects on land uses, the new mine configuration will preserve Fish Lake and more of the meadows and wetlands immediately adjacent to the lake reducing the impact on grazing, trapping and tourism. Use of these lands for these purposes will be possible during mine operations if approved by the appropriate regulatory agency managing grazing on Crown lands, and provided that provisions regarding access under the Health, Safety and Reclamation Code for Mines in British Columbia are met.

Actions associated with Panel recommendations 12, 13, and 14 will be implemented for the new Project design.

The BC EAO concluded ***no significant effect on land and resource users*** for the previous project proposed.

Effects on land and resource users for the mine site component have changed; Taseko predicts them to be reduced for the new Project.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of effects on land and resource users for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented, as will Panel recommendations, to ensure ***no significant effect on land and resource users*** in the new Project.

A.2.3.5 Human Health and Ecological Risk

Project Setting

The proposed Project area in the Chilcotin Region of south central British Columbia is undeveloped and remote with no existing industrial or mining facilities located within the immediate area.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Chemical risks to human health and risks to ecological health were considered and assessed in the EIS/Application. Specifically wildlife and vegetation were chosen to focus the assessment of effects on human and ecological health on the basis of their importance as country foods to First Nations and local hunters and trappers. Effects

on ecological health were also considered due to the abundance of wildlife (i.e., mammals, birds, amphibians, reptiles and invertebrates) and wildlife habitat in the vicinity of the previously proposed Project. This is important for maintaining healthy, sustainable wildlife populations in the region.

Potential effects on human and ecological health specifically related to exposure to aerial emissions and water discharges from the previously proposed Project were examined. A considerable amount of baseline data on metal concentrations in soil, sediment, water and vegetation has been collected over the past decade at the mine site. All baseline soil, water and sediment concentrations of the inorganic elements were below their respective guidelines in the Project area, with the exception of boron in soil. It is unlikely that human receptors would be in direct contact with these environmental media in levels that exceed contaminated site guidelines. As a result, country foods were the focus of the human health assessment.

There are three key issues associated with the previously proposed mine that have the potential to change the chemical environment and impact human health:

- Emissions of Criteria Air Contaminants (CAC) from Project activities have the potential to affect human health.
- Deposition of inorganic elements on soil from releases from mining activity would have the potential to increase soil metal concentrations and affect country foods for human consumption and ecological health.
- Release, seepage or discharge of groundwater and surface water and associated metals to watershed post-closure have the potential to increase the metal body burden of fish tissue and thus potentially affect human health and ecological receptors through consumption.

During the review of the previous EIS/Application, additional issues were raised by the Working Group, First Nations or members of the public. These issues, the Proponent responses and EAO‟s assessment of the adequacy of responses are detailed in Appendix C, Part 7 of the Environmental Certificate.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the previous EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

No health specific mitigation was proposed in the EIS/Application beyond that proposed in the air quality, water quality, and terrain and soils sections of the EIS/Application. Taseko committed to implement a monitoring plan for metal concentrations in soils, local surface water and vegetation throughout the Project area.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing an environmental management system,

monitoring, air emissions, adaptive management and the protection of ecological values.

FINDINGS AND CONDITIONS OF APPROVAL

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

Based on the analysis and information presented and having regard to Taseko‟s commitments (which would become legally binding as a condition of a Certificate), the EAO was satisfied that the proposed Project was not likely to have significant adverse effects on human health.

The federal Review Panel concluded that the previously proposed Project would not result in a significant adverse effect on human health from consuming fish, moose meat and drinking water.

In reaching the above noted conclusions the federal Review Panel made the following recommendation;

- RECOMMENDATION 18 - If the Project proceeds, the Panel recommends that Taseko monitor arsenic and mercury in fish tissue as a precautionary matter to verify predictions and the results of the monitoring be provided to appropriate federal and provincial authorities.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components and only changes to the location of various elements within the maximum disturbance area of the previously proposed and assessed Project.

With respect to potential effects on human health and ecological risk the slight increase in number of workers and the revised mine configuration is not likely to change the previous conclusions of no significant adverse effect.

Actions associated with Panel recommendation 18 will be implemented for the new Project design.

The BC EAO concluded ***no significant effect on human health and healthy living*** for the previous project proposed.

There are no changes to the mine site in the new Project that would have an effect on the previous analysis of the health effects.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of health effects for these components.

All mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010 will be implemented, as will the Panel Recommendations, to ensure no significant adverse effect on health with the new Project.

A.2.3.6 Navigable Waters

Project Setting

Fish Lake and Little Fish Lake are the main water bodies located within the area of proposed mine site. Water bodies in the Fish Creek watershed and surrounding region are used primarily for angling and fishing. The Fraser River, Dediny Qox (Big Creek), and approximately 125 smaller streams are located within the transmission line right-of-way.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

Water bodies that would have been directly affected by the previously proposed Project include Teztan Biny (Fish Lake) and Y"anah Biny (Little Fish Lake). Waterways that would be directly affected by the previously proposed Project include Teztan Yeqox (Fish Creek), the Fraser River, Dediny Qox (Big Creek), and roughly 125 smaller stream crossings.

Although several water ways would have been affected by the construction of the proposed transmission line, it would not directly affect navigable waters as the line would span all crossing sites of Dediny Qox (Big Creek), Fraser River and the unnamed stream crossings. During the final design phase, the Fraser River crossing would need to be reviewed by Transport Canada (TC) to determine if lighting or marking of transmission line structures would be required to meet safety standards.

Transport Canada indicated that the previously proposed Project, in addition to extinguishing boating activity, would eliminate all fishing and recreation activities at the mine site.

As presented during the federal Review Panel review, TC would as a minimum expect Taseko to:

- create Prosperity Lake in a way that would mitigate for the loss of navigation and associated activities in Teztan Biny (Fish Lake), Y"anah Biny (Little Fish Lake) and portions of Teztan Yeqox (Fish Creek); and

- develop additional or enhanced access to other navigable lakes in the area to mitigate this loss in the interim until access to Prosperity Lake would be possible and it would be functioning as predicted.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

The Fraser River, Dediny Qox (Big Creek), and the approximately 125 smaller stream crossings would be within the 30 – 80 m wide transmission line right-of-way. Taseko anticipated that the transmission line would not directly affect navigable waters as the line would span all crossing sites of Dediny Qox (Big Creek) and the unnamed stream crossings.

Taseko noted that the proposed Prosperity Lake would provide 122 ha for navigation and would support a fishery as soon as the lake was established.

FINDINGS AND CONDITIONS OF APPROVAL

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

TC and the federal Review Panel both concluded that the previously proposed Project would cause significant adverse effects on navigation unless Taseko provided technically and economically feasible measures to mitigate these effects. TC stated in its written submission that at the time of the public hearing Taseko had not offered any proposals to mitigate interferences to navigation. The federal Review Panel agreed with TC‟s conclusion that the Project would have a significant adverse effect on navigation.

In reaching the above noted conclusion the federal Review Panel made the following recommendations;

- RECOMMENDATION 15 - If the Project proceeds, the Panel recommends that Transport Canada hold further discussion with Taseko, First Nations and recreational users to determine whether interim access to other lakes would be desirable and if so, appropriate measures be developed to minimize the environmental effects of creating increased access to navigation and related fishing opportunities elsewhere.
- RECOMMENDATION 16 - If the Project proceeds, the Panel recommends that Taseko provide access to Prosperity Lake within the same season that the lake becomes available as a compensation fishery – in approximately Year 7 of the operations phase.
- RECOMMENDATION 17 - If the Project proceeds, the Panel recommends that Taseko establish access to Prosperity Lake to allow for boat launching, camping and fishing to replicate as much as possible the water bodies it would replace.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components. The new mine configuration preserves Fish Lake and the lower portions of Upper Fish Creek, enabling future generations" use of these waters for navigation, fishing, recreational activities and other traditional uses. Rather than implement actions associated with Panel Recommendation 16 and 17 above regarding Prosperity Lake, access to Fish Lake during operations will be possible provided that provisions regarding access under the Health, Safety and Reclamation Code for Mines in British Columbia are met.

If the Project proceeds, Taseko would participate in discussions with TC, as stated in Panel recommendation 15, to determine whether interim access to other lakes would be desirable and if so, appropriate measures be developed to minimize the environmental effects of creating increased access to navigation and related fishing opportunities elsewhere.

The federal Review Panel concluded ***significant adverse effects on navigation*** for the previous project proposed.

Effects on navigation for the mine site component of the Project have changed; Taseko predicts the effects to be significantly reduced for the new Project. The above noted additional measures, together with all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, as will Panel recommendations, to ensure ***no significant effect on navigation*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate rail load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of effects on navigation for these components.

A.2.3.7 Archaeological and Heritage Resources

Project Setting

Archaeological sites commonly found within the Montane Spruce and sub-Boreal Pine-Spruce Biogeoclimatic Zones of the proposed Project area reflect a nomadic, hunter-gatherer existence. Between 1993 and 2007 at least three archaeological field studies have been carried out in support of the previously proposed Project. The latest field study performed in the summer and fall of 2006 and 2007 included surface examination, shovel tests, and the excavation of evaluation units. A total of 15,882 shovel tests and five evaluation units were excavated within the study area. This resulted in the identification of 69 newly identified pre-1846 archaeological

sites, the reassessment of 10 previously recorded pre-1846 sites, identification of 34 post-1846 Culturally Modified Trees, and the identification of nine historic cabins, four historic corrals, and one historic fence. Of the 79 protected sites identified, a lithic component was found at 73 of the sites, subsistence or habitation features were identified at 21 of the sites, a faunal component was identified at 10 of the sites, and a single potential historic human burial was identified at one of the sites.

Previously Reviewed Project from 2009/2010

ISSUES AND EFFECTS IDENTIFIED

In the EIS/Application, a scientific significance ranking system was developed for mitigating previously proposed Project impacts of archaeological effects. This system took into account the projected subsurface density of lithics and the presence of archaeological features or artefact types. Thirty-nine (49 percent) of the sites identified were assessed as having low scientific value. This value was assigned to traits with an extremely small site area, lack of archaeological features, absent or negligible subsurface artefacts and/or an absence of diagnostic artefacts or formed tools. Twenty-nine (37 percent) of the pre-1846 archaeological sites were assessed as having moderate scientific significance. This value was assigned to sites with a confirmed or expected presence of stratified cultural deposits or sites which include subsistence features and/or an artefact component in which diagnostic artefacts or formed tools have been identified. Eleven (14 percent) of the pre-1846 sites were assessed as having high scientific value. High significance rating was assigned to any site with a habitation feature, human remains, or a combination of multiple site components indicating varied or prolonged site usage and additional work may be considered appropriate.

MITIGATION IDENTIFIED IN APPLICATION AND DURING APPLICATION REVIEW

As a critical component of the EIS/Application numerous mitigation measures designed to eliminate, reduce or control any potentially adverse environmental effect of the previously proposed Project were developed and proposed. These mitigation measures are summarized in Appendix C.

Mitigation measures discussed within the EIS/Application included avoidance through changes in proposed Project design, implementation of site protections measures, and systematic data recovery. No further study was proposed for the sites identified as having low scientific value. Of the 29 archaeological sites considered to have moderate scientific significance, 5 could be avoided. Small scale archaeological investigation was recommended for an additional 16 of these sites. No investigation was recommended for the remaining eight, based on detailed review of these sites.

Eleven archaeological sites were considered to have high archaeological significance. Seven of these eleven could be avoided and additional study was recommended for the remaining four sites.

As part of final design and prior to construction of the transmission line, Taseko undertook to complete an Archaeological Investigation Assessment of the 30 to 80 m right-of-way (ROW) along the preliminary center line of the transmission line. During the final design phase, alignment and placement of the poles would have been adjusted to avoid any conflict with identified and recorded archaeological sites.

During the review of the EIS/Application, additional issues were raised by the responsible provincial ministry and First Nations. These issues, Taseko‟s responses and EAO‟s assessment of the adequacy of responses are detailed in Appendix C, Part 4.

During the Application Review stage, Taseko developed a Table of Commitments which included commitments addressing cultural heritage resources.

FINDINGS AND CONDITIONS OF APPROVAL

The Environmental Assessment Certificate was issued on the condition that Taseko must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the conditions of the Environmental Assessment Certificate, the documents listed in Schedule A and the Table of the Proponents Commitments in Schedule B (Environmental Assessment Certificate #M09-02, 14 January 2010).

Based on the analysis and information presented and having regard to Taseko‟s commitments, the EAO was satisfied that the previously proposed Project was not likely to have significant adverse effects on archaeological and heritage resources.

The federal Review Panel noted that there were discrepancies between the findings of the archeological impact assessment conducted by Taseko at the mine site and observations made by the Tsilhqot'in during the public hearing. The Panel recognized that if the Project proceeds, artifacts would be excavated and preserved off site. The Panel also recognized that provided care was taken during construction activities to identify and collect artifacts, artifacts could be preserved, albeit in a manner that would not be in accordance with First Nation culture.

The Panel concluded that, provided the recommendation identified by the Panel was implemented, the previously proposed Project would not result in a significant adverse effect on physical heritage and sites of archaeological importance.

In reaching the above noted conclusion the federal panel made the following recommendation:

- RECOMMENDATION 11 - If the Project proceeds, the Panel recommends that local First Nations, the Province and Taseko develop an agreement outlining mitigation measures to avoid or minimize damage to archaeological finds, as well as how found artifacts would be preserved. The agreement should incorporate traditional values of First Nations and be completed prior to the start of construction. In particular, the Panel recommends that as a component of such an agreement Taseko consider the development and implementation of a chance find procedure in collaboration with First Nations and the Province to address all artifacts found during construction of mine site infrastructure and the

transmission line right-of-way, including a process of communication with First Nations to address chance finds and employ a trained archaeological monitor to evaluate effects during construction activity.

Proposed New Prosperity Project

The currently proposed Project involves no change to construction, operation and closure of the access road, transmission line and concentrate load out facility components. The new mine configuration is an improvement to archaeological and historic values as it preserves Fish Lake and adjacent archaeological sites of which 25 are of moderate or high importance. It is anticipated that an evaluation of the new TSF footprint and Waste Rock and Ore stockpile footprint in terms of overlap with known sites of significance would show little or no overlap. The area preserved has the highest concentration of significant archaeological sites in the proposed mines site area and they will all be avoided. The new mine site layout also preserves 31 of the 34 post-1846 culturally modified trees.

Actions associated with Panel recommendation 11 will be implemented for the new Project design.

The BC EAO and federal Review Panel concluded ***no significant effect on archaeological resources*** for the previous project proposed.

Effects on archaeological resources for the mine site component of the Project have changed; Taseko predicts the effects to be significantly reduced for the new Project. The above noted additional measures, together with all mitigation measures, monitoring and commitments previously proposed and included as legally binding obligations of the Environmental Assessment Certificate #M09-02 dated 14 January 2010, will be implemented, as will Panel recommendations, to ensure ***no significant effect on archaeological resources*** with the new Project.

There are no changes to the proposed access road, transmission line and concentrate load out facility components of the project; therefore, there are no changes that would have an effect on the previous analysis of effects on archaeological resources for these components.

A3 Additional Requirements Pursuant to *CEAA*

1 Cumulative Impacts

Under Section 16(1)(a) of the Canadian Environmental Assessment Act, Federal regulators are required to consider cumulative environmental effects that could result from the development of a project in combination with other projects or activities that could be developed in the region.

1.1 Additional Mine Reserves

Previously Reviewed Project in 2009/2010

ISSUES AND EFFECTS IDENTIFIED

On November 2, 2009, Taseko issued a news release in which it announced a 70% increase in mineral reserves at Prosperity. The news release stated that the increase in recoverable metal, under present mine design criteria, could extend the life of the Prosperity mine from 20 years to 33 years. With respect to future mine life extensions Taseko noted that any decision to extend the mine life would only occur after a multitude of input criteria were evaluated, most importantly metal prices.

The British Columbia Environmental Assessment Office (EAO) determined in its review that any mine life increase would be reviewed under the relevant policy and legislation at that time. The EAO did not consider a potential extension of the mine life beyond 20 years as a relevant component of the EAO review. A mine life extension did not meet EAO‟s test for consideration as part of the cumulative impacts analysis given that it was not certain that it would ever proceed.

In its letter of November 30, 2009, the federal Review Panel stated its opinion that while the potential extension of the mine life should not be considered part of the Project under review, it was a reasonably foreseeable future action as defined by the Canadian Environmental Assessment Agency‟s guidance. As such, the Panel determined that the potential of a 13 year extension of the mine life was to be included in the assessment of cumulative effects related to Prosperity‟s environmental assessment.

FINDINGS

Taseko submitted that should the mine life be extended life, support facilities and/or mine site infrastructure would not change in any material way. In addition, the nature of activities associated with the overall development plan, including the transportation corridor, transmission line and load-out facility, would not change other than to increase the duration of the time the mine and these support facilities were in use. Taseko indicated that if mine life was extended there would be a need to process additional ore and those modifications to the mine plan and closure and

reclamation would fall under amendments to the Mining Permit issued by the Province of British Columbia.

The Panel concluded that the proposed mine, in combination with an extended mine life proposal, would not result in a significant adverse cumulative effect on surface water and/or groundwater.

Proposed New Prosperity Project

Consistent with the previously proposed development plan, an approval by Taseko to extract all or a portion of added reserves is supplemental to those contemplated by this application and would, before moving ahead, consider a number of factors such as metal prices at the time, exchange rates, supply demand criteria for copper and gold, as well as geotechnical and hydrogeological operating performance and monitoring with respect to potential impacts on Fish Lake. While such a proposal would require regulatory approval in place at the time, the mine development would not change and none of the facilities would be affected. There would be no changes to the access road, transmission line or concentrate rail load-out facility.

1.2 Grizzly Bear

From its review of the mine proposal in 2009/2010, the Panel found, together with past, present and reasonably foreseeable future forestry activities in the area, significant adverse cumulative effect on the South Chilcotin grizzly bear population. The New Prosperity Project‟s effect on Grizzly bear is described in Section 2.5.2.3 of this Project Description.

2 Sustainability Features

The New Prosperity Project will contribute to the sustainability of the region by facilitating acquisition of job skills and supporting local business capacity that can be used outside of mining or at other mining projects in the future, adding economic diversity to the local economy, and increasing government revenues, especially when the mine is in full operation.

The mine site layout of New Prosperity maintains environmental sustainability consistent with the proposal reviewed in 2009/2010 as the mine footprint remains within one watershed and minimizes residual effects on soils, vegetations and plants, wildlife, aquatic resources, fish communities and fish habitats.

The mine site layout in New Prosperity enhances cultural sustainability compared to the project previously reviewed in 2009/2010 by preserving a water body and island of cultural heritage and sites that are of archaeological significance.

Historical hunting and trapping in the area by the Tsilhqot‟in people is considered in determining post-mining land use. The primary end land use goal for New Prosperity will be wildlife habitat, including habitat for small mammals and waterfowl. With regard to aquatic ecosystems, the preservation of Fish Lake and required spawning habitat will support productive rainbow trout fisheries for First Nations during operations. The

reclamation and decommissioning program will foster the return to self-sustaining vegetation communities and aquatic systems.

3 Capacity of Renewable Resources

The federal Review Panel concluded that the proposal reviewed in 2009/2010 would result in the inability of the fisheries resource in the Fish Creek watershed and the South Chilcotin grizzly bear population to meet the needs of present and future generations. The mine site layout in New Prosperity relative to fisheries and grizzly bear are summarized in Sections 2.5.2.2 and 2.5.2.3 of this submission, respectively.

4 Biodiversity

The federal Review Panel concluded that the proposal reviewed in 2009/2010 would not result in a significant adverse effect on biodiversity. Conclusions of significant effect are not anticipated to change as a result of the mine site layout in New Prosperity. Impacts on biodiversity values are expected to be significantly reduced with the New Prosperity‟s project design due to the preservation of Fish Lake, reduced impact on rare plants, reduced hectares of land disturbance, and the new mitigation measures to assist with grizzly bear population monitoring and protection.

5 Effects of Environment on the Project

The federal Review Panel concluded that the effects of the environment on the previous proposal reviewed in 2009/2010 would not be significant. Conclusions of significant effect are not anticipated to change as a result of the mine site layout in New Prosperity.

6 Measures to Enhance any Beneficial Environmental Effects

The federal Review Panel concluded that the proposed mitigation measures in the proposal reviewed in 2009/2010 would not result in an enhancement of beneficial environmental effects. The effects assessment is unchanged with the mine site layout in New Prosperity; however, the proposed actions in Section 2.5.2.3 of this report relative to a Grizzly Bear Education and Awareness Program and population monitoring could result in a significant beneficial environmental effect for the Cariboo-Chilcotin region.

7 Accidents and Malfunctions and Unplanned Events

The federal Review Panel concluded that the proposed mitigation measures, emergency plans and commitments to address the possibility of accidents and malfunctions were adequate in the proposal reviewed in 2009/2010. The measures, plans and commitments in New Prosperity are unchanged from those previously reviewed.

A4 Summary of Potential Environmental Effects

Provincial Assessment

From its review of the development proposal in 2009/2010, the BC EAO concluded that the mine would result in significant adverse effects to fish, fishery, and fish habitat, but in consideration of compensation proposed and economic benefits of the project, the adverse effects were justified.

The economic effects of this New Prosperity Project are unchanged from the proposal reviewed in 2009/2010. The magnitude of the New Prosperity Project‟s economic impact, its job creation and business development capacity, can be measured on both a provincial and national scale. It will create 550 direct and 1280 indirect jobs annually and provide 22 years of economic development in the Province of British Columbia. These are positive impacts for an area hard hit by the Mountain Pine Beetle epidemic.

Numerous social and environmental aspects of the project are improved with the new mine site layout in New Prosperity and are summarized in Tables A.4-1 and A.4-3. The mine site layout remains within the local study area (LSA) for which the 2009 Provincial EA was conducted, and 23% fewer hectares of disturbance to land and water are now proposed.

Federal Assessment

The federal Review Panel concluded that the proposal reviewed in 2009/2010 would result in significant adverse environmental effects on fish and fish habitat; navigation, current use of lands and resources for traditional purposes by First Nations and on cultural heritage, and certain potential or established Aboriginal rights or title. The federal Review Panel also concluded that the proposal, in combination with past, present and reasonably foreseeable future Projects would result in a significant adverse cumulative effect on grizzly bears in the South Chilcotin region.

What Taseko heard during the federal Panel hearings in the 2009/2010 review was that a major concern the Tsilhqot'in people had with the original Project design was the loss of Fish Lake. The main concerns that were expressed included reasons relating to cultural heritage, gathering plants, a place to take their children, and fishing. The Tsilhqot'in challenged the alternatives assessment and took the position that a mine design that saved Fish Lake should have been put forward instead.

The New Prosperity Project‟s mine site layout is designed to address the Panel‟s and First Nations concerns with the 2009/2010 proposal. Table A.4-2 summarizes the improvements arising from the revisions to the mine site layout.

The preservation of Fish Lake and adjacent habitat reduces the impact to fish and fish habitat, navigation, and First Nations use and cultural heritage. In addition, total land disturbed with New Prosperity is less compared to the project reviewed in 2009/2010; more grizzly bear habitat is preserved, and a new mitigation measure is proposed to assist with the MOE‟s efforts in protecting the region‟s threatened grizzly bear population.

When the mine proposal was presented for the Environmental Assessment in 2009/2010, the generally held view of long term metal prices suggested that a mine design that did not require the loss of Fish Lake would have made the Project uneconomic.

However, expectations concerning long term metal prices have now increased so that a Project design that preserves Fish Lake will be economically feasible, although this accommodation is expected to increase the cost of the Project by approximately $300,000,000.

With regard to Aboriginal rights or title, the Province has recently demonstrated its willingness to sign Revenue Sharing agreements with First Nations which will result in significant economic benefits to participating communities. In addition, Taseko remains committed to working with First Nations, to ensure local people benefit from the Project through employment, contracting and education/ training opportunities.

Table A.4-1 Fish Habitat Effects of New Project Design Compared to Previous Project

	Effects of Previous Project Reviewed in 2009/2010	***Effects of New Prosperity Project***	***Amount of Habitat Retained***	***% Improvement in New Prosperity Compared to Project Reviewed in 2009/2010***
Lake Habitat	118 ha	6.6 ha	111 ha	94%
Fish-Bearing Stream Habitat	34,817 m^2	20,590 m^2	14,227 m^2	41%
Non-Fish Bearing Stream Habitat	53,444 m^2	20,633 m^2	32,811 m^2	61%
Riparian Habitat Along Streams	85,000 m^2	20,072 m^2	64,928 m^2	76%

Table A.4-2 Summary of Environmental and Social Effects of the New Prosperity Project Compared to the proposal reviewed by the federal Review Panel in 2009/2010

Environmental Assessment Valued Components	federal Review Panel Conclusions on Project Design in 2009/2010	Predicted Changes to Conclusions with New Prosperity Project Design
Effects on Atmospheric Environment	No Significant Effect	No Change
Effects on Acoustic Environment	No Significant Effect	No Change
Surface & Ground Water Hydrology	No Significant Effect	No Change
Water Quality and Aquatic Ecology	No Significant Effect	No Change
Fish and Fish Habitat	Significant Adverse Effect as plan does not meet DFO policy; does not mitigate loss of fishery in the watershed for First Nations	Significant Reduction in Effect on Fish, Fish Habitat and Fishing. Compensation Plan to be developed for remaining loss of fish habitat consistent with provincial and federal Policies and Legislation
Terrain and Soils	No Significant Effect	No Change
Old Growth Forest and Grasslands	No Significant Effect	Reduced Effect
Wildlife (Mule Deer and Moose)	No Significant Effect	Reduced Effect
Social – First Nations cultural and heritage values	Significant Adverse Effect on the Tsilhqotʹinʹs current use of lands and resources and on cultural heritage resources with no mitigation measures	Significant Reduction in Effect
Other Resource Uses	No Significant Effect to Resource users except for local use of meadows, trapline within mine site area, and on Taseko Lake Outfitters.	Reduced Effect
Human and Ecological Health	No Significant Effect	No Change
Navigable Waters	Significant Adverse Effect	Significant Reduction in Effect
Archaeological and Heritage Resources	No Significant effect	Significant Reduction in Effect
Effects of the Environment on the Project	No Significant Effect	No Change
Accidents and Malfunctions	Assessment adequate as presented.	No Change
Sustainability	No Significant Effect	No Change
Current Use of Lands and Resources Tsilhqotʹin	Significant Adverse Effect on Tsilhqotʹinʹs current use of lands and resources and on cultural heritage resources with no compensation	Significant Reduction in Effect
Secwepemc (Esketemc and Stswecemʹcʹ/Xgatʹtem)	No significant adverse effect	No Change
Cumulative Effects Assessment Vegetation	No significant effect	No Change
Mule Deer and Moose	No significant effect	No Change
Grizzly Bear	Significant effect on Grizzly Bear Population as mitigation measures of speed control not likely successful, no mitigation measures for lost habitat or fragmentation, no mitigation measures to offset forestry activities	Reduced Effect
Groundwater	No significant effect	No Change
Fish and Fish Habitat	Significant effect on fish and fish habitat	Significant Reduction in Effect
Potential or Established Aboriginal Rights Tsilhqotʹin	Significant adverse effect on Tsilhqotʹin established rights, potential right to fish in Teztan Biny, and title that could be granted, with no offer of compensation	Reduced effect on established rights, and significant reduction if effects to potential right to fish in Teztan Biny. No change to potential effects on title that could be granted
Secwepemc (Esketemc and Stswecemʹcʹ/Xgatʹtem)	No significant adverse effect on established or potential Secwepemc rights, but depending on treaty outcomes, potential for significant effect on Esketemc and Stswecemʹcʹ/Xgatʹtem title, with no offer of compensation	No Change to potential effects on title that could be granted

Table A.4-3 Summary of the Environmental, Economic and Social Effects of the New Prosperity Project Design Compared to the Previous Project Assessed by the Province in 2009

Environmental Assessment Valued Components	EAO Conclusions on Previous Project Design in 2009	Predicted Changes to Conclusions with New Prosperity Project Design
Effects from Metal Leaching/Acid Rock Drainage		
Effects on Atmospheric Environment	No Significant Effect	No Change
Surface & Ground Water Hydrology	No Significant Effect	No Change
Water Quality and Aquatic Ecology	No Significant Effect	No Change
Fish and Fish Habitat	Significant adverse effect but justified in light of economic benefits	Significant Reduction in Effect on Fish, Fish Habitat and Fishing. Compensation Plan to be developed for remaining loss of fish habitat consistent with provincial and federal Policies and Legislation
Terrain and Soils	No Significant Effect	No Change
Vegetation, including old forest, wetlands, riparian ecosystems, grassland ecosystems, rare plants, ecological communities of conservation concern and forest capability	No Significant Effect	Reduced Effect
Wildlife, including California Bighorn sheep, mule deer, moose, grizzly bear, black bear, fisher, American badger, Townsend″s big-eared bat, great blue heron, mallard, Barrow″s goldeneye, sandhill crane, long-billed curlew, Lewis″s woodpecker, yellow-breasted chat, sagebrush brewer″s sparrow, sharp-tailed grouse, prairie falcon, short-eared owl, flammulated owl, amphibians, and reptiles, terrestrial invertebrates, small mammals, spotted bat and feral horses	No Significant Effect	Reduced Effect
Economic Effects, including labour markets, employment income, government revenues, regional economic development, tourism, and hunting	No Significant Effect	No Change
Social – Population, workforce settlement and housing, transportation and traffic, community and health services, and other resource users	No Significant Effect	No Change
Archaeological and Heritage effects	No Significant Effect	Significant Reduction in Effect
Human and Ecological Health, and healthy living	No Significant Effect	No Change

Appendix B: BC Environmental Assessment Certificate

In the matter of the
ENVIRONMENTAL ASSESSMENT ACT
S.B.C. 2002, c. 43
(Act)

and

in the matter of an
Application
for an
Environmental Assessment Certificate
(Application)

by

TASEKO MINES LIMITED
(Proponent)

for the

PROSPERITY GOLD-COPPER PROJECT
(Project)

ENVIRONMENTAL ASSESSMENT CERTIFICATE # M09-02

Whereas:

A. The Proponent proposes to develop a 70,000 tonne per day open-pit mining project that would involve a large open pit mine development with a 20-year operating life 125 km southwest of Williams Lake. In addition to the mine and associated tailings and waste rock areas, the proposed Project includes:
   1. the development of an on-site mill and support infrastructure;
   2. a 125 km transmission line corridor
   3. a 2.8 km mine access road to connect to existing logging roads and highways;
   4. fish compensation works; and,
   5. the transport of concentrate to the existing Gibraltar Mine Concentrate Load-out Facility near Macalister, 54 km north of Williams Lake;

B. The Project constitutes a reviewable project pursuant to Part 3 of the Reviewable Project Regulation (B.C. Reg. 370/02) since the Project is a new mine facility with a production capacity of greater than 75,000 tonnes per year or more of mineral ore;

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C. On December 30, 2002, an Order was signed under section 51(3) of the Act, transitioning the Project from the Environmental Assessment Act R.S.B.C. 1996, C119 (former Act) to the Act and required the assessment of the Project be continued and disposed of as an application for an environmental assessment certificate;

D. On June 22, 2008, the Minister of Environment, in accordance with section 14(3)b of the Act, delegated powers to determine the scope, procedures and methods to the Executive Director;

E. On October 17, 2008, the Executive Director issued an Order under section 14 of the Act, determining the scope of the required environmental assessment and the procedures and methods for conducting the assessment;

F. On March 11, 2009, the Project Assessment Director determined that the Application submitted by the Proponent contained the required information, thereby starting the application review stage of the environmental assessment;

G. On March 16, 2009, the application review stage of the environmental assessment commenced, and from March 26, 2009 to May 25, 2009, the Environmental Assessment Office invited and received public comments on the Application;

H. From March 16, 2009 to December 7, 2009, the Environmental Assessment Office invited and received comments from government agencies on the Application;

I. From March 16, 2009 to December 7, 2009, the Environmental Assessment Office invited and received comments from First Nations on the Application. In addition:

   a. Further input was invited and received from First Nations as documented in Schedule A;
   b. The Proponent consulted or attempted to consult with First Nations pursuant to the section 14 Order; and,
   c. The Proponent filed reports on consultation with First Nations pursuant to the section 14 Order.

J. On November 16, 2009, the Project Assessment Director prepared a report on the assessment of the Project entitled the "Prosperity Gold-Copper Project Assessment Report" (Assessment Report);

K. On December 17, 2009, the Executive Director referred the Application, the Assessment Report and Recommendations of the Executive Director pursuant to section 17 of the Act, to the Minister of Environment and the Minister of Energy, Mines and Petroleum Resources (Ministers); and,

L. The Ministers have considered the Application, the Assessment Report and the Recommendations of the Executive Director.

Now Therefore,

The Ministers, pursuant to section 17(3) of the Act, hereby issue this Certificate to the Proponent for the Project, subject to the following conditions (Conditions):

Conditions

1. The Proponent must cause the Project to be designed, located, constructed, operated and decommissioned in accordance with the Conditions of this Certificate, the documents listed in Schedule A, and the Table of Proponent's Commitments in Schedule B, and must comply with all of the Conditions of this Certificate.

   1.1 Notwithstanding Condition 1, the Proponent may modify the design, location, construction, operation or decommissioning of the Project if:

   (a) the modification does not exceed the threshold for a modification of an existing project as specified in the Reviewable Projects Regulation, and

   (b) one of the following applies:
   (i) the modification is consistent with the commitments set out in Schedule B, or
   (ii) the Executive Director has determined and specified in writing that the modification is not likely to result in significant adverse effects, and

   (c) the Proponent has received an approval from the appropriate authorities required to give approvals, licenses, permits or other authorizations under other enactments, to vary the design, location, construction, operation or decommissioning of the Project, in accordance with that authority's approval process.

   1.2 In the event of a modification allowed under Condition 1.1, the Conditions of this Certificate, the documents listed in Schedule A, and the Table of Proponent's Commitments in Schedule B of the Environmental Assessment Certificate will be deemed to be amended accordingly.

2. Where, in the reasonable opinion of the Minister, there is a conflict or inconsistency between any of the documents listed in Schedule A, Condition 1 must be interpreted so that the contents of the later-dated document will vary, repeal, rescind or supersede, as the case may be, the earlier-dated documents listed in Schedule A.

3. Where, in the reasonable opinion of the Minister, there is a conflict or inconsistency between any of the documents listed in Schedule A and the Proponent's Table of Commitments in Schedule B, Condition 1 must be interpreted so that Schedule B will vary, repeal, rescind or supersede, as the case may be, the earlier-dated documents listed in Schedule A.

4. The Proponent must submit a report to the Executive Director on the status of compliance with the Conditions of this Certificate, and the commitments in Schedule B, four weeks prior to significant surface disturbance during construction, four weeks prior to full scale operation, and once a year following the start of operations of the Project until decommissioning or as required by the Executive Director.

5. This Certificate is of no force or effect until signed by the Ministers.

6. This Certificate does not constitute a permit, licence, approval or any other authority required under any other enactment.

7. The Proponent, except in connection with granting security to Project lenders or other financing entities or financing facilities, must obtain the written consent of the Minister or the Executive Director, such consent not to be unreasonably withheld, prior to disposing, whether legally, beneficially or otherwise, of:

   a) this Certificate, or any right, title or interest conferred by this Certificate; or,
   b) the Project.

Duration of Certificate

8. The Proponent must have, in the reasonable opinion of the Minister, substantially started the construction of the Project within five years of the date of issue of this Certificate, otherwise this Certificate expires.

Suspension, Cancellation and Amendment of Certificate

9. This Certificate may be subject to cancellation, suspension in whole or in part, amendments, or the attachment of new Conditions, for any of the following reasons:

   a) the Minister has reasonable and probable grounds to believe that the Proponent is in default of:
      i. an order of the Courts under section 35(2), 45 or 47 of the Act;
      ii. an order of the Minister made under section 34 or 36 of the Act; or,
      iii. one or more requirements or Conditions of this Certificate.

   b) the Proponent or its officers or employees when acting on behalf of the Proponent, have been convicted of an offence under the Act, with respect to the Project; or,

   c) an order is made or a resolution is passed, for the winding up, or dissolution of the Proponent, or the Proponent is in receivership or bankruptcy proceedings, without such order or resolution being rescinded or stayed and, in the case of any of the foregoing, the Minister has reasonable and probable grounds to believe that a breach of, or default under, this Certificate has occurred or is likely to occur.

Honourable Barry Penner
Minister of Environment

Honourable Blair Lekstrom
Minister of Energy, Mines and
Petroleum Resources

Issued this 14 day of Jan, 2010, in Victoria, British Columbia.

The Conditions of this Certificate are agreed to by the Proponent this

14 day of DECEMBER, 2009.

Russell E. Hallbauer
President & CEO
Taseko Mines Limited

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SCHEDULE A

DOCUMENTATION AND CORRESPONDENCE FOR THE PROSPERITY GOLD-COPPER PROJECT (Project) Produced by or for Taseko Mines Limited

March 17, 2009	Taseko Prosperity Gold-Copper Project Environmental Impact Statement/Application for an Environmental Assessment Certificate
April 2009	The Economic and Fiscal Impacts of the Prosperity Mine on British Columbia
April 13, 2009	Additional Water Quality Information for Taseko Environmental Assessment
April 16, 2009	Additional Background Information Concerning Wildlife Rating Tables
April 20, 2009	Memo regarding Raptor Nest Locations in the Mine Site and Transmission Line for the proposed Project, with map
April 20, 2009	Taseko Prosperity Air Quality Information Request
June 15, 2009	Public Comment Period Summary Report
July 9, 2009	Taseko Follow-Up from June 25th 2009 WQ Hydrology & Hydrogeology Meeting – Williams Lake
July 31, 2009	Local Population Effects Predictions and Significance Re-assessment
August 2, 2009	First Nations Consultation Report
August 3, 2009	Information Request 1.0 Alternatives Assessment
August 3, 2009	Information Request 2.2 Temporary Closure Scenario
August 3, 2009	Information Request 3.1 Site Water Balance for Prosperity Lake and Tailings Storage Facility
August 3, 2009	Information Request 3.2: Effects of Project on Beece Creek
August 3, 2009	Information Request 4.1 Long Term Treatment of Pit Lake Water Quality
August 3, 2009	Information Request 4.2 Effects of the Low Grade Ore Stockpile on Water Quality
August 3, 2009	Information Request 4.3 Stratification of Pit Lake

August 3, 2009	Information Request 5.1 Fish and Fish Habitat Compensation Plan
August 3, 2009	Information Request 5.2 Aboriginal Fishery Usage
August 3, 2009	Information Request 6.1 Wildlife Habitat Compensation Plan
August 3, 2009	Information Request 6.2 Transmission Line Corridor Mitigation Strategies
August 3, 2009	Information Request 7.1 Effect of Project on Species of Importance to First Nations
August 3, 2009	Information Request 8.1 Other Land Uses
August 3, 2009	Information Request 9.0 First Nation and Cultural Heritage
August 3, 2009	Information Request 10.0 Additional Information Required for Submission
August 14, 2009	Supplemental Reports: 3.1 Site Water Balance, 4.1 Long Term Treatment of Pit Lake Water Quality, 5.1 Fish and Fish Habitat Compensation Plan
August 24, 2009	Response to MOE: Summary of an Issue respecting Groundwater Connectivity with Adjacent Watersheds
September 28, 2009	Letter to MEMPR: Prediction of Effects to Fish Lake Water Quality if Fish Lake Remained in Place
October 2, 2009	Supplemental Report: Local and Regional Environmental Effects on Wildlife and Vegetation Resources of Importance to the Tsilhqot'in National Government at the Proposed Mine Site
October 2, 2009	Response to NRCan: Responses to Outstanding Technical Issues Raised to the Panel – Hydrogeology
October 6, 2009	Map of Human Disturbance and Protected Areas around the Mine Site
October 9, 2009	Response to CEAA Review Panel's Comments on Prosperity Water Balance Results
October 16, 2009	Operational Water Balance Sensitivity Analysis – Additional Information
October 21, 2009	Mitigation Measures for Prosperity Mine – Response to BC MOE Questions (Knight Piesold)
October 21, 2009	Proposed Mitigation Measures for Prosperity Mine - Response to BC MOE Questions (BCG Engineering Inc.)

November 6, 2009	Response to EC: Updated Site Water Balance
November 9, 2009	Letter to EAO regarding suspension of the proposed Prosperity Project
December 4, 2009	Fish and Fish Habitat Compensation Plan Performance Measures

Sustainability Area/ Component	Commitment

SCHEDULE B

PROPONENT'S TABLE OF COMMITMENTS

Governance

1.0 Policies

1.1 Develop and implement corporate policies (Policies) that will be made available on the Taseko website for reference during all phases of the Project. Current policies in place or under development comprise the Prosperity Sustainability framework and include:

a) Environment Policy (in place);
b) Health and Safety Policy (in place);
c) Code of Ethics and Trading Restrictions (in place);
d) First Nations Long-term strategy for consultation and engagement (in place);
e) Emergency Preparedness (under development); and,
f) Responsible Resource Development (on-going development)

Taseko's goal is to develop the mineral resource while making certain that the construction, operations and closure of Prosperity are handled in a sustainable manner, including the primary responsibility of contributing towards the maintenance of healthy lands, communities, resources and ecosystems for present and future generations. Moreover, Taseko is committed to ensuring the entire Project makes a net positive contribution to sustainability of lands, communities, resources and ecosystems over the long term.

1.2 Implement Prosperity's Sustainability Framework through the life of the Project.

1.3 Ensure that responsible site management, employees and contractors are familiar with these Policies, and their actions at all times comply with them and relevant acts, regulations, permits, licenses, authorizations and approvals.

2.0 Consultation/First Nations

2.1 Maintain early, open, and full communication with First Nations on Taseko projects and programs in their asserted traditional territories.

2.2 Recognize and take into consideration the value and significance First Nations place on traditional, cultural and heritage knowledge and interest.

2.3 Promote the development of mutually beneficial partnerships with our First Nation neighbours.

2.4 Work with First Nation Governments to encourage the formation and development of locally owned businesses.

2.5 Provide opportunities for employment.

2.6 Provide opportunities for training and career advancement for employees.

Sustainability Area/ Component	Commitment
	2.7 Continual improvement in the protection of human health and responsible stewardship of the natural environment. 2.8 Prior to or during the construction of the transmission line, should information become available from First Nations identifying habitat, vegetation, or features of importance not previously considered in the constraints analysis undertaken to select the centre-line, Taseko will make reasonable efforts to avoid or mitigate impacts to these features.
3.0 Consultation/Communities	3.1 Maintain early, open, and full communication with local communities. 3.2 Promote the development of mutually beneficial partnerships with local communities. 3.3 Work with local communities to encourage the formation and development of locally owned businesses. 3.4 Provide opportunities for employment. 3.5 Provide opportunities for training and career advancement for employees. 3.6 Continual improvement in the protection of human health and responsible stewardship of the natural environment.
4.0 Sustainability Management Plan	4.1 Develop and implement an Environmental Management System (EMS) the Project to encompass continual improvement in sustainability and the protection of human health and stewardship of the natural environment. 4.2 Establish measureable sustainability goals and targets through the EMS which would include commitments agreed to with First Nations, local communities and regulatory agency representatives.
5.0 Contractors/External Forces	5.1 Require that Prosperity's contractors or consultants comply with Taseko Policies related to sustainability, environment, health and safety, training, local employment, and procurement.
Environmental Stewardship	
6.0 Environmental Management System	6.1 Establish an EMS which will include Environmental Management Plans (EMPs) as an integral part of the Project and provide guidance on all environmental aspects during all phases of the Project. These EMPs convert the environmental assessment mitigation measures and best management practices (BMPs) as identified throughout the Application, as well as future permit or panel commitments, into actions that are intended to minimize or eliminate negative environmental effects associated with the Project. The EMPs presented in Volume 3 of the

Sustainability Area/ Component	Commitment

Application will be further developed and finalized prior to construction, where relevant, and prior to operations in all cases. Standard Operating Procedures (SOPs) will be used to implement the EMPs.
6.2 Maintain a proactive working relationship with appropriate Regulatory authorities in the development of EMPs.
6.3 Qualified Environmental and Engineering staff must be on site during all phases of mine development (i.e. construction, operation, closure and post-closure) and:

a) Will ensure that all Prosperity employees, contractors and their employees are fully aware of environmental requirements.
b) Will monitor compliance with EMPs and specific operating procedures.
c) Will report any incidents of non-compliance in accordance with the compliance reporting required by the EA Certificate and as required by regulation.

7.0 Acid Rock Drainage Prevention and Metal Leaching Control (ARD/ML)

7.1 Implement the Mine Materials Handling Plan described in the Application, Volume 3, Section number 9.2.3.
7.2 Ensure that potentially acid generating waste rock (PAG), overburden, tertiary basalt and tailings with criteria described in Table 9.3 of the Application is segregated and deposited in subaqueous disposal in the PAG waste rock disposal facility (tailings impoundment).
7.3 Submerge PAG waste rock before onset of ARD/ML.

8.0 Water Management

8.1 Finalize and implement the construction water management plan as described in Volume 3, Section number 9.2.1 of the Application to ensure, at a minimum, that procedures and policies are followed with respect to site access, geotechnical stability, soils salvage, erosion control, vegetation, wildlife, cultural and heritage resources, and emergency response.

a) Develop and implement an erosion and sediment control plan (ESCP) consistent with industry BMPs to mitigate environmental effects attributed to sediment as detailed in Volume 3, 9.2.11 of the Application.
    i) Designate at least one Qualified Environmental staff person on-site during active construction to ensure the ESCP is properly implemented. The qualified staff person will report to the senior engineer on-site.
b) Ensure all necessary sediment and erosion control mitigation measures will be in place and operational prior to construction.

8.2 Operate a closed system that contains all mine waters on the Project site until approximately 27 years after the cessation of pit operations when the pit is flooded. Direct any surface drainage, sewage treatment plant, sediment or metal-laden water to the tailings storage facility (TSF) during operations.
8.3 Implement the Tailings Impoundment Operation EMP elements as described in Volume 3, Section 9.2.4 of the Application. This plan will include but is not limited to:

Sustainability Area/ Component	Commitment
	a) Ensuring seepage reduction provisions are in place to minimize seepage losses from the TSF; b) Installing surveillance instrumentation in the tailings embankment and foundation during construction and over the life of the Project and monitoring on a consistent basis; c) In the event of premature mine closure, the PAG waste would be excavated to a level below the natural flood elevation of the TSF or otherwise submerged; and, d) In the event of a temporary closure, the actions outlined in the July 31, 2009 Temporary Closure Reclamation and Decommissioning Plan (IR 2.2) would be implemented. 8.4 Develop and implement the Tailings Dam Operation, Maintenance and Surveillance (OMS) Plan and ensure an annual Dam Safety Review is conducted as required by the Mines Act HSRC, and Dam Safety Reviews are conducted as set out by the Canadian Dam Association (CDA) Guidelines. 8.5 Continue to identify areas of high risk for erosion and sedimentation throughout the life of the Project (planning and design, construction, operation, decommissioning and reclamation) and implement general mitigation measures detailed in Volume 3, Section 9.2.11.1 of the Application. 8.6 Develop and implement a hydrologic and hydrogeological data collection and monitoring program appropriate to: a) Meet compliance monitoring requirements; and, b) Increase confidence in interpreted hydrogeological conditions assumed for the Project area. In particular with respect to the west embankment, development and implementation of this program will be consistent with the mitigation measures and technical considerations outlined in Taseko's July 9, 2009 memorandum to the BC Ministry of Environment (MOE) on the subject. Taseko commits to collecting the additional information to further assess seepage issues and that this information will be available and incorporated into the detailed designs for seepage control and interception measures. Timing of the provision of this additional information will be determined at the *Mines Act* permitting stage but will be prior to the detailed design stage. 8.7 Meet generic and any site-specific Water Quality Guidelines (WQG) in Fish Creek that may be developed during permitting through treatment, if required, as detailed in Volume 5, Section 2 of the Application. The water quality objectives for Taseko River stipulate no change from upstream to downstream of mine operations.
9.0 Fish Compensation	9.1 Develop and implement a Fish and Fish Habitat Compensation Plan that supports provincial fisheries management objectives and the application of federal policy respecting the protection of fish and fish habitat. The Fish and Fish Habitat Compensation Plan will be designed and implemented to achieve the following objectives: a) Maintenance of the genetic line exhibited in the trout population in the Fish Lake system; b) Development and maintenance of lake and stream environments of similar or better productive capacity for trout as provided by the Fish Lake system; c) A healthy, self sustaining trout population; and,

Sustainability Area/ Component	Commitment
	d) A trout fishery for First Nations and the public of at least similar character to what is supported by Fish Lake under current conditions. The performance measures outlined in Taseko's December 4, 2009 memorandum will be used to assess whether the Fish and Fish Habitat Compensation Plan meets each of the objectives. These measures will need to be effective for the period of time defined in the December 4th memorandum. 9.2 Develop and implement a monitoring program to verify the proper implementation of all performance measures and a follow-up program to determine the accuracy of conclusions and the efficacy of the required measures as described in Volume 3, Section 8.4 of the Application. This program is to be developed and implemented in consultation with MOE and DFO. 9.3 Use an adaptive management process to incorporate contingency planning, management objectives, ongoing monitoring, and commitment for achieving benchmark goals within specified timelines with regard to fish and fish habitat compensation plans.
10.0 Wildlife	10.1Implement the mitigation measures for wildlife for all aspects of the Project as described in Volume 5, Section 6.4.1 and Table 6-67 (Mine), 6-68 (Transmission Line), and 6-69 (Access road) of the Application. 10.2 Implement additional wildlife protection measures to apply to Project personnel travelling to and from the Project on workdays. These provisions will include but are not limited to: a) Firearms are prohibited at all times except when specifically authorized (e.g., wildlife monitor); b) No littering; c) No feeding or harassment of wildlife; d) No hunting and fishing on the Project site; and, e) Project-related traffic is restricted to designated access roads and trails (including all-terrain vehicles and snowmobiles). 10.3 Commit to the strict and rigorous implementation of mitigation measures, in concert with MOE and with other agencies as appropriate, to eliminate or severely minimize the risk of direct mortality to grizzly bear (from all sources, see also Sections 6.1.2.1 and 6.3.4.8 of the Application).Taseko will work with the BC Ministry of Transportation and Infrastructure (MOT) to control mine related traffic speed along the section of Taseko Lake Road that is within known grizzly bear range. 10.4 Record all Project-related wildlife-vehicle collisions or near misses as described in Volume 5 in Section 6.4.3.1 of the Application. Wildlife vehicle collisions will be reviewed regularly by Qualified Environmental staff person who will take appropriate action. If a problem area is identified appropriate actions will be taken (e.g., warning signs, site-specific speed limits). In addition, Taseko Mines Ltd. will report any wildlife mortalities resulting from Project vehicles to the MOE regional office and MOT.

Sustainability Area/ Component	Commitment

10.5 Implement the Vegetation and Wildlife Management Plan (Volume 3, Section 9 of the Application) and mitigation measures (Volume 5, Section 6.4.1 of the Application) and Materials Handling and Waste Management Plan for dealing with potential human-bear conflicts.
10.6 Implementation of wildlife protection provisions as detailed in the Transportation and Access Management Plan Volume 3, Section 9.2.2 of the Application.
10.7 Design and construct a transmission line consistent with BCTC's standard practices to mitigate potential transmission line electrocution/collision impacts to migratory birds.

11.0 Habitat Compensation

11.1 Develop and implement a plan for achieving compensation for adverse impacts to wetland habitat, the productive capacity of the lake, recreation values, wildlife, wildlife habitat and the critical habitat of species at risk. Development and implementation of the plan will be guided by the following principles:

a) A suite of mitigation measures designed to eliminate or minimize Project effects have been outlined in the Application. The effectiveness of these mitigation measures will be taken into account when assessing the need and justification for specific compensation measures.
b) Compensation measures will be considered and implemented on a case-by-case basis based on the appropriateness of each proposed compensation measure in each case.
c) There will be no need for compensation if there is a technically defensible confirmation that there is no adverse impact. The process by which a determination of impact is reached will be transparent, readily understood, and undertaken in consultation with MOE, CWS, and First Nations.

11.2 Taseko will work with MOE officials in a timely manner to develop a "Reference Document" in which roles and responsibilities, timing and strategies for implementation of the plan outlined in 11.1 will be detailed.

12.0 Vegetation, Wetland and Riparian Habitats

12.1 Implement BMP and methods for constructing and upgrading the access road(s) and transmission line, and related stream crossings (Volume 3, Section 9.2.1 in the Application).
12.2 Implement mitigation measures to minimize mine related environmental effects on wetland ecosystems. These mitigation measures will be primarily directed at protecting and conserving wetlands in close proximity to the mine footprint to minimize potential for incremental disturbance. The principles of these mitigation measures will be to: Avoid vegetation loss, minimize disturbance, mitigate against invasive species, and maintain natural drainage patterns (Volume 5, Section 5.3.2 of the Application).
12.3 Implement all appropriate mitigation measures for wetland ecosystems on the transmission line including but not limited to:

a) Timing construction to avoid activity until ground is frozen;

Sustainability Area/ Component	Commitment
	b) Transmission pole delivery to wetland areas completed by helicopter drop; and, c) Minimize the area of excavation for pole foundations and area of footprint of the side cast material. 12.4 Monitor construction of the access road and transmission line to ensure that wetland ecosystems are avoided wherever possible and environmental effects to wetland ecosystems are minimized through application of prescribed mitigation measures. Taseko must follow DFO Pacific Region's *Maintenance of Riparian Vegetation in existing Rights of Way* Operational Statement and principles and practice in British Columbia Hydro's *Approved Works Practices* or *Managing Riparian Vegetation* when maintaining the transmission line right-of –way. 12.5 Replant only native species in disturbed areas associated with the transmission corridor that fall within the grassland zones. 12.6 Implement the invasive plant management plan as proposed in Volume 5, Appendix 5-5-K: and as discussed in Volume 3 section 9.2.12 of the Application. This will include a weed management strategy for maintenance of the transmission line developed in consultation with regulatory agencies, land owners, and First Nations. 12.7 Execute mitigation measures for the reduction or elimination of construction related sediment releases into fish-bearing and non fish-bearing habitats as detailed in EMP (Volume 3, Section 9 of the Application). These measures will follow the *Standards and Best Practices for In-stream Works* (MWLAP 2004) and DFO Operational Statements.
13.0 Reclamation and Closure	13.1 Implement Reclamation, Temporary Closure and Decommissioning Plans as described in Volume 3, Section 9.3 of the Application and Taseko's July 31, 2009 memo Temporary Closure Reclamation and Decommissioning Plan (IR 2.2). 13.2 Implement the soil salvage plan described in Volume 3, Section 9.3.3.1 of the Application. 13.3 Implement reclamation practices that are consistent with the BC Mines Act and its *Health, Safety and Reclamation Code*. The conceptual reclamation practices and decommissioning plan described in the Application provides a basis for detailed reclamation planning and bonding discussions that will be held with the BC Ministry of Energy, Mines and Petroleum Resources (MEMPR) at a later date as part of the permitting application. 13.4 Further develop reclamation and decommissioning plans, including progressive reclamation, in consultation with regulatory agencies, First Nations and local communities. At the end of mine operations, complete implementation of the approved closure plan. 13.5 Mitigate residual effects of mining with respect to recreation values, wildlife, wildlife habitat, at-risk plant communities and the habitat of species at risk through reclamation approaches as described in the decommissioning plan. 13.6 Remove the transmission line and reclaim the transmission line corridor when no longer required.

Sustainability Area/ Component	Commitment
14.0 Protection of Ecological Values	14.1 Employ BMP throughout all Project phases and activities. In particular, prior to construction commencing, undertake all appropriate measures to ensure that sensitive habitat features and wildlife values are identified and all appropriate mitigative measures are implemented to avoid adverse effects. 14.2 Identification and implementation of additional measures adequate to protect aquatic life as detailed in Volume 1, Table 20-1 of the Application. 14.3 Develop policies and procedures, conduct public consultation, and conduct access planning for the transmission line ROW. 14.4 Identify and quantify Project effects on wildlife and vegetation at a local level on a scale that would enable the identification of appropriate mitigation/compensation measures.
15.0 Mitigation specific to transmission line construction	15.1 Review transmission line final design details and proposed construction scheduling with MOE-ESD (Environmental Stewardship Division) before commencement of construction. 15.2 During construction, work with MOE-ESD and with other regulatory bodies as appropriate to implement all appropriate mitigation strategies as detailed in Taseko's "Transmission Line Corridor Mitigation Strategies" (IR 6.2). This will include surveying the final transmission line corridor to identify and mitigate impacts to wildlife features, rare plants, and other features of importance.
16.0 Monitoring	16.1 Implement the follow-up and monitoring plan described in Volume 3, Section 9 in the Application (which includes a program for environmental effects monitoring and follow-up through construction, operation, closure, and post-closure to verify the accuracy of the environmental assessment) and determine the effectiveness of mitigation measures. a) Develop and implement compliance monitoring programs to meet applicable provincial and federal permits, licenses and approvals and meet any reporting requirements of these permits, licenses and approvals. 16.2 Conduct the Follow-up and Monitoring programs summarized in Table 16-1, Volume 1 of the Application in the nine specific disciplines listed through all mining phases. 16.3 Assess the suitability of reclaimed sites for wildlife use through trace element monitoring in vegetation. 16.4 Assess routine monitoring results for the various waste streams during operations to develop specific effluent treatments if needed. Investigate if monitoring results indicate effluent quality of specific waste streams is likely to contribute to exceedances post-closure. 16.5 Continue ongoing discussions with MOE-ESD and undertake additional hydrology and hydrogeology baseline sampling.

Sustainability Area/ Component	Commitment
17.0 Air Emissions	17.1 Incorporate into Project design, Best Available Technology that is Economically Achievable (BATEA) measures to reduce Criteria Air Contaminants (CAC) and Greenhouse Gas (GHG) emissions wherever possible. 17.2 Utilize effective dust suppression methods and CAC and GHG mitigation measures, including but not limited to: a) Install covered conveyor belt ore transport systems and housing of the rail load-out facilities to minimize fugitive particulate emissions; b) Install a water suppression system at the discharge point of the coarse ore stockpile to reduce dust emissions; c) Install dust control measures at the primary crusher truck dump to control dust emissions; d) Cover trucks used to transport concentrate to prevent loss of this material and to ensure there is no tracking of any residual concentrate on route to the concentrate load-out facility; e) Ensure posted speed limits are followed by all mine equipment and vehicles; f) Ensure application of surface-binding chemicals or water on site roads and exposed surfaces as required to control dust; g) For vehicles, off-road construction, and mining equipment, best practices will include ensuring equipment is properly tuned and maintained, and vehicle idling times reduced to a minimum; h) Optimize vehicle movements to minimize emission of GHGs; and, i) Minimize disturbances and manage all land clearing to minimize burning. 17.3 Develop and implement an Air Quality and Dust Control Management Plan as described in Volume 3, Section 9.2.9. 17.4 Taseko will work with MOE to develop an Air Quality and Emissions Monitoring and Management Plan (AQEMMP) as outlined in the MOE submission (dated May 25, 2009 from Graham Veale to EAO). The AQEMMP will be implemented as soon as practicable after a decision to proceed with the Project has been made and will continue through the life of the Project. The AQEMMP will ensure that facility emissions are tracked and contaminants of potential concern are monitored; that all applicable federal and provincial ambient air quality, criteria, standards, objectives, and guidelines are met; and provide an umbrella document to house all related monitoring programs and management plans, including contingency plans with identified actions and triggers for implementation. 17.5 Ongoing monitoring of dust resulting from the tailings beach to verify the predicted levels and to ensure that any impacts are minimized. Design of monitoring program will allow for input from regulatory agencies. 17.6 Limit fugitive dust caused by wind erosion on the tailings by maintaining a water cover over the deposited materials as stipulated in the Operational Deposition Plan. Fugitive dust caused by wind erosion on the waste rock piles will be mitigated by progressive reclamation.

Sustainability Area/ Component	Commitment
	17.7 Prepare and execute a burn plan for vegetative debris consistent with the Open Burning Smoke Control Regulation (BC Reg. 145/93) prior to initiation of the construction and commissioning phase. 17.8 Develop and maintain an annual inventory of GHGs and CACs for both internal management and potential external reporting needs. 17.9 $PM_{2.5}$ Ambient Air Quality Objectives (AAQO's) will be included in the Prosperity Ambient Air Monitoring Program.
18.0 Adaptive Management	
	18.1 Incorporate adaptive management processes for this Project including contingency planning, management objectives, ongoing monitoring, and the proponent's commitment for achieving benchmark goals within specified timelines. 18.2 Implement corrective measures should unforeseen adverse effects arise during the life of the Project. Measures will be taken to correct these effects and prevent them from occurring in the future. The EMS is then updated and associated training programs enhanced to improve the level of environmental protection based on the results of these programs.
Economic Contributions	
19.0 Direct Employment	
	19.1 Implement hiring practices consistent with good business decisions and underlying principles of delivering maximum economic value and social benefit—locally, regionally and provincially. 19.2 Give local candidates preference where all things being equal, two candidates seek employment at Prosperity, and there is only one position available. A local employment candidate shall be defined as someone who lives in the Cariboo-Chilcotin region. 19.3 Expand efforts to hire local First Nations candidates by ensuring employment opportunities are communicated. Undertake to inform local communities of the employment positions and opportunities available at Prosperity before expanding the search for potential employees beyond the Cariboo-Chilcotin region. 19.4 Establish policies to help potential candidates gain required standards and qualifications to ensure local people have the opportunity to be eligible for hiring and career advancement (see Training below). 19.5 Encourage Taseko suppliers, contractors, and consultants to give local candidates preference.
20.0 Training	
	20.1 Promote "*Mining: Your Future*", Taseko's education and training initiative, to give individuals the opportunity for gainful employment in the mining industry.

Sustainability Area/ Component	Commitment

21.0 Business Opportunities

21.1 Develop policies on procurement of goods and services to build and operate the mine based on good business decisions and guided by a desire to deliver maximum economic value and social benefit—locally, regionally and provincially.
21.2 Cultivate an entrepreneurial spirit to develop lasting relationships with suppliers based on cost competitiveness, continuous innovation, service and productivity improvement, employee health and safety, and environment protection.
21.3 Encourage First Nations to form and develop locally owned businesses that provide supplies or services to Prosperity.
21.4 Ensure contractors share Taseko's commitment to investing in local community success through their respective purchasing, hiring, contracting, and logistical support practices.

Social Development

22.0 Health and Safety

22.1 Implement a comprehensive health and safety program based on the current Taseko Policy that includes safety leadership by mine management, risk and harm reduction, safety management systems, safe work behaviour programs, and continual improvement.
22.2 Establish at the commencement of development, an Occupational Health and Safety Committee.
22.3 Meet the obligations set out in the BC Mines Act (1996, updated to 2007) Regulation and appropriate sections of the *Health, Safety and Reclamation Code*, including the provision of support to contractors and contractors' managers to comply with the Act when on-site.
22.4 Develop and implement a Transportation and Access Management Plan for the Project as described in Volume 3, Section 9.2.2 of the Application, to safely meet the needs of mine employees and contractors, local residents, and the general public. This plan will include but will not be limited to:

a) Appointing safety and security personnel before construction;
b) Providing transportation for workers to and from the mine site from strategic locations throughout all phases of mine life; and,
c) Developing and implementing access control protocols to ensure employee and contractor safety and to minimize social and environmental effects such as wildlife mortality related to the Project.

22.5 Taseko will implement a plan to monitor and ensure open pit stability to protect worker safety.

23.0 Emergency Response

23.1 Continue to implement a risk management approach for the design, construction, operation and closure of the Project.

Sustainability Area/ Component	Commitment

a) Implement procedures and measures to address accidents, malfunctions and unplanned events. Table 17-1 in Volume 1 of the Application summarizes these measures and Volume 9 of the Application provides detailed procedures.

23.2 Develop a full Mine Emergency Response Plan specific to the Project for any material risks identified before operations start.

23.3 Follow procedures for the handling, storage and disposal of hazardous chemicals used from construction through closure as dictated by the Material Handling and Waste Management Plan.

a) Manage all hazardous materials according to their Material Safety Data Sheet (MSDS) and provide training for employees handling these chemicals in the Workplace Hazardous Materials Information System.

23.4 Institute measures to ensure that fuel and lubricants do not escape to surrounding areas by:

a) Equipping fuel systems with emergency fire safety valves and anti-siphon solenoid valves at tanks;
b) Installing concrete grade slabs sloped to direct any spillage back into the containment;
c) Any precipitation or drips which fall within the containment will pass through an oil/water separator before discharge to the environment;
d) Implementing the Spill Prevention and Response Plan to promote the prevention of the accidental release of harmful substances into the receiving environment; and,
e) In the event of a spill, providing adequate information to guide the response crew to safely, efficiently and effectively respond to and clean-up a spill.

24.0 Cultural Heritage Resources

24.1 All Project plans and drawings to identify areas of archaeological and cultural sensitivity that require protection and/or monitoring.

24.2 Implement archaeological resource management measures throughout the Project area to avoid or mitigate adverse effects on identified resources and culturally sensitive areas as outlined in the Ministry of Tourism, Culture and the Arts' letter of 22 May 2009. The mitigation program, details of which will be specified in subsequent permit applications, will include but will not be limited to:

a) Systematic excavation of 16 of the 79 archaeological sites identified within the mine footprint of which 6 are to be subject to intensive investigation;
b) A survey of the lake basin after draining and the gathering and analysis of palaeo-environmental data from the lake basin; and,
c) Lithic sourcing.

24.3 Completion of the Archaeological Impact Assessment for the transmission line and a management plan prepared to the satisfaction of the Archaeology Branch prior to commencement of construction.

Sustainability Area/ Component	Commitment
	24.4 Completion of the Archaeological Impact Assessment of the proposed 2.8 kilometres of new road and to further assess the cairn-like feature at site EiRv-7.

Appendix C: Summary of Mitigation

From the EIS/Application (Taseko Mines Limited, 2009), Table 15-1

	Project Component	Phase	Discipline	Mitigation	Measures	Additional Information
1	Mining	Construction Operations	Atmosphere	Reduce Green House Gases by following the BATEA and meeting or exceeding regulatory emission standards for all mine equipment	Best Management Practices	BATEA can be included in the specification for procurement of mine equipment. Discussions with vendors is appropriate
2	Mining	Construction Closure	Atmosphere	Minimize burning and disturbance and maximize revegetation (carbon sequestration)	Best Management Practices	Environmental Best Management Practices for Urban and Rural Development in BC
3	Mining	Construction Operations	Surface Water Hydrology, Water Quality	Manage surface water contamination through the construction of a headwater channel that diverts surface water from undisturbed portions of Fish Creek watershed around the mine site	Project Design	
4	Mining	Construction Operations	Surface Water Hydrology	Manage potential surface water contamination by incorporating seepage control measures in the design of the west embankment of the TSF to contain and manage potentially contaminated surface water	Project Design	
5	Mining	Construction Operations	Surface Water Hydrology	Manage potential surface water contamination by aligning and containing all mine site works and facilities within a single drainage with the pit serving as the downstream catchment basin	Project Design	
6	Mining	Construction Operations, Closure	Water Quality	Manage potential surface water contamination by the segregation and management of potentially acid generating material throughout mine life, closure and post-closure	Environmental Management Plans (EMP) - ARD/ML Prediction and Prevention Plan	
7	Mining	Construction	Fish and Fish Habitat	Minimize loss of fish and fish habitat through assessment of alternatives aimed at avoidance.	Fish Compensation Plan - Project Description	*Fisheries Act* Requirement
8	Mining, Roads	Construction Operations, Closure	Vegetation	Manage dust through the use of covered trucks during the hauling of ore and concentrate and the application of a dust appropriate suppressant on roads when conditions warrant	Best Management Practices; EMP - Air Quality and Noise Management Plan	BMPs for Highway Maintenance Activities, BMPs to Mitigate Road Dust from Winter Traction Material
9	General	Construction Operations, Closure	Atmosphere	Minimize greenhouse gas emissions by ensuring all mine equipment follows posted speed limits, is properly maintained and avoids idling	Best management practices	
10	Mining, Transmission Line, Road	Construction	Wildlife	Consideration of region-specific breeding bird timing windows for site clearing or survey area for nest trees and flag them prior to clearing	Required under the *Migratory Bird Act*	Nesting windows for this region will likely be between March 1 and July 31, but confirmation from Environment Canada is required
11	Mining, Transmission Line, Road	Construction	Wildlife	Minimize loss or alteration to important wildlife habitat by retaining wildlife trees (i.e., dead or dying trees and snags) wherever possible	Best management practices	Chilcotin Sustainable Resource Management Plan
12	Mining	Construction	Wildlife	Minimize loss or alteration of Barrow's Goldeneye, Lewis' woodpecker and Flammulated owl nesting habitat by retaining nests and nest trees where possible	Project Design	Constraints Analysis (selection of 80 m ROW)
13	General	Construction Operations, Closure	Wildlife	Minimize bear/worker interaction at mine site through the development of mine site policies/guidelines and Bear Aware and Safety training. A problem wildlife prevention and response plan will be developed	EMP - Wildlife Management Plan	
14	Mining, Transmission Line	Construction	Impacts on other resource users, Wildlife	Take concerns of local ranchers, First Nations and licensees into account during construction of the transmission line	Transmission Line Construction Plan (TLCP)	
15	Mining	Operations	Acoustic	Minimize noise through choice and maintenance of equipment (i.e., to meet industrial acoustic standards) and roads, housing of noisy equipment inside buildings and restriction of noisy activity (i.e., blasting) to daytime hours (i.e., 7:00 to 22:00 hrs)	Project Design; EMP - Air Quality and Noise Management Plan	
16	Mining	Operations	Acoustic	Minimize effect of blasting noise on the people and applying Occupational Health and Safety Regulations Part 7 for employees and restrict public access to the mine site	Best Management Practices	

Appendix C. Summary of Mitigations (cont'd)

	Project Component	Phase	Discipline	Mitigation	Measures	Additional Information
17	Mining	Operations	Atmosphere	Manage dust by using covers on the conveyor system and trucks used to transport concentrate	BATEA; EMP - Air Quality and Noise Management Plan	
18	General	Construction Operations, Closure	Wildlife	Minimize acoustic disturbance from helicopter over-flights by restricting altitude and avoiding use during the big horn sheep lambing period (start and end dates to be determined in consultation with regional BC MOE staff)	Special Measures	
19	General	Construction, Operations	Impacts on other resource users	Minimize effects on hunting and fishing through a fishing and hunting ban on mine employees and contractors near the mine site	Best Management Practices; EMP - Wildlife Management Plan	Chilcotin Sustainability Resource Management Plan
20	Mining	Closure	Atmosphere	Reduce green house gases by following reclamation plans that maximize carbon sequestration through revegetation	Best Management Practices	Environmental Best Management Practices for Urban and Rural Development in BC
21	Mining	Closure	Water Quality	At closure, once the pit has been filled, all Fish Creek drainage will be directed north to Fish Creek thus restoring the natural flow regime in the entire watershed	Project Design	
22	Mining	Operations	Water Quality	Deposit tailings so as to create a beach along the west embankment that will force the tailings lake away from the embankment crest to mitigate seepage through the west embankment	Project Design	
23	Mining	Closure	Water Quality	Control flows from the TSF to the Pit Lake post-closure during early spring low flow period	Project Design	
24	Mining	Operations, Closure	Water Quality	All mine activities will be confined to a single watershed, thereby minimizing the mine footprint and potential impacts to land and surface waters	Project Design	
25	Mining	Closure	Water Quality	Reduce potential contamination of surface water by monitoring water quality in the pit lake as it fills, for dissolved and particulate metals, sulphate and nutrients	EMP - Mine Materials Handling Plan; EMP - Water Management Plan	
26	Mining	Closure	Water Quality	Reclamation planning for the 25 to 30 year closure phase will avoid revegetation of features projected to be flooded as part of the pit lake. This will prevent build up of organic matter and concerns about methylation of mercury once the location is flooded	EMP - Mine Materials Handling Plan; EMP - Water Management Plan; EMP - Reclamation and Closure Plan	
27	Mining	Operations Closure	Water Quality	The TSF and pit lake will be used as depositional areas to reduce sediment and metals loadings to surface waters. If particulate levels and dissolved metals are too high post-closure for the water to be released to Lower Fish Creek (following up to 27 years of settling) measures will be taken to clean the water, such as liming or construction of an effluent treatment plant	Project Design; EMP - Mine Materials Handling Plan; EMP - Water Management Plan; EMP - Reclamation and Closure Plan	
28	Mining	Closure	Water Quality	Diverting surface water to the pit will restore groundwater levels to near baseline conditions post-closure	Project Design	
29	Mining	Closure	Water Quality	Potential contamination discharge effects from the pit lake will be reduced by diluting TSF water with clean runoff water from the watershed, prior to discharge to the pit lake	EMP - Mine Materials Handling Plan; EMP - Water Management Plan; EMP - Reclamation and Closure Plan	
30	Transmission Line	Construction	Wildlife	Minimize loss or alteration to mule deer wintering habitat by minimizing clearing within mule deer Ungulate Winter Range where possible	Best Management Practices	Caribou Chilcotin Land Use Plan - Mule Deer Winter Range Strategy
31	Transmission Line	Construction	Wildlife	Prior to and during ROW clearing and pole placement, any wildlife habitat features (e.g., mineral licks, dens, nest trees) that are identified in the area will be evaluated for potential mitigation measures (e.g., avoidance)	EMP - Wildlife Management Plan	
32	Transmission Line	Construction	Impacts on other resource users	Minimize effects on forestry by meeting with members of the commercial forestry industry to discuss how the removal of merchantable trees should be addressed	Best Management Practices	Chilcotin Sustainable Resource Management Plan
33	Transmission Line, Road	Construction Operations	Impacts on other resource users, Terrain and soils	Maintain communication with ranchers to minimize effects of construction based disturbance on cattle grazing and movement between units	Best Management Practices	Chilcotin Sustainable Resource Management Plan
34	Transmission Line	Operations	Wildlife	Minimize modifications of terrain and vegetation along the ROW. This will reduce the likelihood of off-road vehicle travel on the ROW	Transmission Line Construction Plan (TLCP)	
35	Transmission Line	Construction Operations	Wildlife	Minimize disruption to wildlife movement patterns along the ROW by placing any slash in random piles not windrowed	TLCP	?

Appendix C. Summary of Mitigations (cont'd)

	Project Component	Phase	Discipline	Mitigation	Measures	Additional Information
36	Transmission Line	Operations Construction	Wildlife	If new fencing is required for cattle, disturbance to wildlife movement patterns will be minimized by ensuring that "wildlife-friendly" fence types are used (e.g., BCMAL 2006)	TLCP	
37	Transmission Line, Road	Construction Operations	Terrain and soils	Minimizing the effect of construction and operations on terrain stability by locating the transmission line and access roads on stable terrain wherever possible	Project Design	
38	Road	Construction	Vegetation	Minimize introduction of invasive plants through the use of gravel from within the Maximum Disturbance Area or from permitted off site areas	Project Design	
39	Road	Construction	Vegetation	Maintain natural drainage patterns by minimizing the linear extent of roads crossing or paralleling wetlands, avoid diversion of stream courses where practicable, and properly culvert all roadways	Project Design	DFO Operational Statements; Standards and Best Practices for Instream Work
40	Road	Construction Operations, Closure	Wildlife	Road maintenance and upgrades along the 4500 Road will be designed to minimize the amount of forested area disturbed and/or cleared so as to preserve security cover and decrease sensory disturbance to wildlife using habitats adjacent to this segment of the access road	Project Design	
41	Road	Construction	Wildlife	Collision related injury to wildlife will be reduced by not seeding vegetation particularly attractive to bears and ungulates (i.e., legumes such as clover), and avoiding the use of salt where possible	EMP - Wildlife Management Plan;	
42	General	Construction Operations, Closure	Wildlife	Wildlife mortality on roads will be minimized through driver training, road maintenance, following posted speed limits and, where possible, using radios to notify others of wildlife on the road	Standard Operating Procedure	
43	General	Construction Operations	Water Quality	Maximize slope stability by following routine sediment and erosion control measures	Project Design	Land Development Guidelines for the Protection of Aquatic Life; Environmental Best Management Practices for Urban and Rural Development in BC
44	General	Construction	Terrain and soils	Minimize loss of soil physical quality through direct placement and prompt progressive reclamation where possible, stockpile design to prevent anaerobic conditions, avoidance of wet conditions during soil salvage, traffic control during soil savage and other activities on the site to minimize soil compaction	Project Design	
45	General	Construction Operations, Closure	Vegetation	Minimize soil disturbance and vegetation loss (including rare plants and ecosystems of conservation concern) through environmentally sensitive Project design. Relocate boulders with representative *Schistidium heterophyllum* populations to suitable habitat	Project Design; Best Management Practices	
46	General	Construction	Vegetation	Minimize disturbance by implementing best management practices including the creation of buffer zones around wetland habitats, maintaining connectivity among wetlands within wetland complexes, and managing access to wetlands in the RSA beyond the access road construction	Best Management Practices	Environmental Best Management Practices for Urban and Rural Development in BC; DFO operational Statements; Land Development Guidelines for the Protection of Aquatic Life
47	General	Construction	Vegetation	Where possible minimize the extent of grubbing, stripping and the removal of shrubs and herbaceous species and retain the humus layer and vegetation root mat	Best Management Practices	Environmental Best Management Practices for Urban and Rural Development in BC
48	General	Construction	Vegetation	Mitigate against invasive species and reduce erosion by re-establishing vegetation on disturbed areas as soon as possible	Best Management Practices	
49	General	Construction Operations, Closure	Vegetation	Avoid the establishment of invasive species through cleaning of equipment prior to arrival on site and immediate removal and burning of any invasive plant that is seen	Best Management Practices	
50	General	Construction	Vegetation	Avoid diversion of stream courses where possible. When required during instream construction ensure water flow around work site is not interrupted	Best Management Practices	Land Development Guidelines for the Protection of Aquatic Life; DFO Operational Statements
51	General	Construction	Vegetation	Maintain natural drainage patterns and protect sensitive areas by scheduling any construction in sensitive wetland and riparian areas to occur when frozen	Best Management Practices	
52	General	Construction	Impacts on other resource users	Maximize opportunity for local businesses by ensuring that local operators have the opportunity to bid and secure contracts from the mine for accommodation, food service and other hospitality services	Taseko Procurement Strategy (Workforce Settlement Plan, Local Hire Policies, Local Procurement Policies)	
53	General	Construction	Impacts on other resource users	Work with the two affected trap line owners to ensure that the effects upon them from the Project are managed	EMP - Wildlife Management Plan	
54	General	Construction Closure	Vegetation, Water Quality	Encourage slope stability and minimize soil quality degradation and water contamination from surface run-off through grass seeding and slope revegetation. All plants and seeds used for revegetation will be appropriate for use in the Chilcotin district	Project Design	Environmental Best Management Practices for Urban and Rural Development in BC
55	Fisheries	Construction	Fish and Fish Habitat	Construct Prosperity Lake as compensation fish habitat, as a refuge for the Fish Lake rainbow trout genetic stock	Project Design	
56	Fisheries	Construction	Fish and Fish Habitat	Retain Little Fish Lake until the completion of construction of Prosperity Lake as a refuge for the Fish Lake rainbow trout stock	Project Design	

Appendix C. Summary of Mitigations (cont'd)

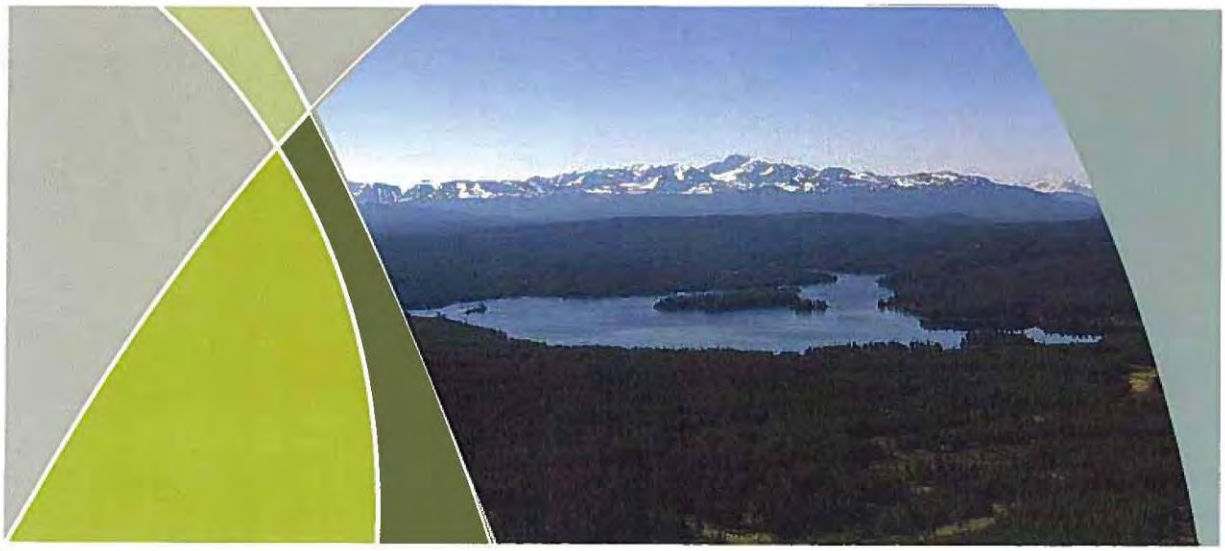
	Project Component	Phase	Discipline	Mitigation	Measures	Additional Information
57	Fisheries	Construction	Fish and Fish Habitat	Construct channels at the Fish Creek headwaters to provide additional stream habitat for fish and to enable fish passage upstream of Prosperity Lake	Project Design	
58	Fisheries	Construction Operations	Fish and Fish Habitat	Use fish culture to maintain the Fish Lake rainbow trout genetic stock, for the eventual re-creation of the Fish Lake fishery in Prosperity Lake, and to increase the fishery on four small lakes in the vicinity of the mine	Special Measures	
59	Social-Economic and Health Services	Construction Operations	Economic Issues, Community and Health Services	Work with local economic development agencies, municipalities and human resource organizations responsible for labour-related issues to ensure that the hiring, training, procurement and business development policies of the mine given full opportunity and encouragement to the resident work force and business base (i.e., maximize local employment opportunities)	Project Design	
60	Social-Economic and Health Services	Construction Operations	Social Issues	Work closely with the CRD and City of Williams Lake to ensure they are ready and able to serve new in-migrants and offer housing and placement services to new employees to facilitate their transition into the community	Taseko Procurement Strategy (Workforce Settlement Plan, Local Hire Policies, Local Procurement Policies)	

Appendix D: Report of the Federal Review Panel, Executive Summary

July 2, 2010 CEAA Reference No. 09-05-44811

Report of the Federal Review Panel

Prosperity Gold-Copper Mine Project
Taseko Mines Ltd.
British Columbia



Review Panel established by the Federal Minister of the Environment

EXECUTIVE SUMMARY

Taseko Mines Ltd. (Taseko) proposed to develop the Prosperity Gold-Copper Mine (the Project) approximately 125 km southwest of Williams Lake, British Columbia. The Project would involve the construction, operation, decommissioning and abandonment of a large mine with a 20 year operating life. Its main elements would include an open pit mine, a 125 km transmission line, an onsite mill, a new site access road and fish compensation works.

Federal approval to proceed with the Project would require authorizations under the *Fisheries Act*, a permit under the *Navigable Waters Protection Act* and a licence under the *Explosives Act*.

The federal Prosperity Review Panel (the Panel) was appointed on January 19, 2009 by the Minister of the Environment, the Honourable Jim Prentice, to conduct a review of Taseko's Project. This report presents the Panel's overall conclusions and recommendations and takes into consideration information obtained during the course of the review, including 30 days of public hearing sessions held in 10 communities in the Project area from March 22 to May 3, 2010. The public hearing provided an opportunity to receive additional information on the views of participants, the current use of lands and resources for traditional purposes by First Nations and on their cultural heritage, and to thoroughly examine Taseko's proposal.

The Project would be located in the Cariboo-Chilcotin Regional District, a sparsely populated region with Williams Lake as the regional service centre. The economy within the local study area was reported to be highly reliant on the resource sector, and in particular, on forestry. The effects of the mountain pine beetle infestation and the downturn in the forest industry had a detrimental effect on the local economy. Unemployment rates were well above the provincial average. Many in the Williams Lake area saw the Project as an opportunity to improve the economy and were strong supporters of Taseko's proposal.

The mine site would cover a 35 square km area in the Teztan Yeqox (Fish Creek) watershed. The watershed, which drains to the Dasiqox (Taseko River), includes Teztan Biny (Fish Lake) and Y'anah Biny (Little Fish Lake) and the surrounding area called Nabas. The area was described by participants as a pristine, untouched, and unique ecosystem with exceptional vistas, clear glacial fed lakes and streams, relative remoteness and abundant wildlife. A postcard featuring Teztan Biny was issued by GoBC as one in a series promoting tourism in the province. The mine would involve the destruction of Teztan Biny, Y'anah Biny and portions of Teztan Yeqox. A new lake, called Prosperity Lake, would be created as part of the fish and fish habitat compensation plan. A 125 km transmission line would supply power to the mine site from the existing BC Hydro north-south transmission line east of the Fraser River.

First Nations have continued to occupy and use the Project area for traditional purposes since pre-European contact. The First Nations that would be affected by the Project include the Tsilhqot'in and Secwepemc Nations. First Nations have consistently expressed strong opposition to the Project.

The British Columbia Environmental Assessment Office undertook a separate but coordinated review of the Project and the provincial decision was announced in January, 2010. The Province's conclusion was that the Project would have a significant adverse effect on fish and fish habitat but that the effects were justified in the circumstances. The Panel

has made a number of observations related to the challenges resulting from the application of separate environmental assessment processes. In particular, the Panel notes that the Province was not able to consider the final comments from federal departments nor was it able to take advantage of information received during the public hearing from First Nations on the current use of lands and resources for traditional purposes and effects on cultural heritage. The Panel notes that the public hearing was instrumental in gathering information from First Nations on these matters.

The Terms of Reference issued by the Minister of the Environment require the Panel to conduct an assessment of the environmental effects of the Project which includes the effects on the current use of lands and resources for traditional purposes and cultural heritage. The Panel was also instructed to fully consider and include in its report information on how the Project might affect potential and established Aboriginal rights or title. The Panel interprets its mandate to mean that Aboriginal rights and title should be assessed in the same way as environmental effects. However, the Panel does not have a mandate to make any determination as to the validity of the rights or title claims asserted by First Nations or the strength of those claims.

The Panel concludes that the Project would result in significant adverse environmental effects on fish and fish habitat, on navigation, on the current use of lands and resources for traditional purposes by First Nations and on cultural heritage, and on certain potential or established Aboriginal rights or title. The Panel also concludes that the Project, in combination with past, present and reasonably foreseeable future projects would result in a significant adverse cumulative effect on grizzly bears in the South Chilcotin region and on fish and fish habitat.

The reasons for these conclusions are summarized as follows:

Fish and Fish Habitat

The Project would result in the destruction of approximately 90,000 rainbow trout in Teztan Biny (Fish Lake) and Y'anah Biny (Little Fish Lake). For First Nations, lake trout are an important and well established food source when salmon populations are low. Teztan Biny is also a fishing lake valued by recreational fishers.

The fish and fish habitat compensation plan would result in the creation of a new replacement lake called Prosperity Lake. Although it would be designed to support approximately 20,000 larger rainbow trout, it would neither meet Fisheries and Oceans Canada No Net Loss policy nor provide assurance to First Nations that the fish would be safe for consumption. Also, the success of re-creating a lake with adjacent spawning and rearing channels is questionable as no information was presented regarding the successful replacement of an entire lake and stream system as a self-sustaining ecosystem. It is unlikely that the plan would meet the requirements for the establishment of a self-sustaining rainbow trout population, or a replacement First Nation food fishery. Perpetual maintenance of spawning channels and ongoing lake stocking by governments would likely be required to achieve the proposed provincial fisheries objectives. The Panel finds that the fish and fish habitat compensation plan would not mitigate the effects of the loss of the fishery in the Teztan Yeqox (Fish Creek) watershed. The Panel concludes that the Project would result in a high magnitude, long-term and irreversible effect. Also, if the mine expands to extract the announced increase in mineral reserves, the expanded tailings storage facility would have an additional cumulative effect on the

fish habitat compensation plan for the present Project. This would place further stress on the likelihood of success of the compensation plan proposed for this Project.

Navigation

Transport Canada expressed concerns about how the Project would interfere with navigation and the lack of suitable mitigation to compensate for these losses. The Panel notes Transport Canada's assertion that Prosperity Lake would not adequately mitigate the losses of the fishing and recreational experience at Teztan Biny (Fish Lake) or the use by First Nations. Transport Canada has linked these issues to navigation. The Panel notes that the Project's effects on navigation in the absence of effective mitigation measures would be high magnitude and irreversible. Therefore, the Panel agrees with Transport Canada's conclusion that the Project would have a significant adverse effect on navigation.

Current use of lands and resources for traditional purposes and cultural heritage

The Tsilhqot'in and Secwepemc's current use of the mine site and the transmission line corridor for traditional purposes includes hunting, fishing, trapping, gathering of plants and berries for food and medicinal purposes, as well as ceremonial and spiritual activities.

First Nations people of all ages told the Panel that Teztan Biny (Fish Lake) was integral to the Tsilhqot'in culture. The Teztan Biny and Nabas areas were described as a place in their traditional territory where they go to exercise their established Aboriginal right to hunt and trap, their potential Aboriginal right to fish in Teztan Biny, to carry out activities for traditional purposes such as gathering plants for sustenance and medicinal purposes, and to ensure the continuation of intergenerational knowledge through cultural gatherings, ceremonies and the teaching of traditions to younger generations. The island in Teztan Biny (Fish Lake), which would be destroyed by the mine waste storage area, is a place of spiritual power and healing for the Tsilhqot'in. The archaeological finds in the area are important to the Tsilhqot'in as such finds are evidence of their ancestral heritage and an integral part of their cultural traditions. The area of the mine site was reported by the Tsilhqot'in to contain numerous heritage resources of importance including pit houses, cache pits, cremation sites, and graves, including at least 1 identified grave site and others that were reported but had not been located during the surveys. Sites that have not been identified would likely be uncovered or inadvertently destroyed during construction.

First Nations stated that the Nabas area, located immediately to the south of Teztan Biny (Fish Lake), had been occupied for generations. This area would be removed from future use as a result of the Project. The mine would reduce the area available for current use activities for traditional purposes. While there are other areas where some activities such as hunting, trapping and gathering of plants and berries could occur, the availability of such areas has been reduced due to logging, ranching and private land ownership in the area. In the Panel's view, the ability to practice these activities in one location, together with cultural and spiritual values and the archaeological importance of the Teztan Biny (Fish Lake) area, contributed to the special value of this area for the Tsilhqot'in. The Panel heard that the cultural importance and spiritual value of the Teztan Biny area could not be replaced or mitigated. Thus, the Panel's overall conclusion is that the Project would have a high magnitude, long term, irreversible effect on the Tsilhqot'in.

The effects of the Project on the Secwepemc would result mainly from the proposed transmission line. The Panel notes that there would be some flexibility to adjust the location of the final centreline for the transmission line and the placement of poles to avoid most sensitive areas. Therefore, it is the Panel's conclusion that with mitigation, the effects of the Project on the Secwepemc's current use of lands and resources for traditional purposes and on cultural heritage would not be significant.

First Nations stated they were not opposed to mining in general, but rather to a development that would result in the destruction of Teztan Biny (Fish Lake). Taseko had not proposed any measures to offset losses other than to refer to British Columbia's recent policy on revenue sharing with affected First Nations. Many First Nation members indicated that no amount of monetary compensation could replace the loss of the Teztan Biny ecosystem.

Potential or established rights and title

The mine site would be located in the area known as the Claim Area in *Tsilhqot'in Nation vs. British Columbia,* 2007 SCBC 1700 (the *William* case). In that case, the Supreme Court of British Columbia found that the Tsilhqot'in have a right to hunt and trap birds and animals throughout the Claim Area, to trade in skins and pelts, and capture and use horses for transportation and work. The Panel concludes that the Project would have a significant adverse effect on established Tsilhqot'in Aboriginal rights, recognized and affirmed in the *William* case, as the area of the proposed mine site would no longer be available for their use in exercising these rights throughout all phases of the Project. The Panel was not made aware of any offers of compensation to offset losses other than a reference made by Taseko to the recently announced British Columbia revenue sharing policy.

In addition, the Tsilhqot'in asserted an Aboriginal right to fish in Teztan Biny (Fish Lake) in a pending court action, *Baptiste et al. v. Taseko Mines Ltd.*, HMTQ BC and AGC. The Panel concludes that the effects of the Project on this asserted Aboriginal right would be significant as the lake and its fishery would be destroyed and replaced with a waste rock storage area.

While the Court found that Aboriginal title could not be granted in the *William* case due to the way the case was argued, the Court indicated that had the case been pleaded differently, it probably would have found Aboriginal title for the Tsilhqot'in to almost half of the Claim Area. However, the land to which title would have been granted did not include the Project area. The decision is under appeal by all parties. However, the Tsilhqot'in have asserted title to the Project area. The Panel concludes that the effects of the Project on the potential Tsilhqot'in title would be significant as the value of the claim would be reduced substantially due to changes in the landscape and the loss of the area for current use for traditional purposes.

No treaties have been signed in the Project area with potentially affected First Nations. However, portions of the transmission line would be located in areas that were reported to be under negotiation through the British Columbia treaty process. Both the Esketemc (Alkali Lake Band) and the Stswecem'c/Xgat'tem (Canoe Creek Band), members of the Secwepemc Nation, stated they were in stage 4 of the 6-stage treaty process. The Secwepemc Nation stated it had a proven Aboriginal right to hunt in the region, as per the *Alphonse* case, and a proven right to fish. The Stswecem'c/Xgat'tem and Esketemc also asserted Aboriginal rights and title over portions of the area crossed by the

transmission line. The Stswecem'c/Xgat'tem noted that they had uncontested rights to hunt and fish in the area of the transmission line.

With respect to the Esketemc (Alkali Lake Band) and the Stswecem'c/Xgat'tem (Canoe Creek Band), the Project would have a direct effect on their title claim as the transmission line would reduce the availability of land for selection during the treaty process. The Panel concludes that, depending on the size of the land settlement through the treaty process, the Project may result in a significant adverse effect on Aboriginal title that could be granted to them. The transmission line would also adversely affect the established right to hunt, but the Panel concludes that this would not be a significant effect. As with the Tsilhqot'in, no offer of compensation has been made to offset these losses.

Grizzly Bears

The past effects of logging and other activities such as ranching have resulted in a significant adverse effect on the sustainability of the South Chilcotin grizzly bear as indicated by its classification by the Province as threatened in the region. While the Project would result in a relatively small loss in habitat, it would contribute to a further decline of the present situation. Logging is expected to continue to affect habitat in the area due to the increased harvesting in response to the mountain pine beetle infestation. This would place even greater pressure on the remaining bear habitat in the South Chilcotin region.

Taseko's mitigation measures included strict enforcement of speed limits to minimize bear-vehicle collisions and a policy of using a non-lethal approach in resolving any incident involving bears, should they arise. These mitigation measures would not replace lost habitat, nor would they reduce fragmentation of the landscape. Further, speed limits for vehicles may be difficult to enforce. Given the increased road traffic and further loss and fragmentation of habitat caused by the Project, in combination with reasonably foreseeable forestry activities, the Panel concludes that the Project would likely result in high magnitude, long-term effects on the South Chilcotin grizzly bear population.

In addition, at the local level, the Panel concludes that the Project would have significant adverse effects on the users of the meadows within the Teztan Yeqox (Fish Creek) watershed, on the Xeni Gwet'in (Nemiah Band)/Sonny Lulua trapline and on Taseko Lake Outfitters. The users of the meadows would be unable to graze their livestock in these meadows, the Xeni Gwet'in (Nemiah Band) would be unable to trap in the mine area and Taseko Lake Outfitters would likely not be able to continue its ecotourism business due to the proximity of the mine site.

While the Panel has also examined information on the employment and economic benefits associated with the Project, it has not reached a conclusion on this subject. The Panel's Terms of Reference limit it to addressing changes in socio-economic conditions caused by a change the Project may make in the environment. Economic issues (e.g. employment, income, government finances and economic and regional development), in the Panel's opinion, do not result from an environmental change caused by the Project.

However, information on employment and economic benefits is relevant to the issue of whether the significant adverse environmental effects of the Project are justifiable. While the Panel has no mandate to reach conclusions on justifiability, it is mandated to include such information in its report.

The potential employment and economic benefits of the Project were considered by many to be beneficial. Taseko indicated that the Project was expected to generate, on average, approximately 375 direct jobs per year during the construction and operations phases. Additionally, approximately 600 indirect and induced jobs per year on average would be created within British Columbia during the 20 year operating life of the mine. Spending in the regional and provincial economy would be approximately $200 million with government revenue estimated to be $30 million annually over the life of the Project.

With respect to the mine site, the Panel notes that Taseko stated the only economically viable option, given the location of the ore body in proximity to Teztan Biny (Fish Lake), was the preferred mine development plan. Therefore, if the Project proceeds, there would be no other viable alternatives that could be explored to avoid the significant adverse environmental effects identified by the Panel.

The Panel has also provided, in accordance with its mandate, recommendations relating to appropriate procedures for the management of environmental effects, should a decision be made to approve the issuance of authorizations, permits or approvals that would be required to enable this Project to proceed. These recommendations are in addition to commitments made by Taseko and contained in the provincial Environmental Assessment Certificate, and include measures to further mitigate potential effects and to assist in future consultation with First Nations. However, the Panel believes that these recommendations would not eliminate or accommodate the significant loss First Nations would experience as a result of the Project.

Appendix E: Recommendations of the Federal Review Panel, Section 13 of the Federal Review Panel Report

SECTION 13: SUMMARY OF RECOMMENDATIONS

The Panel has provided recommendations relating to the appropriate procedures for the management of environmental effects, should a decision be made to approve the issuance of authorizations, permits or approvals that would be required to enable this Project to proceed. These recommendations include measures to further mitigate potential effects and to assist in consultation with First Nations beyond those commitments included in the provincial Environmental Assessment Certificate (Appendix 4). However, the Panel believes that these recommendations, if accepted, would not eliminate or accommodate the significant loss First Nations would experience as a result of the Project.

If the Project proceeds, the Panel recommends that:

1) Taseko and appropriate parties re-examine the choice of the transmission line corridor to determine whether one transmission line would be an appropriate alternative to serve both the Project and the Tsilhqot'in National Government's proposed biomass fired, thermal electric power plant, should that project proceed prior to construction of the transmission line;

2) Taseko monitor water levels in Bisqox (Beece Creek) and implement appropriate corrective action in order to minimize flooding at Taseko Lake Lodge;

3) a long-term follow-up and monitoring program be designed and implemented to verify the predicted seepage rates and concentration of contaminants from the tailings storage facility toward Jidizay Biny (Big Onion Lake) and the effectiveness of the proposed primary mitigation measures. Should the results show that the movement and concentration of contaminants is higher than predicted, additional mitigation measures should be put in place, such as the addition of more interception wells;

4) further detailed terrain hazard and soils mapping should be done by Taseko in areas of the transmission line right-of-way that have been identified as having potentially hazardous terrain and sensitive soils to assist in finalizing the centreline;

5) Taseko complete an additional assessment of areas of slope instability on the access road at Tête Angela Creek crossing;

6) areas identified as unstable undergo a detailed on-site terrain stability assessment by a qualified professional so that appropriate planning and mitigation measures can be undertaken prior to the commencement of construction activities;

7) Taseko construct the transmission corridor right-of-way in such a manner as to avoid long straight-line sight distances to reduce the negative effect of the right-of-way on predator-prey relationships;

8) Taseko begin discussions immediately with the British Columbia Ministry of Environment and the affected First Nations to develop a wildlife habitat compensation plan for mule deer;

9) Taseko involve the affected First Nations in the development and implementation of the mitigation measures to address the concerns regarding access along the transmission line right-of-way;

10) Taseko develop and implement a wildlife habitat compensation plan that provides for the creation of additional wetland/riparian habitat beyond that proposed by Taseko at the mine site, in collaboration with Environment Canada, the British Columbia Ministry of Environment, affected First Nations and appropriate environmental organizations such as Ducks Unlimited;

11) local First Nations, the Province and Taseko develop an agreement outlining mitigation measures to avoid or minimize damage to archaeological finds, as well as how found artifacts would be preserved. The agreement should incorporate traditional values of First Nations and be completed prior to the start of construction. In particular, the Panel recommends that as a component of such an agreement Taseko consider the development and implementation of a chance find procedure in collaboration with First Nations and the Province to address all artifacts found during construction of mine site infrastructure and the transmission line right-of-way, including a process of communication with First Nations to address chance finds and employ a trained archaeological monitor to evaluate effects during construction activity;

12) Taseko consider relocating the transmission line outside the Esketemc Community Forest, or consider options mutually agreeable to all parties involved to minimize or compensate for the effects on the Community Forest;

13) Taseko meet with the affected tourism business owners to discuss compensation for lost business as a form of mitigation;

14) Taseko monitor ground level concentrations of particulate matter at the Taseko Lake Lodge;

15) Transport Canada hold further discussion with Taseko, First Nations and recreational users to determine whether interim access to other lakes would be desirable and if so, appropriate measures be developed to minimize the environmental effects of creating increased access to navigation and related fishing opportunities elsewhere;

16) Taseko provide access to Prosperity Lake within the same season that the lake becomes available as a compensation fishery – in approximately Year 7 of the operation phase;

17) Taseko establish access to Prosperity Lake to allow for boat launching, camping and fishing to replicate as much as possible the water bodies it would replace;

18) Taseko monitor arsenic and mercury in fish tissue as a precautionary matter to verify predictions and the results of the monitoring be provided to appropriate federal and provincial authorities;

19) Taseko collaborate with the Secwepemc when determining the final alignment of the transmission line centreline in order to minimize disturbance resulting from the Project to areas of importance to the Esketemc (Alkali Lake Band) and Stswecem'c/Xgat'tem (Canoe Creek Band);

20) Taseko commit to monitoring of transplanted *Schistidium heterophyllum* populations and the implementation of appropriate adaptive management measures to ensure its survival;

21) Taseko investigate pit wall stability prior to closure to minimize any post-closure stability problems;

22) Taseko develop a revised emergency response plan before mine closure to address a possible embankment failure;

23) the federal and provincial governments establish an independent monitoring committee as soon as possible to assist in building trust between Taseko and First Nations and to demonstrate that Taseko is implementing its commitments as intended throughout the mine life; the committee would consist of appropriate government agencies and/or independent experts, First Nations affected by the Project and local non-First Nation members, and would be funded by Taseko; and

24) the responsibilities of the independent monitoring committee should include the following:

- reviewing and monitoring surface water quality and arsenic and mercury levels in fish tissue;
- reviewing the hydrogeological data collected as per commitment 8.6, Appendix 4;
- reviewing and monitoring the data collected from the long-term follow-up and monitoring program to verify the predicted seepage rates and concentration of contaminants from the tailings storage facility toward Jidizay Biny (Big Onion Lake) and the effectiveness of the proposed primary mitigation measures;
- reviewing and monitoring data collected on the implementation of the fish and fish habitat compensation plan;
- reviewing the effectiveness of measures to control invasive plant species along the transmission line;
- reviewing the information collected on any Project-related grizzly bear-vehicle collisions or near misses;
- participating in the development of and reviewing the implementation of the access management plan for the transmission line;
- participating in the development of and reviewing the implementation of the wildlife habitat compensation plan; and
- other matters that may arise during the construction, operation, and closure of the mine, as a result of monitoring and adaptive management measures.

Appendix F: Taseko Mines Limited, Aboriginal Policy

Taseko Mines Limited

Aboriginal Policy

Taseko Mines is committed to developing mutually beneficial relationships with Aboriginal Peoples and with local communities that are affected by, or that affect, the company's various endeavors.
To fulfill this commitment the following principles will guide our decisions and the conduct of our employees. In accordance with the principles of Towards Sustainable Mining (TSM) we will:

- Respect Aboriginal and Treaty rights and seek to understand local perspectives on those rights;
- Acknowledge and respect the social, economic, environmental and cultural interests of Aboriginal Peoples;
- Engage with Aboriginal Peoples, in accordance with the *TSM Guiding Principles*, to develop open and effective relationships throughout the mining lifecycle.
  This includes:
  - Building a cross-cultural understanding so that company personnel understand Aboriginal Peoples' culture, values and aspirations, and Aboriginal Peoples understand the company's principles, objectives, operations and practices;
  - Undertaking early, timely and culturally appropriate engagement with Aboriginal peoples, including within the environmental assessment process, to ensure their interests in a project and its potential impacts are understood;
  - Consideration of traditional knowledge to minimize or mitigate potential adverse environmental and social impacts, and enhance positive benefits of mining and related activities;
  - Developing agreements for participation, where appropriate, either directly with local Aboriginal communities or in conjunction with governments;
  - Working with governments and communities to support and encourage community development programs, which may include education, training, health, culture, employment and business development, or other community needs and priorities such as capacity building;
  - Supporting and encouraging Aboriginal involvement in environmental monitoring, closure planning and reclamation and other environmental activities that may be of interest to them; and
- Developing and implementing company policies and systems that support these commitments and encourage suppliers of goods and services to the industry to do the same.

Russell E. Hallbauer, President and CEO
April 2011

Appendix G: Site Photographs

Photo 1: Middle Fish Creek flowing north out of Fish Lake (looking southeast)

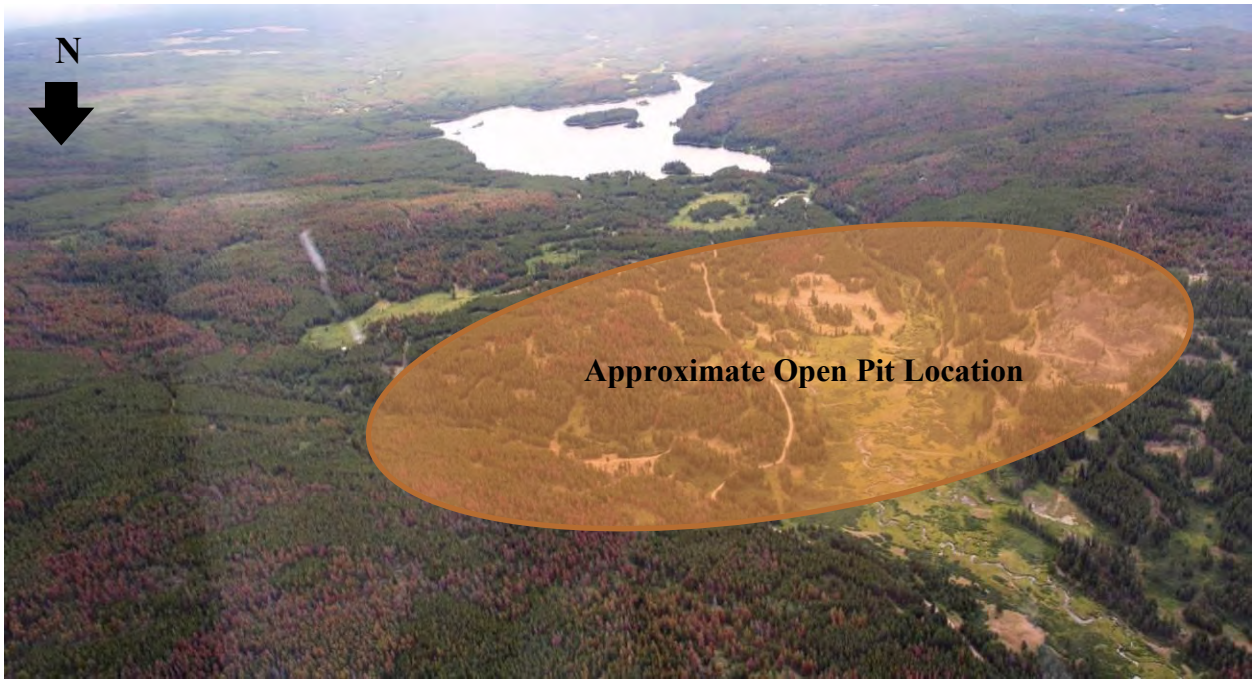


Photo 2: View of Middle Fish Creek flowing north out of Fish Lake (looking south). The pit will be north of the lake, with the plant site to the east and the tailings storage facility (TSF) 2 km to the south of the lake.

Photo 3: Fish Lake, looking north-northwest: showing Upper Fish Creek. TSF embankment will be behind viewer.

Photo 4: Evidence of the Mountain Pine Beetle infestation (red & grey trees) surrounding Fish Lake

Photo 5: Little Fish Lake looking northwest towards Fish Lake


Photo 6: Middle Fish Creek area at open pit location

Photo 7: Existing Environment: Fish Lake in the right of the photograph. Note the red and grey Mountain Pine Beetle kill throughout the forest and the clear-cut areas along the horizon.

Photo 8: Highway 20 crossing of Fraser River

Photo 9: Chilcotin River crossing at Hanceville

Photo 10: Location where transmission line is proposed to cross the Fraser River