CanAus Coal Limited

Project Description - Executive Summary

Michel Creek Coking Coal Project

Loop Ridge Mine

August 2015

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Michel Creek Coking Coal Project
Loop Ridge Mine

Submitted to:

BC Environmental Assessment Office

1st Floor 836 Yates Street

PO Box 9426 Stn Prov Govt

Victoria, BC, V8W 9V1

And

Canadian Environmental Assessment Agency

410-701 West Georgia Street

Vancouver, BC, T7Y 1C6

Submitted by:

CanAus Coal Limited

August 2015

Project Description

Michel Creek Coking Coal Project

Loop Ridge Mine

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August 2015

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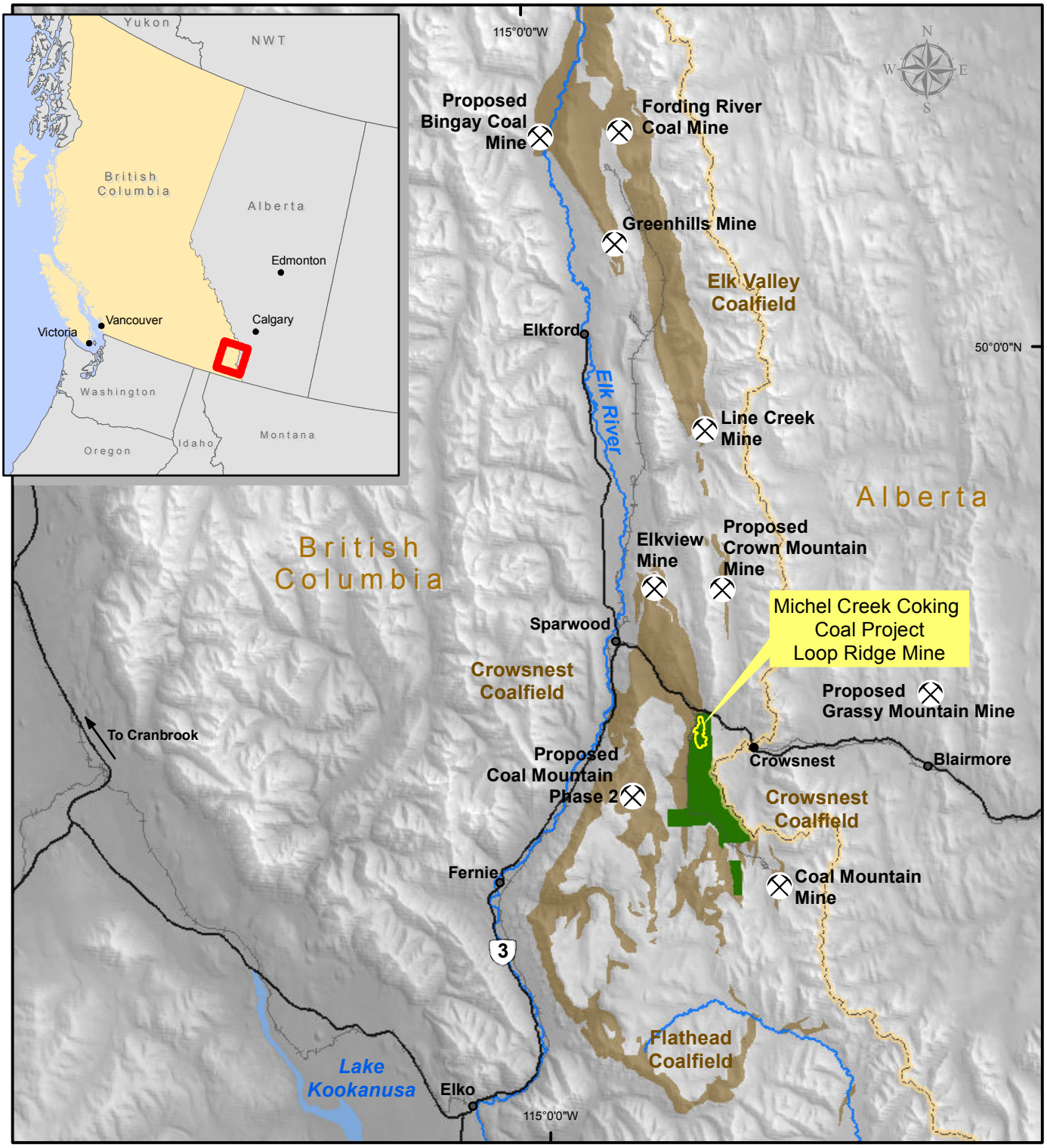
1 General Project Information

1.1 Introduction

CanAus Coal Limited (CanAus) is a Canadian resource company based in Sparwood, British Columbia and a wholly owned subsidiary of CoalMont Pty. Ltd. (CoalMont), a private Australian resource development company. CanAus is focused on the exploration and development of the proposed Michel Creek Coking Coal Project (MCCCP or Project), located in the Crowsnest Coalfield, British Columbia (BC), Canada. CanAus holds the rights to the Michel Creek coal license areas, which host significant coking coal resources primarily referred to as the Loop Ridge, Michel Head and Tent Mountain deposits. The licensed properties are located approximately 15 km southeast of Sparwood, B.C. (Figure A).

CanAus believes that excellence in workplace safety, environmental performance and stewardship is essential to our business success. To that end, we believe that our project planning and development must be based on a thorough assessment of the effects of our activities. In order to meet these principles, CanAus believes that it must undertake a thorough environmental and social impact assessment of the proposed Michel Creek Coking Coal Project in order to systematically evaluate the ecological, socio-economic and cultural aspects of the activity. CanAus is committed to conducting the assessment in an open and transparent manner, which will include an appropriate level of community, local government, regulatory, Aboriginal, and public input and review.

This *Project Description – Michel Creek Coking Coal Project* (Project Description or PD) document has been prepared and is being submitted by CanAus in order to initiate the processes required to secure and obtain all the necessary environmental assessment approvals, permits and licenses required to undertake the development of the Loop Ridge coal deposit located within our MCCCP properties. It is our intention to mine and process coking coal from our Loop Ridge deposit, and transport that coal to port for export sale. In so doing, we intend to effectively manage any and all resulting waste and, finally, decommission and reclaim the entire site to allow for previously existing land uses.



Map Notes:
1. NAD 1983 UTM Zone 11N

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Project No.:	**Project:** Michel Creek Coking Coal Project	**Client:**	**Figure: A** Location of CanAus Loop Ridge Property
Date: September, 2015			
Drawn By: SMART MAP	**Approved By:** Consult 5 Inc.		

1.2 The Proponent

CanAus Coal Limited is the Project proponent and will be the Project operator.

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Sparwood, BC
CANADA
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Web Site: www.canaus.ca

The primary representative of CanAus Coal is:

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For the Environmental Assessment (EA) the principal contact person is:

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Management of all activities related to the Project and the Loop Ridge site will be the direct responsibility of employees of CanAus, although a number of specific activities may be contracted out during development and operations.

2 The Proposed Project

The MCCCP license areas are located approximately 15 km southeast of Sparwood, British Columbia (BC) in the Elk Valley within the Crowsnest coalfield of southeastern BC. The licensed properties consist of three separate deposits referred to as Loop Ridge, Michel Head and Tent Mountain.

The Project area consists of the following coal licenses as of August 2014.

License	Area (ha)	Exploration Area	Status	Applicant
418319	409	Loop Ridge (Main)	Granted	CanAus
418318	417	Tent Mountain	Granted	CanAus
418317	342	Michel Head	Granted	CanAus
418629	1	Loop Ridge West	Granted	CanAus
418630	4	Loop Ridge West	Granted	CanAus
418628	24	Loop Ridge West	Granted	CanAus
418631	151	Loop Ridge North	Granted	CanAus
418632	1160	Loop Ridge South I	Granted	CanAus
418634	1049	Loop Ridge South II	Granted	CanAus
418624	689	Loop Ridge South III	Granted	CanAus
418625	133	Loop Ridge South IV	Granted	CanAus
418633	326	Loop Ridge South V	Granted	CanAus
418627	27	Loop Ridge South VI	Granted	CanAus
418626	408	Loop Ridge West	Granted	CanAus
Total Area	5,140 ha			

All surface rights for the Project area (i.e. license areas) are privately held by Jemi Fibre Corp. as part of the freehold Tent Mountain Block 21. The site is covered by actively managed forests and based on current surveys there are no known old growth forest stands on the project site. Some mature trees do exist and the mature forest cover displays some old-growth attributes. Most of the site is reported to have burned around 1900 during the railroad era fires as reported in the Lethbridge Daily Herald of 1908.

Although the Project is entirely on private, fee simple land, it also lies within the asserted traditional territory of the Ktunaxa Nation. CanAus intends to work with the Ktunaxa Nation throughout the consultation and regulatory processes, and has already met with the Ktunaxa Nation on several occasions while developing this Project Description.

The Project is also of potential interest to the Shuswap Indian Band, Stoney Nakoda Nation, the Piikani Nation, and the Métis Nation.

The Project is not located within or directly adjacent to any legally protected or internationally recognized areas or Crown Lands. The nearest Federal land is the Dominion Coal block about 4 km to the east, which is separated from the site by significant natural physical barriers.

This Project Description addresses only the proposed development of the Loop Ridge deposit (Figure B). The Michel Head and Tent Mountain deposits must be further defined based on additional exploration. However, current information indicates that they do offer the potential for approximately 10 years of additional production.

2.1 Mining Overview

CanAus is proposing the development of the Project, which includes only the mining of the Loop Ridge Deposit. This includes:

- An annual production of 3.5 million tonnes raw coal (2.1 million tonnes clean) – based on plant throughput rates;
- An average production rate of 5,800 clean tonnes per day (t/d), based on a 365-day operating period;
- A Loop Ridge mine life of 10 years with the potential to extend the Project life by approximately 10 years assuming positive exploration results from other license areas held by the company; and
- An initial estimate of project disturbance footprint over the 10-year life-of-mine of approximately 1,000 ha.

The Project is centered at approximately:

UTM	660,000E, and 5,498,000N (NAD 83)
Latitude:	49° 38’ 54.91” N
Longitude:	114° 46’08.82” W

The north end of the Project property is approximately 2 km south of the Crowsnest Pass Highway (Hwy 3) and approximately 15 km southeast of Sparwood, B.C.

An all-weather access road currently extends from the highway to the site.

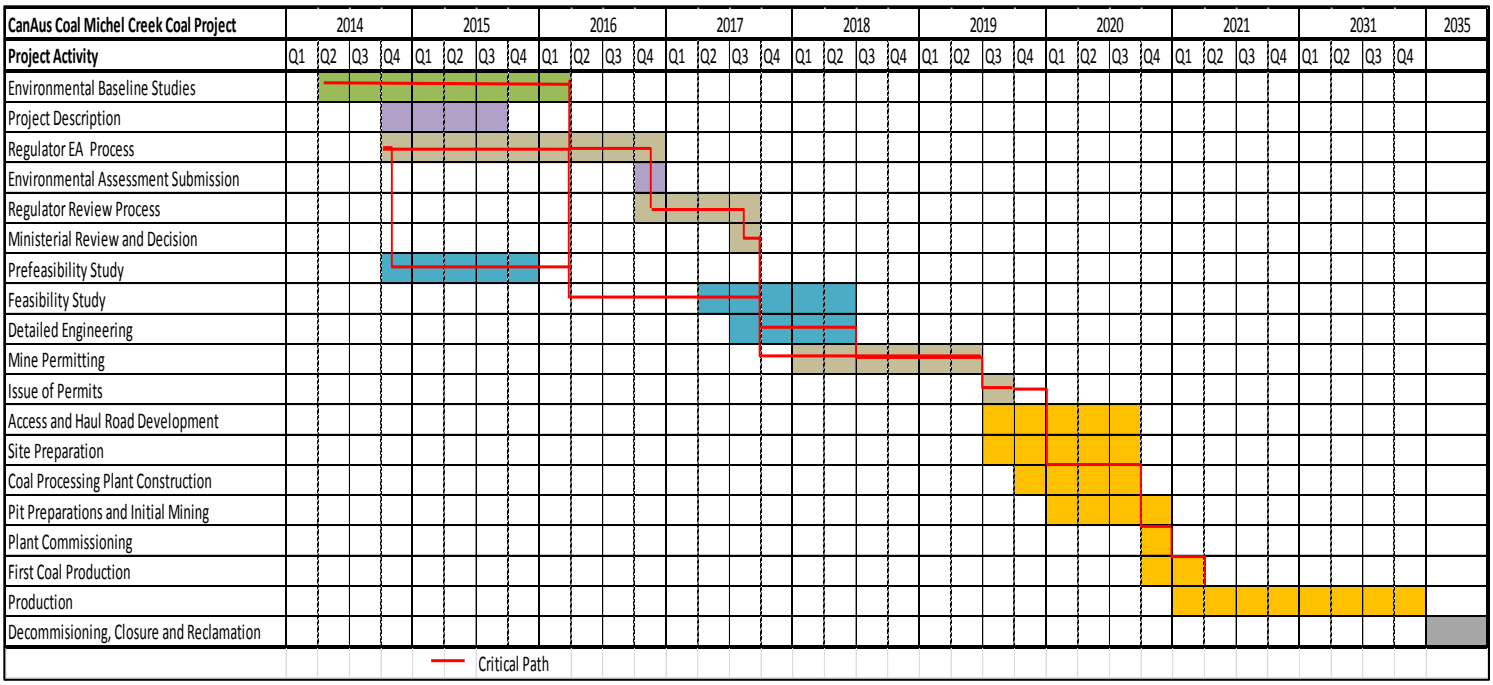
The Canadian Pacific (CP) Railway, connecting eastern Canada with west coast ports including Vancouver, BC, is located on the north boundary of the Project area. The nearest commercial airport is at Cranbrook (population 19,000), approximately 125 km to the west. The closest international airport is located in Calgary, Alberta (261 km to the northeast of the site). The US border is approximately 92 km south, via Highway 3 and Highway 93 leading to northern Montana and Idaho.

CanAus considers the Project area to be a brownfield site, as the site was previously mined, with approximately 150,000 tonnes of coal extracted under a previous Mines Permit in the 1960s and 1990s. In addition to this mining activity, the area has been heavily logged over the last few years. As a result, it is estimated that approximately 20% of the total Project footprint (1,000 ha.) has been disturbed by previous industrial activity and based on future logging plans, over 60% of the area will be logged before construction begins on the Loop Ridge Mine.

CanAus has opted to finalize mine and infrastructure design after the Environmental Assessment (EA) process has been initiated in order to create the opportunity for the input of regulators, First Nation(s), Métis and the public into the Alternatives Analysis stage and the final design process. This will allow CanAus to consider a combination of regulatory requirements, traditional use, environmental and social sensitivities combined with economic feasibility issues concurrently, and by so doing, achieve a mine design that supports long-term sustainability and the realization of CanAus's intention to leave a positive mining legacy.

2.2 Project Schedule

The Conceptual Michel Creek Coking Coal Project schedule is presented in the table below.



The anticipated schedule for the project is presented below:

- Baseline studies, environmental assessment approval and permitting (2013 – Q3 2019);
- Construction (Q3 2019 – Q4 2020);
- Operation (Q4 2020 – Q4 2031);
- Decommissioning (2031 – 2034); and
- Closure and post-closure (2035).

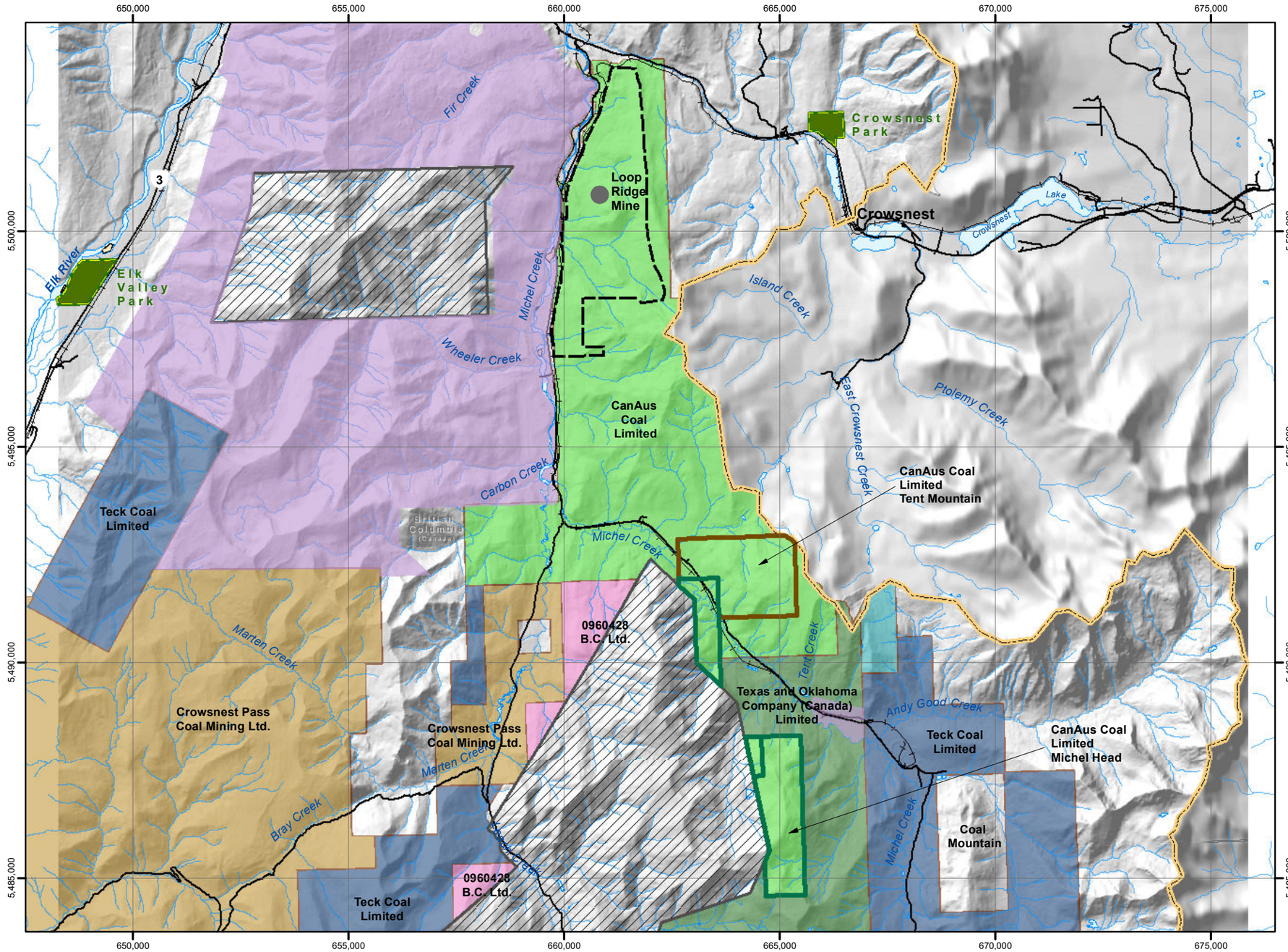
Map Key

- Provincial Boundary
- Teck Private Lands
- Potential Disturbance Area
- Parks
- DOMINION COAL BLOCKS

Coal Tenures

- 0960428 B.C. LTD.
- CANAUS COAL LIMITED
- COAL VALLEY RESOURCES INC.
- CROWSNEST PASS COAL MINING LTD.
- NEOLIFE HOLDINGS INC.
- NWP COAL CANADA LTD.
- TECK COAL LIMITED
- TEXAS AND OKLAHOMA COAL COMPANY (CANADA) LIMITED

Map Notes:
1. NAD 1983 UTM Zone 11N
2. Coal Claims Boundaries derived from BC Mineral Titles On Line Database (accessed June, 2015)



Project No.:	**Project:** Michel Creek Coking Coal Project	**Figure: B** Loop Ridge, Michel Head, Tent Mountain License Areas	CanAus Coal Limited
Date: September, 2015			
Drawn By: SMART MAP	**Approved By:** Consult 5 Inc.		

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2.3 Proposed Physical Works

In general terms, the Project being proposed will consist of:

- Construction and upgrading of access roads and the development of a product loading facility and railway spur connecting CanAus to the existing railway line;
- Relocation of the TransCanada Corporation natural gas pipeline which currently crosses the Loop Ridge property;
- Construction of water management systems designed to be consistent with the Elk Valley Water Quality Plan (EVWQP) for the management and treatment of water affected by mining activities;
- Construction of office, maintenance and coal processing plant facilities with associated stockpile areas, water treatment and sewage facilities;
- Development of an explosives storage area and delivery system;
- Removal and temporary storage of soil in stockpiles for re-use during progressive decommissioning and reclamation;
- Development of mine pit excavations;
- Development of waste rock stockpile areas;
- Production of dry tailings for co-deposition with waste rock in a purpose-built waste management facility;
- Progressive decommissioning and reclamation by backfilling, to the extent possible, of previously mined pit areas as the Project proceeds;
- Rehabilitation of areas where mining and backfilling has been completed during the life of mine to meet agreed final land use objectives; and
- Final decommissioning and closure according to closure “endpoints” that will be developed in consultation with Regulators, First Nations and the public.

Additional on-site infrastructure includes, but may not be limited to:

- Lay-down and parking areas;
- Fuel, hazardous substances and waste storage facilities;
- Mine dewatering wells, pumps, sumps and piping;
- Settling ponds and contact water collection ditches;
- Fresh water wells;
- Fresh water piping and storage;
- Fire hydrants and fire protection system;
- Potable water source; and
- Sewage collection and disposal system.

A conceptual site layout has been developed and is shown in Figure C. The Project area is surrounded by comprehensive existing and serviceable development facilities, does not need an accommodation camp and can tie into existing power, road and rail transportation infrastructure, all within the immediate area of the property.

Map Key

- Provincial Boundary
- Existing Railroad
- Fortis Pipeline
- TransCanada Pipeline
- Conceptual Haul Road
- Conceptual Rail Loop
- Proposed CanAus Open Pit
- Conceptual Access Road
- Conceptual Powerline
- Ex-Pit Rock Dump
- In-Pit Rock Dump
- Coal Thickener
- Diesel Storage
- Laydown Area
- Processing Plant/Transformer Yard
- Product Stockpile
- ROM Dump Hopper
- Radial Stacker
- Rejects Bin
- Sizing Station
- Soil Stockpile
- Surge Bin
- Tailings Thickener
- Train Loadout Bin
- Vehicle Maintenance Area and Offices
- Explosives Plant
- Explosives Magazines
- Treatment Wetland (Semi-Passive)
- Potential Disturbance Area Boundary
- Forest Cover
- Recently Harvested Forest

659,000 660,000 661,000 662,000 663,000 664,000 665,000 666,000

5,503,000 5,502,000 5,501,000 5,500,000 5,499,000 5,498,000

N

Fortis Pipeline
Proposed Loop Ridge Pit
TransCanada Pipeline
Potential Passive Water Treatment
Potential Settling Pond
Michel Creek
Potential Water/Habitat Enhancement Zones
Corbin Road
Explosives Magazines
Explosives Plant (Option A)
Laydown Area
Potential Settling Pond
Product Stockpiles
Diesel Storage
Processing Plant Transformer Yard
Vehicle Maintenance Area and Offices
Access Road
Explosives Plant (Option B)
Proposed Waste Rock Dump
Potential Disturbance Area Boundary
British Columbia
Alberta
Island Creek

Coal Processing Details

Michel Creek
Explosives Magazines
Laydown Area
Rejects Bin
ROM Hopper
Potential Settling Pond
Diesel Storage
Coal Thickener
Sizing Station
Tailings Thickner
Surge Bin
Product Stockpile
Processing Plant / Transformer Yard
Radial Stacker
Vehicle Maintenance Area and Offices
Conveyor Belt
Access Road
Train Loadout Bin

0 200 400 600 800 1,000 Meters

1:30,000

Map Notes:
1. NAD 1983 UTM Zone 11N

Project No.:	**Project:** Michel Creek Coking Coal Project	**Figure: C** Conceptual Site Plan	CanAus Coal Limited
Date: September, 2015			
Drawn By: SMART MAP	**Approved By:** Consult 5 Inc.		

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2.4 Project Activities

The current conceptual mine plan utilizes open-pit bench mining methods in distinct phases in order to maximize waste rock management within the pit and facilitate progressive decommissioning of mine areas over the 10-year life of the Loop Ridge deposit. In this method of mining, coal seams are exposed by track dozers and hydraulic excavators removing waste rock. A drill and blast program is employed to loosen and fracture waste rock to provide a particle size distribution and looseness in the rock, suitable for high-efficiency working by the shovel and haul truck fleet. Waste rock is initially removed from the pit after haul trucks have been loaded by shovels and placed external to the mining area. Once pit capacity has been created through ex-pit waste rock storage, waste rock will be placed in the pit, to the extent possible, to optimize waste hauls and minimize the mine footprint.

Current pit design concepts involve developing the south side of the deposit first in order to create backfill opportunities and to meet operational requirements.

The Central Processing Site (CPS) includes a Coal Handling System (CHS) and a Coal Preparation Plant (CPP). Run-of-mine coal is stockpiled or directly placed onto the coal handling system for treatment in the processing plant. The CPP uses a combination of heavy media cyclones, classifiers and floatation circuits to remove ash from the coal. Clean coal is dried using hyperbaric disc filters and centrifuges, then stockpiled and/or loaded into trains for transport to port. Rejects will be dewatered using a combination of thickening and filter presses.

The Project does not anticipate the need for the construction or operation of a purpose-built, conventional “wet tailings management facility” or “tailings impoundment area/tailings dam” at the site. All CPP wastes will be dewatered and disposed of using a process of co-deposition of dry tailings in the waste rock. Co-disposal of the plant refuse with pit waste rock minimizes the area disturbed and facilitates effective, long-term containment of waste post-closure.

The preliminary mining plan anticipates progressive reclamation of the mine pit and waste rock disposal areas. The sequential backfilling of pits will form bench-like topographic features with nearly level tops and sloping faces. These faces will be designed and constructed to reduce the potential for erosion and infiltration. Since the backfilling will follow the mining progression, the reclamation will occur in sequence and result in a final topography that meets agreed end land uses. Final topography will be graded to be consistent with the natural topography of the area. Reclamation of the area will meet requirements for agreed-upon end land uses, and will include consideration of landscape and cover features required to achieve consistency with the Elk Valley Water Quality Plan.

The final reclamation and closure plan will address the reclamation of all disturbed areas by removal of all structures not required for on-going reclamation monitoring and maintenance, and will conform with final land use objectives.

It is anticipated that after the decommissioning, reclamation and transition phase monitoring are completed, the Project site will be returned to a state that will allow for a land use similar to that which existed before the development of the mine.

In order to more fully assess the possible environmental, social, economic, health and heritage effects related to the development of the Project, CanAus initiated baseline studies in 2013 which are scheduled for completion in 2016.

2.5 Regulatory Framework

2.5.1 Provincial Regulatory Context

Provincially, the Project is considered a Reviewable Project as the production capacity of the mine will be greater than 250,000 tonnes per year of clean coal and will result in a disturbance greater than 750 hectares that was not previously permitted for disturbance.

It is anticipated that the project will require permits under at least the following: the *Mines Act*, *Water Act*, *Environmental Management Act*, *Waste Management Act*, *Fire Services Act*, *Health Act*, *Highway Act*, *Heritage Act* and *Wildlife Act*.

2.5.2 Federal Regulatory Context

Federally, the Project is considered a Designated Project under the CEAA 2012 Regulations Designating Physical Projects, as the mine will have a production capacity of more than 3,000 tonnes per day.

Various Acts have been considered for applicability to the Project and these are detailed below.

2.5.2.1 Explosives Act

The Michel Creek Project, as proposed, will have an on-site explosives manufacturing facility and will require two magazines for the storage of explosive materials. These facilities will be in secure locations and be locked at all times to prevent entry of animals and people. The site will contain an explosives magazine and a separate magazine for blasting accessories. The magazines will be constructed and operated in accordance with federal and provincial regulations and will meet or exceed the standards set out in the May 2001 edition (or subsequent iterations) of *Storage Standards for Industrial Explosives* published by the Explosives Regulatory Division of the Department of Natural Resources, Government of Canada and any terms and conditions imposed by the required permits and approvals.

2.5.2.2 Fisheries Act

Michel Creek runs along the western side of the Property, but lies west of Corbin Road, and it is not anticipated that the Creek will need to be crossed by the Project. Project-related linear infrastructure (e.g., roads, power line, conveyor, etc.) will cross five tributary streams to Michel Creek. Stream crossings will be fully documented and their fish bearing status determined during

baseline studies. Any new crossings required over fish-bearing streams will be constructed as clear span structures and according to requirements under the *Fisheries Act.*

2.5.2.3 Navigable Waters Protection Act

No aspects of the proposed Michel Creek Project are anticipated to have the potential to extend into navigable waters; or to impede navigation in any way.

2.5.2.4 Canada Transportation Act

A key east-west line of CP Rail travels along the northwestern edge of the Loop Ridge Property and a rail spur from the existing Coal Mountain mine to the CP railway passes along the western boundary of the Michel Creek property. It is anticipated that a rail spur, and associated load-out facilities, will be built at the Loop Ridge CPP and connect with the CP railway line in order to facilitate the shipment of coal by rail to commercial ports in Vancouver, Prince Rupert or other terminals. It is assumed that construction of the railway spur will require approval from the Canadian Transportation Agency under section 98(2) of the *Canada Transportation Act*.

2.5.2.5 Migratory Birds Conservation Act

The mountainous ecosystems of the Elk Valley generally host about 300 bird species of which about 200 are regular inhabitants. The Rocky Mountains and the Rocky Mountain Trench are considered a flight path between breeding sites in the north and overwintering areas for migratory birds in the south. A substantial number of bird species are anticipated within the study area, utilizing both breeding habitat and migratory flight paths.

2.5.2.6 Species at Risk Act

A database search of the BC Conservation Data Centre (CDC) produced a list of vegetation, wildlife and aquatic species with a SARA, COSEWIC, Red list or Blue list designation, that have the potential to exist within the Regional Study Area (RSA), based on the ecosystems present.

2.5.2.7 Governmental Financial Support

There is no federal or provincial funding identified for this Project.

2.5.2.8 Indian Act

The Michel Creek Project will not be located on, nor does it require access to, through or over any First Nation Reserve lands.

2.5.2.9 Regional Studies

CanAus is not aware of any formal regional studies as defined under CEAA 2012. CanAus is participating in the regional Cumulative Effects Management Framework (CEMF) and will work within the EVWQP.

3 Physical and Biological Setting

The Michel Creek Coking Coal Property is located within the East Kootenay Coalfields and forms part of the Rocky Mountain Foothills structural belt, which lies to the east of the Canadian Rocky Mountain Trench. The East Kootenay Coalfields are comprised of three separate fields extending from the Montana border northward, known respectively as Flathead, Crowsnest, and Elk Valley coalfields. These are the most important coalfields of the province, having produced over 500 Mt of mainly metallurgical coal since 1898. All three fields are underlain by the Jura-Cretaceous Kootenay Group, which contains the 100 to 700 m thick coal-bearing Mist Mountain Formation. Coal seams are found throughout the formation though the thicker seams occur lower in the section. The formation contains over 30 seams, which can make up 8% to 12% of the thickness of the formation. Cumulative coal thickness ranges up to over 70 m. The area has experienced moderate to intense folding and thrust faulting, which has caused repetitions and structural thickening of seams. Coal rank varies from low to high-volatile A bituminous, though most of the coal is medium-volatile bituminous and of metallurgical grade.

The CanAus Michel Creek property is situated in the northwest trending Front Ranges of the Rocky Mountain physiographic region, which is characterized by a series of steep mountains running to the northwest, incised by west-flowing streams. Elevations range from approximately 1,280 masl along Michel Creek to a height of 1,640 masl at Loop Ridge. Loop Ridge is dominated by lodgepole pine and trembling aspen, with smaller stands of spruce and Douglas fir. A portion of the Loop Ridge property was logged within the past several years and is now predominately covered in grasses, forbs, shrubs and seedlings.

In 1995, when an EA was prepared for the McGillivray Pit, the Project area was considered to provide generally high quality winter range for elk and moose, moderate winter range for mule deer, and calving and fawning areas were present above the mine pit and near the CP rail line. The baseline studies conducted by McGillivray Mining Ltd. in 1995 reported bighorn sheep, white-tailed deer, and a range of fur bearing animals: lynx, marten, black bear, grizzly bear, wolf, and cougar. Baseline studies for the CanAus Loop Ridge Mine started in 2013 and will continue through 2015 and into 2016 and to date bighorn sheep tracks have only once been found on the site during winter wildlife surveys. These studies will provide an up-to-date assessment of habitat potential for ungulates and furbearers, as well as document the presence or signs of these animals. Studies will also provide an update on the status of vegetation and ecosystems present on the landscape.

In addition to its biological diversity, the region is characterized by anthropogenic disturbances across the landscape. Much of the Regional Study Area (RSA) burned around 1900, as part of early mine exploration and other development, leading to substantial areas of even-aged forest. Widespread linear and industrial disturbances are also present, with highways, railway, power lines, gas wells, pipelines, logging road networks, forestry cutblocks, and two operating coal mines

occurring within the local region. Portions of the project area have also historically been subject to grazing pressure from local cattle, though this no longer appears to be the case.

Michel Creek is the largest river in the Project area and runs northwest along the western edge of the Property and is a tributary of the Elk River, which flows south to Lake Koocanusa. From the south end of Lake Koocanusa, the Kootenai River flows 90 km to Montana and Idaho, eventually returning to Canada and Kootenay Lake. The water flows through the west arm of Kootenay Lake and then south to join the Columbia River at Castlegar, B.C. The Columbia River drains to the Pacific Ocean at the border between Washington and Oregon states in the USA. Large recreational lakes are located along the Kootenay River, including Lake Koocanusa and Kootenay Lake. Leach Creek and Marten Creek are tributaries of Michel Creek and are adjacent to the project area. Michel Creek and its tributary streams contain several species of fish with subsistence, commercial and recreational value, including westslope cutthroat trout, bull trout, mountain whitefish and eastern brook trout and two species not traditionally available for angling – longnose dace and longnose sucker.

The climate of the area is characterized by long, cold winters and short, cool to hot summers, and strongly south to north flowing winds that follow the valleys. Year-round mining operations are common in the area; winter conditions do not preclude surface or underground mining activities. Climate extremes include:

- Daily average temperatures ranging from -7.7 °C to 15.4 °C;
- Extreme maximum temperature of 36.5°C recorded in August 1981;
- Extreme minimum temperature of -39.8°C recorded in December 1991;
- Monthly precipitation ranging from 34.2 mm in August to 71.1 mm in November; and
- Precipitation falls primarily as snow November through March.

3.1 Preliminary Assessment of Effects

A preliminary assessment of potential effects of the Project has been completed based on current knowledge of the proposed Project and the local environment. The potential effects are grouped according to the five pillars identified by the BCEAO. These are:

- Environment:
  - Physical Environment; and
  - Biological Environment.
- Social;
- Economic;
- Health; and
- Heritage.

In addition, aspects of federal jurisdiction that are the focus of an environmental assessment under CEAA 2012 are to be assessed, including:

- Fish and fish habitat;
- Other aquatic species;
- Migratory birds;
- Federal lands;
- Effects that could potentially cross provincial or international boundaries;
- Effects that have the potential to impact Aboriginal peoples, such as their use of lands and resources for traditional purposes; and
- Changes to the environment that are directly linked to or necessarily incidental to any federal decisions about a project.

In all cases, a preliminary qualitative assessment of potential adverse effects has been conducted in order to inform the mine design and identify mitigation measures that are likely to be required in order to prevent significant residual adverse effects.

Based on this preliminary assessment, the Project is anticipated to have positive effects on the local and provincial economy, as well as associated benefits that arise from direct and indirect job creation in the area and re-training and up-skilling opportunities for local employees.

The preliminary assessment indicated the most significant ecosystem-related effects from the Project as proposed are potentially:

- The possible degradation of water quality through potential release of contaminants (i.e., selenium, sulphate, nitrate and trace elements) into surface water courses during operations and closure phases.
- The possible disturbance to wildlife and wildlife habitat through anticipated land clearance and operations.
- Possible dust and noise emissions during construction and operations phases.
- Potential effects on local First Nations' communities and resources through potential land use changes.

CanAus recognizes that as yet unidentified ecosystem-related effects may present themselves as new information and science becomes available during completion of the environmental assessment. If such effects are identified, CanAus will maintain consistency in its approach to managing adverse effects.

3.2 Water Quality

The *Elk Valley Water Quality Plan* (EVWQP) is the context for understanding potential water quality effects of the Project.

The EVWQP is a comprehensive, B.C. Ministry of Environment (BCMOE)-approved, documented plan, developed by Teck Resources, in response to a B.C. Provincial Order under Section 89 of the *Environmental Management Act*, and in consultation with numerous stakeholders and First Nations, including the Ktunaxa Nation, local communities, and all levels of government.

The purpose of the plan is "to identify a strategy and implement solutions to address increasing selenium and nitrate water concentrations within the Valley" (Teck Resources, 2014). Moreover, with a holistic focus on water quality, the plan also addresses the monitoring and evaluation of cadmium and sulphate concentrations, in addition to the extent of calcite formation in the Valley.

A key aspect of the EVQWP is the establishment of short-, medium-, and long-term water quality targets for the parameters of concern throughout the Elk River watershed, with the aim of reducing concentrations of water constituents of concern, and mitigating any potential impacts. All aspects of the EVWQP are intended to ensure the sustainability of aquatic resources and human health, while continuing to support metallurgical coal mining in the region.

The implementation of the EVWQP is a strategic and focused effort to ensure reductions in these parameters of concern in local water bodies over time. It is intended to ensure that the Elk River and its associated watersheds continue to provide a clean and healthy environment for plants, animals and humans, while allowing for the continuity of sustainable mining in the region. In this context, the Project will integrate mine design, environmental management and mitigation in order to be consistent with the EVWQP.

3.3 Fish and Aquatic Habitats

The proposed Project is not expected to result in significant residual adverse effects to the sustainability and ongoing productivity of the recreational, commercial or Aboriginal fisheries in Michel Creek or the Elk River.

It is anticipated that the Loop Ridge pit and waste rock storage area will alter the flow path of the headwaters of only three small fish-bearing streams that eventually discharge to Michel Creek. Diversion channels will be incorporated in the mine design to divert clean water flows in these tributaries around these facilities to minimize potential contamination. Diversion ditches will also offer the potential to create offset aquatic habitat. The construction of the water management systems in order to achieve consistency with the EVWQP may require authorization from Fisheries and Oceans Canada (DFO). Consultation with representatives of DFO will continue in order to determine the need for a Fisheries Act Authorization from that agency.

3.4 Migratory and Nesting Birds

A substantial number of bird species are anticipated within the study area, utilizing both breeding habitat and migratory flight paths. CanAus intends to conduct all clearing of vegetation and other similar disturbance during periods prior to, or after, peak migration and bird nesting, when affected migratory and nesting species are absent. As a result, the proposed project is not anticipated to significantly affect migratory birds as there is sufficient suitable habitat in the area. No disturbance and minimal on-going activity will take place near any shorelines and therefore the proposed project will have negligible impact to shorebirds. Notwithstanding this, CanAus is committed to conducting appropriate breeding bird and bird migration surveys during the EA.

3.5 Species at Risk

An initial database search of the BC Conservation Data Centre (CDC) produced a list of vegetation and wildlife species with a Species at Risk Act (SARA) or Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designation as well as BC red- and blue-listed species designations that have the potential to exist within the Regional Study Area (RSA), based on the ecosystems present. These include, but may not necessarily be limited to:

- Wolverine (*Gulo gulo*) – Special Concern (SARA);
- Whitebark pine (*Pinus albicaulis*) – Endangered (COSEWIC);
- Western toad (*Anaxyrus boreas*) – Special Concern (COSEWIC);
- Little brown myotis (*Myotis lucifugus*) – Endangered (COSEWIC);
- Northern leopard frog (*Lithobates pipiens*) – Endangered (COSEWIC);
- American badger (*Taxidea taxus*) – Endangered (COSEWIC); and
- Grizzly bear (*Ursus arctos*) – Special Concern (COSEWIC).

CanAus has initiated development of a Biodiversity Action Plan (BAP) aiming at a Net Positive Impact (NPI) to biodiversity over the life of the Project including through exploration, construction, operations, decommissioning and reclamation. A BAP is an internationally recognized program addressing threatened species and habitats and is designed to protect and restore biological systems.

3.6 Federal Lands

The Project will not be located on, nor does it require access to, through or over any federal lands such as national parks or the Dominion Coal Blocks, and the Project is not anticipated to result in impacts or effects that will cross international or provincial boundaries. The Project is 4 km from the nearest Dominion Coal Block, 72 km from the US/Canada Border and 88 km from the Waterton Lakes National Park. It is unlikely that the Project will affect the Dominion Coal Block or the National Park, due to significant natural barriers. However, CanAus will be assessing potential effects to these federal lands as well as potential transboundary effects in the EA.

3.7 Cumulative Effects

CanAus is in the process of comprehensively assessing the cumulative impacts associated with the proposed project, including the following:

- Combined effects from all stages of the project lifecycle;
- Effect of the proposed project when added to other past, present or reasonably foreseeable future projects or activities in the area;
- Combination of effects from the proposed project combined with the impacts of an expansion or alteration of the Project;
- Total effect or risk of effect from operating the Project over a long period of time, taking into account the likelihood of extensions or expansions to the Project's operating life;
- Effect of ancillary facilities that may not be part of the proponent's Project, but which are essential to the Project proceeding (e.g., pipelines, roads, transmission lines); and
- Any additional activities or developments that may be enabled or encouraged as a result of the Project proceeding.

CanAus is committed to working with the BC Ministry of Forests, Lands, and Natural Resource Operations (BC MFLNRO) in the development of the Elk Valley Cumulative Effects Management Framework (CEMF). CanAus has recently become a member of the CEMF Working Group.

3.8 Aboriginal Peoples

The Project will not be located on, nor does it require access to, through or over any First Nation Reserve lands.

The Project is within the asserted traditional territory of the Ktunaxa Nation and is also of potential interest to the Shuswap Indian Band, Stoney Nakoda Nation and Piikani Nation. The Ktunaxa communities within the Ktunaxa Nation that may be interested in, or potentially affected by the Project, include:

- ***ʔakisq̓nuk*** **First Nation** (formerly the Columbia Lake Band, Windermere);
- ***ʔaq'am*** **-** St. Mary's Band (Cranbrook);
- ***ʔakinkum̓ɬasnuqɬiʔit*** - Tobacco Plains Indian Band (Grasmere); and
- ***Yaqan nuʔkiy*** **-** Lower Kootenay Band (Creston).

Recently identified representatives of the Métis Nation in the region will be engaged in all future consultations.

4 Consultation and Engagement Activities

CanAus has consulted widely during the exploration phase as well as during the preparation of the Project Description. This has included, but has not been limited to:

- Ktunaxa Nation (Initial meetings and introductions);
- Shuswap Indian Band (Initial meetings and introductions regarding economic and development interests);
- CEA Agency;
- BC Environmental Assessment Office (BC EAO);
- BC Ministry of the Environment (BC MOE);
- BC Ministry of Forests, Lands and Natural Resource Operations (BC MFLNRO);
- BC Ministry of Energy and Mines (BC MEM);
- Local Governments;
- Local NGO and Conservation Groups; and
- Business groups such as Chambers of Commerce.

4.1 Engagement and Consultation Plan

CanAus is committed to continuing ongoing communication, consultation and engagement with the Ktunaxa, other interested Aboriginal groups, communities and stakeholders, in relation to the further development of the Project and related activities (i.e. further exploration in the region). CanAus will continue to seek advice from First Nations and stakeholders on the most effective methods and tools for communications and engagement. An initial list of individuals and organizations that have been, and will continue to be, consulted during the preparation of the Project Description and Environmental Assessment Application includes:

- Local community members;
- Elected officials and senior administrative staff;
- Groups such as Chambers of Commerce, Service Clubs, Fish and Game Associations, and other user groups such as ATV associations and ski clubs;
- Interested citizens;
- Industry groups such as Teck, Canfor, BC Hydro, CP Rail, Jemi Fiber Corp;
- Research groups working in the Elk Valley such as the University of Calgary, University of Lethbridge, Simon Fraser University, and the University of Waterloo;
- Non-Governmental Organizations (NGOs) such as Wildsight, Elk River Alliance, Yellowstone to Yukon Conservation Initiative, Nature Conservancy;
- Professional and educational groups and institutions (e.g., College of the Rockies); and
- Columbia Basin Trust.

Tenure holders and other interest groups that are being engaged include:

- Property owners (e.g., Jemi Fibre Corp.);
- Other forestry and timber harvesters
- Guide outfitters;
- Trappers;
- Commercial recreation;
- TransCanada Corporation;
- CP Rail and related interests; and
- Other groups identified through the consultation process.

Additional groups may express interest in the consultation process. These groups will also be considered for inclusion.

Planned public consultation activities include the following:

- Community meetings (formal and informal);
- Meetings with key stakeholders;
- Conference calls or web meetings;
- Workshops on specific topics related to the EA process (e.g., Project Description, identification of Valued Components (VCs), cumulative effects);
- Focus groups or advisory groups;
- Tours of the site;
- Informal discussion groups (meetings which involve small, revolving conversations among 3-4 people with a report-back to the single, larger group);
- Open houses;
- Website and printed material development;
- Engagement with local media;
- Issues tracking and response;
- Public notification of events and meetings, status of the Project; and
- Comprehensive reporting of the consultation process.

4.2 Aboriginal Consultation

A specific, focused Aboriginal engagement and consultation plan has been developed and will be implemented to:

- Engage with the Ktunaxa Nation as the recognized First Nation government with regulatory interests in the Project;
- Facilitate relationship-building and ensure a respectful and effective two-way flow of information between the CanAus team, the Ktunaxa and any other interested Aboriginal groups;

- Inform and support baseline studies and the EA process as issues, concerns and requirements are identified;
- Provide the Ktunaxa Nation and others with opportunities to benefit from the Project;
- Provide information and possible support of capacity building for identified opportunities in the development of all stages of the Project from initial studies though construction and operation to rehabilitation and decommissioning; and
- Ensure that the methods, issues, resolutions, and outcomes of this process are documented in support of the Project's EA process in a way that is informative and transparent.

In all cases, the intent of the engagement and consultation with the Ktunaxa as well as consultation with other interested Aboriginal groups has been, and will continue to be, to:

- Ensure reasonable information is provided regarding the nature of the proposed activities and awareness is gained regarding any potential environmental impacts, including short-, medium- and long-term impacts in the area;
- Arrange meetings by mutual agreement with appropriate representatives or formally authorized designates to discuss appropriate means of engagement, recognizing community specific requirements;
- Engage to identify and discuss specific potential impacts of the Project on Ktunaxa rights and title; and
- Consider Ktunaxa and Aboriginal viewpoints, and where necessary, work to avoid or minimize adverse impacts.

Within Ktunaxa guidelines and processes, Traditional Use and Traditional Knowledge (TU/TK) studies for the Project are intended to be developed during baseline studies and the EA process. TU/TK studies complement contemporary scientific studies, provide important information on Aboriginal interests, and clarify technical, academic and indigenous information relating to the traditional and contemporary use and knowledge of the Project area. CanAus intends to work with the leadership and knowledge-holders of the Ktunaxa and any other interested Aboriginal groups to collect and capture site-specific TU/TK information.

4.3 Key Comments and Concerns Expressed To Date

CanAus was informed through the Ktunaxa Nation Council representatives that the Ktunaxa Nation Council generally only engages on new projects in the Ktunaxa Territory once a Section 10 order has been issued in the EA process by the BC EAO. Under these circumstances, it is not possible to provide initial feedback and concerns.

Various regulators and people from the public have offered informal feedback to CanAus, with the main points presented below.

4.3.1 General Themes

- People welcome a new mine and see it as a boost for the local economy and that it will create employment;
- Hunters have expressed concern about access to hunting areas and also loss of the open range land on the property;
- Fishermen have expressed concern about possible contamination of Michel Creek;
- General concern has been expressed about loss of access to the Michel Creek Valley as there already is a lot of linear development and the proposed mine would add to the space consumed by railways and roads;
- The general need to be in compliance with the EVWQP and to protect water quality; and
- Ensuring that groups working on the Cumulative Effects Process are included in consultation.

4.3.2 Environmental Concerns

- Water quality;
- Selenium;
- Cumulative effects;
- Habitat connectivity;
- Waste rock dump design;
- Active water treatment and tailings facilities; and
- Air quality.

4.3.3 Socio-Economic Concerns

- Job creation;
- Mine life;
- Visual aesthetics;
- Economic viability; and
- Recreational access.

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