EAO | Environmental Assessment Office

Summary Assessment Report for Blackwater Gold Mine Project (Blackwater)

With respect to the application by New Gold Inc. for an Environmental Assessment Certificate pursuant to the *Environmental Assessment Act*, S.B.C. 2002, c. 43

May 17, 2019

BRITISH COLUMBIA

1 INTRODUCTION

This Summary Assessment Report (Summary Report) provides an overview of the environmental assessment (EA) for the proposed Blackwater Gold Mine Project (Blackwater or Project) as conducted by the Environmental Assessment Office (EAO). The Summary Report is prepared as an overview of the Assessment Report that meets the requirements of the *Environmental Assessment Act* S.B.C. 2002, c. 43 (Act) and discusses the key findings and conclusions of the EA. The Summary Report makes direct reference to chapters of the Assessment Report, where more details can be found.

In British Columbia (BC), the decision whether to issue an EA Certificate (EAC) is made under the Act by two deciding ministers, one of which is always the Minister of Environment and Climate Change Strategy and another as set out in the Responsible Minister Order. For Blackwater, the second deciding minister is the Minister of Energy, Mines and Petroleum Resources. The EAO has prepared the Assessment Report, Summary Report, proposed Table of Conditions (TOC) and proposed Certified Project Description (CPD) (together, the Decision Materials) for consideration by the two ministers.

2 PROJECT DESCRIPTION

On December 22, 2015, the EAO accepted for review New Gold Inc.'s (New Gold's) application for an EAC to construct and operate an open pit gold and silver mine approximately 110 kilometres (km) southwest of Vanderhoof, as shown in Figure 1. Under the Act and the Reviewable Projects Regulation, a proposed new mine facility that during operations will have an ore production capacity of 75 000 or more tonnes per year requires an EAC. Blackwater would produce approximately 60 000 tonnes per day (tpd) of ore with an annual production of 22 million tonnes, and therefore requires an EAC. Blackwater was also reviewable under the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012), because Blackwater would exceed an ore production capacity of 600 tpd for a proposed gold mine.

Blackwater would be located in a region with historic and current forestry and mining activities. It is also an area valued by residents and visitors for recreation, fishing and hunting activities and there are many local businesses related to these pursuits. The mine site would be situated in a remote location, but road networks, transmission lines, transportation of materials and mine-related activities could impact other resource users or the visual quality of the area, outside of the mine site footprint.

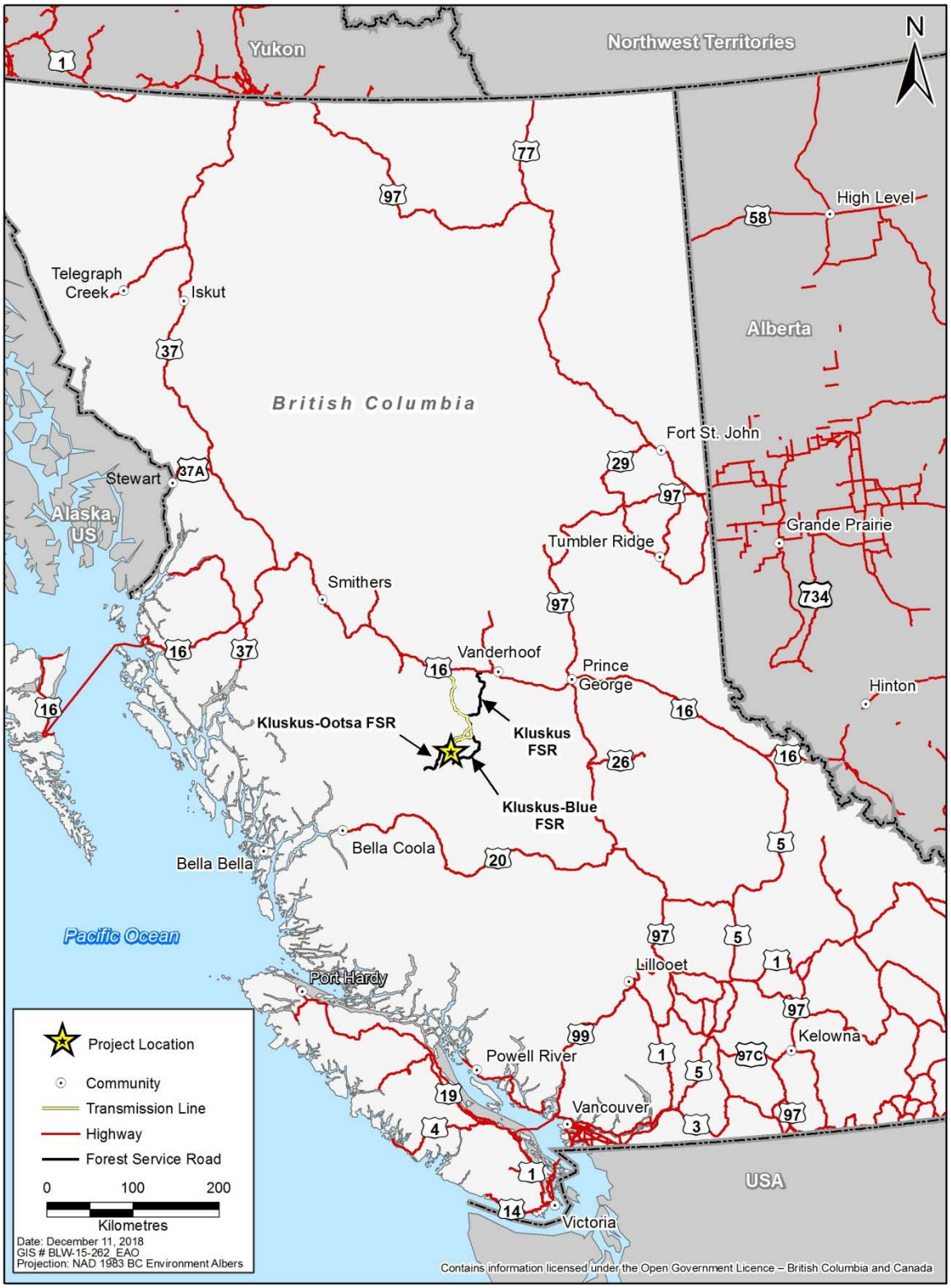

Figure 1: Location of the Proposed Blackwater Gold Mine Project in British Columbia

The Blackwater mine site would be located within the asserted traditional territories of Lhoosk'uz Dené Nation (LDN), Ulkatcho First Nation (UFN), Skin Tyee Nation and Tsilhqot'in Nation. Other components of Blackwater, including the existing Kluskus and Kluskus-Ootsa Forest Service Roads and the transmission line, cross the asserted traditional territories of Nadleh Whut'en First Nation (NWFN), Saik'uz First Nation (SFN), Stellat'en First Nation (StFN), Nazko First Nation (NFN), Nee Tahi Buhn Band, Cheslatta Carrier Nation, and Yekooche First Nation.

The mine site would occupy approximately 4,400 hectares (ha) to accommodate the mine, all ore processing, mine waste, water supply and on-site infrastructure, as shown in Figure 2.

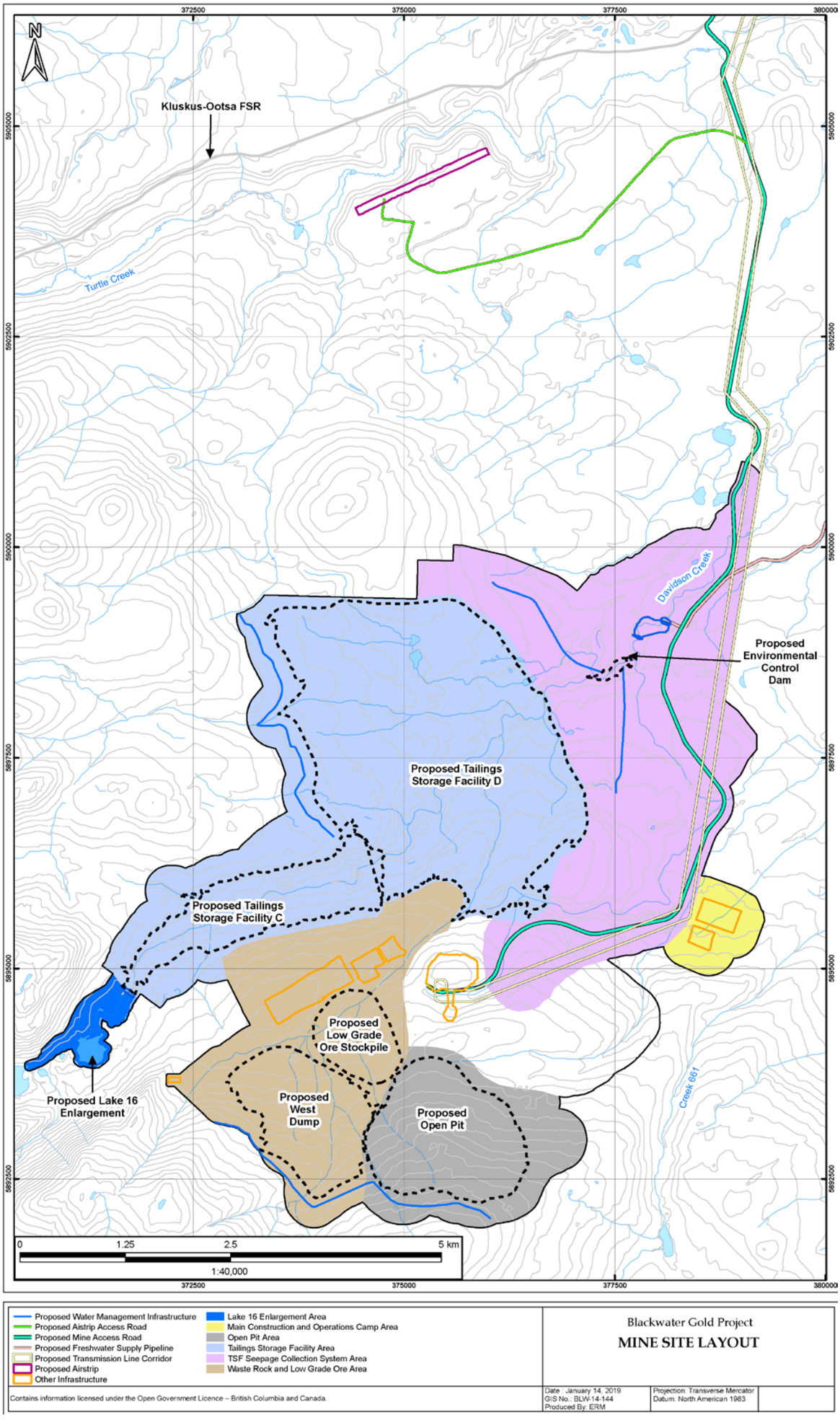

Figure 2: Proposed Blackwater Mine Site Layout

Key components of Blackwater would include:

- A 238 ha open pit with an expected depth of 550 metres (m) below ground surface;
- A 35 ha process plant site to process 60 000 tpd of ore, which would include industrial buildings, a crusher and a conveyer, and storage of hazardous materials;
- A Tailings Storage Facility (TSF) and associated structures, comprising TSF Site C (192 ha) and TSF Site D (925 ha), to store a range of products including 784 million tonnes of tailings, Potentially Acid Generating (PAG) rock, Potentially Metal Leaching Non Acid Generating waste rock; and up to 30 million m^3 of water;
- Overburden and waste rock dumps, a low-grade ore stockpile, topsoil stockpiles and borrow pits, quarries, and construction laydown areas;
- Water management structures, including diversion ditches and seepage collection trenches; an Environmental Control Dam (ECD) and interception trenches; and an impoundment and diversion channels to direct freshwater around the mine site;
- A Freshwater Supply System (FWSS) consisting of an approximately 14 km pipeline pumping freshwater from Tatelkuz Lake to a freshwater reservoir (FWR) with a capacity of approximately 400,000 m^3 located east of TSF Site D;
- Water treatment plants;
- A 230 kilovolt (kV) Transmission Line, up to 140 km in length with an associated 134 km of transmission line access roads, of which 93 km would be new roads and 41 km would be upgrades to existing roads;
- A mine access road up to 16 km long, and upgrades to the Kluskus and Kluskus-Ootsa Forest Service Roads, including the realignment of approximately 1.5 km of the Kluskus Forest Service Road;
- A 1.7 km airstrip with an associated 5.7 km access road and a helipad;
- A construction camp with capacity to accommodate up to 1,000 personnel, and an operations camp with capacity to accommodate up to 500 personnel; and
- Additional infrastructure and activities (explosives storage facility, emulsion plant, truck shop and warehousing facilities, fuel storage tanks, potable water supply tanks, sewage treatment and disposal facilities, waste management collection and storage facilities, non-hazardous waste incinerator, back-up power generation facilities, administration and change facilities, emergency services building, and fire water distribution).

If Blackwater receives an EAC, construction would take approximately two years. Following this, mining and ore processing would occur over 17 years. The FWSS providing water to the mine and Davidson Creek would operate for about 42 years. Treatment of mine water would be long term and does not have a predicted end-date (modelling showed the water treatment still being needed after around 300 years). During this time the transmission line, mine access road, and Forest Service Roads would continue to be used. The airstrip and its facilities would operate for about 18 years. Reclamation activities at the mine site would begin during mining operations, continue for 24 years after ore processing ends, then be completed after water treatment infrastructure is no longer needed. More details on the components of Blackwater and associated activities are described in Section 2.2.2 of the Assessment Report.

2.1 PROJECT CHANGES RESULTING FROM THE ENVIRONMENTAL ASSESSMENT

During the EA, New Gold made a number of changes to the Blackwater project, several as a result of input from the technical advisory working group (Working Group), Indigenous groups or the public. In particular, New Gold identified additional measures to manage water and reduce the risk or consequence of a tailings dam failure. These measures included relocation of water storage, active management of water runoff from undisturbed areas, and contingency measures for emergency removal of water from the TSF pond to increase dam safety. Another major change was realignment of the transmission line, in consultation with NWFN, SFN and StFN (collectively referred to as the Carrier Sekani First Nations [CSFNs]), to address their concerns about impacts to their asserted or established Aboriginal rights, including title (Aboriginal Interests). Project changes are listed in Table 1.

Table 1: Blackwater Project Changes Resulting from Working Group, Indigenous Group or Public Input to the EA Process

PROJECT CHANGES	RESULTING CHANGES TO POTENTIAL EFFECTS
WATER MANAGEMENT	
Construct the Northern and Southern Diversions in construction (as opposed to early in operations) to convey any excess non-contact water around, rather than into, the TSF.	• Reduces impacts on Davidson Creek stream temperatures and water quality; • Increases water management flexibility earlier in project development; and • Reduces risks to the TSF through a design change identified in the Tailings Alternatives Assessment.
Transfer and store the majority of tailings pond supernatant[1] in TSF Site C to reduce water in TSF Site D and increase to the extent feasible the beach width.	• Increases subaerial beach length in TSF Site D (an indicator of improved dam safety); • Decreases the likelihood and consequences of containment loss in the event of embankment deformation by storing water outside the active impoundment; and • Reduces risks to the TSF through a design change identified in the Tailings Alternatives Assessment.
Establish interim emergency overflow channels around the TSF Site D Main Dam during operations to ensure that the incremental increase in runoff from the Probable Maximum Flood (PMF) during operations could be safely transmitted around the dam in a controlled manner.	• Reduces risks to the TSF by reducing the likelihood of water overtopping the dam, thus improving physical stability through more effective management and control of water; and • Reduces risks to the TSF through a design change identified in the Tailings Alternatives Assessment.

[1] Supernatant: liquid lying above a solid residue after crystallization, precipitation, centrifugation, or other process.

PROJECT CHANGES	RESULTING CHANGES TO POTENTIAL EFFECTS
Allow for a surface water discharge from the FWR, in addition to the low-level outlet, until the FWSS is no longer needed.	• Reduces potential impacts on stream temperatures in Davidson Creek by increasing flexibility in the FWSS to meet water temperature requirements in Davidson Creek.
Eliminate the East Dump water management infrastructure (that is, sediment pond and associated ditch) as Project components.	• Addresses concerns of LDN and UFN that Blackwater would discharge mine contact water to Creek 661, which drains into Tatelkuz Lake upstream of Tatelkus Lake Reserve 28 (LDN); • Reduces impacts to Creek 661 by reducing mine disturbance area in Creek 661 catchment and increasing the natural flow to Creek 505659, and subsequently Creek 661; and • Reduces risks identified in the Tailings Alternatives Assessment by reducing the volume of runoff water requiring collection and storage in the TSF.
Use water withdrawn from the TSF — as opposed to from Tatelkuz Lake via the FWSS — to meet mill water demands for operations.	• Reduces water withdrawal from Tatelkuz Lake; • Reduces flow effects to Chedakuz Creek between Tatelkuz Lake and Davidson Creek; and • Reduces risks to the TSF identified in the Tailings Alternatives Assessment by storing less water in the TSF.
Treat open pit surface water and groundwater before discharging to Davidson Creek during operations in Years 5 to 14, as opposed to pumping water from the pit to the TSF.	• Enhances safety by providing a means to remove mine affected water from the site, rather than storing it in the TSF.
Construct the TSF D spillway during operations in Year 10, as opposed to just prior to closure (around Year 17).	• Reduces potential for water quality effects in Creek 661 by increasing capture of seepage from the TSF.
At closure, flood the open pit with TSF supernatant water (in addition to natural flows from rainfall/runoff and groundwater) instead of water from both the TSF and Tatelkuz Lake.	• Reduces water withdrawal from Tatelkuz Lake; and • Reduces flow effects to Chedakuz Creek between Tatelkuz Lake and Davidson Creek.
Collect pit lake seepage in the east seepage collection system and convey the water by pipeline to the TSF (the original design had pit seepage reporting to Creek 505659 and from there to Creek 661).	• Reduces potential for water quality impacts to Creek 661 by increasing capture of seepage from the pit lake.

PROJECT CHANGES	RESULTING CHANGES TO POTENTIAL EFFECTS
Pump flows from the ECD to the pit lake during closure, instead of from the ECD to the TSF and *then* to the pit lake.	• Improves water quality discharged to Davidson Creek by improving TSF water quality in closure and post-closure.
Conduct active water treatment for mine-affected water in closure and post-closure for dissolved metals, sulphate, and ammonia before discharging water to the environment.	• Improves water quality discharged to Davidson Creek by improving TSF water quality in closure and post-closure; • However, duration of some effects would be longer, given the need for water treatment for 300+ years.
Maintain Northern and Southern diversions in post-closure instead of decommissioning them at closure.	• Reduces impacts to streamflow in Davidson Creek; and • Improves water quality in Davidson Creek by reducing the volume of contact water discharged from TSF D via the spillway.
Release runoff from the TSF D dam shell and natural catchment runoff at the ECD site directly to the plunge pool, as opposed to collecting it at the ECD site and routing it to the WTP.	• Reduces impacts to streamflow in Davidson Creek by reducing the volume of water captured at the ECD site requiring treatment.
WASTE MANAGEMENT	
Eliminate the East Dump as a Project component and add its material to the West Dump.	• Reduces overall mine footprint area and impacts to wildlife, vegetation, water, and wetlands.
TRANSMISSION LINE	
Change alignment of transmission line to follow roads, forestry cut-blocks and forest fire-damaged areas, staying adjacent to or within existing disturbances for 60 percent (79 km) of its length, as opposed to 51 percent (or 71.6 km) of the original alignment proposed in the Application/Environmental Impact Statement (EIS).	• Reduces effects on Aboriginal Interests; • Reduces potential effects to wetlands, fish and fish habitat, wildlife (including moose, grizzly bears and furbearers), ecosystem composition, plant species and ecosystems at risk, traditional use plants, heritage, and current use of lands and resources for traditional purposes; • Addresses concerns raised by Indigenous groups, including NWFN, SFN, StFN, LDN, UFN and government agencies; • Addresses some of the concerns raised by stakeholders in relation to increased access and impacts on wildlife.

PROJECT CHANGES	RESULTING CHANGES TO POTENTIAL EFFECTS
Use existing roads for construction of and access to the transmission line resulting in a greater proportion of access roads over cleared land (23 percent vs. 11 percent proposed in the Application/EIS); decommission and reclaim new roads once construction of the transmission line is complete (if not required for maintenance).	• Reduces potential impacts to wildlife, plant species and ecosystems; and • Addresses concerns raised by Indigenous groups, including NWFN, SFN, StFN, LDN, UFN and government agencies.

3 ENVIRONMENTAL ASSESSMENT PROCESS

Blackwater required both federal and provincial EAs. The EAO and the Canadian Environmental Assessment Agency (the Agency) conducted cooperative federal and provincial EAs. This included co-chairing Working Group meetings, coordinating consultation activities with Indigenous groups and the public, hosting a joint public comment period on the Application/Environmental Impact Statement and jointly identifying and addressing technical issues during the EA. The provincial Assessment Report and the federal Environmental Assessment Report support separate provincial and federal decisions, respectively.

The EA included extensive engagement with government agencies, Indigenous groups, and the public on potential environmental, economic, social, heritage, and health effects, including cumulative effects, as required under the provincial Act. This section describes key steps in the provincial EA. Additional milestones are listed in Section 4.2 of the Assessment Report:

- On November 5, 2012, the EAO determined that Blackwater was reviewable pursuant to the Reviewable Projects Regulation, as it would be a new mine facility that would exceed production capacity of 75,000 tonnes per year of mineral ore during operations. Consequently, the EAO issued an order to New Gold under Section 10 of the Act requiring Blackwater to undergo an EA.
- On July 9, 2013, the EAO issued an order to New Gold under Section 11 of the Act which set out the scope, procedures and methods for the EA, including requirements for consultation with Indigenous groups and the public.
- On May 15, 2014, the EAO issued to New Gold the approved Application Information Requirements which specified mandatory information to be included in an EAC Application for Blackwater.
- On December 22, 2015, the EAO determined that New Gold's Blackwater Application contained the information required in the Application Information Requirements.
- On February 26, 2016, the EAO issued an order under Section 24(4) of the Act, at the request of New Gold and after consultation with Indigenous groups, granting a 42 day extension to the review timeline.
- On August 15, 2016, the EAO issued an order under Section 24(2) of the Act, at the request of New Gold, which suspended the review timeline to allow the EAO and Working Group additional time to consider supplemental information.
- On May 17, 2019, the EAO lifted the suspension under Section 24(2) of the Act.

- On May 17, 2019, the EAO referred Blackwater to the ministers for decision.

The EAO established a Working Group to review key documents and provide expert advice during the EA. The Working Group included representatives of Indigenous groups, and federal, provincial, and local government staff with the mandates and expertise relevant to the review. Membership of the Working Group is in Appendix C of the Assessment Report.

In addition to an EAC, Blackwater would also require various permits from federal and provincial governments. The majority of provincial permits would be provided through the Ministry of Energy, Mines and Petroleum Resources (EMPR), the Ministry of the Environment and Climate Change Strategy (ENV), and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD).

Anticipated federal permits include authorizations under the *Fisheries Act*, *Migratory Birds Convention Act, Species at Risk Act*, *Explosives Act, Radio Communications Act*, and *Transportation of Dangerous Goods Act*.

On April 15, 2019, the Federal Minister of Environment and Climate Change determined that, taking into account the implementation of mitigation measures that the Minister considered appropriate, the Project would not likely cause significant adverse environmental effects, and issued the Environmental Assessment Decision Statement to New Gold.

4 STRATEGIC CONTEXT

The most notable aspect of the Blackwater EA was the substantial collaboration with several Indigenous groups.

On April 2, 2015, the Province and the Carrier Sekani First Nations entered into a Collaboration Agreement. The Collaboration Agreement committed the parties to (i) seek to develop consensus recommendations in relation to the design and implementation of EAs and regulatory review processes in relation to major approvals, and (ii) seek consensus in relation to decisions on major approvals.

Following the announcement of the Collaboration Agreement, the EAO met with the Carrier Sekani First Nations being consulted on this EA: NWFN, SFN and StFN (collectively the CSFNs) to discuss how to fulfill the requirements in the Collaboration Agreement through this EA. At the time, the EAO was in an extended evaluation of whether New Gold's Application addressed the requirements set out in the EAO's Application Information Requirements. The EAO and the CSFNs developed a Collaboration Plan to set out how collaboration and consensus seeking would be addressed through the remaining review of the Blackwater EA. This Collaboration Plan is attached as an Appendix to the CSFNs' "Assessment of Impacts on the Carrier Sekani First Nations' Aboriginal Title, Rights, and Interests from the Blackwater Gold Project (Part C)" (the CSFNs' Part C).

In the Application Review phase of the EA, the EAO, the Agency, LDN and UFN developed a Memorandum of Understanding (MoU), signed October 3, 2016, to set out collaboration commitments among those parties for the remainder of the EA.

These collaborative relationships and activities with the CSFNs and LDN and UFN were a critical aspect of Application Review for the Blackwater EA. Some of the key collaborative activities undertaken include:

- Keeping in regular contact through providing bi-weekly conference calls (separate calls with each of LDN/UFN and CSFNs), where process, timelines and issues of concern could be collaboratively discussed;
- EAO and Agency participation in community meetings, at the request of the Indigenous groups;
- Having the Indigenous groups lead in drafting the analysis of the impacts of Blackwater on their Aboriginal Interests (as set out in Part C of the Assessment Report); and
- Collaboratively identifying and drafting proposed EAC conditions to address the potential effects of Blackwater on environmental, social, economic, heritage and health effects, and potential effects on Aboriginal Interests.

The discussion on proposed conditions included extensive dialogue with these Indigenous groups, the EAO, and the Agency. This included several days of in person meetings, multiple conference calls, written comments and responses.

All parties put a very significant level of effort into these collaborative activities, and in particular, the development of the Part C assessments and the proposed EA conditions. More detail regarding collaboration and impacts to Indigenous groups can be found in Section 6 of this Summary Report.

The proposed conditions represent, to a great degree, the outcome of collaborative discussions, informed by important input from federal and provincial technical experts and New Gold. At the conclusion of the EA, the EAO, CSFNs, UFN and LDN generally reached consensus on the proposed conditions to recommend to Ministers. Notwithstanding this achievement, as noted in Section 6, CSFNs, LDN and UFN had outstanding concerns at the conclusion of the EA.

5 KEY CONCLUSIONS OF THE ENVIRONMENTAL ASSESSMENT

The EAO uses a values-based method that relies on Valued Components (VCs) as the framework for assessing project effects. VCs are those elements of the natural and human environments considered by the proponent, public, Indigenous groups, scientists and other technical specialists, and government agencies involved in the EA process to have scientific, conservation, ecological, economic, social, cultural, archaeological, or other importance. Pathway VCs are part of the cause-effect pathway between a proposed project and receptor VCs, which are where effects are experienced. The assessment of pathway VCs informs the assessment of relevant receptor VCs; however, conclusions of significance are only

completed for receptor VCs as receptors of the effects. The Blackwater Assessment Report assesses the VCs included in the Application, which are outlined in Table **2** below.

Table 2: Valued Components Assessed

Environmental Effects Air Quality (Section 5) Climate Change (Section 6) Ecosystems VCs (Section 9) Fish and Fish Habitat (Section 11) Groundwater Quality Section 10) Noise and Vibration (Section 7) Physiography and Topography (Section 8) Soil Quality (Section 8) Surface Water Flow (Section 10) Surface Water and Sediment Quality (Section 10) Surficial Geology and Soil Cover (Section 8) Wetlands (Section 9) Wildlife VCs (Section 9)	**Social Effects** Current Land and Resource Use for Traditional Purposes (Section 14) Demographics (Section 14) Family and Community Well-Being (Section 14) Non-Traditional Land and Resource Use (Section 14) Regional and Community Infrastructure (Section 14) Regional and Local Services (Section 14) Visual Resources (Section 14) **Heritage Effects** Archaeological Sites (Section 12) Historic Heritage Sites (Section 12) Paleontological Resources (Section 12)
Economic Effects Provincial Economy (Section 13) Regional and Local Employment and Businesses (Section 13) Regional and Local Government Finance (Section 13)	**Health Effects** Environmental Exposures (Section 15) Workers Health and Safety (Section 15)

The EAO's Assessment Report assesses the impacts of Blackwater on pathway and receptor VCs, identifies mitigation measures, discusses the key issues raised, and reaches conclusions on the significance of residual effects on receptor VC. A summary table of residual effects is in Appendix A of this Summary Report. The Assessment Report further describes the key issues raised and the EAO's conclusions regarding these residual effects. To ensure the residual adverse effects of Blackwater would be adequately avoided, minimized or mitigated, the EAO proposes 43 conditions in a proposed TOC, and a CPD, which would all be included in an EAC that, if issued, would be legally binding and subject to compliance and enforcement oversight.

The remainder of this section summarizes the three key themes that, due to their complexity and the level of concern from the Working Group, Indigenous groups or the public, were the main focus of the EA: issues related to water, issues related to wildlife, and impacts to other land users. A detailed discussion of the assessment of each VC and a summary of issues can be found in the Assessment Report.

5.1 WATER

Through the construction of the mine, Blackwater would result in a number of changes to the landscape, and to how surface and groundwater would flow through the landscape. These changes are predicted to result in effects to water quantity, water quality and sediment quality in downstream water bodies. Additionally, New Gold proposed to pump freshwater from Tatelkuz Lake and release it into Davidson Creek during operations and closure to support aquatic communities in the cut-off section of Davidson Creek below the TSF.

There were three main issues that arose in the EA related to water. These issues also drove changes to the design of Blackwater, as well as the development of several proposed conditions to address potential effects:

5.1.1 AMOUNT OF WATER STORED IN THE TSF

The amount of water stored in the TSF was a concern for the Working Group due to the large size of the proposed Blackwater TSFs (up to 25 million m^3 of water in TSF Site D, and an additional 8 million m^3 in TSF Site C). The Working Group noted that an accumulation of water in the TSF in excess of that required to process the extracted ore and cover potential metal leaching (ML) or acid rock generating (ARD) mine waste stored in the TSF runs counter to the recommendations of the Mt Polley Independent Expert Engineering Investigation and Review Panel to apply the best achievable technology principle of "eliminate surface water from the (tailings) impoundment." Indigenous groups also raised concerns that having large volumes of water stored in the TSF would increase the consequence of a tailings dam failure.

In response to these concerns, New Gold proposed a change in water management during the operations phase, including discharging water from the open pit during operations, rather than storing that water in the TSF. The water would be treated using a conventional metals treatment technology prior to discharge to ensure appropriate water quality.

Additionally, to address concerns about accumulation of water in the TSFs, the EAO proposes the following conditions:

- Condition 19: Environmental Monitoring Committee would require New Gold to host an Environmental Monitoring Committee, which would provide a venue for New Gold, Indigenous groups and government agencies to discuss environmental issues related to Blackwater, including New Gold's management of water surplus to mine operations; and
- Condition 33: Mine Waste and Water Management Plan would require New Gold to avoid accumulating water surplus to what it needs for mine operations and covering potentially ML/ARD tailings and waste rock.

5.1.2 WATER QUALITY

Another key theme of the EA was potential adverse effects to water quality. During Application Review, the EAO engaged in considerable discussion with the Working Group on how New Gold could ensure that water quality would be maintained in receiving waters downstream of the mine during all project phases. The CSFNs also raised water quality concerns related to the water policies and management guidance they established, which are discussed in Section 6.

Through the Working Group review, New Gold proposed several key mitigation measures to address effects to water quality in addition to the metals treatment plant noted above. These included: lining the area of the low-grade ore stockpile and backfilling this ore in the pit or TSF if it is not fully milled before closure; covering any mine waste in the TSF with an oxygen preventing barrier to prevent ML/ARD; using a cyanide destruction circuit to remove cyanide after its use in the processing plant; limiting seepage from TSF C to TSF D pond after mine operations cease; filling the mine pit quickly with water from the TSF after mining operations cease to reduce acid generation from the walls of the pit; and active water treatment in closure and post closure (discussed further below).

Given the importance of these key mitigations related to preventing significant adverse effects on water quality, the EAO proposes the above noted Condition 33: Mine Waste and Water Management and a Closure and Post Closure Water Quality Management Plan (Condition 34) that capture these key mitigation measures, or the effects they are intended to address. The EAO has also proposed Condition 26: Water Quality Management that will require New Gold to meet water quality standards that are protective of the downstream environment through all project phases, as well as develop an Aquatic Effects Monitoring and Management Plan (Condition 30).

5.1.3 TREATMENT OF WATER FOR DISCHARGE AFTER MINE OPERATIONS CEASE

New Gold had also proposed to use wetlands during Post-Closure to remove contaminants from water discharged from the TSF. The Working Group raised concerns with the proposal for treatment wetlands, noting that the proposed system was not a water treatment method that had been proven to be effective in BC. In response to these concerns, New Gold proposed active water treatment, as well as other measures noted above to support attainment of adequate water quality to discharge to the environment in post-closure.

The Working Group reviewed the additional information provided by New Gold on the proposed active water treatment in closure and post-closure, and noted that while the metals treatment technology proposed was well known in BC, two other treatment technologies proposed had not been used in mines in BC previously, or in analogous sites elsewhere, and therefore there was uncertainty about whether they would achieve the water quality results being modelled. The Working Group also discussed the fact that the treatment would not be required until after operations, so there was time to further prove out the technology, and the technologies with greater certainty were removing much of the contaminants of concern. It was also noted that water treatment was needed over the long term and based on modelling,

there was no specific end date for when treatment would no longer be needed.

To address concerns about uncertainty of the water treatment technologies, the EAO proposes the above noted Closure and Post Closure Water Quality Management Plan (Condition 34) which would require New Gold to provide updates every five years on the technology it proposes to use to treat water after mine operations cease, as well as providing an assessment to show that it will be effective in achieving the water quality that is protective of the environment.

The EAO notes that there are regulatory requirements under the federal Fisheries Act (Metal and Diamond Mine Effluent Regulation) and provincial *Environmental Management Act*, and *Mines Act* for surface water quality management, monitoring and reporting that would form part of the permitting processes following the EA, should Blackwater proceed to the permitting stage.

Considering the analysis summarized above and discussed in Section 10: Groundwater, Surface Water and Sediment Quality of the EAO's Assessment Report, having regard to the proposed conditions and CPD and associated mitigation measures as well as the subsequent permitting processes, should an EAC be granted, the EAO is satisfied that Blackwater would not have significant adverse residual effects on Water VCs.

5.2 WILDLIFE AND ECOSYSTEMS

Through the construction of the mine, Blackwater would result in a number of changes to the landscape, which would result in the loss and degradation of wildlife habitat, increase wildlife mortality, impact wildlife movement and populations, and result in loss and degradation of ecosystems. Some areas of the Blackwater footprint would be fully restored to pre-mining conditions after decommissioning, some areas would undergo long-term changes, and in some areas, effects would not be reversible.

New Gold's surveys in the Blackwater study areas confirmed the presence of 32 mammal species, 122 bird species and four amphibian species, including 18 species-at-risk. A large proportion of the Blackwater mine site contains more sensitive ecosystems such as wetlands, riparian areas, old growth forest, whitebark pine, and habitat for plant species-at-risk. In the Blackwater area, ecosystems, wildlife habitat and wildlife species are currently being affected by natural disturbances like mountain pine beetle and wildfires, and by industrial development like forestry. Adverse effects are occurring to whitebark pine, which has been affected by blister rust disease and mountain pine beetle. Extensive adverse effects are already occurring to caribou, moose and grizzly bear populations which have declined. Indigenous groups specifically raised concerns regarding impacts these culturally important species. Further discussion of impacts to wildlife and ecosystems can be found in Section 9 of the EAO's Assessment Report.

The EAO found that Blackwater would result in a range of residual adverse effects on wildlife, wildlife habitat, and ecosystems, due to the different characteristics of each wildlife species. To mitigate adverse effects to wildlife and ecosystems, the EAO proposes the following conditions:

- Condition 23: Wildlife Management and Monitoring Plan would require New Gold to prepare a plan to implement monitoring and mitigation measures for wildlife, and would include sub-plans

for moose, grizzly bear, bats, amphibians, birds (water birds and forest and grassland birds) and furbearers; and

- Condition 24: Wetland Management and Offsetting Plan, which would require New Gold to prepare a plan to mitigate effects to wetlands, and to offset for impacts to wetlands that could not be avoided, mitigated, or restored onsite.

A key concern during the EA related to wildlife was the predicted impact from Blackwater on the Tweedsmuir-Entiako herd of the Southern Mountain caribou population, which is listed as threatened under the federal *Species at Risk Act*. Blackwater would be located at the eastern edge of the Tweedsmuir-Entiako caribou herd's winter range, with the herd's core winter range being about ten km from the mine site. The herd currently consists of 150-180 animals and is in a declining population trend. Currently, the loss of caribou habitat exceeds the 35 percent disturbance threshold for low elevation and matrix type habitat that is recommended in the federal Recovery Strategy. Blackwater would further contribute to the loss of this habitat.

To mitigate adverse effects to caribou from Blackwater, the EAO proposes Condition 22: Caribou Mitigation and Monitoring Plan, which would require New Gold to work to avoid, reduce and offset adverse effects from Blackwater on caribou and caribou critical habitat. Additionally, the Province is in the process of developing an approach to protect and preserve caribou populations (the Caribou Recovery Program).

Having regard to the proposed CPD and TOC (which would become legally binding if the ministers issue Blackwater an EAC), the EAO concludes that Blackwater would not have significant adverse residual or cumulative effects on wildlife and ecosystems.

5.3 SOCIAL EFFECTS

Blackwater is located in a relatively remote region with historic and current forestry and mining industries. It is also an area valued by residents and visitors for recreation, fishing and hunting activities and the area features many local businesses related to these pursuits. Many local residents place a high value on the rural lifestyle that is afforded to them in the Blackwater area. Several key areas of concern were raised by members of the public and tenure-holders regarding impacts to social effects, including reductions in the income that other tenure-holders could expect from their tenures, and potential impacts to tourism and recreation through impacts to visual quality from the Blackwater transmission line. Additional detail and issues regarding Social Effects can be found in Section 14 of the Assessment Report.

Tenure-holders, in particular one guide-outfitter whose tenure overlaps with Blackwater, raised strong concerns regarding the potential for lost revenue as a result of Blackwater. Tenures are non-exclusive and there can be overlap between tenures; the Province's position is that is generally up to tenure-holders to resolve conflicts regarding overlaps. During Application Review, the EAO attempted to resolve the conflict regarding impacts to the guide-outfitter tenure but was unable to achieve issue resolution.

To address concerns regarding impacts to the guide-outfitter from Blackwater, the EAO proposes Condition 38: Tenure Holder Communication and Mitigation Plan and Report, which would require New Gold to consult with this guide-outfitter operation regarding impacts to its tenure, and to mitigate effects to the guide-outfitter consistent with provincial policy on overlapping tenures.

Members of the public, the Working Group, and local business owners expressed concerns about impacts to tourism and recreation through impacts to visual quality from the Blackwater transmission line and the three potential re-routes. Specific concerns included that New Gold's proposed new alignment for the transmission line, as developed during Application Review, would fall close to recreation sites or to businesses that rely on an undisturbed natural environment, affecting recreationists' wilderness experience and enjoyment of the landscape. There were particular concerns with the transmission line crossing the Nechako River and the Stellako River Wildlife Management Area.

New Gold responded to these concerns that it had selected the proposed new alignment based on reducing impacts to a variety of land uses to the greatest extent possible, and in consideration of the economic feasibility of the transmission line routing.

The EAO acknowledges that impacts to some land users will be unavoidable as part of the transmission line routes proposed by New Gold. To lessen these impacts to the extent possible, the EAO proposes Condition 39: Final Transmission Line Routing Plan, which would require New Gold to consult with land users regarding the transmission line re-route options, report the results back to the EAO, and mitigate impacts to the Visual Resources and Non-Traditional Land Use VCs, as well as address effects to recreation sites.

Considering the analysis summarized above and discussed in Section 14: Social Effects of the EAO's Assessment Report, and having regard to the proposed conditions, CPD and associated mitigation measures, the EAO is satisfied that Blackwater would not have significant adverse residual effects on Social VCs.

5.4 OTHER IDENTIFIED EFFECTS AND PROPOSED CONDITIONS

The EAO's Assessment Report assesses the impacts of Blackwater on various other VCs, identifies key mitigation measures for each and reaches conclusions on their residual effects, none of which were determined to be significant. To ensure the predicted effects from Blackwater are sufficiently mitigated, the EAO proposes a number of other conditions, which are discussed in the Assessment Report and listed in the TOC.

6 CONSULTATION WITH INDIGENOUS GROUPS

The EAO examined potential impacts of Blackwater on Aboriginal Interests and produced an Aboriginal Consultation Report (Part C of the Assessment Report), which is included as part of the Decision Materials for Ministers. Additional detail on impacts to Aboriginal Interests can be found in Part C of the Assessment Report.

Throughout the EA, the EAO consulted with UFN, LDN, and the CSFNs according to the deeper end of the consultation spectrum described in 2004 by the Supreme Court of Canada in *Haida Nation v. British Columbia (Minister of Forests)* (the *Haida* consultation spectrum). These Indigenous groups were identified in Schedule B of the Section 11 Order.

After taking into account new information and revising the Section 11 Order in May 2017 to add a Schedule D, the EAO also consulted with NFN at the deeper end of the *Haida* consultation spectrum on impacts posed by a transmission line re-route option, the access roads associated with that section of the transmission line, and the portion of the Kluskus Forest Service Road in the same area.

The EAO consulted with Skin Tyee Nation, Tsilhqot'in Nation, Cheslatta Carrier Nation, Nee Tahi Buhn Band, and Yekooche First Nation (identified in Schedule C of the Section 11 Order) at the lower end of the *Haida* consultation spectrum. The EAO notified Schedule C Indigenous groups of key milestones in the EA process, invited them to meet to discuss any Aboriginal Interests potentially affected by Blackwater, and shared the relevant sections of the draft Part C of the Assessment Report for their review. The EAO did not receive any requests to meet with Schedule C Indigenous groups after the Section 11 Order and did not receive any comments on Part C of the Assessment Report, with the exception of the Tsilhqot'in National Government, who commented that it had no further concerns. Based on the location of Blackwater relative to the location of the Schedule C Indigenous groups, the nature of potential impacts assessed during the EA, and the proposed mitigations, EAO concludes that Blackwater would have a negligible impact on the Aboriginal Interests of each of the Schedule C Indigenous Groups.

6.1 COLLABORATION WITH LHOOSK'UZ DENÉ NATION, ULKATCHO FIRST NATION AND THE CARRIER SEKANI FIRST NATIONS

The EAO worked collaboratively through Application Review with UFN and LDN in accordance with the MoU noted in Section 4, and with the CSFNs in accordance with the Collaboration Plan also noted in Section 4. The EAO provided funding to each of UFN, LDN and CSFNs to support their participation in the EA. The EAO also delegated some procedural aspects of Indigenous consultation to New Gold. New Gold carried out its delegated consultation responsibilities over the course of the EA and provided consultation reports to the EAO regarding the key issues and status of resolution. The EAO is aware that New Gold provided the CSFNs, LDN and UFN with funding to support their participation in the EA process.

During the Application Review phase of the EA, LDN and UFN worked together to collaborate with the EAO, as did the CSFNs.

LDN, UFN and the CSFNs participated actively in the Working Group and in technical discussions on specific issues such as water quality and quantity, wildlife, social effects and human health. LDN and UFN participated in bi-weekly conference calls with the EAO and the Agency; similar bi-weekly conference calls were also offered to CSFNs. LDN, UFN and CSFNs also held community meetings to keep their members apprised of work on the EA.

LDN, UFN and the CSFNs reviewed and commented on the Section 11 Order, draft Application Information

Requirements, New Gold's draft Aboriginal consultation plans and reports, and New Gold's Application for an EAC. The EAO shared early and close to final drafts of the Assessment Report, the draft CPD and the draft TOC (Decision Materials) with LDN, UFN and the CSFNs. The EAO worked closely and iteratively with LDN, UFN and the CSFNs in developing proposed EAC conditions to address LDN's, UFN's and CSFNs' concerns.

Should an EAC be granted, the CSFNs, UFN, LDN and the EAO plan to develop a longer-term collaboration arrangement for Blackwater, that is expected to include collaboration on potential future EAC amendments, and implementation of EAC conditions. The parties also discussed the LDN's, UFN's and CSFNs' interest in collaboration on compliance and enforcement of the EAC conditions, possibly though an agreement as contemplated in the new *Environmental Assessment Act*. The Province is also building on the collaborative relationship with CSFNs, LDN and UFN and has provided a written commitment to pursue a collaboration plan and framework for the permitting phase and for the life of mine. In addition, the Province is pursuing revenue sharing through an Economic and Community Development Agreement (ECDA) with UFN and LDN and has committed to continue to work with the CSFNs on an economic benefits package in relation to Blackwater, should it proceed.

6.1.1 CONCERNS RAISED BY ULKATCHO FIRST NATION AND LHOOZK'UZ DENE NATION

The collaborative EA has resulted in the EAO having the benefit of having LDN and UFN articulating their own perspectives related to their analysis of potential effects of Blackwater on their Aboriginal Interests, which is incorporated, as an attachment to Part C of the Assessment Report. In their own analysis of impacts, UFN and LDN noted that while hunting, fishing, and gathering are integral to UFN and LDN sustenance, the health of the people is dependent on the health of water, land, wildlife, aquatic life, plant life, and the interaction of those values with the health of culture and language, spirituality, economy, and governance.

UFN and LDN raised concerns about increased access to their traditional territories as a result of Blackwater, including the need that newcomers respect the protocols for visiting sacred sites and traditional hunting grounds, respect for the rules of the keyoh system regarding travelling and recreating in UFN and LDN traditional territories, and concerns that hunting pressures could increase. Mounting pressures on the land and its resources as a result of a variety of factors resulted in concern from UFN and LDN about the health of the land and the need for continued monitoring throughout the life of the mine to track changes, or lack thereof, to the health of the land, wildlife, water, aquatic life, air, and people, once the mine is in operation.

UFN and LDN were concerned that the impacts of Blackwater would extend beyond the physical environment, as the land, water and wildlife are closely tied to the health of their people and culture and could affect their relationship and connection to the land. UFN and LDN specifically pointed to factors influencing human health related to changes to culture and way of life (for example, losses of cultural, spiritual or medicinal plant gathering sites, changes to social structure, reductions in hunting and trapping due to impacts on wildlife, reductions in country food consumption due to actual contamination to or fears

of contamination and associated losses of knowledge of traditional food uses) and the potential for health impacts from Blackwater.

UFN and LDN also noted concerns from their community members related to the potential for a tailings dam breach and the consequences should such a breach occur, particularly regarding impacts to the environment and to the safety of anyone downstream of such a breach, including the family living at Tatelkus Lake IR 28.

In addition to issues about specific impacts from Blackwater, LDN and UFN also raised concerns about implementation of requirements that would be included in an EAC, if issued, given several issues were to be further addressed through development and implementation of management plans. These concerns related to ensuring they had adequate input into the plan development and that the plans were being appropriately implemented, including implementation of adaptive management measures. At the conclusion of the EA, LDN and UFN also were concerned that several issues would be further resolved through subsequent permitting processes, and at the time did not have a finalized agreement with permitting agencies as to how they would be collaboratively engaged in permitting, or in relation to the sharing of mineral tax revenue from Blackwater.

6.1.2 CONCERNS RAISED BY THE CARRIER SEKANI FIRST NATIONS

The collaborative EA has also resulted in the EAO having the benefit of having CSFNs articulating their own perspectives related to their analysis of potential effects of Blackwater on their Aboriginal Interests, which is incorporated as an attachment to Part C of the Assessment Report. The key concerns raised by the CSFNs pertain to Blackwater impacts to their Aboriginal Interests, including impacts to water, wildlife, and ecosystems, as well as concerns about the current state of their Territories arising from past and ongoing development, and the use and management of the CSFNs' Territories, which the CSFN view as rendering any further impacts as serious impacts on their rights, title and interests (RTI), as described in Part C. Additional concerns are noted in Part C of the Assessment Report.

During Application Review, New Gold and the CSFNs worked together to redesign a portion of the transmission line route with the aim of reducing impacts to Aboriginal Interests, along with minimizing other impacts. In a letter dated March 20, 2017 [see Appendix D of the Assessment Report], the Chiefs of NWFN, StFN and SFN stated that the "re-alignment avoids, and further reduces, the transmission line's environmental effects and impacts on our Rights" and viewed the re-alignment "as a critical accommodation measure." However, the CSFNs have stressed that residual impacts from the full length of the transmission line must be appropriately accommodated, taking into account the current state of resources within their Territories and their members' corresponding current ability to meaningfully exercise their RTI.

The CSFNs have also stressed the importance of their Yinka Dene Water Law (YDWL) as set out in the CSFNs' *Yinka Dene 'Uza'hné Surface Water Management Policy* (dated March 18, 2016, as updated from time to time) and the CSFNs' *Yinka Dene 'Uza'hné Guide to Surface Water Quality Standards* (dated March

18, 2016, as updated from time to time). The CSFNs describe the YDWL as their regulatory framework that applies to projects such as Blackwater, that have the potential to impact water bodies in their Territories. Water related concerns, including those related to YDWL, include:

- Mine site water management for water quality, changes to downstream water quality and adequacy of information to understand effects to water quality;
- Design of the TSF, management of water levels and water quality in the TSF, and concern regarding potential TSF breaches; and
- Impacts to water quality from sedimentation and erosion, particularly along the transmission line.

The CSFNs also raised concerns about the potential for Blackwater to impact their Aboriginal Interests related to land use, wildlife and ecosystems, including:

- Impacts to hunting, fishing, trapping, and gathering rights, including impacts to species (for example, moose, grizzly bear, plants, berries), and methods of harvesting (for example, traplines);
- Impacts to wetlands and wildlife habitat, including habitat fragmentation;
- Impacts from the transmission line and access roads design and route; and
- Loss of land use due to the transmission line.

6.1.3 CONDITIONS

LDN, UFN, the CSFNs and the EAO collaboratively developed proposed conditions for the EAC to address the potential impacts from Blackwater to the Aboriginal Interests identified by LDN, UFN and the CSFNs. All of the conditions, with the exception of the proposed Tenure Holder Communication and Mitigation Plan and Report, and some of the standard EAO conditions, seek to address concerns raised by LDN, UFN and CSFNs. Some of the conditions of particular note are:

- Condition 3: Adaptive Management, which set out detail on how adaptive management must be addressed in plans required by the EAC;
- Condition 15: Indigenous Cultural Awareness and Recognition, which would require New Gold to recognize the importance of and promote awareness of Indigenous culture, which could be by holding ceremonies, installing signage, executing cultural protocols, and providing cultural awareness training to Blackwater employees;
- Condition 16: Aboriginal Group Engagement Plan, which would set out how New Gold would engage with Indigenous groups in the implementation of the EAC;
- Condition 17: Aboriginal Group Monitoring Plan, which would require New Gold to fund monitors from each of the Indigenous groups, provide them with training, and engage them in monitoring work for Blackwater;
- Condition 18: Cultural and Spiritual Resources Management Plan, which would require New Gold to manage cultural resources in a manner sensitive to the views of Indigenous groups;
- Condition 19: Environmental Monitoring Committee, which would provide a venue for New Gold, Indigenous groups and government agencies to review issues associated with Blackwater, and for

the Committee to provide advice to New Gold;

- Condition 22: Caribou Mitigation and Monitoring Plan, which would require New Gold to work to avoid, reduce and offset adverse effects from Blackwater on caribou and caribou critical habitat;
- Condition 23: Wildlife Management and Monitoring Plan, which would require New Gold to prepare a plan to implement monitoring and mitigation measures for wildlife;
- Condition 24: Wetland Management and Offsetting Plan, which would require New Gold to evaluate and mitigate impacts to wetlands, including by offsetting losses;
- Condition 25: End Land Use Plan, which would require New Gold to prepare end land use objectives for the post-mining landscape;
- Several conditions to address concerns related to water quality and key mitigations identified in the EA, including Condition 26: Water Quality Management; Condition 30: Aquatic Effects Monitoring Plan; Condition 32: Cyanide Management Plan; Condition 33: Mine Waste and Water Management Plan; and Condition 34: Closure and Post Closure Water Quality Management Plan;
- Conditions to address concerns related to safety of the TSF, including: Condition 33: Mine Waste and Water Management Plan; and Condition 35: Tailings Dam Transparency Plan;
- Condition 31: Tatelkuz Lake Protection Plan, which would require New Gold to address issues of ice safety that might arise due to New Gold's withdrawal of water from the lake, and shallow-water spawning habitat for fish;
- Condition 36: Accidents and Malfunctions Administration and Communication Plan, which would require New Gold to clearly communicate with Indigenous communities about the risks, reporting and management of accidents associated with Blackwater;
- Condition 37: Community Liaison Committee and Community Effects Monitoring and Management Plan, which would require New Gold to monitor and mitigate social effects associated with Blackwater;
- Condition 41: Country Foods Monitoring Plan, which would require New Gold to monitor and report on contaminant levels in country foods; and
- A proposed suite of conditions to address the CSFNs' concerns that water quality be maintained in a manner that is consistent with the YDWL (and policies of the other Indigenous groups, should they be available), which was also generally consistent with the predictions on water quality through the EA. These are:
    - A requirement that in developing Science Based Environmental Benchmarks, New Gold take into consideration the YDWL (Condition 26);
    - Requiring New Gold to provide information on how its proposed or predicted water quality compares to any standards provided by CSFNs or by LDN, UFN or NFN (Condition 27);
    - A requirement (Condition 28) that New Gold monitor and adaptively manage downstream water quality effects to be consistent with the EA conclusion that water quality in Tatelkuz Lake and Nechako Reservoir (identified as Class 1 waterbodies by CSFNs) is not adversely affected by Blackwater;
    - A requirement (Condition 29) that New Gold monitor and mitigate, should construction of the transmission line cause sedimentation in the waterbodies that CSFNs have identified as Class 1 under the YDWL; and

- A requirement that in developing an Aquatic Effects Monitoring Plan (Condition 30), New Gold take into consideration the YDWL, or policies provided by LDN, UFN or NFN.

At the conclusion of the EA, the EAO, LDN, UFN and CSFNs had reached general consensus on the proposed suite of conditions.

6.1.4 CONCLUSIONS

UFN AND LDN

UFN and LDN concluded on impacts to their Aboriginal Interests through the use of their impact assessment categories, and considering the mitigation measures proposed by New Gold, the assessments of the EAO and the Agency, and conditions proposed by the EAO and the Agency when arriving at their conclusions on impacts. UFN and LDN came to the following conclusions:

- Health of land: Actual and perceived impacts on the health of the land are expected to be high but acceptable, with permanent impacts contributing to the cumulative effects of resource industries in UFN and LDN traditional territories;
- Health of water: Actual and perceived impacts to the health of water are expected to be high, but acceptable, with uncertainty remaining in the effectiveness of the mitigation measures and a lack of trust in the water treatment and dam safety measures to be employed at the Project site;
- Health of aquatic life: Actual and perceived impacts to the health of aquatic life are expected to be moderate, with uncertainty remaining in the effectiveness of the mitigation measures and that the actual level of impacts will only be known once Blackwater is constructed and operated;
- Health of wildlife: Actual and perceived impacts to the health of wildlife are expected to be high, but acceptable, with concerns remaining about the impacts of habitat loss and alteration and the effectiveness of the proposed mitigation measures, in addition to the potential impacts to water quality and the compounding impacts that could have on wildlife;
- Health of air: Actual and perceived impacts to the health of air are expected to be low, with UFN and LDN having confidence that the proposed mitigation measures and Project conditions are likely to reduce the impacts associated with dust and noise; and
- Health of people, culture, language, spirituality, economy and governance: Actual and perceived impacts to the health of air are expected to be high, but acceptable, with concerns remaining that that negative impacts from Blackwater may not be minimized effectively, though these are aimed to be offset by positive impacts from Blackwater related to desired levels of employment and better opportunities overall.

In a letter dated April 18, 2019, UFN and LDN stated that New Gold had adequately consulted and accommodated them on their asserted Aboriginal rights and title in respect to Blackwater. However, despite collaborative efforts during the EA process and proposed conditions, not all of LDN's and UFN's concerns or interests regarding Blackwater have been addressed or resolved through the EA. UFN and LDN stated that in order to satisfy the Crown's duty to consult and accommodate the UFN and LDN, BC must

negotiate both a mineral tax revenue sharing agreement for Blackwater and a government-to-government collaboration process that would endure from initial permitting through the life of the mine.

LDN and UFN Chiefs stated that if and when these two outstanding steps have been completed to the LDN's and UFN's satisfaction, LDN and UFN will consider the Crown to have adequately satisfied the duty to consult and accommodate LDN and UFN with respect to Blackwater. However, and without diminishing the importance of these additional steps, LDN and UFN provided their consent to the issuance of an EAC for Blackwater.

THE EAO

With respect to mineral tax revenue sharing, the Province has committed to negotiate an Economic and Community Development Agreement (ECDA) for Blackwater with the LDN and UFN. Regarding collaboration with the Province during permitting and life of mine, the EAO understands that in a letter dated April 16, 2019 [see Appendix E of the Assessment Report], the provincial agencies set out their commitment to take a collaborative approach with LDN, UFN and CSFNs through initial permitting and over the life of mine. While the details of the collaborative process have yet to be finalized, the letter commits to finalizing the processes as soon as practical.

Overall, the EAO agrees that the EA process is just one step in the Crown's regulatory review of Blackwater, and that the LDN and UFN may have additional requirements to be fulfilled by New Gold or the province in order to conclude on whether LDN and UFN endorse or support Blackwater. The EAO's conclusions on adequacy of consultation and accommodation pertain only to considerations related to the decision of whether or not to issue an EAC, cognizant of the further consultation and accommodation, as appropriate, that would happen through subsequent permitting processes.

Considering the issues raised by UFN and LDN and New Gold's responses and proposed mitigation including the establishment of a participation agreement with UFN and LDN, and the conditions collaboratively developed by the EAO with UFN and LDN, and the CSFNs, the EAO is of the view that, at the EA stage, the Crown's duty to consult and accommodate UFN and LDN has been adequately fulfilled in relation to the decision of whether or not to issue an EA Certificate for Blackwater.

CSFNs

The CSFNs assess their current ability to exercise their RTI within their Territories to range from being constrained (for chinook, lake trout, moose and grizzly), to seriously constrained (for sockeye and caribou), to not possible (for Coho and Nechako white sturgeon). From the CSFNs' perspective, when considering the potential effects of Blackwater, this current state provides the context through which the seriousness of effects must be assessed. CSFNs state that although impact avoidance and mitigation measures would likely dampen adverse effects, remaining residual effects could still be serious in light of the current state.

The transmission line re-alignment was a product of the CSFNs' collaborative engagement with New Gold. The changes to portions of the transmission line routing reflected the interests of the CSFNs and would partially mitigate specific impacts (for example, reducing the adverse effects of additional disturbance and

fragmentation within an already highly altered landscape, avoiding important areas). However, the environmental effects and impacts on the CSFNs' RTI from the re-aligned transmission line route could not, in CSFNs' view, be fully mitigated.

At the conclusion of the EA, the CSFNs characterize potential residual impacts from Blackwater to their RTI as serious, and therefore hold the view that economic accommodation is required. The CSFNs state that they have not yet secured such accommodation from either the federal or provincial governments, or from New Gold.

In their letter dated March 20, 2019, which the CSFNs confirm remains their current view, the CSFNs recommend that the Ministers do not issue an EAC for Blackwater at this time, and instead order that further assessment be carried out in connection with the CSFNs' stated requirements for economic accommodation and compensation. The CSFNs have also requested a meeting with the Ministers to set out in person their perspective as to why economic accommodation is required prior to the issuance of an EAC for Blackwater. The CSFNs report that at the time of writing, this request remains outstanding.

THE EAO

The EAO appreciates the views of the CSFN that economic benefits or accommodation from Blackwater are needed for the CSFNs to be able to conclude that accommodation is adequate but acknowledges that the EAO holds a different view regarding the need for economic accommodation.

Some of the key considerations of the EAO in reaching its conclusions (which differ from the CSFNs; conclusions) include:

- The re-alignment of the transmission line as one tangible way that the economic component of Aboriginal title is being addressed at the EA stage;
- The collaborative approach to developing conditions that avoid or minimize impacts to CSFNs' Aboriginal Interests, including the consideration and inclusion of the CSFNs' YDWL that also addresses the governance component of Aboriginal title;
- The proposed Community Effects Monitoring and Management Plan in Condition 37, which is intended to address potential adverse social effects of Blackwater, includes a requirement to implement measures to facilitate hiring of members of Aboriginal Groups, including skills training; and
- The written commitment from the Deputy Minister of the Ministry of Indigenous Relations and Reconciliation on April 17, 2019 [see Appendix F of the Assessment Report] to continue to work with the CSFNs on an economic benefits package in relation to Blackwater, should Blackwater proceed.

The EAO also understands that the CSFNs and New Gold are in the process of negotiating an impact benefits agreement for Blackwater.

Considering the issues raised by the CSFNs and the various initiatives undertaken to address those concerns both through the EA and outside of the EA, the EAO concludes that, as it relates to hunting,

trapping and gathering, fishing and cultural activities, the residual impacts to CSFNs' rights generally would be on the minor side of the spectrum or slightly higher if the mitigation measures are not as effective as predicted, and the residual impact on Aboriginal title from Blackwater to be on the minor side of the spectrum.

The EAO is of the view that, at the EA stage, the Crown's duty to consult and accommodate the CSFNs has been adequately fulfilled in relation to the decision of whether or not to issue an EA Certificate for Blackwater.

Overall, the EAO agrees that the EA process is just one step in the Crown's regulatory review of Blackwater and recognizes that commitments have been made by New Gold and the Province to continue to engage with the CSFNs should an EAC be issued. The EAO's conclusions on adequacy of consultation and accommodation pertain only to considerations related to the decision of whether or not to issue an EAC, cognizant of the further consultation and accommodation, as appropriate, that would happen through subsequent permitting processes.

New Gold has stated that it strongly disagrees with the CSFNs' recommendation to provincial Ministers, and has expressed concern about the CSFNs' assessment that the realignment of the transmission line did not affect the CSFNs' assessment of effects.

6.2 CONSULTATION WITH NAZKO FIRST NATION

As a result of the alternative transmission line routing proposed during Application Review by New Gold, the EAO revised the assessment of potential impact to NFN and began to engage NFN at the deeper end of the *Haida* consultation spectrum for transmission line alignment TLA-3 Big Bend (about five km along the existing Forest Service Road), and portions of the existing portion of the Kluskus Forest Service Road overlapping NFN territory (less than 30 km). The EAO provided funding to NFN to participate in the EA process, met with NFN to discuss the EA, and shared the draft Assessment Report including Part C and proposed conditions with NFN for review.

CONCERNS AND CONDITIONS

NFN was concerned that construction of the proposed transmission line passing through NFN traditional territory, increased traffic along the Forest Service Road passing through NFN traditional territory, and mine infrastructure outside NFN traditional territory would have the potential to adversely impact the exercise of NFN rights as follows:

- Increase wildlife mortalities (including moose) from increased traffic, which could cause an additional impact on NFN harvesting rights of a species whose population is already declining;
- Accidental waterway contamination from spills of hazardous materials being transported to/from the mine, affecting fish and water quality, which could adversely impact NFN ability to exercise their fish harvesting rights;
- Effects on wildlife (caribou and grizzly bear) populations, already low or in decline, from the mine

infrastructure located outside NFN territory, which could adversely impact NFN wildlife harvesting rights;
- Effects on sockeye populations that are already declining or below levels that can sustain harvest, from effects on water quality/quantity and habitat from mine infrastructure outside NFN territory, which could have a significant negative impact on NFN sockeye harvesting rights;
- Effects of increased access leading to potential exploitation of wildlife and fisheries, increasing competition for resources; and
- Potential contaminants as a result of the mine and associated infrastructure that could potentially impact human health (for example, effects of road dust/contaminants on exposure to contaminated country foods, medicinal plants).

When developing consensus proposed conditions for the EAC with UFN, LDN and the CSFNs, the EAO also sought to also address the potential impacts from Blackwater to the Aboriginal Interests of NFN. Based on correspondence from NFN, the EAO understands that the following management plans proposed as conditions, and NFN's involvement in the development and implementation of those plans, are important to the address NFN's concerns about the effects on Blackwater:

- Condition 16: Aboriginal Group Engagement Plan, which would implement clear requirements for New Gold's engagement efforts with Indigenous groups wherever this engagement is required across other management plans;
- Condition 20: Air Quality and Dust Management Plan, which would require New Gold to monitor and implement mitigations measures related to air quality and dustfall;
- Condition 23: Wildlife Management Plan, which would require New Gold to prepare a Wildlife Management Plan to implement monitoring and mitigation measures for wildlife;
- Condition 36: Accidents and Malfunctions Administration and Communication Plan, which would require New Gold to clearly communicate with Indigenous communities about the risks, reporting and management of accidents associated with Blackwater;
- Condition 39: Final Transmission Line Routing Plan, which addresses consultation and the finalization of mitigation measures based on the final routing selected; and
- Condition 41: Country Foods Monitoring Plan, which would involve sampling of country foods and adaptive management and reporting based on the results of the sampling.

In addition, NFN expressed that to address effects on NFN, it was important for NFN to be included in the proposed requirements for New Gold to retain or fund Aboriginal monitors (Condition 17) and to be included in the proposed Environmental Monitoring Committee (Condition 19).

The EAO confirmed that the proposed EAC would require the Certificate Holder to consult with and/or include NFN with respect to all of these conditions. The EAO also made some additional changes to proposed conditions to address NFN concerns.

At the conclusion of the EA, the NFN stated that:

1. The process of consultation was not appropriate and reasonable and noted there was no meaningful or substantive dialogue around the concerns raised by NFN;
2. Economic accommodation from New Gold was needed for the use of NFN Territory and for the impacts to NFN rights; and
3. NFN required a commitment to fund NFN's participation in the development, monitoring and oversight of proposed conditions that relate to concerns identified by NFN.

The EAO responded to each of these concerns in correspondence dated March 27, 2019. In that correspondence the EAO offered a further meeting, as well as a reminder of the opportunity for NFN to provide a submission to Ministers by April 3, 2019, given the then anticipated referral date. NFN did not provide a further response.

The EAO's response to the question of the adequacy of consultation that, in the EAO's view, NFN were offered many opportunities to participate in the EA, including offers for the EAO and NFN to meet, however, NFN provided limited response to the opportunities that were presented.

With respect to the NFN's stated need for economic accommodation such as employment and business opportunities, which NFN noted was needed for NFN consent, the EAO acknowledged that this issue was not addressed through the EA. In the EAO's view, in light of the nature of the potential effects to NFN Aboriginal Interests, the proposed conditions provide adequate accommodation. The EAO also noted that the proposed Community Liaison Committee and Community Effects Monitoring and Management Plan (Condition 37) includes recruitment approaches to facilitate hiring of members of Indigenous groups (which includes NFN).

With respect to the NFN's concern about having capacity funding for participation in the development, monitoring and oversight of proposed conditions that relate to concerns identified by NFN, the EAO noted it is proposing Condition 16: Aboriginal Group Engagement Plan, which would require New Gold to set out a plan to engage with NFN and other identified Indigenous Groups in the development of the management plans. As well the EAO noted that both the Environmental Monitoring Committee and the Community Liaison Committee proposed as conditions to the EAC would require terms of reference to identify how the Certificate Holder will facilitate effective participation of Indigenous groups in these committees. Finally, the EAO understands that New Gold has proposed to NFN negotiation of an agreement relating to potential opportunities in relation to the Project and that capacity funding is a topic that may be accommodated through such an agreement.

CONCLUSIONS

Considering the issues raised by NFN, the nature and extent of potential impacts on the NFN's Aboriginal Interests, New Gold's responses and proposed mitigation, and the conditions proposed by the EAO, the EAO concludes that there has been adequate mitigation and accommodation, at the EA stage, of potential effects on the Aboriginal Interests of NFN. The EAO concludes that Blackwater would have a negligible to minor impact on NFN's right to fish, and minor impact on NFNs' right to hunt, trap and gather.

7 PUBLIC CONSULTATION

The EAO hosted three public comment periods and five open houses in total during the Pre-Application and Application Review stages of the EA. The EAO held a 30-day public comment period from October 9, 2013 to November 8, 2013 on the draft Application Information Requirements, including two public open houses held in Vanderhoof (October 16, 2013) and Fraser Lake (October 15, 2013), with approximately 85 and 15 attendees, respectively. Nine written public comments were submitted to the EAO. New Gold responded and the EAO determined that the responses were adequate prior to finalizing the Application Information Requirements.

The EAO and the Agency held a joint 30-day public comment period from January 20, 2016, to February 19, 2016, on the Application/Environmental Impact Statement (EIS), including two open houses and four public information sessions. The EAO and the Agency held open houses in Vanderhoof and Fraser Lake, with approximately 64 and 24 attendees, respectively. New Gold hosted four public information sessions in Quesnel (approximately 25 attendees), Fort St James (approximately 10 attendees), Burns Lake (approximately 21 attendees), and Prince George (approximately 42 attendees).

The public comment periods and open houses were advertised in media sources in communities near the proposed Project. The public submitted 64 written comments to the EAO and the Agency. New Gold responded to the public comments received. These comments and responses are posted on the EAO's electronic Project Information Centre (ePIC) website.

The EAO held a 30 day public comment period from April 5 to May 4, 2017, on the Transmission Line Addendum Report, and included a public open house in Vanderhoof on April 10, 2017. Approximately 27 people attended, and 10 written comments were submitted to the EAO.

The public questioned and commented on: New Gold's engagement with Indigenous groups, the location of the transmission line and in particular where it would cross the Nechako River, the compatibility of Blackwater with existing tenures, and potential effects of Blackwater to the environment, particularly to water quality and fish.

The EAO is satisfied that the public's comments have been addressed, or would be addressed if Blackwater is approved, through proposed conditions or subsequent permitting processes, although the transmission line routing will remain of concern to some members of the public. More detail is presented in Section 4.5 of the Assessment Report.

8 LOCAL GOVERNMENT CONSULTATION

The EAO invited the District of Fort St. James, District of Vanderhoof, Cariboo Regional District, Regional District of Bulkley-Nechako, and Village of Fraser Lake to participate in the Working Group. The EAO considered input provided by local governments. Key concerns were sourcing local business, vehicle traffic and air traffic.

New Gold proposed several relevant mitigations such as:

- An airstrip and buses to transport workers during construction;
- Bus transportation to the mine site from a muster point at or near Vanderhoof during operations, and a prohibition on the use of personal vehicles at the mine site;
- A Blackwater Traffic and Access Management Plan, including provisions for road maintenance; and
- A Recruitment, Training and Employment Plan that would govern practices for all employees, including contractors, during the construction, operations, and closure phases.

These mitigations are generally captured in the EAO's proposed Condition 37 for a Community Liaison Committee (CLC) and Community Effects Monitoring and Management Plan.

The EAO concludes that local government's concerns have been addressed, or would be addressed if Blackwater is approved, through proposed conditions or subsequent permitting processes.

9 FEDERAL GOVERNMENT PARTICIPATION

Blackwater is subject to CEAA 2012 because project activities exceed thresholds in the *CEAA 2012 Regulations Designating Physical Activities* Schedule Section 16(c). The Agency, Environment and Climate Change Canada, Fisheries and Oceans Canada, Health Canada, and Natural Resources Canada participated on the Working Group.

- The Agency provided guidance and information regarding the cooperative process and federal EA requirements under CEAA 2012, and shared comments from the federal review team and federal information requests issued to New Gold under CEAA 2012;
- Environment and Climate Change Canada provided advice and information related to its statutory responsibilities regarding terrestrial wildlife, water quality, migratory birds, species at risk and greenhouse gases;
- Fisheries and Oceans Canada provided comments and information related to its statutory responsibilities regarding water quality, water quantity, fish and fish habitat;
- Health Canada provided advice and information related to its statutory responsibilities regarding human health, with a primary focus on Indigenous health; and
- Natural Resources Canada provided advice and information related to its statutory responsibilities regarding geotechnical and natural hazards.

In addition to the conditions proposed by the EAO for incorporation in the provincial EAC, the in the Decision Statement issued on April 15, 2019, the Federal Minister established conditions in relation to the environmental effects referred to in subsection 5(1) or 5(2) of CEAA 2012 with which New Gold must comply. More detail about federal participation in the provincial EA process is presented in Part A, Section 4.3 of the Assessment Report.

10 ADDITIONAL CONSIDERATIONS

Section 17 of the Act sets out that, in making a decision on an application for an EAC, ministers must consider the Assessment Report and any recommendations accompanying the Assessment Report, and that ministers may consider any other matters that they consider relevant to the public interest. Additionally, under *Haida Nation v. British Columbia (Minister of Forests)*, the ministers must balance other societal interests with the potential impacts of a project on Aboriginal Interests, which may include considering the potential social, environmental, and economic costs and benefits of a project. The following information regarding the potential economic contributions of Blackwater was presented by New Gold in the Application; all figures are in 2012 dollars.

10.1 ECONOMIC CONTRIBUTIONS

New Gold estimated that direct expenditures during construction would total $1,294 million, and that construction would require approximately 2,436 person years (PY) of direct employment within BC. Provincial tax revenues generated during construction are estimated at $82 million. New Gold estimated direct expenditures during operations would be approximately $161 million per year within BC, while annual employment needs would be 396 PY of direct employment within BC.

New Gold estimated that during construction direct local benefits (occurring within a local study area[2]) would include 225 PY of employment, and $40 million in expenditures on goods and services. During operations, annual direct local benefits are estimated to include 86 PY of employment and the purchase of $10 million in goods and services from businesses each year.

New Gold has indicated that mine closure would provide some employment and business opportunities in the region; however, the net loss of jobs would be adverse. Closure activities are estimated to provide an average of 47 PY of local employment in each of the five years after operations, and 6 PY of employment per year during the post-closure period. New Gold estimates Blackwater closure would cost $101 million, with 20 percent occurring during operations, 47 percent in the five years after operations cease, and the remaining 33 percent over the following 27 years.

New Gold has estimated total tax revenues over the life of Blackwater at $1.2 billion. Of this, $656 million is estimated to accrue to the federal government, and $83 million is estimated to accrue to local governments. Total revenue for BC is estimated at $511 million, including approximately $450 million in taxes, and approximately $61 million in royalties. At closure, the payment of annual taxes would cease. More information regarding the estimated economic impacts of Blackwater is available in Section 13 of the Assessment Report.

[2] Bulkley-Nechako Regional District Electoral Areas D and F; the Village of Fraser Lake; the District of Vanderhoof; and 11 populated Indian Reserves

10.2 POTENTIAL BENEFITS TO INDIGENOUS COMMUNITIES

Blackwater has the potential to provide economic benefits to members of Indigenous groups, including through: (i) stewardship and cultural initiatives: (ii) employment opportunities; (iii) contracting opportunities; and (iv) revenue-sharing or government to government arrangements. UFN, LDN and the Province are discussing ECDAs, and the Province has commitments to work with CSFNs on an economic benefits package and seek a mandate, should Blackwater proceed. On April 18, 2019, New Gold finalized a trilateral participation agreement with UFN and LDN and is continuing to discuss participation agreements with CSFNs and NFN.

Should an EAC be granted, the CSFNs, UFN, LDN and the EAO plan to develop a longer-term collaboration plan for Blackwater that is expected to include collaboration on potential future EAC amendments, and implementation of EAC conditions. The Province is also building on the collaborative relationship with CSFNs, LDN and UFN and has provided a written commitment to pursue a collaboration plan and framework for the permitting phase and for the life of mine.

New Gold indicated that Blackwater would support employment, training, contracting and business development for Indigenous groups. New Gold committed to implement a Recruitment, Training and Employment Plan to support employment for local and Indigenous workers, develop ongoing and collaborative working relationships in the region, and foster a diverse, safe and respectful work environment.

The EAO proposes Condition 37: Community Liaison Committee and Community Effects Monitoring and Management Plan which would include:

- A requirement to maintain a liaison committee that would allow for community issues to be addressed as they arise;
- Monitoring and mitigation of effects to community services;
- Measures to facilitate hiring from the regional communities;
- Measures to facilitate employees' connection to their families while on shift rotation; and
- Provision of housing at, and transportation for mine employees to, the mine site.

11 CONCLUSIONS

Based on:

- Information contained in the Application and substantial additional information provided by New Gold and Indigenous groups during Application Review;
- New Gold's, the EAO's and the Agency's efforts at consultation with Indigenous groups, federal, provincial, and local government agencies, and the public and New Gold's commitment to ongoing consultation;

- Comments on Blackwater made by Indigenous groups, federal, provincial and local government agencies as members of EAO's Working Group and New Gold's and the EAO's responses to these comments;
- Comments on Blackwater received during the public comment period, and New Gold's response to these issues;
- Issues raised regarding Blackwater by LDN, UFN, the CSFNs, NFN and Tsilhqot'in Nation, and New Gold's, the EAO's and the Agency's responses to these issues, including through the development of proposed conditions;
- Comments received during the community meetings in UFN's, LDN's and the CSFNs' communities, in accordance with these Indigenous groups' principles of governance that requires seeking community input to inform decision-making, and the collaborative effort to incorporate issues articulated by community members during these sessions into the EA;
- The EAO and the Agency's collaborative work with UFN and LDN and the CSFNs, which resulted in positive outcomes in terms of fostering a Government-to-Government relationship, allowed for a deeper understanding of the issues of concern to these Indigenous groups to resolve project-specific issues, assess the potential adverse effects of Blackwater on the Aboriginal Interests of these Indigenous groups on matters within the scope of the EA and to seek consensus on proposed conditions;
- Comments on Blackwater received during the public comment period, and New Gold's responses;
- The EAO's commitment to ongoing engagement in the implementation of the EAC with LDN, UFN and CSFNs, and the consultation and engagement requirements for New Gold in the proposed EA conditions, should an EAC be issued;
- The federal conditions included in the federal Decision Statement for Blackwater;
- The EAO's understanding of the issues that would be further addressed by the Province, specifically the negotiation of an ECDA with LDN and UFN and collaboration proposed by EMPR, ENV and FLNRORD in their April 16, 2019, letter that would occur with LDN, UFN and CSFNs during the permitting processes and life of mine engagement, and MIRR's commitment to continue to work with the CSFNs to seek an mandate for an economic benefits package in relation to the Project as set out in its April 17, 2019 letter, should Blackwater proceed;
- The design of the Project as specified in the proposed Schedule A (CPD) of the EAC to be implemented by the Holder; and
- Mitigation measures identified as proposed conditions in Schedule B (TOC) of the EAC which would be legally binding on the Holder if the EAC is issued.

The EAO also notes that:

- Despite these efforts, several Indigenous groups expressed that there were outstanding issues at the conclusion of the EA process:
    - LDN and UFN state that in for consultation and accommodation to be adequate for Blackwater, BC must negotiate both a mineral tax revenue sharing agreement for Blackwater and a government-to-government collaboration process that would endure from initial permitting through the life of the mine. However, without diminishing the

importance of these additional steps, LDN and UFN provided their consent to the issuance of an EAC for Blackwater;
- The CSFNs state their remaining concern is that the serious residual impacts Blackwater will have on upon the CSFNs' RTI have not yet been adequately accommodated and that the honour of the Crown is at stake and more work is required before it can be upheld in respect of a decision by BC or Canada to issue EA authorizations for Blackwater; and
- NFN stated that consultation had not been appropriate and reasonable, economic accommodation from New Gold was needed but had not been provided, and NFN required a commitment for capacity funding to participate in the development of plans required by the EAC, if issued.

The EAO is satisfied that:

- The EA process adequately identified and assessed potential adverse environmental, economic, social, heritage and health effects of Blackwater, having regard to the proposed conditions set out in Schedule B (TOC) to the proposed EAC;
- The consultation with government agencies and the public has been adequately carried out by New Gold, and issues identified by federal, provincial, local government and the public were adequately addressed through the EA;
- Practical means were identified to prevent or reduce any potential adverse environmental, social, economic, heritage or health effects of Blackwater such that no direct or indirect significant adverse effects would be predicted or expected;
- The collaborative engagement with LDN, UFN and the CSFNs has been carried out in good faith and that the Crown's process of seeking to understand potentially outstanding issues and impacts was reasonable;
- Issues identified by Indigenous groups which were within the scope of the EA were adequately and reasonably addressed during the review of the Application;
- The potential for adverse effects on the Aboriginal Interests of Indigenous groups that are within the scope of this EA, has been avoided, minimized or otherwise accommodated to an acceptable level; and
- On matters within the scope of this EA, the provincial Crown has fulfilled its legal obligations to consult and accommodate potentially affected Indigenous groups related to the issuance of an EAC for Blackwater.

12 APPENDIX A: SUMMARY CHARACTERIZATION OF RESIDUAL ADVERSE EFFECTS FOR VALUED COMPONENTS

Valued Components		Residual Effects	Context (Resilience)	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence	Significance	Section of the Assessment Report	Proposed EA Certificate Conditions
ENVIRONMENTAL EFFECTS													
Air Quality		Increase of criteria air contaminants (CACs) (TSP, $PM_{2.5}$, PM_{10}, NO_2, CO, and SO_2) above background levels.	High	Moderate	Local	Long-term	Continuous	Reversible	High	Moderate	Not Significant	5	20, 43
Climate Change		Increase in GHG emissions.	Low	Low	Global	Long-term	Continuous	Irreversible	High	High	Not Significant	6	None
Noise and Vibration		Increased noise and vibration levels in the area of the mine site and airstrip.	Low	Negligible to Moderate	Site Specific to Local	Short-Term to Long-Term	Infrequent to Continuous	Reversible to Permanent	High	Moderate	Not Significant	7	21, 43
Ecosystem VCs	**Wetlands** **Ecosystem composition** **Plant species and ecosystems at risk**	Loss and degradation of wildlife habitat and ecosystems.	Low to High	Moderate to High	Local	Permanent	Frequent	Reversible to Irreversible	High	Likelihood: High Significance: Low to Moderate	Not significant	9	13, 24, 43

Valued Components		Residual Effects	Context (Resilience)	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence	Significance	Section of the Assessment Report	Proposed EA Certificate Conditions
Wildlife VCs	Amphibians	Increased risk of indirect wildlife mortality and impacts to wildlife movement patterns and populations for some species (associated with loss and degradation of habitat and ecosystems).	Low to High	Low to High	Local	Long-term to Permanent	Continuous	Reversible to Irreversible	High	Likelihood: High Significance: Low to Moderate	Not Significant	9	3, 11, 13, 22, 23, 24, 25, 30
	Water birds												
	Forest and grassland birds												
	Moose												
	Caribou												
	Grizzly bear												
	Furbearers												
	Bats												
	Invertebrates												
Groundwater Flows		Increase to groundwater flows in the headwaters of Creek 705 (resulting from the Site C Dam) during all project phases.	Neutral	Negligible to High	Regional	Permanent	Continuous	Irreversible	High	Moderate	N/A[i]	10	3, 19
Groundwater Quality		The information on groundwater seepage quality informed the assessment of potential impacts to surface water quality. Therefore, a separate residual effects assessment for groundwater quality is not warranted.										10	26, 34
Surface Water Flow		Decrease in flows to Davidson Creek, Creek 661, Chedakuz Creek and Tatelkuz Lake levels.	Low	Negligible to High	Local to Regional	Permanent	Continuous	Irreversible	High	Moderate	N/A	10	3, 11, 30, 31

Valued Components	Residual Effects	Context (Resilience)	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence	Significance	Section of the Assessment Report	Proposed EA Certificate Conditions
Surface Water and Sediment Quality	Increase in flows in Creek 705.	Moderate										
	Exceedances to water quality guidelines of nitrate, total antimony and total zinc in Davidson Creek.	Unknown	Negligible to High	Local to Regional	Permanent	Continuous to Intermittent	Irreversible	High	Low to Moderate	Not Significant	10	3, 11, 19, 26, 27, 28, 29, 30, 33, 34
	Exceedances to water quality guidelines of total chromium, dissolved aluminum and total zinc in Creek 661.											
Fish and Fish Habitat	Reduced fish habitat quantity and quality.	Low to High	Low to Moderate	Local	Permanent	Continuous	Irreversible	High	Moderate	Not Significant	11	3, 29, 30, 31
	Changes in health, growth, reproduction, and behavior of fish.		Low to Moderate	Local	Permanent	Frequent to Continuous	Irreversible	High	Moderate	Not Significant	11	
	Mortality or injury to fish.		Low	Local	Permanent	Continuous	Irreversible	High	Moderate	Not Significant	11	
CULTURAL RESOURCES EFFECTS												
Archaeological Sites Historic Heritage Sites Paleontological Resources	Loss or alteration of known, and as yet-unknown, archaeological, historic heritage and paleontological sites.	Moderate	Low	Local	Permanent	Once	Irreversible	High	High	Not Significant	12	15, 18
SOCIAL EFFECTS												

Valued Components	Residual Effects	Context (Resilience)	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence	Significance	Section of the Assessment Report	Proposed EA Certificate Conditions
Family and Community Well-being	Direct contribution to potential social issues, or exacerbation of existing issues, including but not being limited to crime, drug and alcohol misuse, impacts to vulnerable communities (including Indigenous groups, women and children), and impacts to families.	Low to Moderate	Low to Moderate	Local to Beyond Regional	Short-term to Permanent	Continuous	Reversible to Irreversible	Moderate	Low	Not Significant	14	37
Non-Traditional Land and Resource Use	Potential effects for tenured land holders (including mineral, forestry, trapping, guide outfitting and range tenure holders) and non-tenured land holders (including those participating in recreation and tourism)	Moderate to High	Low to Moderate	Local	Long-term to Permanent	Temporary to Continuous	Reversible	High	Moderate	Not Significant	14	38, 39, 43
Regional and Local Services	Existing constraints to RCMP and Health Services exacerbated by increased population growth.	Low	Low to Moderate	Local to Regional	Long-term	Continuous	Reversible	Moderate	Moderate	Not Significant	14	37
	Decreased road safety resulting from increased traffic on regional highways and Forest Service Roads in proximity to Blackwater.											

Valued Components	Residual Effects	Context (Resilience)	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence	Significance	Section of the Assessment Report	Proposed EA Certificate Conditions
Visual Resources	Visibility of Blackwater infrastructure and/ or activities from various private properties, navigable waterways and recreational sites.	Moderate to High	Low to Moderate	Local	Permanent	Continuous	Reversible	High	Moderate	Not Significant	14	13, 39, 43
	HEALTH EFFECTS											
Environmental Exposures	Impacts from potential COPC exposures	Moderate	Low	Local	Permanent	Continuous	Reversible to Irreversible	Low	Moderate	Not Significant	15	3, 41

[i] The EAO has not provided a significance determination for changes to groundwater flows because significance can only be determined in the context of environmental receptors such as fish and other aquatic life, and because assumptions regarding changes to groundwater flows were inputs to predictions of effects to surface flows and surface water quality.