Rocky Creek Metallurgical Coal Project

Initial Project Description

PREPARED BY
ERM Consultants Canada Ltd.

DATE
26 August 2024

REFERENCE
0718844

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EXECUTIVE SUMMARY

INTRODUCTION

CTI Plus Resources Ltd. (CTI Plus) is proposing to construct and operate the Rocky Creek Mine, a new open pit metallurgical coal mine located approximately 47 kilometres (km) southwest of Chetwynd, British Columbia (BC; Figure 1). The Rocky Creek Metallurgical Coal Project (the Project) has an estimated annual run-of-mine (ROM) production rate of 3.0 megatonnes (Mt), which is equivalent to 8,220 tonnes per day (tpd), or approximately 1.75 Mt of clean coal per year. The Coal Handling and Processing Plant has a theoretical maximum ROM processing rate of 10,320 tpd or 3.77 Mt per year assuming the plant is operating 24 hours per day and 365 days per year. This rate will not be realized due to maintenance requirements, downtime, and scheduled working hours. The operational mine life is approximately 14 years. Additional engineering work is underway to determine the final construction and schedule of activities, which may impact the duration of the mine life. The Project will involve construction, operation, closure, and reclamation of open pits, a coal processing plant, and associated onsite and offsite infrastructure and activities.

Pursuant to sections 3(1) and 4(1) of the Reviewable Projects Regulation (RPR; 2019), the Project's anticipated production capacity exceeds the criteria of 250,000 tonnes/year of clean coal, and potentially other greenhouse gas (GHG) emission triggers. The Project is therefore reviewable under the BC *Environmental Assessment Act* (EAA; 2018). The Project is also reviewable under the federal *Impact Assessment Act* (IAA; 2019) since the production capacity exceeds the 5,000 tpd trigger.

In accordance with the *Impact Assessment Cooperation Agreement between Canada and British Columbia* (Cooperation Agreement; Government of Canada 2020), CTI Plus will ask that the Province makes a request to the federal Minister of Environment and Climate Change (ECCC) to approve the substitution of the BC Environmental Assessment process for the federal Impact Assessment process.

This Initial Project Description (IPD) provides a high-level description of the evolving Project design and supports initiation of the Environmental Assessment process. Through the IPD, CTI Plus is providing an early Project overview with the intention that this document will support engagement with Indigenous nations, government agencies, and the public to help shape the final design of the Project.

The Environmental Assessment process will be initiated when the BC Environmental Assessment Office (EAO) and the Impact Assessment Agency of Canada (the Agency) accept the IPD and seek public comments on the IPD. Regulators, agencies, Indigenous nations, and the public will have an opportunity to provide initial feedback on the Project and Project components that are being evaluated.

FIGURE 1 PROJECT LOCATION

ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-012-01

DATE: 12 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:1,300,000 when printed at 8.5x11

PROPONENT INFORMATION

The Project proponent is CTI Plus, a progressive corporation committed to responsible mining, from exploration to development, with a primary focus on metallurgical coal mines and energy resources in Canada. CTI Plus is a private company headquartered in Calgary, Alberta.

For the purposes of the Environmental Assessment, the primary contact person at CTI Plus is:

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PROJECT OVERVIEW

PROJECT NEED AND PURPOSE

CTI Plus is proposing to develop a greenfield metallurgical coal mine near the District of Chetwynd, BC (Figure 1). British Columbia has world class metallurgical coal deposits that are primarily found in the Kootenay and Peace Regions with over 95% of the coal mines in the province producing metallurgical coal. Large-scale coal exploration in the region began in the late 1960s. Metallurgical coal mining continues to be an important component of the regional economy with several active and proposed mines in the region.

The global steel demand forecast continues to grow with billions of metric tons of steel required to meet future infrastructure, electrification, and renewable energy demands. Metallurgical coal is crucial in the steel production process.

The Project will benefit the local region, province, and Canada through local employment and procurement opportunities, skills and training opportunities for Indigenous nations and local communities, as well as through tax payments. With an estimated construction period of 2 years, and a mine life of approximately 14 years, the Project will bring added stability to the region's economic outlook.

PROJECT LOCATION

The Project is located approximately 47 km southwest of the city of Chetwynd, BC, on provincial Crown land within the Peace River Regional District. It consists of 17 coal licences that are intersected by Rocky Creek. Rocky Creek administratively divides the Project into the Northwest Block (NW Block) and the Southeast Block (SE Block). Table 1 provides location references for key Project components.

No federal lands would be used to carry out the Project. In addition, no federal funding has been requested and no federal support is being provided for the Project.

TABLE 1 GEOSPATIAL LOCATION DATA FOR KEY COMPONENTS

Component	UTM Zone	UTM Easting (m)	UTM Northing (m)
Main Plant Site Area Pad (Centre)	NAD83 Zone 10	571604	6130194
NW Block (Centre)	NAD83 Zone 10	574000	6127500
SE Block (Centre)	NAD83 Zone 10	579500	6122500
Rail Loadout Facility (Centre)	NAD83 Zone 10	563055	6161973
Substation	NAD83 Zone 10	587318	6151484

Notes:
m = metre; NW Block = Northwest Block; SE Block = Southeast Block

Reserves (First Nation land as defined in subsection 2(1) of the *First Nations Land Management Act* [1999]) within 200 km of the mine footprint are listed in Table 2. Table 2 is structured such that Indigenous nations are listed in alphabetical order and Reserves are ordered from closest to farthest from the Project. The closest non-Reserve federal lands are four "Project Envelopes" near Chetwynd, approximately 48 km northeast of the mine site.

TABLE 2 DISTANCE TO RESERVES

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
Blueberry River First Nations	Blueberry River 205	164
	Beaton River 204, south half	172
Doig River First Nation	Doig River 206	166
	Beaton River 204, north half	174
Halfway River First Nation	Halfway River 168	133
Horse Lake First Nation	Horse Lakes 152B	127
Lheidli T'enneh	Fort George 2	151
	Clesbaoneecheck 3	164
	Fort George Cemetery 1a	165
	Salaquo 4	172
McLeod Lake Indian Band	Hominka 11	75
	McLeod Lake 5	79
	Mackenzie 19	79
	Tacheeda Lake 14	82
	Quaw Island 25	82
	Pack River 2	82
	Tom Cook 26	83
	McIntyre Lake 23	83
	Kerry Lake East 9	85
	McLeod Lake 1	85

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
McLeod Lake Indian Band *(continued)*	Blue Lake 24	86
	Kerry Lake West 8	89
	Arctic Lake 10	96
	Weedon Carp 6	97
	Davie Lake 28	102
	Weedon Lake 27	102
	Sas Mighe 32	103
	War Lake 4	105
	Carp South Indian Reserve 7	114
	Carp Lake 3	116
	Weston Bay 20	132
	Finlay Bay 21	145
Nak'azdli Whut'en	Great Bear Lake 16	151
	Carrier Lake 15	156
	Nehounlee Lake 13	172
	Tatsadah Lake 14	172
	Uzta 7a	173
	Uzta 4	174
	Williams Prairie Meadow 1a	176
	Mission Lands Indian Reserve 17	181
	Nak'azdli	181
	Inzana Lake 12	185
	Tatselawas 2	187
	Six Mile Meadow 6	189
	Sowchea 3	190
	Sowchea 3a	191
	Beaver Islands 8	193
	Stuart Lake 9	195
	Stuart Lake 10	195
Saulteau First Nations	East Moberly Lake 169	63
Takla Lake First Nation	North Tacla Lake 12	185
Tl'azt'en Nation	Lhoh Cho 29	162
	Binche 10	174
	North Road 19	177
	Chuz Ghun 8	178

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
Tl'azt'en Nation *(continued)*	Tes Gha La 7a	180
	Binche Bun 7	182
	Binche 12	183
	Wha T'a Noo 40	186
	Chuz Teeslee 41	186
	Binche 2	188
	Tl'o Ba 22	189
	Chundoo Lh'tan La 45	191
	Tsun Tine Ah 37	192
	Sisul Tl'o K'ut 21	193
	Sisul Tl'o K'ut 14	194
	Tache 1	196
Tsay Keh Dene	Parsnips 5	74
	Tutu Creek 4	88
West Moberly First Nations	West Moberly Lake 168a	58

Note:
km = kilometre

PROJECT HISTORY

Although the Government of BC conducted limited regional exploration of the Peace River coalfields from the 1940s to the 1960s, most exploration activities at the Project site were conducted between 1979 and 1985 by BP Exploration Canada Ltd. After CTI Plus acquired the coal licences in 2019, they commenced additional exploration work at the Project site in 2020, 2023, and 2024.

STATUS AND EXISTING INFRASTRUCTURE

As the Project is still in the exploration phase, there is minimal Project-owned infrastructure on the property. Non-Project owned infrastructure within the coal licences include oil and gas facilities, most of which are suspended or abandoned. Notably, however, TC Energy Corporation's Coastal GasLink pipeline runs through a portion of the NW Block. The pipeline achieved mechanical completion in late 2023 and is currently being commissioned.

PROJECT DESCRIPTION

OVERVIEW

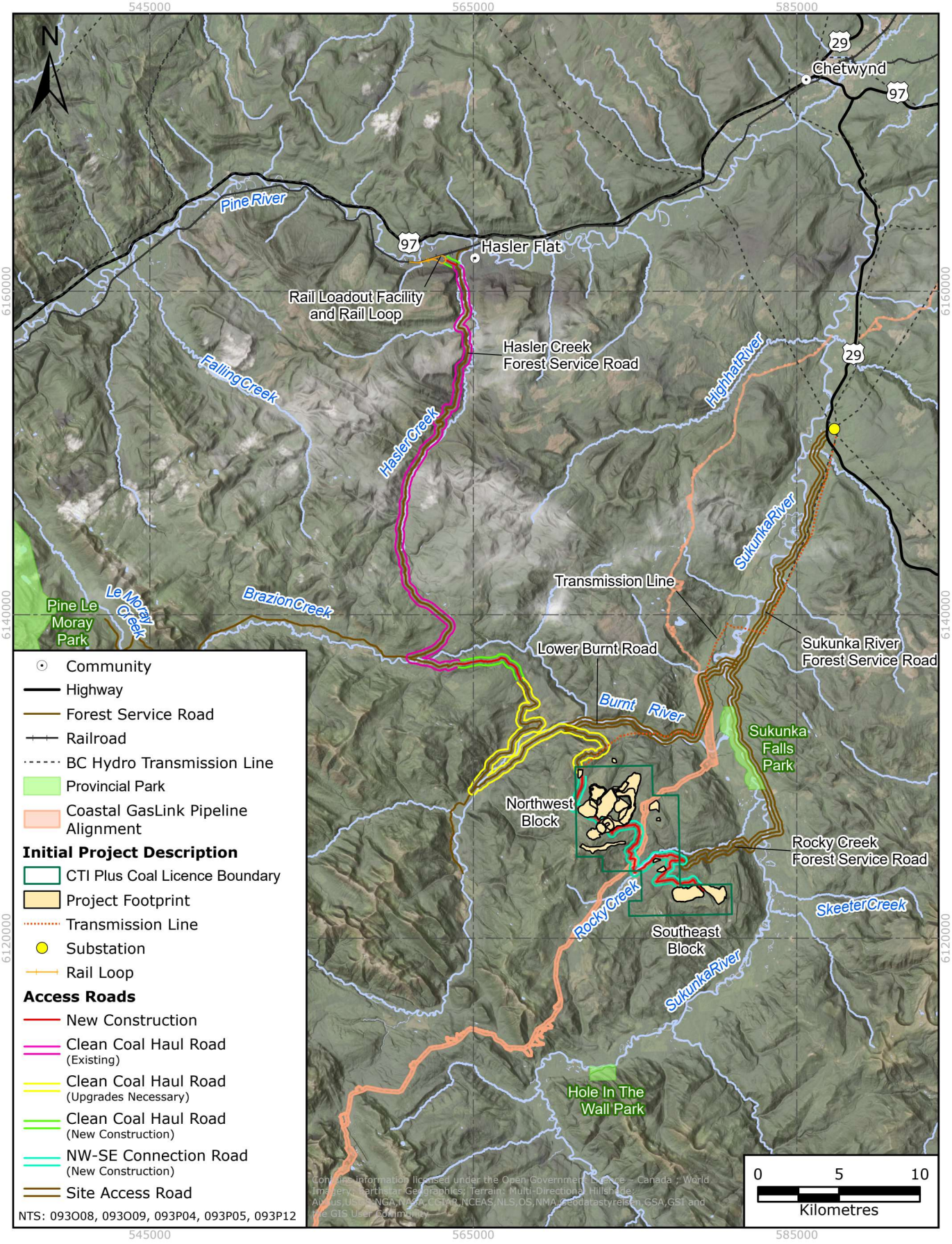
The Project design described in the IPD is based on the conceptual level mine planning in 2023 as part of the early work for the technical study that is currently underway in 2024. Additional engineering design work, optimization, and mine planning remain to be done to better define the disturbance area and equipment requirements of the Project. CTI Plus is also working with feedback from the public, regulators, Indigenous nations, and stakeholders to better define the Project design and layout. The final engineering design and layout of the proposed infrastructure will consider the results of geotechnical studies, environmental studies, and inputs from consultation and engagement.

The Project consists of two mining areas, one in the NW Block, and another in the SE Block, as shown in Figures 2 and 3. Both areas will be mined with open pit methods utilizing conventional truck and shovel equipment. The NW Block, which consists of six open pits, will be mined for approximately 11 years (Years 1 to 11). The SE Block will be mined after the NW Block for approximately 4 years (Years 11 to 14) from one single open pit. Due to the distance between the two mining blocks, the SE Block may include a satellite facility to provide the necessary maintenance and supplies. Design work is ongoing to optimize the mine plan and schedule for the Project, as well the need for additional facilities necessary for the SE Block.

Based on the initial design work, the following key Project components will be required:

- NW Block (Primary Facility):
  - Open pits (NW A, NW B, NW C, NW D, NW E, NW F)
  - Waste Rock Storage Facilities (WRSFs), both external and in-pit
  - Main Plant Site Area Pad, containing:
    - Run-of-Mine (ROM) Coal Pad
    - Coal Handling and Processing Plant (CHPP)
    - Coal Reject Dewatering Facility
    - Clean Coal Stockpile
    - Truck Maintenance Shop and Warehouse Facility
    - Mine Dry
    - Office and Administration Facility (including first aid facilities)
    - Onsite Power Distribution Network and Substation
    - Fuel Storage / Fuel Island
    - Sewage waste management (e.g., potentially septic fields)
    - Laydown Area
  - Haul and Service Roads
  - Water management structures (including non-contact water diversion ditches, catchment ditches, and sedimentation ponds)
  - Landfill
  - Topsoil and Overburden Stockpiles
  - Security Gatehouse
  - Explosive Storage Facility
- SE Block:
  - Open Pit (SE Pit)
  - NW-SE Connection Road
  - WRSF (external)
  - Water management structures (including non-contact diversion ditches, catchment ditches, and sedimentation ponds)

FIGURE 2 PROJECT LAYOUT



ERM

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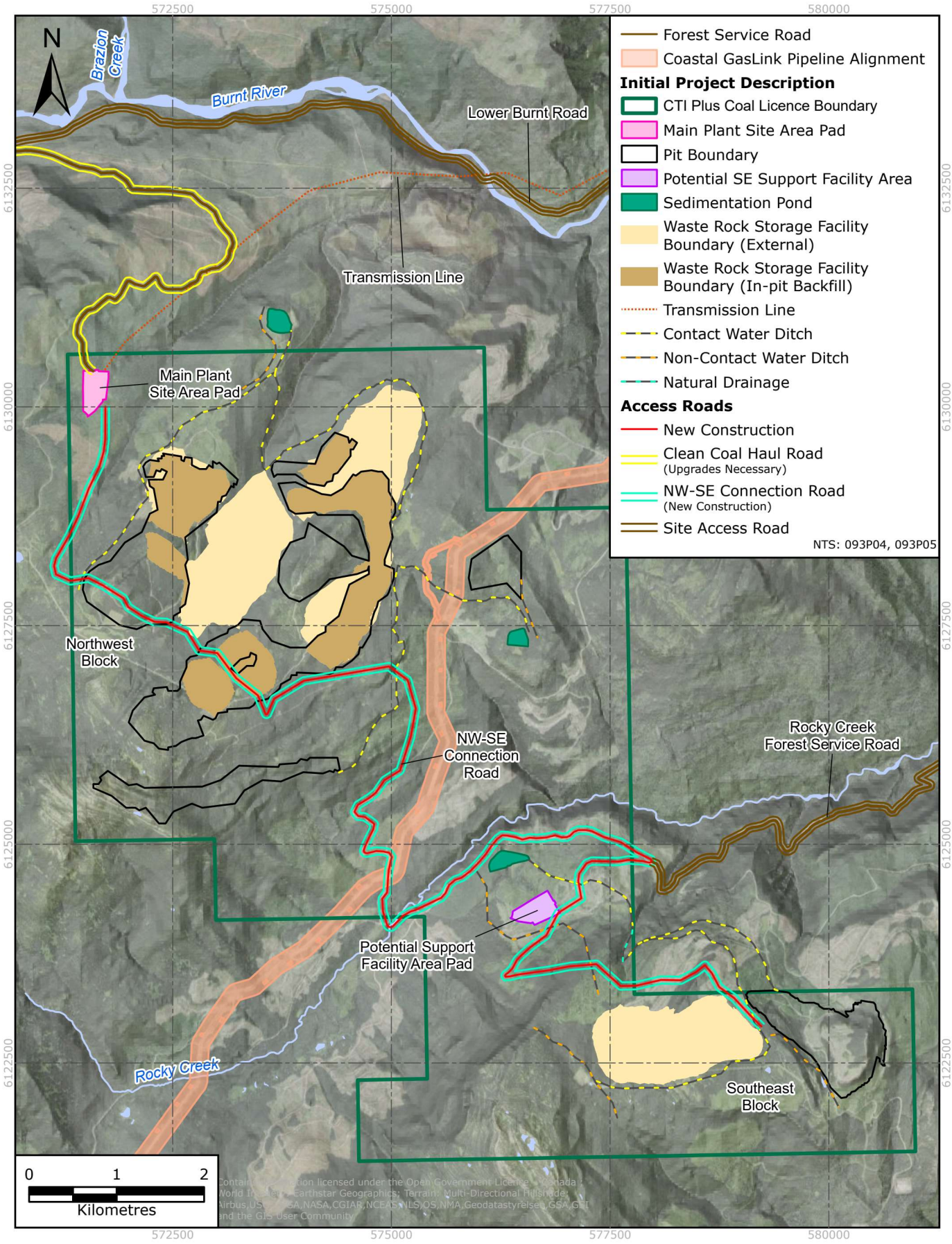
SCALE: 1:325,000 when printed at 8.5x11

FIGURE 3 NORTHWEST BLOCK AND SOUTHEAST BLOCK LAYOUT



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-015-02

DATE: 14 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:60,000 when printed at 8.5x11

- Haul and Service Roads
- Security Gatehouse
- Potential Support Facility Area Pad, which may include:
  - Secondary Laydown Area
  - Temporary Equipment Maintenance Facility
  - Fuel Storage / Fuel Island
  - Power generators
  - Temporary trailers for lunchroom / offices / first aid facilities

- Offsite Infrastructure:
  - Transmission Line and Substation
  - Site Access Roads (existing forest service roads off Highway 29)
  - Clean Coal Haul Road (from Main Plant Site Area Pad to Rail Loadout Facility, existing, upgrade, and new construction)
  - Rail Loadout Facility (potentially including a power distribution line, access road, security gate, and clean coal stockpile)
  - Rail Loop

The Project will have a mine life of approximately 14 years, plus 2 years of initial construction. The Project is divided into an initial Construction phase, Operations phase, Closure and Decommissioning phase, and Post-closure phase. Table 3 summarizes the Project phases. Additional engineering work is currently underway to better define the duration and activities of each phase.

TABLE 3 PROJECT PHASES AND ACTIVITIES

Phase	Duration	Activities
Construction	Year -2 to Year -1	• Initial clearing and soil stripping. • Construction of the mine water management structures. • Foundation preparation. • Access road construction and upgrades for the Clean Coal Haul Road and access within the coal licence boundary. • Transmission Line and Substation construction. • Construction of the Rail Loadout Facility and Rail Loop. • Construction of the initial sedimentation pond. • Construction of the mine infrastructure and CHPP in the NW Block.
Operations	Year 1 to Year 11	• Mining operations in the NW Block will take approximately 11 years to complete. During this phase, the NW Block will be mined with conventional truck and shovel equipment. • Drilling and blasting to break the waste rock into mineable sizes which can then be loaded, hauled, and placed in the WRSFs. • The ROM coal will be hauled to the CHPP for processing. Processed (clean) coal will then be hauled to the Rail Loadout Facility. • Soil stripping and clearing will occur when the operation expands into new mining areas (i.e., new open pits). • Throughout Operations, progressive reclamation of the WRSFs will occur, which includes activities such as re-sloping of the WRSFs and placing soil cover to promote vegetation.

Phase	Duration	Activities
Operations *(continued)*	Year 11 to Year 14	• Soil stripping, clearing, and construction of the NW-SE Connection Road, secondary facilities, and SE Pit in the SE Block. • Mining operations in the SE Block is scheduled to begin in Year 11 as the mining activities transition from the NW Block. SE Block mining will utilize the same mobile equipment as the NW Block, but due to the longer distance from the CHPP, it is expected that additional haul trucks may be required to meet coal haulage requirements. The preliminary schedule shows mining in the SE Block will last approximately 4 years. • Similar process as the NW Block with respect to drilling, blasting, and hauling of waste rock and coal. • Throughout Operations, progressive reclamation of the WRSFs will occur, which includes activities such as re-sloping of the WRSF and placing soil cover to promote vegetation.
Closure and Decommissioning	Year 15 to Year 16	• Decommissioning infrastructure such as the CHPP, truck maintenance shop, and admin buildings. • Final re-sloping of the remaining WRSFs. • Final placement of cover soil on the reclaimed areas based on the closure prescription. • Closure of the Open Pits. • Decommissioning the sedimentation ponds, assuming the water quality meets the regulatory requirements for discharge.
Post-closure	Year 16+	• During the Post-closure phase, ongoing water quality monitoring may be required until the water quality meets the regulatory requirement for discharge. During this period, annual inspections of the sedimentation ponds will also be required to verify the ponds are operating in accordance with the design. • Ongoing environmental and reclamation monitoring of the site.

Notes:
CHPP = Coal Handling and Processing Plant; NW Block = Northwest Block; ROM = run-of-mine; SE Block = Southeast Block; WRSF = Waste Rock Storage Facility

ACCESS, TRANSPORTATION, AND POWER

Access to the NW Block is via Highway 29, using the existing Sukunka River Forest Service Road (FSR), and the Lower Burnt Road, as shown on Figure 2 as Site Access Roads. The SE Block, which contains the SE Pit and the potential Support Facility Area Pad, will be accessible from the NW Block via a new mine haul road (NW-SE Connection Road) that will be constructed as part of the mining operation. Currently, the SE Block can be accessed via Sukunka River FSR from Highway 29 and Rocky Creek FSR. The existing Site Access Roads from Chetwynd to the NW Block and SE Block will mainly be used for transportation of site personnel, contractors, and necessary supplies and materials.

The clean coal produced from the mining operation will be hauled from the CHPP in the NW Block to a Rail Loadout Facility near the Hasler Flats area (Figure 2) via the Clean Coal Haul Road. The Clean Coal Haul Road utilizes the same alignment as existing unnamed roads and the existing Hasler Creek FSR. Engineering work is ongoing to optimize the Clean Coal Haul Road requirements and to confirm the extent of necessary upgrades.

The coal will be railed to either the bulk coal port facilities in Vancouver or to the Trigon Pacific Terminals coal port at Prince Rupert. Based on the current production schedule, there will be approximately 30 clean coal highway-type trucks moving approximately 5,000 tonnes (t) of clean coal per day operating on a 24-hour shift schedule.

An approximately 32 km long Transmission Line will be required to provide electricity for the proposed infrastructure, and potentially some units in the mining fleet (as part of CTI Plus's corporate decarbonization initiative). The proposed connection point to the existing BC Hydro transmission network is located at or near the existing Sukunka Substation (Figure 2).

OPEN PITS

Most Project infrastructure and facilities will be located in the NW Block, including six open pits with depths varying from 30 m to 60 m. Once mining in the NW Block is complete, mining in the SE Block will begin in Year 11 until Year 14. The SE Pit has an average depth of 70 m.

WASTES AND EMISSIONS

The Project will generate four types of waste material that will be managed onsite:

- Topsoil and reclamation material
- Overburden
- Waste rock
- Coal process rejects

The NW Block will have both external WRSFs and in-pit backfill structures. The external WRSFs reach a maximum height (measuring from the crest of the toe of the WRSF) of 290 m, while the highest in-pit backfill structure is approximately 150 m. The SE Block will have an external WRSF with a maximum height of 150 m that can store approximately 59 million m^3 of mine waste material. The height of each WRSF is measured from crest to toe elevation and the configuration of the WRSFs may be adjusted as part of the next phase of engineering.

Additional design work is currently underway to determine the amount of suitable topsoil and overburden that is anticipated to be available for closure planning and stockpile design. Geotechnical investigation is also planned for the summer of 2024 and 2025 to gather additional foundation information for the WRSFs, sedimentation pond embankments, and the primary infrastructure locations.

The Project is anticipated to follow similar mining methods as other coal mines in the region, and it will likely generate air emissions, water discharge, and other domestic and industrial wastes. Additional design work is currently underway to minimize the emissions and impact to the environment.

Based on the direct GHG emissions for the Operations phase, the estimated net emissions are 1,718,256 tonnes of carbon dioxide equivalent (tCO_2e). The maximum annual net GHG emissions for the Project are in Year 11, with 160,515 tCO_2e. The Project's net GHG emissions represents 0.41% of the *Climate Change Accountability Act* (2007) 2030 target and 0.03% of the Canadian 2030 target under the *Paris Agreement* (2015).

PROJECT ALTERNATIVES

CTI Plus is considering potential alternatives to the Project that are technically and economically feasible. The possible alternatives that have and are being considered are presented in Table 4.

Table 5 provides a summary of the potential alternative ways CTI Plus has considered to carry out the Project. CTI Plus will continue to investigate other alternatives as design, environmental studies, and engagement with Indigenous nations and stakeholders advance. Additionally, CTI Plus is investigating potential regional partnerships for certain onsite and offsite mine-related infrastructure needs, including the Clean Coal Haul Road, Transmission Line, CHPP, and the Rail Loop and Rail Loadout Facility.

TABLE 4 ALTERNATIVES TO THE PROJECT BEING CONSIDERED

Alternative Considered	Preferred Option
Not undertaking the Project	The "no project" alternative would not provide the positive economic effects associated with the Project's development and would not fulfill the purpose of the Project.
Changing the timing of the Project	This alternative would generally have the same environmental and socio-economic effects as those associated with proceeding with the Project as proposed.
Changing the location of the Project	The current Project site has significant advantages. It is within CTI Plus's existing coal licences, the licences have been subject to historical and ongoing exploration work, and it is near critical infrastructure (e.g. power, highway, road networks, and rail) and established communities. CTI Plus is not aware of viable alternatives to the Project, of similar scale, in northeast BC.

Notes:
BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; Project = Rocky Creek Metallurgical Coal Project

TABLE 5 ALTERNATIVES WAYS OF CARRYING OUT THE PROJECT

Component/Activity	Alternatives Considered	Preferred Option
Mining equipment	Electrifying the mining equipment instead of diesel powered.	The current assumption is to utilize diesel powered mining equipment because of equipment availability, additional infrastructure requirements for power supply, and additional capital requirements. CTI Plus is currently developing a decarbonization strategy for the Project and may be able to present the results as part of the ongoing engineering and design and in the Detailed Project Description (DPD).
Starting mining area	Start mining in the SE Block instead of NW Block.	Starting the Project in the SE Block can help minimize the overall Project disturbance in the early years. At the current production rate of 3.00 Mt of coal processing rate per year, it was determined at a high level that the SE Block could only supply enough resources for 3 to 4 years; therefore, additional capital may be required to move the infrastructure to the NW Block. In addition to that, starting in the NW Block allows a shorter haul distance to the rail loop that is currently proposed to be located in the Hasler Flat area.
CHPP location	The Project reviewed seven possible CHPP locations: two locations located in the SE Block, one location located between the two resource areas, and four located in the NW Block.	Based on the high-level economic analysis, the results showed that the two major contributing factors are the haulage distance for the clean coal and ROM. The proposed CHPP location, as shown in the site layout, minimizes the coal haulage cost and also the truck requirements for hauling the coal.
Clean coal transportation	Alternative electrified technology to reduce carbon emissions.	The current Project design assumes clean coal will be hauled from the Project site to the Rail Loadout Facility approximately 64 km away using diesel powered trucks with trailers. Distance and tonnes of material being moved likely does not support an electrified conveyor or rail line. However, electrified options exist for material transport trucks being used in this type of an application. The viability of using battery electric off-highway material transport trucks will need to be determined, as well as other possible alternatives.

Notes:
BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; DPD = Detailed Project Description; km = kilometre; Mt = megatonne; ROM = run-of-mine; NW Block = Northwest Block; Project = Rocky Creek Metallurgical Coal Project; SE = Southeast Block

REGULATORY AND POLICY FRAMEWORK

CTI Plus will utilize the IPD for entry into the assessment process of the BC EAA (2018) and federal IAA (2019).

Pursuant to sections 3(1) and 4(1) of the RPR (2019), the proposed production capacity exceeds the criteria of 250,000 t per year of clean coal, and potentially GHG emission triggers, and will require a provincial Environmental Assessment in accordance with the BC EAA (2018). The specific RPR trigger is as follows:

- Part 3 (Mine Projects), Table 6; Row 1 Coal Mines: "A new mine facility that, during operations, will have a production capacity of greater than or equal to (≥) 250 000 tonnes/year of clean coal or raw coal or both."

The potential trigger under the RPR related to GHG emissions is as follows:

- Part 1 (Interpretation), Effects Thresholds section 4(1)(a): "emits 380,000 tonnes or more per year of one or more GHG directly from project facilities, measured in carbon dioxide equivalents, determined in accordance with Part 3 of the Greenhouse Gas Emission Reporting Regulation (BC Reg 249/2015)."

The Project is also reviewable under the federal IAA (2019) Physical Activities Regulations (2019) based on daily coal production capacity over 5,000 tpd. The specific trigger is as follows:

- Section 18(a) (Mines and Metal Mills): "The construction, operation, decommissioning and abandonment of … a new coal mine with a coal production capacity of 5 000 t per day or more."

Key provincial and federal permits possibly required are listed below and will be confirmed as Project design advances and in consultation with regulatory agencies. The need for a provincial water lot lease is not anticipated.

Summary of provincial regulatory bodies and associated authorizations:

- Ministry of Energy, Mines and Low Carbon Innovation – *Mines Act* Permit;
- Ministry of Health – Water System Construction Permit, Water System Operating Permit, Food Facility—Health Approval Application, Sewage Registration;
- Ministry of Environment and Climate Change Strategy – *Environmental Management Act* permits (Air and Effluent Discharge), Hazardous Waste Registration, Fuel Storage Registration, Water Licence, Approval for Works in and about a Stream (Section 11);
- Water, Lands, and Resource Stewardship – Investigation or Inspection Permit, Site Alteration Permit, Fish Collection Permit, Wildlife Permit, Licence of Occupation; and
- Ministry of Forests – Occupant Licence to Cut, Road Use Permit.

Summary of federal regulatory bodies and associated authorizations:

- Natural Resources Canada – Explosives Permit;
- Fisheries and Oceans Canada – Fisheries Authorization;
- Environment and Climate Change Canada – Migratory Bird Permit, Species at Risk Permit, Environmental Emergency Registration;
- Canadian Nuclear Safety Commission – Nuclear Safety Authorization;
- Industry Canada – Radio Licence; and
- Transport Canada – Navigable Waters Approval, Transportation of Dangerous Goods Permits.

INDIGENOUS NATIONS AND INTERESTS

The Project overlaps the territories of Blueberry River First Nations, Doig River First Nation, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations, all of whom are Treaty 8 signatories (Government of Canada 1966). Treaty 8, signed in 1899, covers approximately 840,000 square kilometres (km^2) across BC, Alberta, Northwest Territories, and Saskatchewan (Indigenous Services Canada 2023). CTI Plus have requested the territory boundaries from Doig River First Nation, Halfway River First Nation, and Saulteau First Nations.

CTI Plus acknowledges that the Project is also close to communities that are members of the Métis Nation British Columbia, including the Kelly Lake Métis Settlement Society and four other chartered communities.

Based on initial engagements between CTI Plus and Indigenous nations, issues and concerns about the Project have included:

- Air quality, raised by West Moberly First Nations;
- Archeological sites and culturally sensitive sites, raised by West Moberly First Nations;
- Caribou and caribou habitat, raised by Halfway River First Nation, McLeod Lake Indian Band, and Saulteau First Nations;
- CGL pipeline proximity to proposed Project infrastructure, raised by Halfway River First Nation and Saulteau First Nations;
- Closure and reclamation, raised by Saulteau First Nations;
- Fish and fish habitat, raised by Halfway River First Nation;
- Land use and cumulative effects on territories and Treaty 8 Rights, raised by Saulteau First Nations;
- Selenium and mercury affecting water quality, raised by Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations;
- Traffic, raised by Horse Lake First Nation and West Moberly First Nations;
- Wildlife and wildlife habitat, raised by McLeod Lake Indian Band; and
- Worker accommodations, raised by Halfway River First Nation.

Engagement with Indigenous nations is a core component of the CTI Plus engagement program. Details on how CTI Plus plans to engage with Indigenous nations to identify and consider Indigenous interests, issues, and concerns are provided in the Rocky Creek Metallurgical Coal Engagement Plan (CTI Plus 2024).

EXISTING BIOPHYSICAL ENVIRONMENT

The description of the biophysical environment has been informed by Project-specific studies completed to date, provincial and federal datasets, and other previous environmental assessments applications completed in the region. CTI Plus initiated baseline studies in 2023 and will continue with additional studies in 2024 and 2025.

The Project is in a region of northeast BC marked by the Rocky Mountains to the west and an extension of the Prairies to the east. For the period 1981 to 2010, the mean daily temperature was 3.0 degrees Celsius (°C), and the mean daily maximum and minimum temperatures were 9.1°C and -3.0°C, respectively (ECCC 2024). The mean annual precipitation at the Chetwynd A meteorological station was 440.6 millimetres (mm).

The Project is in the Sukunka River watershed and the Sukunka River is the primary waterway in this region. The lower Burnt River flows west to east, approximately 3 km north of the NW Block, before connecting with the Sukunka River.

Rocky Creek flows from the southwest to the northeast between the NW Block and the SE Block before joining the Sukunka River approximately 5 km downstream of CTI Plus's coal licence boundary.

The Sukunka River is approximately 145 km long (BC CDC 2024), has a relatively high fisheries value, and supports several regionally important sport-fish populations. Arctic grayling (*Thymallus arcticus*), mountain whitefish (*Propsopium williamsoni*), bull trout (*Salvelinus confluentus*), rainbow trout (*Oncorhynchus mykiss*), northern pike (*Esox Lucius*), longnose dace (*Rhinichthys cataractae*), longnose sucker (*Catostomus catostomus*), and slimy sculpin (*Cottus cognatus*) are all present in the Sukunka River (MOE 2012). Species present in Rocky Creek include bull trout, finescale dace (*Chrosomus neogaeus*), longnose sucker, mountain whitefish, rainbow trout, and slimy sculpin (BC CDC 2024). Burnt River is known to have a similar fisheries assemblage as Rocky Creek, although Arctic grayling have also been observed (BC CDC 2024).

The region is home to a number of ungulate species, including moose (*Alces americanus*), Rocky Mountain elk (*Cervus canadensis nelsoni*), white-tailed deer (*Odocoileus virginianus*), mule deer (*O. hemionus hemionus*), mountain goat (*Oreamnos americanus*), thinhorn sheep (*Ovis dalli*), Rocky Mountain big-horned sheep (*Ovis canadensis*), and caribou (*Rangifer tarandus*). In the 1990s, wood bison (*Bison bison athabascae*) were reintroduced to northeastern BC. The Project is within the Southern Mountain caribou ecotype. The Local Population Unit (LPU) mapping for Southern Mountain caribou differs between the provincial and federal data. Based on draft provincial mapping, the entirety of the mine site, majority of the Site Access Road, and majority of the Transmission Line are within Matrix habitat of the Quintette LPU. The closest Core habitat for this LPU, a High Elevation Winter-Summer Range, is present approximately 8 km southeast of the Project. The Rail Loop, Rail Loadout Facility, and the Clean Coal Haul Road are within the Burnt Pine LPU, which is listed as an extirpated subpopulation (Government of BC 2024a). Based on federal caribou mapping (Environment Canada 2014), the entirety of the mine site is outside both LPU boundaries; the majority of the Site Access Road, majority of the Transmission Line, and the Substation are within the Quintette LPU; and the Rail Loop, Rail Loadout Facility, and majority of the Clean Coal Haul Road are within the Burnt Pine LPU.

EXISTING HUMAN ENVIRONMENT

The Project is located in the Peace River Regional District (PRRD). The PRRD has a population of 66,477 residents, 7 incorporated communities and 4 electoral areas that represent over 40 unincorporated communities (PRRD 2024). The seven incorporated communities within the PRRD include: Chetwynd, Tumbler Ridge, Hudson's Hope, Dawson Creek, Pouce Coupe, Taylor, and Fort St. John.

The primary industries active in the area include oil and gas, coal mining, ranching, tourism, and forestry. Since the early 1980s, oil and gas development, forestry, and coal development have been key economic drivers in the Peace River region.

Land and resource uses within the area surrounding the Project include mining, forestry, trapping, guided hunting, commercial recreation, and outdoor recreation (including fishing, hunting, camping, hiking, snowmobiling, all-terrain vehicle riding, and backcountry skiing).

There are private land parcels located along the Sukunka River FSR (Parcel Identifier [PID] 009621351), at the junction of Sukunka River FSR and Highway 29 (PIDs 004301340, 01153345, 014827115, and 025084291), and at the Rail Loadout Facility and Rail Loop next to Highway 97 (PIDs 004522273, 028084322, 014913569, and 014903121).

The Project overlaps several land-use tenures, including a tree farm licence, oil and gas right-of-way and tenures, a wind power investigative licence, four registered traplines, and three guide outfitter areas.

CTI Plus completed an Archaeological Impact Assessments in advance of the 2020 exploration work. There are areas of moderate to high archaeological potential in the NW and SE blocks, which are being further investigated in 2024 and 2025.

The Project is located within Local Health Area 531 (Peace River South), which is within Health Service Delivery Area 53 (Northeast) of the Northern Health authority, i.e., Northern Health (Northern Health 2024a). There are four hospitals in the area surrounding the Project, located in Chetwynd, Fort St. John, Dawson Creek, and Mackenzie. Two health centres (diagnostic or treatment) are located in Hudson's Hope and Tumbler Ridge (Northern Health 2024b).

No federal regional or strategic assessments, studies, or plans have been undertaken in the area surrounding the Project under sections 92, 93, or 95 of the IAA (2019).

SUMMARY OF ENGAGEMENT

CTI Plus is committed to conducting meaningful engagement with Indigenous nations that are potentially affected by the Project, or who may have an interest in the Project. Engagement will align with Indigenous nations' specific processes and protocols, be built upon the International Association of Public Participation framework for public engagement (International Association for Public Participation n.d.), and consider direction provided by BC EAO and the Agency.

In 2019, CTI Plus initiated engagement activities with Indigenous nations in Treaty 8 whose territories overlapped with the Project. At the time of preparing the IPD, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations have expressed interest in being engaged throughout the Environmental Assessment process. Other Indigenous nations will continue to be informed of the Project and provided with opportunities to engage throughout the process. CTI Plus is committed to involving potentially affected Indigenous nations to integrate their interests, concerns, and Indigenous Knowledge into the Project design, mitigation measures, and the Environmental Assessment as per their preferences and protocols.

The EAO and the Agency will be the lead regulatory agencies in the Environmental Assessment process and will establish a joint early engagement process once the IPD is accepted. CTI Plus has initiated engagement with the EAO and the Agency on the Project and will continue to identify and engage other federal and provincial government agencies, municipal governments, the public, and other stakeholders as the Environmental Assessment process advances.

Through engagement thus far, CTI Plus has begun building relationships with Indigenous nations, regulatory agencies, local governments, and the public, and has documented any issues and concerns expressed about the Project and Project activities. Issues and concerns raised during engagement will be further explored with Indigenous nations, regulatory agencies, local governments and the public, and will be considered by CTI Plus when finalizing Project design and developing Project mitigation measures.

Full details on the engagement process and activities are provided in the Rocky Creek Metallurgical Coal Engagement Plan (CTI Plus 2024).

POTENTIAL PROJECT EFFECTS

A preliminary assessment of possible Project effects is identified in Table 6. The Environmental Assessment will also consider potential effects of the environment on the Project and cumulative effects.

TABLE 6 PRELIMINARY LIST OF POSSIBLE PROJECT EFFECTS

Component	Potential Effect
Physical Environment	
Air Quality and Greenhouse Gas Emissions	• Fugitive dust emissions from material handling, blasting, vehicle, and processing can increase ambient particulate matter concentrations that can negatively affect human and wildlife health, and increases in dust fall deposition can affect vegetation and waterbodies. • Combustion emissions from vehicles and equipment can result in increases in ambient concentrations of nitrogen dioxide (NO_2), sulphur dioxide (SO_2), and other contaminants that can negatively affect human health and vegetation.
Noise and Vibration	• Noise from mining can result in increases in noise levels for human and wildlife receptors. • Vibrations from blasting and equipment may affect human and wildlife receptors. • Vibration can impact to geotechnical stability near mine site infrastructure.
Geology, Soils and Terrain	• Loss of soil profile and changes to terrain from vegetation removal, overburden removal, waste storage rock, and development of open pit mine. • Changes to soil quality due to changes in chemical and physical soil characteristics during mining and reclamation activities. • Long term storage of soils leading to loss of soil productivity.
Groundwater	• Changes to groundwater quality and quantity from metal leaching / acid rock drainage (ML/ARD) (waste piles, pits) or chemical contamination (e.g., fuel spills) or over-extraction. • Changes to groundwater quality and quantity from mining interaction with groundwater table resulting from changes to topography including disturbance to bedrock and surficial materials. • Changes to groundwater quality interactions between groundwater and mine-influenced surface water. • Changes to groundwater quality from water infiltration through waste rock, pit walls, mine pits, etc.
Hydrology and Surface Water Quality	• Changes in water quality downstream of the mine site from discharge of treated mine contact water, site runoff erosion/sedimentation, blasting residue leaching, interactions with groundwater, accidents/spills, or ML/ARD risks. • Potential effects could change concentrations of key parameters including metals, physical parameters (pH, temperature, turbidity/total suspended solids, etc.), which affect suitability to downstream uses, toxicity to aquatic life, and nutrient levels. • Changes in flow regime and sediment loading in watercourses. • Erosion/deposition associated with changes in surface water flow regime. • Changes in groundwater-surface water interactions.
Biological Environment	
Fish and Fish Habitat/ Aquatic Resources	• Direct loss or change in quantity of aquatic habitat due to mine infrastructure. • Change in quantity and quality of aquatic habitat resulting from alteration of stream flows. • Change in water quality resulting in potential health effects to aquatic resources and aquatic species (e.g., fish, benthic invertebrates, amphibians, and birds). • Change in amount, suitability, migration, and distribution of habitats (including sediment quality) for fish or aquatic organisms from road upgrades or sediment/erosion inputs at stream crossings.
Vegetation and Ecosystems	• Loss and/or alteration of ecosystems, vegetation and wetlands from land clearing and mine construction. • Health effects on vegetation due to changes in air, water, soil quality and dust deposition. • Deposition of dust on plants and soil, which can result in uptake of metals to plants, which are then consumed by wildlife.

Component	Potential Effect
Wildlife and Wildlife Habitat	• Loss and/or alteration of wildlife habitats, including migratory bird habitat, from land clearing and mine construction. • Sensory disturbance to wildlife (light and noise). • Disruption of wildlife (e.g., bears, small furbearers) seasonal movement patterns in regional and local landscapes. • Direct mortality of wildlife due to wildlife-vehicle collisions and indirect mortalities from mine operations. • Changes to population dynamics, including potentially moose, bears, small furbearers due to changes to predator-prey dynamics. • Health effects on wildlife due to changes in air, water, and soil quality. • Loss of riparian habitats affecting waterbirds and amphibians that use lentic and lotic environments.
Social, Health, Economic and Heritage Environment	
Community Infrastructure and Services, and Community Well-being	• Changes to and/or maintenance of community and individual health and well-being. • Health and safety of workers and public. • Changes to local community services and infrastructure due to either Project demand or Project-driven population change.
Human Health	• Change to particulate matter concentrations (e.g., $PM_{2.5}$ and PM_{10}) which may cause health risks to workforce. • Deposition of dust to plants and soil, which can result in uptake of metals to plants which are then consumed by people. • Health effects due to changes in water quality. • Increased levels of noise and traffic can cause stress or harm, such as sleep disturbance.
Employment and Economy	• Provincial and local economic stimulus via Project procurement and contracting for goods, services, and personal services, and consumer spending of employees. • Employment, income, and local government revenue generation and gross domestic product benefits. • Changes to employment, employment income, and training. • Changes to gross domestic product. • Changes to local government revenues and expenditures. • Changes to wage and non-wage economy due to Project-driven changes in hunting, trapping, and gathering. • Changes to local population and demographics due to Project-driven labour market changes.
Non-traditional Land Use	• Changes to opportunities associated with public and tenured land and resources, including changes to use of and/or access to certain public lands and waters and availability of certain species.
Heritage Resources	• Effects to heritage resources due to land clearing, mining, and associated infrastructure.

Component	Potential Effect
Indigenous Interests	
Sites of Historical, Archaeological or Cultural Importance	• Changes to resource integrity and increased or decreased accessibility to paleontological, archaeological, or historical sites could result during all Project phases.
Current Use of Lands and Resources for Traditional Purposes	• Change in the ability to access preferred locations used for traditional purposes. • Change to the safe and productive use of the land for traditional purposes by Indigenous nations. • Changes in presence, absence, abundance, quality or spatial distribution of freshwater, terrestrial, or other resources that are currently used for traditional purposes. • Changes in the quality of experience associated with the current use of lands and resources for traditional purposes as a result of items such as increased activity in the area, noise, dust, light, etc. • Changes to Indigenous interests including socio-economic status, community well-being and cultural sustainability (e.g., the ability to transfer Indigenous knowledge.
Indigenous Nations' Health, Social or Economic Conditions	• Potential effects are related to the Project's potential impacts to the biophysical environment and to social and economic factors (e.g., related to food security, transmission of knowledge, employment). These could, in combination, potentially affect legal, spiritual, and cultural practices; transmission of traditional culture, knowledge and law; and improve employment and economic opportunities. • Identified Indigenous interests related to fish, caribou, and surface water quality are addressed in the physical and biological environment components of this table.
Components of the Environment that are within the Legislative Authority of the Federal Government	
Fish and Fish Habitat	• Direct loss or change in quantity of aquatic habitat due to mine infrastructure. • Change in quantity and quality of aquatic habitat resulting from alteration of stream flows. • Change in water quality resulting in potential health effects to aquatic resources and aquatic species (e.g., fish, benthic invertebrates, amphibians, and birds). • Change in amount, suitability, migration, and distribution of habitats (including sediment quality) for fish or aquatic organisms from road upgrades or sediment/erosion inputs at stream crossings.
Aquatic Species at Risk (as defined by SARA)	• There are no aquatic species listed under the *Species at Risk Act* (2002) in the vicinity of the Project.
Migratory Birds	• Loss and/or alteration of migratory bird habitat, from land clearing and mine construction.
Potential Effects outside of BC and Canada or on Federal Land	
Potential Effects outside of BC within Canada	• No potential effects are anticipated outside of BC within Canada.
Potential Effects Outside of Canada	• No potential effects are anticipated outside of Canada.
Potential Effects on Federal Lands	• No potential effects are anticipated on Federal lands.

Notes:
BC = British Columbia; AIA = Archaeological Impact Assessment; ML/ARD = metal leaching / acid rock drainage; NO_2 = nitrogen dioxide; PAG = potentially acid generating; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; PM_{10} = particulate matter with a diameter of 10 microns or less; Project = Rocky Creek Metallurgical Coal Project; SARA = *Species at Risk Act* (2002); SO_2 = sulphur dioxide

CLOSING

The Rocky Creek Metallurgical Coal Project (the Project) is a proposed open pit metallurgical coal mine. The Project would provide employment and other economic benefits to communities in northeast BC.

Through the IPD, CTI Plus is providing an early design of the Project with the intention that this document will form the basis for the provincial Early Engagement Phase, which will help shape Project design and other details. The assessment process will be initiated when the EAO seeks public comments on the IPD. Regulators, agencies, Indigenous nations, and the public will have the opportunity to provide initial feedback on the Project and its components that are still being evaluated.

Following engagement on the IPD, CTI Plus's next step in the assessment process will be the preparation of the Detailed Project Description, which will present a more refined design and consider input provided by government agencies, Indigenous nations, and the public during the Early Engagement Phase.

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ACRONYMS AND ABBREVIATIONS

Agency	Impact Assessment Agency of Canada
AIA	Archaeological Impact Assessment
ANFO	ammonium nitrate–fuel oil
ARU	autonomous recording unit
BC	British Columbia
BC CDC	BC Conservation Data Centre
BP	BP Exploration Canada Ltd.
CGL	Coastal GasLink Pipeline Limited
CHPP	Coal Handling and Processing Plant
CIRNAC	Crown Indigenous Relations and Northern Affairs Canada
CN Rail	Canadian National Railway Company
CNRL	Canadian Natural Resources Ltd.
Cooperation Agreement	*Impact Assessment Cooperation Agreement between Canada and British Columbia*
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CSR	Coal Stress after Reaction
CTI Plus	CTI Plus Resources Ltd.
DCLRMP	Dawson Creek Land and Resource Management Plan
DFO	Fisheries and Oceans Canada
DPD	Detailed Project Description
EA	Environmental Assessment
EAA	*Environmental Assessment Act*
EAC/EIS Application	Application for Environmental Assessment Certificate / Environmental Impact Statement
EAO	Environmental Assessment Office
ECCC	Environment and Climate Change Canada
EMLI	Ministry of Energy, Mines and Low Carbon Innovation
Engagement Plan	Rocky Creek Metallurgical Coal Project Engagement Plan
ENV	Ministry of Environment and Climate Change Strategy
ESDC	Employment and Social Development Canada
FLNRORD	Ministry of Forests, Lands, Natural Resource Operations and Rural Development (now Ministry of Forests)
FNCEBF	First Nations Clean Energy Business Fund
FNHA	First Nations Health Authority
FSR	Forest Service Road
GBA	gender-based analysis
GHG	greenhouse gas

HC	Health Canada
IA	Impact Assessment
IAA	*Impact Assessment Act*
IAP2	International Association of Public Participation
IPD	Initial Project Description
ISC	Indigenous Services Canada
ISED	Innovation, Science and Economic Development Canada
KLMSS	Kelly Lake Métis Settlement Society
LNG	liquefied natural gas
LPU	Local Population Unit
ML/ARD	metal leaching and acid rock drainage
MNBC	Métis Nation British Columbia
MoE	Ministry of Environment
MoF	Ministry of Forests
MoH	Ministry of Health
MoTI	Ministry of Transportation and Infrastructure
N/A	not applicable
NAG	non-acid generating
NLC	Northern Lights College
NoW	Notice of Work
NRCan	Natural Resources Canada
NTS	National Topographic System
NW Block	Northwest Block
OLTC	Occupant Licence to Cut
PAG	potentially acid generating
PID	Parcel Identifier
Project	Rocky Creek Metallurgical Coal Project
PRRD	Peace River Regional District
PSC	Public Safety Canada
ROM	run-of-mine
RPR	Reviewable Projects Regulation
SACC	Strategic Assessment of Climate Change
SARA	*Species at Risk Act*
SD	School District
SE Block	Southeast Block

SNRI	Sukunka Natural Resources Inc.
Stantec	Stantec Consulting Ltd.
SW	southwest
TC	Transportation Canada
TK/TLU	Traditional Knowledge / Traditional Land Use
UNIPCC	United Nations Intergovernmental Panel on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VC	Valued Component
WAGE	Department for Women and Gender Equality
WLRS	Ministry of Water, Land and Resource Stewardship
WRSF	Waste Rock Storage Facility

SYMBOLS AND UNITS OF MEASUREMENT

≥	greater than or equal to
$	dollar
%	percent
°C	degree Celsius
CAD	Canadian dollar
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
GWh	gigawatt hour
ha	hectare
kg	kilogram
km	kilometre
km^2	square kilometre
L	litre
m	metre
m^3	cubic metre
m^3/ha	cubic metre per hectare
mm	millimetre
Mt	megatonne
$MtCO_2e$	Megatonnes of carbon dioxide equivalent
MW	megawatt
NO_2	nitrogen dioxide
PM_{10}	particulate matter with a diameter of 10 microns or less
$PM_{2.5}$	fine particulate matter with a diameter of 2.5 microns or less
Q	Quarter
SO_2	sulphur dioxide
t	tonne
t/year	tonne per year
t CH_4 / kt	tonne of methane per kilotonne
tCO_2e	tonne of carbon dioxide equivalent
tpd	tonne per day
Y	year

LIST OF CONTRIBUTORS TO THE INITIAL PROJECT DESCRIPTION

Contributors	Credentials	Relevant Experience
Yulin Li CTI Plus Resources Ltd.	PhD, PGeo	20+ years in mining industry
Krystle Batiuk ERM Consultants Canada Ltd.	MNRM, RPBio, PBiol	13+ years in impact assessment
Sarah Peerless ERM Consultants Canada Ltd.	MEM, PMP	13+ years in engagement and impact assessment
Mark Welsh ERM Consultants Canada Ltd.	MSc	12+ years in impact assessment
Gordon Chen Stantec Consulting Ltd.	PEng	17 years in mining industry
Josh Van Laerhoven Stantec Consulting Ltd.	EIT	10 years in mining industry

1. INTRODUCTION

CTI Plus Resources Ltd. (CTI Plus) is proposing to construct and operate the Rocky Creek Mine, as a new, greenfield open pit metallurgical coal mine located approximately 47 kilometres (km) southwest of Chetwynd, British Columbia (BC; Figure 1-1). The Rocky Creek Metallurgical Coal Project (the Project) has an estimated annual run-of-mine (ROM) production rate of 3.0 megatonnes (Mt), which is equivalent to 8,220 tonnes per day (tpd), or approximately 1.75 Mt of clean coal per year. The Coal Handling and Processing Plant has a theoretical maximum ROM processing rate of 10,320 tpd or 3.77 Mt per year assuming the plant is operating 24 hours per day and 365 days per year. This rate will not be realized due to maintenance requirements, downtime, and scheduled working hours. The operational mine life is approximately 14 years. Additional engineering work is underway to determine the final construction and schedule of activities, which may impact the duration of the mine life. The Project will involve construction, operation, closure, and reclamation of open pits, a coal processing plant, and associated onsite and offsite infrastructure and activities.

Pursuant to sections 3(1) and 4(1) of the Reviewable Projects Regulation (2019), the proposed production capacity exceeds the criteria of 250,000 tonnes/year (t/year) of clean coal, and potentially greenhouse gas emission triggers. The Project is therefore reviewable under the BC *Environmental Assessment Act* (EAA; 2018). The Project is also reviewable under the federal *Impact Assessment Act* (IAA; 2019) based on a production capacity in excess of 5,000 tpd.

In accordance with the *Impact Assessment Cooperation Agreement between Canada and British Columbia* (Cooperation Agreement; Government of Canada 2020), CTI Plus will ask that the Province makes a request shortly after acceptance of the Initial Project Description (IPD) to the federal Minister of Environment and Climate Change Canada (ECCC) to approve the substitution of the BC Environmental Assessment (EA) process for the federal Impact Assessment (IA) process. If the substitution request is approved by the federal Minister, the Province would commit to meet the legislative requirements of the federal IA process for the remainder of the assessment process and fulfil the conditions for substitution under the IAA set out in the Cooperation Agreement and the Substitution Decision. CTI Plus will develop an Application for an Environmental Assessment Certificate / Environmental Impact Statement (EAC/EIS Application) for the Project and submit it for review pursuant to the BC EAA (2018) and federal IAA (2019). At the end of the EA process, the BC Environmental Assessment Office (EAO) will provide its report to both the provincial and federal ministers for their consideration and decision.

The purpose of the IPD is to initiate the EA process for the Project. Through the IPD, CTI Plus is providing an early Project overview intended to support engagement with Indigenous nations, government agencies, and the public to determine EA process requirements and the final design of the Project.

As required under the BC EAA Early Engagement Policy (BC EAO 2019), a companion document to this IPD is the “Rocky Creek Metallurgical Coal Project Engagement Plan” (the Engagement Plan; CTI Plus 2024); the key parts of which are summarized in this document. As required by the Impact Assessment Agency of Canada (the Agency), the IPD includes a summary of engagement activities (see Section 9).

FIGURE 1-1 PROJECT LOCATION

ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-012-01

DATE: 12 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:1,300,000 when printed at 8.5x11

2. PROPONENT INFORMATION

The Project proponent is CTI Plus, a progressive corporation committed to responsible mining, from exploration to development, with a primary focus on metallurgical coal mines and energy resources in Canada. CTI Plus is a private company headquartered in Calgary, Alberta. The proponent's contact information is provided below:

Head Office:	717 7 Ave SW Suite 970 Calgary, Alberta, T2P 0Z3 Phone: +1 403 572 0102 Website: https://www.ctiplusresources.com
Chief Executive Officer:	Yulin Li, PhD, P. Geo (AB, BC) Chief Executive Officer & Chief Geoscientist CTI Plus Resources Ltd. Email: yulin.li@ctiplusres.com Phone: +1 403 660 5976
Principal Contact for the Effects Assessment:	Judy Matkaluk, P. Geo (AB, BC) Manager of Regulatory Affairs and Engagement CTI Plus Resources Ltd. Email: judy.matkaluk@ctiplusres.com Phone: +1 604 992 3711

3. PROJECT OVERVIEW

This section provides an overview of the Project, including the need for and purpose of the Project; its location, mining history, and current status; geology and mineralization; and mineral tenure. No federal funding has been requested and no federal support is being provided for the Project. In addition, no federal lands would be used to carry out the Project.

3.1 PROJECT NEED, PURPOSE, AND BENEFITS

CTI Plus is proposing to develop a greenfield metallurgical coal mine near the District of Chetwynd, BC (Figure 1-1). British Columbia has world class metallurgical coal deposits that are primarily found in the Kootenay and Peace Regions with over 95% of the coal mines in the province producing metallurgical coal. Large-scale coal exploration in the region began in the late 1960s. Metallurgical coal mining continues to be an important component of the regional economy with several active and proposed mines in the region.

The global steel demand forecast continues to grow with billions of metric tons of steel required to meet future infrastructure, electrification, and renewable energy demands. Metallurgical coal is crucial in the steel production process.

The Project will benefit the local region, province, and Canada through local employment and procurement opportunities, skills and training opportunities for Indigenous nations and local communities, as well as through tax payments. With an estimated construction period of 2 years, and a mine life of approximately 14 years, the Project will bring added stability to the region's economic outlook.

3.2 PROJECT LOCATION

The Project is located approximately 47 km southwest of the city of Chetwynd, BC, on provincial Crown land within the Peace River Regional District (PRRD). The Project's licence boundaries are intersected by Rocky Creek, which administratively divides the Project into the Northwest Block (NW Block) and the Southeast Block (SE Block). Table 3.2-1 provides location references for key Project components. The NW Block and SE Block are described further below.

TABLE 3.2-1 GEOSPATIAL LOCATION DATA FOR KEY COMPONENTS

Component	UTM Zone	UTM Easting (m)	UTM Northing (m)
NW Block (Centre)	NAD83 Zone 10	574000	6127500
SE Block (Centre)	NAD83 Zone 10	579500	6122500
Main Plant Site Area Pad (Centre)	NAD83 Zone 10	571604	6130194
Rail Loadout Facility (Centre)	NAD83 Zone 10	563055	6161973
Substation	NAD83 Zone 10	587318	6151484

Notes:
m = metre; NW Block = Northwest Block; SE Block = Southeast Block

Reserves (First Nation land as defined in subsection 2(1) of the *First Nations Land Management Act* [1999]) within 200 km of the mine footprint are listed in Table 3.2-2. Table 3.2-2 is structured such that Indigenous nations are listed in alphabetical order and Reserves are ordered from closest to farthest from the Project. The closest non-Reserve federal lands are four "Project Envelopes" near Chetwynd, approximately 48 km northeast of the mine site.

TABLE 3.2-2 DISTANCE TO RESERVES

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
Blueberry River First Nations	Blueberry River 205	164
	Beaton River 204, south half	172
Doig River First Nation	Doig River 206	166
	Beaton River 204, north half	174
Halfway River First Nation	Halfway River 168	133
Horse Lake First Nation	Horse Lakes 152B	127
Lheidli T'enneh	Fort George 2	151
	Clesbaoneecheck 3	164
	Fort George Cemetery 1a	165
	Salaquo 4	172
McLeod Lake Indian Band	Hominka 11	75
	McLeod Lake 5	79
	Mackenzie 19	79
	Tacheeda Lake 14	82
	Quaw Island 25	82
	Pack River 2	82
	Tom Cook 26	83
	McIntyre Lake 23	83
	Kerry Lake East 9	85
	McLeod Lake 1	85
	Blue Lake 24	86
	Kerry Lake West 8	89
	Arctic Lake 10	96
	Weedon Carp 6	97
	Davie Lake 28	102
	Weedon Lake 27	102
	Sas Mighe 32	103
	War Lake 4	105
	Carp South Indian Reserve 7	114
	Carp Lake 3	116
	Weston Bay 20	132
	Finlay Bay 21	145

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
Nak'azdli Whut'en	Great Bear Lake 16	151
	Carrier Lake 15	156
	Nehounlee Lake 13	172
	Tatsadah Lake 14	172
	Uzta 7a	173
	Uzta 4	174
	Williams Prairie Meadow 1a	176
	Mission Lands Indian Reserve 17	181
	Nak'azdli	181
	Inzana Lake 12	185
	Tatselawas 2	187
	Six Mile Meadow 6	189
	Sowchea 3	190
	Sowchea 3a	191
	Beaver Islands 8	193
	Stuart Lake 9	195
	Stuart Lake 10	195
Saulteau First Nations	East Moberly Lake 169	63
Takla Lake First Nation	North Tacla Lake 12	185
Tl'azt'en Nation	Lhoh Cho 29	162
	Binche 10	174
	North Road 19	177
	Chuz Ghun 8	178
	Tes Gha La 7a	180
	Binche Bun 7	182
	Binche 12	183
	Wha T'a Noo 40	186
	Chuz Teeslee 41	186
	Binche 2	188
	Tl'o Ba 22	189
	Chundoo Lh'tan La 45	191
	Tsun Tine Ah 37	192
	Sisul Tl'o K'ut 21	193
	Sisul Tl'o K'ut 14	194
	Tache 1	196

Indigenous Nation	Reserve Name	Distance from the Project Footprint (km)
Tsay Keh Dene	Parsnips 5	74
	Tutu Creek 4	88
West Moberly First Nations	West Moberly Lake 168a	58

Note:
km = kilometre

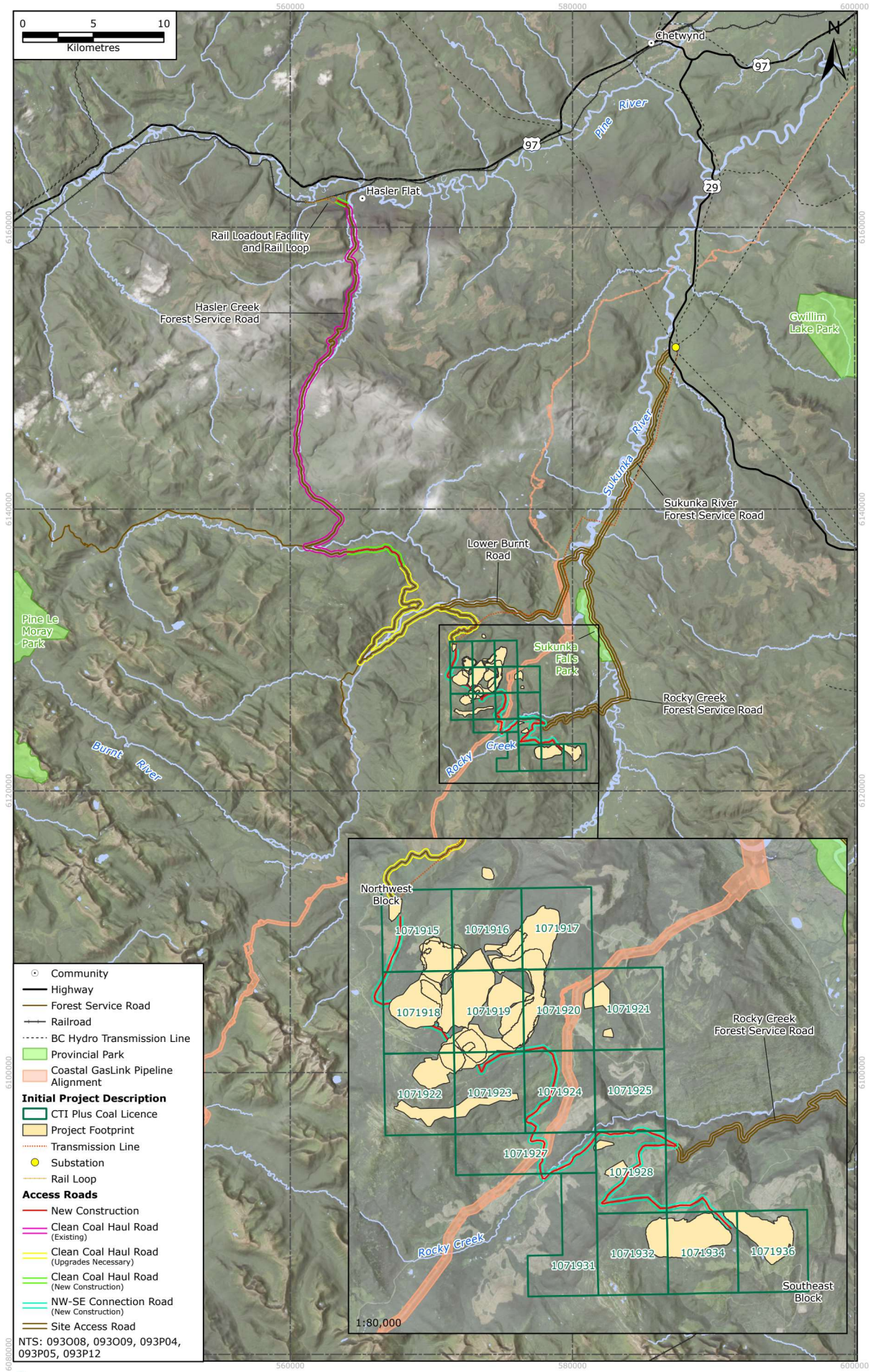
The Project consists of 17 coal licences, as shown in Table 3.2-3 and illustrated on Figure 3.2-1. Current licence information has been sourced from the BC Mineral Titles Online website (Province of BC 2024a), which provides confirmation of CTI Plus's licence status.

TABLE 3.2-3 ROCKY CREEK COAL LICENCES CONTROLLED BY CTI PLUS RESOURCES LTD.

Title Number	Owner	Title Type	Title Sub Type	Issue Date	Good to Date	Status	Area (ha)
1071915	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.59
1071916	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.59
1071917	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.59
1071918	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.72
1071919	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.72
1071920	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.71
1071921	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.71
1071922	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.84
1071923	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.84
1071924	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.84
1071925	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.84
1071927	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.93
1071928	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	294.96
1071931	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	295.07
1071932	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	295.09
1071934	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	295.09
1071936	286671 (100%)	Coal	Licence	2019/OCT/17	2024/OCT/17	Good	295.09

Notes:
ha = hectare
Source: BC Mineral Titles Online Website, 20 February 2024 (Province of BC 2024a)

FIGURE 3.2-1 COAL LICENCES



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-012-02

DATE: 08/12/2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:250,000 when printed at 11x17

3.3 PROJECT HISTORY, STATUS, AND EXISTING INFRASTRUCTURE

3.3.1 PROJECT HISTORY

Although the Government of BC conducted limited regional exploration of the Peace River Coalfield from the 1940s to the 1960s, most exploration work at the Project site has occurred between 1979 and 1985 and more recently in 2020, 2023, and 2024.

1979 to 1985—BP Exploration Canada Ltd.

BP Exploration Canada Ltd. (BP) conducted various exploration activities in the area between 1979 and 1985 (Stantec 2021). These activities included field mapping, trenching, exploration drilling, down hole geophysical logging, resistivity surveys, and coal sampling and analyses. These activities led BP to the conclusion that some of the coal occurrences may be amenable to extraction using surface mining methods.

2020—CTI Plus Resources Ltd.

After CTI Plus acquired the coal licences in 2019, CTI Plus commenced an exploration program in 2020 (Stantec 2021). The program focused on the potential resource areas in the NW Block and SE Block to expand on historical drilling data, refine geological structure interpretation and coal seam correlation, increase the confidence of the coal resource estimate, and develop 3D geological models.

The 2020 exploration program comprised 25 fully cored holes and 8 rotary holes with a total of 5,614.15 m of core from the NW Block, and 25 fully cored holes and 11 rotary holes with a total of 5,536.46 m of core from the SE Block. CTI Plus contracted Foraco Canada Ltd. and Geotech Drilling Services Ltd. to complete the drilling utilizing diamond core rigs and air rotary rigs. Drillholes were geophysically logged with a standard logging suite including caliper, gamma, deviation, compensated bulk density, neutron, and resistivity. Acoustic and Optical Televiewer's drillhole logging were completed from 11 selected open holes in the NW Block and SE Block combined.

A total of 178 and 263 coal core samples were collected in the NW Block and SE Block, respectively. Coal samples were subject to a float and sink test, proximate analysis, ultimate analysis, ash analysis, rheology test, and petrography analysis. A total of 436 rock samples were collected from 45 core holes for geochemical testing and analysis purposes. Partial Acid Base Accounting, Whole Rock Analysis-x-ray fluorescence, and Ultratrace Metals analysis were completed on those samples.

As part of the geotechnical site investigation program, 16 cored boreholes were selected for geotechnical logging and testing. The geotechnical site investigation program includes onsite core logging, point-load testing, and unconfined strength testing. Nine holes were selected for the hydrogeological testing and groundwater monitoring well installation.

Non-drilling related exploration activity included outcrop sampling and trenching. Outcrop coal samples were exposed and collected along existing road cuts in both the NW and SE blocks, along new access roads, and within drill pads. A limited number of trenches were also dug using an excavator to fully expose the coal seam.

At the completion of the 2020 exploration program, an NI 43-101 coal resource report was completed by Stantec Consulting Ltd. (Stantec 2021).

2023—CTI Plus Resources Ltd.

CTI Plus conducted an exploration program in 2023, which consisted of large diameter core drilling for bulk sampling and groundwater monitoring wells installation, testing and monitoring. The core size of the large diameter drill is 9 inches. A total of 240.2 m of 9-inch core was retrieved from 14 drillholes, carried out in both the NW and SE blocks. The drillhole depths in the NW Block range from 23.5 m to 64.8 m, with an average of 50.4 m. The drillhole depths in the SE Block range from 33.2 m to 73 m, with an average of 53.2 m.

A total of 41 coal seam composites were analysed as part of a coal quality program. The purpose of the coal quality program was to test the metallurgical properties of the clean coal and to collect detailed float and sink data for use in coal preparation plant design. The coal testing laboratories used during this program were Birtley Coal and Minerals Testing in Calgary, Alberta; CanmetENERGY in Ottawa, Ontario; and Pearson Coal Petrography in Victoria, British Columbia. Sole Heated Oven test results as of April 11, 2024, for the Coal Stress after Reaction (CSR) ranges from 50 to 72, with an average of 64. The CSR results indicate that the coal quality of the project is hard coking coal; however, the coal quality needs to be further verified by larger scale Moveable Wall Oven tests.

As part of the development of a groundwater monitoring network, nine existing boreholes were completed as groundwater monitoring wells in September 2023. Groundwater monitoring wells were constructed as either individual monitoring wells, nested monitoring wells with two screened intervals, or vibrating wire piezometer installations with three or four monitoring intervals. In total, the current groundwater monitoring well network monitors 17 intervals across the nine well locations.

Hydrogeological testing was completed at most of the existing groundwater monitoring wells shortly after their completion. Results of the completed testing will be analyzed later in 2024, once further data is collected as part of 2024 field work.

3.3.2 STATUS AND EXISTING INFRASTRUCTURE

The Project has not been the subject of previous EA proposals or processes. To date, CTI Plus has undertaken exploration programs, provided a coal resource estimate based on drilling results (Stantec 2021), and completed metallurgical test work. Current condition environmental (baseline) studies have also been started, which are described in Section 7.

As the Project is still in the exploration phase, there is minimal Project-owned infrastructure within the coal licences. Non-Project owned infrastructure within the coal licences include oil and gas facilities, most of which are suspended or abandoned. Notably, however, TC Energy Corporation's Coastal GasLink (CGL) pipeline runs through a portion of the NW Block (Figure 3.2-1). The pipeline achieved mechanical completion in late 2023 and is currently being commissioned.

To CTI Plus's knowledge, there is no known contamination on the Project site.

3.4 EXISTING PERMITS AND APPROVALS

CTI Plus holds the Rocky Creek coal licences, a valid Notice of Work (NoW), as well as several permits or authorizations related to the exploration program, as follows:

- *Mines Act* (1996) Permit (CX-9-062);
- Occupant Licence to Cut (L51690 and L51725);
- Heritage Inspection Permit (#2020-0183);

- Various authorizations under the *Water Sustainability Act* (2014); and
- Fish Collection Permit (#FJ21-618000).

3.5 GEOLOGY AND MINERALIZATION

The Rocky Creek deposit is in the northwest extension of the Rocky Mountain Thrust Belt (Stantec 2021). Regionally, northwest/southeast trending folds and southwest dipping thrust faults occur, one of which is termed the Rocky Creek Thrust Fault. The Rocky Creek Thrust Fault occurs to the east of the NW and SE blocks. The regional folding is characterized by broad, open synclines commonly adjacent to fault zones. Folds typically plunge gently to the southeast. Fold axes commonly have undulating profiles that can give rise to double-plunging canoe-shaped synclines.

Upper Jurassic to Lower Cretaceous sediments of the Minnes Group and Lower Cretaceous sediments of the Bullhead and Fort St. John groups occur in this region; however, within the NW and SE blocks, the Gething Formation of the Bullhead Group is the geological zone of interest (Stantec 2021). Figure 3.5-1 illustrates the local geology of the Project site and adjacent lands, and shows where the Gething Formation (lKBuGe) of the Bullhead Group and the Moosebar Formation (uJKMu) of the Fort St. John Group are present. Figure 3.5-2 presents a representative stratigraphic chart of the Property.

The NW Block and SE Block contain multiple coal seams within the Lower Gething Formation (Stantec 2021; Figure 3.5-2). The Lower Gething coal seams within the NW Block include, from youngest to oldest, the C, B, A, Pump, Grizzly, Meadow, Bumpy, and Lake seams. Regarding the SE Block, the Lower Gething coal seams, from youngest to oldest, intercepted by drill holes during CTI Plus's 2020 drilling program, include the C, B, and Lake seams. The deeper and older coal plies, intersected by the drill holes, are part of the Minnes Group. In the NW Block, these coal plies are part of the Apex Seam and in the SE Block, these coal plies are part of the Bickford Seam.

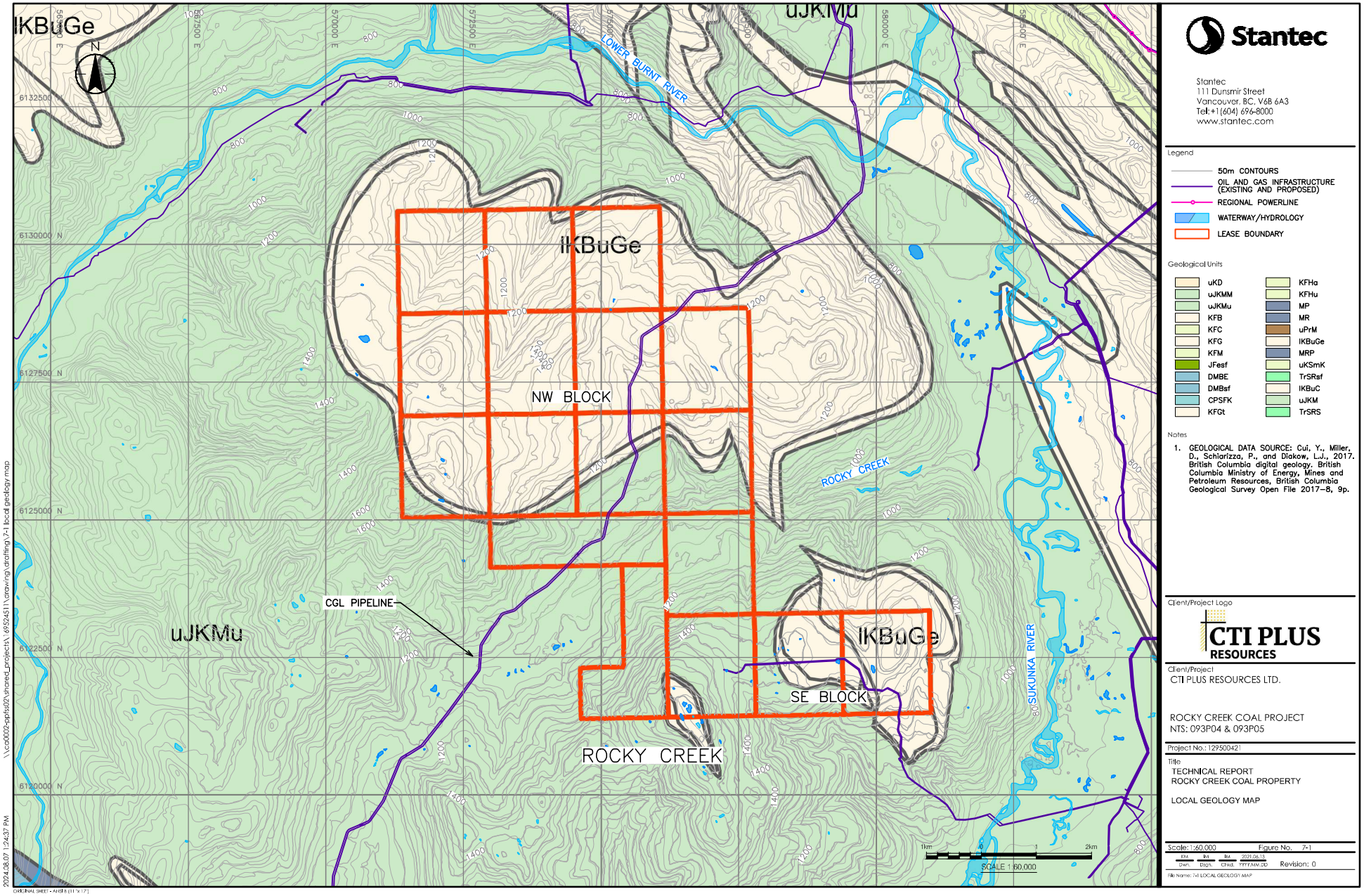
3.5.1 GEOCHEMISTRY

The release of selenium from waste rock has been identified to occur at some coal mines in Western Canada. The main coal-bearing units in the Foothills Region east of the Rocky Mountains are the Gates and Gething formations. These units are associated with elevated concentrations of selenium at other mine sites (Conuma Coal Resources Ltd. 2019).

In accordance with the Guidelines for Metal Leaching and Acid Rock Drainage at Minesites in British Columbia (BC Ministry of Energy and Mines 1998), CTI Plus is undertaking a waste characterization program on drill core samples and other materials (e.g., coarse coal rejects) from the 2020 exploration program. The results of this work will be used to improve the understanding of the geochemical behavior, including selenium mobility, of mine materials to be produced by the Project.

The geochemical testing results will be used to develop geochemical source terms, which will be incorporated into a site-wide water and load balance model that will be presented in the EAC/EIS Application. These models will be used to estimate water discharge quality to the receiving environment and inform the need for mitigation, if necessary.

FIGURE 3.5-1 LOCAL GEOLOGY

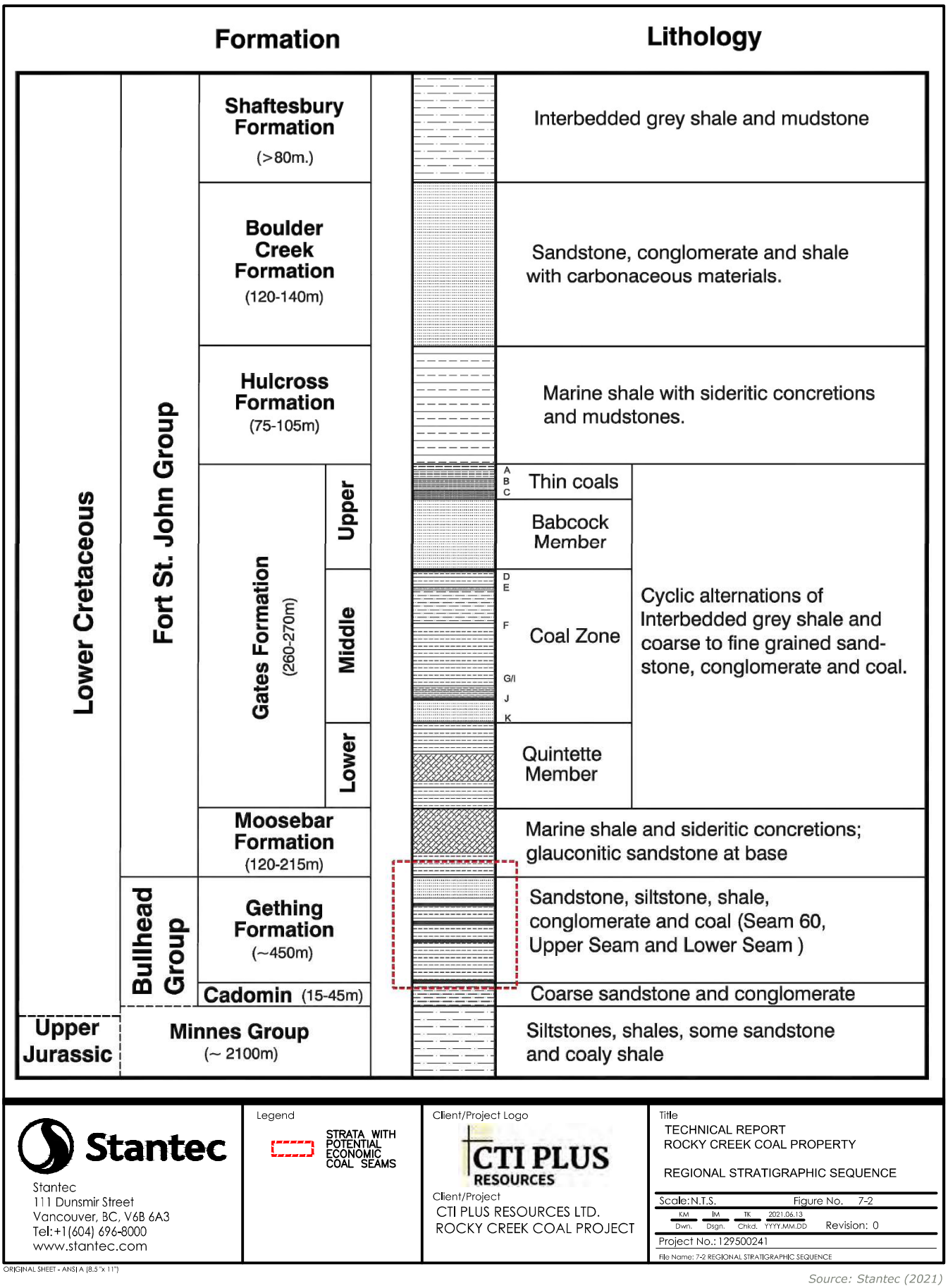


Source: Stantec (2021)

ERM

CLIENT: CTI Plus Resources Ltd.
GRAPHICS NUMBER: MFP-24ERM-007:1

FIGURE 3.5-2 STRATIGRAPHIC SECTION



c:\users\kimak\desktop\xref-bind\210607-cti\7-2 regional stratigraphic sequence

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www.stantec.com

Legend
STRATA WITH POTENTIAL ECONOMIC COAL SEAMS

Client/Project Logo
CTI PLUS RESOURCES

Client/Project
CTI PLUS RESOURCES LTD.
ROCKY CREEK COAL PROJECT

Title
TECHNICAL REPORT
ROCKY CREEK COAL PROPERTY

REGIONAL STRATIGRAPHIC SEQUENCE

Scale: N.T.S. Figure No. 7-2

KM	IM	TK	2021.06.13
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Revision: 0

Project No.: 129500241

File Name: 7-2 REGIONAL STRATIGRAPHIC SEQUENCE

ORIGINAL SHEET - ANSI A (8.5"x 11")

Source: Stantec (2021)

4. PROJECT DESCRIPTION

This section provides an overview of major Project components and activities. The Project design described in this IPD is based on the conceptual level mine planning in 2023 as part of the early work for the technical study that is currently underway in 2024. Additional engineering design work, optimization, and mine planning remain to be done to better define the disturbance area and equipment requirements of the Project. CTI Plus is also planning to complete a geotechnical site investigation program to better define the foundation information of the proposed infrastructure such as the sedimentation ponds and WRSFs. CTI Plus is also working with feedback from the public, regulators, Indigenous nations, and stakeholders to better define the Project design and layout. The final engineering design and layout of the proposed infrastructure will consider the results of geotechnical studies, environmental studies, and inputs from consultation and engagement.

4.1 PROJECT INFRASTRUCTURE

The Project consists of two mining areas, one in the NW Block, and another in the SE Block, as shown in Figures 4.1-1 and 4.1-2. Both areas will be mined with open pit methods utilizing conventional truck and shovel equipment. The NW Block, which consists of six open pits, will be mined for approximately 11 years (Years 1 to 11). The SE Block will be mined after the NW Block for approximately 4 years (Years 11 to 14) from one single open pit. Due to the distance between the two mining blocks, the SE Block may include a satellite facility to provide the necessary maintenance and supplies. Design work is ongoing to optimize the mine plan and schedule for the Project, as well the need for additional facilities necessary for the SE Block.

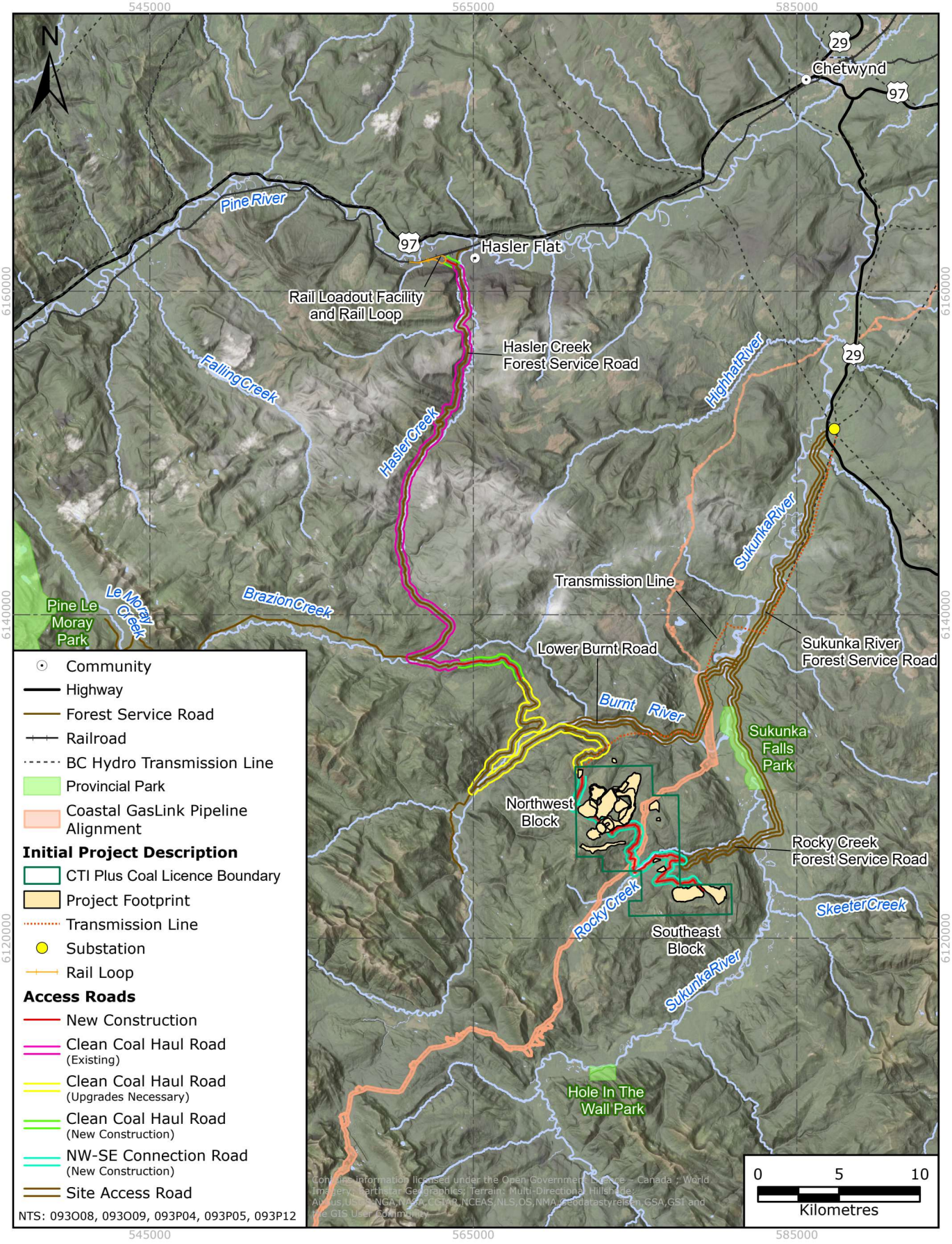
Figure 4.1-1 shows the proposed site layout of the Project and includes the offsite infrastructure (e.g., Transmission Line, Site Access Roads, Rail Loop), Figure 4.1-2 shows the site layout of the NW Block area and SE Block area, which illustrates the approximate total disturbance of the Project within the coal licence boundary.

Based on the initial design work, the following key Project components will be required:

- NW Block (Primary Facility):
  - Open pits (NW A, NW B, NW C, NW D, NW E, NW F);
  - Waste Rock Storage Facilities (WRSFs), both external and in-pit;
  - Main Plant Site Area Pad, containing:
    - Run-of-Mine (ROM) Coal Pad,
    - Coal Handling and Processing Plant (CHPP),
    - Coal Reject Dewatering Facility,
    - Clean Coal Stockpile,
    - Truck Maintenance Shop and Warehouse Facility,
    - Mine Dry,
    - Office and Administration Facility (including first aid facilities),
    - Onsite Power Distribution Network and Substation,
    - Fuel Storage / Fuel Island,

    - Sewage waste management (e.g., potentially septic fields), and
    - Laydown Area;
  - Haul and Service Roads;
  - Water management structures (including non-contact water diversion ditches, catchment ditches, and sedimentation ponds);
  - Landfill;
  - Topsoil and Overburden Stockpiles;
  - Security Gatehouse; and
  - Explosive Storage Facility;
- <u>SE Block:</u>
  - Open Pit (SE Pit);
  - NW-SE Connection Road;
  - WRSF (external);
  - Water management structures (including non-contact diversion ditches, catchment ditches, and sedimentation ponds);
  - Haul and Service Roads;
  - Security Gatehouse;
  - Potential Support Facility Area Pad, which may include:
    - Secondary Laydown Area,
    - Temporary Equipment Maintenance Facility,
    - Fuel Storage / Fuel Island,
    - Power generators, and
    - Temporary trailers for lunchroom / offices / first aid facilities;
- <u>Offsite Infrastructure:</u>
  - Transmission Line and Substation;
  - Site Access Roads (existing forest service roads off Highway 29);
  - Clean Coal Haul Road (from Main Plant Site Area Pad to Rail Loadout Facility, existing, upgrade, and new construction);
  - Rail Loadout Facility (potentially including a power distribution line, access road, security gate, and clean coal stockpile); and
  - Rail Loop.

FIGURE 4.1-1 PROJECT LAYOUT



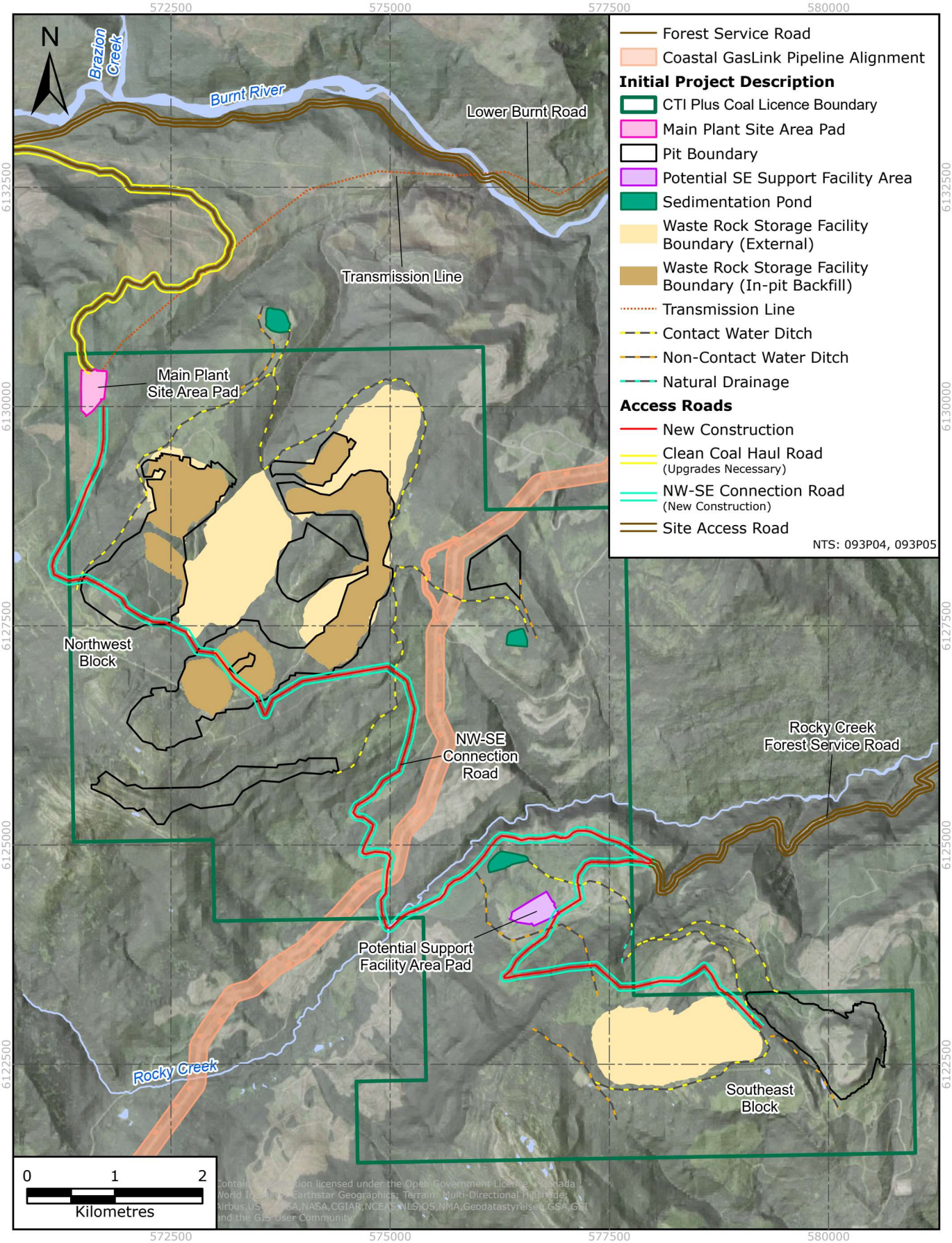
ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-015-01

DATE: 14 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:325,000 when printed at 8.5x11

FIGURE 4.1-2 NORTHWEST BLOCK AND SOUTHEAST BLOCK LAYOUT



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-015-02

DATE: 14 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:60,000 when printed at 8.5x11

The current mine plan has a mine life of approximately 14 years, mining 3.0 Mt of ROM coal per year, producing approximately 1.75 Mt of clean coal per year. Approximately 170 million cubic meters (m^3) of waste material (overburden, blasted mine rock, and coal process rejects) will be generated for the life of the operation. Table 4.1-1 summarizes the estimated footprint of the major infrastructure for the Project.

TABLE 4.1-1 PROJECT COMPONENT FOOTPRINT

Project Component	Footprint Area (ha)
Open Pits	686
External WRSFs	397
In-Pit Waste Rock Storage	254
Main Plant Site Area Pad[1]	12
Sedimentation Ponds	32
Transmission Line	64
Offsite New Road Construction	11
Rail Loop and Rail Loadout Facility	33
Total[2]	**1,235**

Notes:
ha = hectare; WRSF = Waste Rock Storage Facility
[1] Excludes the potential satellite facility in the SE Block that is currently being evaluated.
[2] Excludes the Site Access Roads and Clean Coal Haul Road where existing Forest Service Roads will be used. Excludes haul roads within the coal licence boundary. Excludes in-pit WRSF because these areas overlap with the open pit areas.

4.1.1 ACCESS, TRANSPORTATION, AND POWER

The main access to the property is by traveling from Chetwynd south on Highway 29 to the NW Block via the existing Sukunka River Forest Service Road (FSR) and Lower Burnt Road, as shown on Figure 4.1-1 as Site Access Roads. The SE Block, which contains the SE Pit and the potential Support Facility Area Pad, will be accessible from the NW Block via a new mine haul road (NW-SE Connection Road) that will be constructed as part of the mining operation. Currently, the SE Block can be accessed via Sukunka River FSR from Highway 29 and Rocky Creek FSR. The existing Site Access Roads from Chetwynd to the NW Block and SE Block will mainly be used for transportation of site personnel, contractors, and necessary supplies and materials.

The clean coal produced from the mining operation will be hauled from the CHPP (at the Main Plant Site Area Pad in the NW Block) to a Rail Loadout Facility near the Hasler Flats area in the Pine River valley, located approximately 64 km to the north of the Project site (Figure 4.1-1), via the Clean Coal Haul Road. The Clean Coal Haul Road utilizes the same alignment as an existing unnamed road for approximately 6 km north to the Lower Burnt Road. From that point, the clean coal haul traffic will turn west along the Lower Burnt Road to an existing crossing where the road crosses over to the north bank of the Burnt River. All the existing crossings will be reviewed as part of the next phase of engineering to determine whether upgrades will be required. From here, the Clean Coal Haul Road continues along an existing unnamed road that will require upgrading and widening, and approximately 4.5 km of road that will need to be constructed (Figure 4.1-1). The remaining portion of the Clean Coal Haul Road follows the existing Hasler Creek FSR and

terminates at the location of a proposed Rail Loop and Rail Loadout Facility located on the south side of the Pine River along the existing Canadian National (CN) rail line. Engineering work is ongoing to optimize the Clean Coal Haul Road requirements and to confirm the extent of necessary upgrades.

The coal will be railed to either the bulk coal port facilities in Vancouver or to the Trigon Pacific Terminals coal port at Prince Rupert.

Based on the current production schedule, there will be approximately 30 clean coal highway-type trucks moving approximately 5,000 tonnes (t) of clean coal per day operating on a 24-hour shift schedule.

An approximately 32-kilometre-long Transmission Line will be required to provide electricity for the proposed infrastructure, and potentially some units in the mining fleet (as part of CTI Plus's corporate decarbonization initiative). The proposed connection point to the existing BC Hydro transmission network is located at or near the existing Sukunka Substation. The first section of the proposed Transmission Line alignment will follow the existing Brule Mine transmission line, continues southwest across the Burnt River, and connects to the Project power distribution network via a substation located adjacent to the CHPP. CTI Plus is currently working with BC Hydro and tenure holders (e.g., gas pipeline operators) who could be affected by the Transmission Line right-of-way to confirm the constructability of the proposed Transmission Line.

4.1.2 OPEN PIT DEVELOPMENT

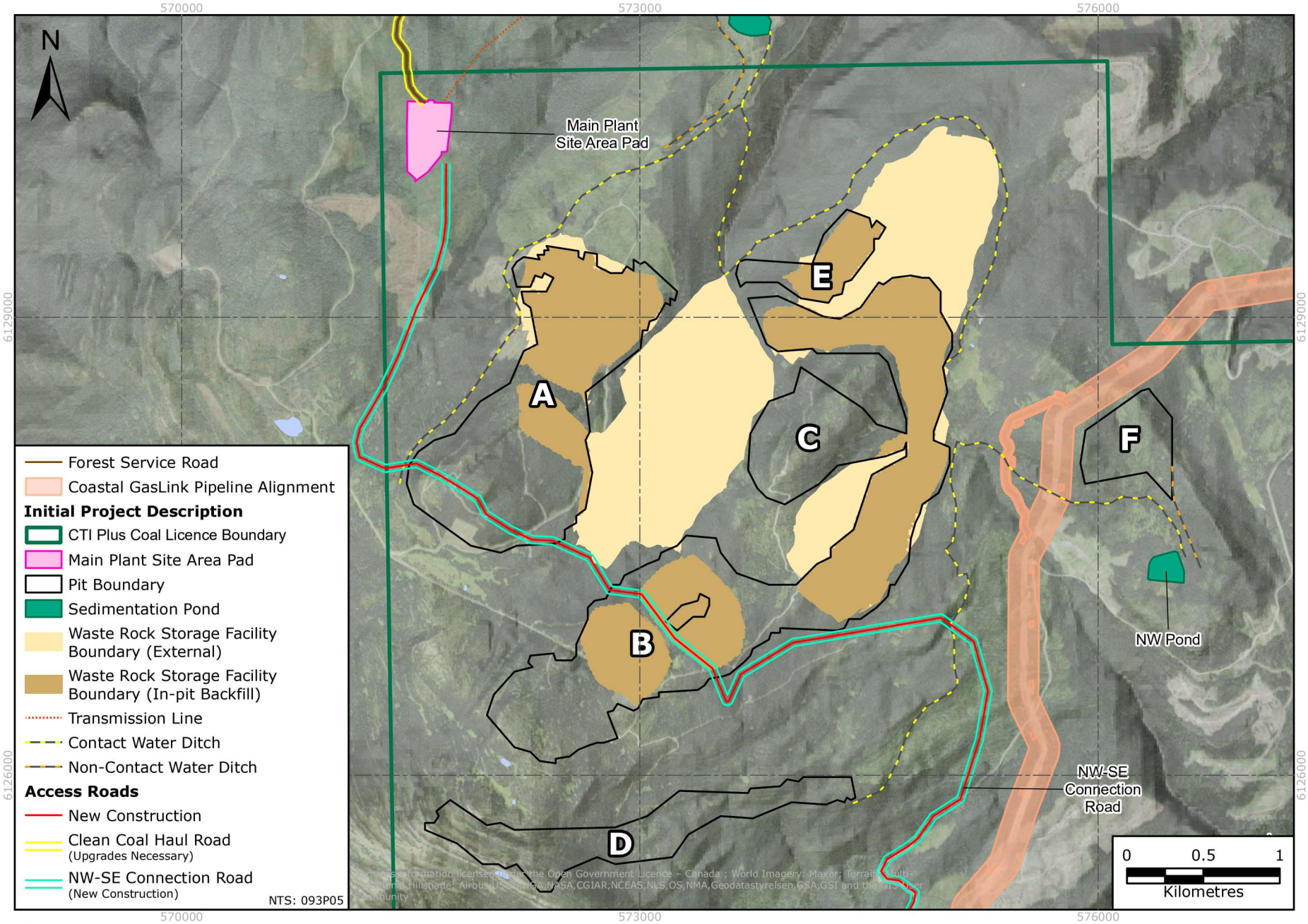
The majority of the infrastructure and facilities will be located within the NW Block, where initial construction and mining will commence. The NW Block consists of six open pits with depths varying from 30 m to 60 m. Figure 4.1-3 shows the open pits in the NW Block and the corresponding names. The following schedule details when these pits are to be mined, based on the preliminary mine plan:

- NW A Pit : Year 1 to Year 6;
- NW E Pit: Year 2 to Year 3;
- NW B Pit: Year 4 to Year 9;
- NW D Pit: Year 7 to Year 10;
- NW C Pit: Year 9 to Year 11; and
- NW F Pit: Year 10 to Year 11.

Once coal extraction from the NW Block is complete, extraction from the open pit in the SE Block (the SE Pit) will begin in Year 11 until the end of mine life, which the current mine plan shows will happen in approximately Year 14. The SE Block has one single pit, where approximately 10.3 Mt of ROM coal will be mined over 4 years. The pit has an average depth of 70 m, and it will be mined from the SE corner of the pit towards the NW. The coal mined from the SE Pit will be hauled to the CHPP.

Reclamation and closure activities are summarized in Section 4.2.

FIGURE 4.1-3 LOCATION AND NAMES OF OPEN PITS IN THE NORTHWEST BLOCK



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-15-015-03

DATE: 08/14/2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:35,000 when printed at 8.5x11

4.1.3 PROCESSING AND ANCILLARY FACILITIES

The Main Plant Site Area Pad (including the CHPP) will be located in the NW Block area, as shown on Figure 4.1-2. A process plant trade-off study was completed, and this location was selected for the main facility primarily as the majority of the coal resource is located in the NW Block. Furthermore, the NW Block pits will be mined first, providing a shorter haulage cost for the ROM coal. CTI Plus will conduct a site investigation program in summer of 2024 to determine the foundation condition of the Main Plant Site Area Pad.

When mining moves from the NW Block to the SE Block, a potential satellite facility (Support Facility Area Pad) in the SE Block is being considered to reduce the distance for maintenance and support activities. Additional design work is currently underway to determine the list of infrastructure and layout of the satellite facility to support mining in the SE Block.

The clean coal produced at the CHPP will be transported to a Rail Loadout Facility near the Hasler Flats area in the Pine River valley (via the Clean Coal Haul Road; Figure 4.1-1). Engineering work is ongoing to optimize the requirements and final location of the Rail Loadout Facility and Rail Loop. The Rail Loadout Facility may include a power distribution line, access road, security gate, and clean coal stockpile.

4.1.4 MATERIAL WASTE MANAGEMENT

The Project will generate four types of waste material that will be managed onsite:

- Topsoil and reclamation material: materials (topsoil, fine grained overburden, organics) suitable for reclamation will be stockpiled or “windrowed” during operations to be used as reclamation cover material. If the mining sequence allows, these cover soils may also be directly placed.
- Overburden: either stockpiled for reclamation (if suitable) or be placed within the WRSF in a configuration that does not adversely affect WRSF stability.
- Waste rock: backfilled into the mined-out pits as much as is practical or be placed in external WRSFs.
- Coal process rejects: rejects generated from the coal washing process will be dewatered and filtered to reduce the moisture content in order to be hauled and placed in layers within the WRSF. The rejects material will be layered between mine rock lifts at a ratio of approximately 50 to 1 (waste rock to rejects) as part of the selenium management strategy. Additional analysis on water quality modelling and mitigation strategies are currently being reviewed, which may potentially change the ratio between waste rock and rejects layering.

The NW Block will have both external WRSFs and in-pit backfill structures. The external WRSFs reach a maximum height (measuring from the crest of the toe of the WRSF) of 290 m, while the highest in-pit backfill structure is approximately 150 m. The SE Block will have an external WRSF with a maximum height of 150 m that can store approximately 59 million m^3 of mine waste material. The height of each WRSF is measured from crest to toe elevation and the configuration of the WRSFs may be adjusted as part of the next phase of engineering.

Additional design work is currently underway to determine the amount of suitable topsoil and overburden that is anticipated to be available for closure planning and stockpile design. Geotechnical investigation is also planned for the summer of 2024 and 2025 to gather additional foundation information for the WRSFs, sedimentation pond embankments, and the primary infrastructure locations.

4.1.4.1 METAL LEACHING AND ACID ROCK DRAINAGE

Additional test work is currently underway to determine the metal leaching and acid rock drainage (ML/ARD) potential of the waste rock. A total of 436 drill core samples (227 from the NW Block and 209 from the SE Block) have been collected for geochemical testing. All samples were submitted for the following static geochemical tests:

- Whole rock analysis;
- Elemental analysis by inductively coupled plasma mass spectrometry following an aqua regia leach; and
- Acid base accounting.

The geochemical static testing results show that selenium is elevated in the waste rock. The results also show that waste rock is predominantly non-acid generating (NAG), and, as a result, no specific waste management strategy such as blending between NAG and potentially acid generating (PAG) waste rock will be implemented. The static testing results are being used to select a subset of samples for the following geochemical tests:

- Mineralogy; and
- Humidity cell testing.

CTI Plus is currently generating coal reject samples for geochemical testing. In addition, CTI Plus is proposing to initiate a supplemental geochemical testing program in 2024. This program will include collection and testing of supplemental drill core samples, collection and testing of overburden samples and initiation of a field barrel testing program to further characterize the geochemical properties of waste rock.

4.1.5 WATER MANAGEMENT FACILITIES

The primary objective of surface water management is to divert the non-contact water away from the Project site to the extent practical and to collect and direct the contact water into sedimentation ponds, where the water can be retained to allow for entrained sediment to settle out. In the NW Block, captured contact water will also be recycled for use in coal processing as well as for dust control.

In the planning of collection ditches, clean water diversion ditches, and sedimentation ponds, CTI Plus concentrated on the following design objectives:

- Placement to minimize contact water catchment area, thereby reducing the required pond storage capacity;
- Utilization of natural plateaus and topography to minimize the height of the pond embankments and reduce material movement; and
- Development of fewer, larger centralized sedimentation ponds as opposed to multiple small sedimentation ponds.

For preliminary size estimating, pond storage volumes were determined based on the regional run-off volume factor: 1:10 year rain event generates 400 cubic metre per hectare (m^3/ha) of catchment area. Additional site-specific hydrological baseline studies, water balance, and water quality testing work is currently ongoing and will be included as part of the final project description. The pond embankments were designed with 3H:1V upstream and downstream slopes with a 10-m wide crests in order to develop pond and embankment footprints. When excavation was necessary to achieve the required retention volume for a pond, a 2H:1V cut slope angle was assumed. Surface area versus required retention time for sedimentation was not considered in the current design phase and additional geotechnical investigations are planned as part of the 2024 program to verify the preliminary geotechnical assumptions made for the

embankment and pond design. As a result, the location, sizing, and placement of sedimentation ponds and associated diversion ditches may change as site-specific investigation and design progress.

Detailed geochemical characterization and testing is underway for the coal and waste material to generate source term information to be used in water quality modelling for the EAC/EIS Application. This will support the decision on whether water treatment is needed and specific constituents of concern for ML/ARD. Until water quality modelling is completed, the specific requirements for water treatment will not be known; however, standard water treatment technologies have been successfully implemented at regional coal mines to meet water quality objectives.

The proposed mine plan currently assumes the coal process rejects will be placed as layers within the WRSF to act as a passive treatment alternative. The effectiveness of the layering approach will need to be confirmed with the water quality model, which is underway.

Investigation of the potential for active and passive treatment alternatives and other mitigative measures (e.g., closure covers) for Post-closure, if necessary, will be discussed with Indigenous nations and regulators during the EAC/EIS Application process.

As site-specific baseline and engineering information becomes available, development of model plans and modelling efforts will be initiated, which are among the first activities for EAC/EIS Application development.

4.1.6 PROJECT WATER USE

Water will be required for several Project uses, including coal processing, domestic use, equipment washing, dust suppression, and fire suppression.

Preliminary studies indicate that water sources near the mine site should be adequate to meet the Project's water requirements. Potable water would be supplied by surface water sources or groundwater wells and treated as required. During operations, process water would be pumped from contact water sedimentation ponds located within the mine footprint and supplemented with surface or groundwater, as necessary. Project water requirements will be refined during the detailed design stage and ongoing hydrogeological and hydrological studies will inform a conceptual water balance that will be prepared for the EAC/EIS Application.

4.2 PROJECT PHASES AND ACTIVITIES

The Project will have a mine life of approximately 14 years, plus 2 years of initial construction. The Project is divided into an initial Construction phase, Operations phase, Closure and Decommissioning phase, and Post-closure phase. Table 4.2-1 summarizes the activities for each phase of the Project. Additional engineering work is currently underway to better define the duration and activities of each phase.

TABLE 4.2-1 PROJECT PHASES AND ACTIVITIES

Phase	Duration	Activities
Construction	Year -2 to Year -1	• Initial clearing and soil stripping. • Construction of the mine water management structures. • Foundation preparation. • Access road construction and upgrades for the Clean Coal Haul Road and access within the coal licence boundary. • Transmission Line and Substation construction. • Construction of the Rail Loadout Facility and Rail Loop. • Construction of the initial sedimentation pond. • Construction of the mine infrastructure and CHPP in the NW Block.
Operations	Year 1 to Year 11	• Mining operations in the NW Block will take approximately 11 years to complete. During this phase, the NW Block will be mined with conventional truck and shovel equipment. • Drilling and blasting to break the waste rock into mineable sizes which can then be loaded, hauled, and placed in the WRSFs. • The ROM coal will be hauled to the CHPP for processing. Processed (clean) coal will then be hauled to the Rail Loadout Facility. • Soil stripping and clearing will occur when the operation expands into new mining areas (i.e., new open pits, see Section 4.1.2). • Throughout Operations, progressive reclamation of the WRSFs will occur, which includes activities such as re-sloping of the WRSFs and placing soil cover to promote vegetation.
	Year 11 to Year 14	• Soil stripping, clearing, and construction of the NW-SE Connection Road, secondary facilities, and SE Pit in the SE Block. • Mining operations in the SE Block is scheduled to begin in Year 11 as the mining activities transition from the NW Block. SE Block mining will utilize the same mobile equipment as the NW Block, but due to the longer distance from the CHPP, it is expected that additional haul trucks may be required to meet coal haulage requirements. The preliminary schedule shows mining in the SE Block will last approximately 4 years. • Similar process as the NW Block with respect to drilling, blasting, and hauling of waste rock and coal. • Throughout Operations, progressive reclamation of the WRSFs will occur, which includes activities such as re-sloping of the WRSF and placing soil cover to promote vegetation.
Closure and Decommissioning	Year 15 to Year 16	• Decommissioning infrastructure such as the CHPP, truck maintenance shop, and admin buildings. • Final re-sloping of the remaining WRSFs. • Final placement of cover soil on the reclaimed areas based on the closure prescription. • Closure of the Open Pits. • Decommissioning the sedimentation ponds, assuming the water quality meets the regulatory requirements for discharge.
Post-closure	Year 16+	• During the Post-closure phase, ongoing water quality monitoring may be required until the water quality meets the regulatory requirement for discharge. During this period, annual inspections of the sedimentation ponds will also be required to verify the ponds are operating in accordance with the design. • Ongoing environmental and reclamation monitoring of the site.

Notes:
CHPP = Coal Handling and Processing Plant; NW Block = Northwest Block; ROM = run-of-mine; SE Block = Southeast Block; WRSF = Waste Rock Storage Facility

4.3 PROJECT WORKFORCE

The Project is located in a region with active mining, logging, and natural gas operations. The Project is expected to draw skilled labour from Chetwynd and the Tumbler Ridge area along with specialty support services from the wider region including Dawson Creek and Fort St. John. An onsite camp is not planned for the Project. It is currently assumed that buses will be used to transport personnel from central locations in Chetwynd and Tumbler Ridge to the Project site. Table 4.3-1 lists the estimated number of hourly and salary staff during Operations. Workforce estimates for Construction, Closure, and Post-closure have not been determined but will be available as engineering advances.

TABLE 4.3-1 PREDICTED OPERATIONS WORKFORCE

Categories	Number of Personnel
Salary staff	65
Mining equipment operators and general labour (hourly)	115
Maintenance personnel (hourly)	25
Processing plant operators (hourly)	38

The Project will also require additional contractors to support the Project in the Construction phase. Additional work is required to quantify the personnel required on an annual basis.

4.4 PROJECT DESIGN OR SITING CONSTRAINTS

All design components must meet applicable standards, such as the *Health, Safety and Reclamation Code for Mines for British Columbia* (BC EMLI 2024), *Dam Safety Guidelines* (CDA 2007), relevant building codes, and the results of engineering investigations. A summary of Project design components and their design flexibility is provided in Table 4.4-1.

TABLE 4.4-1 ASSESSMENT DESIGN SITING FLEXIBILITY

Design Component	Fixed or Flexible	Other Options
Location of coal body	Fixed	• Not applicable.
Mining method (i.e., open pit)	Fixed	• Not applicable, based on the 2021 Technical Report (Stantec 2021). The report has indicated the majority of the resource is located close to the surface, which can be more economically mined with the open pit mining method; however, a trade-off study between open pit and underground was not completed.
Equipment	Flexible	• Different sizes of mining equipment. • Diesel drive versus electrically powered.
Coal processing	Flexible	• Alternative process plant locations. • Different clean coal dewatering options. • Different dewatering methods for coal rejects. • Different reagent selection.
Coal transportation	Fixed	• Rail transport is the only viable option.
Waste rock management	Flexible	• Alternative WRSF locations. • Alternative pit backfill scheduling.
Onsite road (haul and utility) alignment	Flexible	• Alternative alignments.

Design Component	Fixed or Flexible	Other Options
Power source and infrastructure	Flexible	• Alternative transmission line alignment. • Generator versus hardwire connection to certain infrastructure.
Water source and management	Flexible	• Alternative groundwater or surface water sources. • Alternative sedimentation pond locations.
Effluent discharge locations	Flexible	• Alternative locations.
Sewage waste management	Flexible	• Alternative methods and locations onsite versus offsite.
Borrow locations	Flexible	• Identification of potential borrow sources.
Selenium management	Flexible	• Passive water treatment. • Active water treatment.
Worker transport	Flexible	• Road transport from local communities. • Road transport from local airports. • Onsite camp.
Worker schedule	Flexible	• Different rotation schedules.

Note:
WRSF = Waste Rock Storage Facility

To support consideration of development options for the Project, alternatives assessment work is ongoing and further information is provided in Section 4.7.

4.5 EMISSIONS, WASTES, AND DISCHARGES

The Project is anticipated to follow similar mining methods as other coal mines in the region, and it will likely generate air emissions, water discharge, and waste rock. Additional design work is currently underway to minimize the emissions and impact to the environment. This section includes a general discussion of anticipated direct project emissions to air, land, and water, including estimated greenhouse gas (GHG) emissions.

4.5.1 GREENHOUSE GAS EMISSIONS

As a reviewable project under the IAA, the Project is subject to assessing the impacts of climate change according to guidance in the *Strategic Assessment of Climate Change* (SACC; ECCC 2020a). Following section 3 of the SACC, proponents of projects undergoing a federal IA are required to provide an estimate of the project's GHG emissions as part of the IPD. Section 4.5.1.1 provides an initial quantitative estimate of GHG emissions for the Project based on Project information available as of April 2024. It is expected that as the details of the Project are further refined, the estimate of GHG emissions will also be updated.

4.5.1.1 QUANTIFICATION OF NET GREENHOUSE GAS EMISSIONS

The Project's GHG emissions will be generated directly during construction and mining activities. Following the SACC, net GHG emissions are quantified as:

Net GHG emissions = direct GHG emissions + acquired energy GHG emissions - avoided domestic GHG emissions - offset measures.

Net GHG emissions will be calculated for the Construction, Operations, and Closure and Decommissioning phases of the Project. The current estimate of net GHG emissions only includes the Operations phase of the Project, as no information is yet available for the Construction and Closure and Decommissioning phases.

Direct Emissions

Direct GHG emissions are generated by activities that are within the defined scope of the Project and include emissions from mobile and stationary combustion, emissions from land use change, and emissions from industrial processes. At this stage of the Project, CTI Plus calculated estimates of diesel fuel usage for mobile and stationary sources, mass of coal mined, and explosives amounts. These estimates are used to calculate the direct GHG emissions for the Project. At this stage of the Project, no data are available on the total area to be cleared; hence, an estimate of GHG emissions to land use changes is not included.

The global warming potentials for GHGs and emission factors for diesel and blasting fuel emulsion were derived from values published by ECCC (2023a; 2023b). The GHG emission factors for ammonium nitrate–fuel oil (ANFO) were obtained from the *Energy and GHG Emissions Management Reference Guide* published by the Mining Association of Canada (2014). Additionally, the GHG fugitive emission factors for coal mining were sourced from ECCC (2023c).

Total direct GHG emissions from the Operations phase are estimated to be 1,697,469 tonnes of carbon dioxide equivalent (tCO_2e).

Fuel Combustion Emissions

Fuel consumption data were converted to emissions with the use of global warming potentials for GHGs published by ECCC (2023a). The emission factor for Diesel – Refineries and Others (Table A6.1-5 in ECCC 2023b) was used to estimate the carbon dioxide (CO_2) emissions arising from the combustion of diesel fuel. GHG emissions from diesel combustion were calculated by multiplying the estimated annual fuel needs by the associated combined emission factor for diesel fuel. Table 4.5-1 shows the annual fuel consumption and associated GHG emissions.

TABLE 4.5-1 ANNUAL FUEL CONSUMPTION AND GHG EMISSIONS

Year	Total Fuel (L)	Annual GHGs (tCO_2e)
Y1	6,979,000	18,767
Y2	11,891,000	31,975
Y3	16,540,000	44,476
Y4	22,515,000	60,543
Y5	20,497,000	55,117
Y6	13,675,000	36,772
Y7	22,128,000	59,503
Y8	20,561,000	55,289
Y9	23,073,000	62,044
Y10	19,890,000	53,484
Y11	27,398,000	73,674

Year	Total Fuel (L)	Annual GHGs (tCO_2e)
Y12	20,233,000	54,407
Y13	21,416,000	57,588
Y14	7,173,000	19,288

Notes:
GHG = greenhouse gas; L = litre; tCO_2e = tonnes of carbon dioxide equivalent; Y = year

Blasting Explosive Emissions

Blasting activities will use ANFO as an explosive. This explosive composition consists of ammonium nitrate and fuel oil. The estimated ANFO consumption per year is provided in Table 4.5-2.

The *Energy and GHG Emissions Management Reference Guide* (Mining Association of Canada 2014) established an emission factor of 0.189 kilograms (kg) of CO_2 per kg of ANFO for CO_2 emissions originating from the use of ANFO in blasting operations. Based on the annual ANFO consumption and emission factor, the annual GHG emissions from ANFO explosives are provided in Table 4.5-2.

TABLE 4.5-2 ANNUAL EXPLOSIVE AMMONIUM NITRATE–FUEL OIL CONSUMPTION AND GREENHOUSE GAS EMISSIONS

Year	Annual Explosive ANFO Weight (kg)	Annual GHG Emissions (tCO_2e)
Y1	389,000	74
Y2	5,664,000	1,070
Y3	8,619,000	1,629
Y4	12,005,000	2,269
Y5	10,645,000	2,012
Y6	6,214,000	1,174
Y7	11,482,000	2,170
Y8	10,101,000	1,909
Y9	12,127,000	2,292
Y10	9,632,000	1,820
Y11	11,717,000	2,215
Y12	6,071,000	1,147
Y13	6,630,000	1,253
Y14	1,580,000	299

Notes:
ANFO = ammonium nitrate–fuel oil; GHG = greenhouse gas; kg = kilogram; tCO_2e = tonnes of carbon dioxide equivalent; Y = year

Fugitive Emissions for Coal Mining

A byproduct of coal mining is fugitive release of methane (CH_4). Canada's fugitive emission estimates from coal mining rely on three studies: one by Hollingshead (1990) for TransAlta Utilities Corp., another by King (1994) for Neill and Gunter Ltd., and a third by Cheminfo Services Inc. and Clearstone Engineering Ltd (2014) for ECCC. These studies provide mine-specific information and emission factors for coal mines. The estimates consider methane emissions from both surface and underground mines and are based on field tests and data collection. The emissions model for the Project combines the United Nations Intergovernmental Panel on Climate Change (UNIPCC) Tier 2 and Tier 3 methodologies and takes into account gross production values and post-mining activities. The emission factors vary depending on the coal field, region, and mine type. The fugitive emission factor for BC surface coal mining is presented in Table 4.5-3 (based on Table A3.2-1 in ECCC 2023b).

TABLE 4.5-3 FUGITIVE EMISSION FACTOR FOR COAL MINING

Area	Coal Type	Mine Type	Emission Factor	Units
BC	Bituminous	Surface	0.93	t CH_4 / kt coal mined

Note:
t CH_4 / kt = tonnes of methane per kilotonne

The ROM coal is assumed to be equal to the gross mine output data that ECCC (2023b) used to derive the emission factor in Table 4.5-3. ROM coal was transformed into emission estimates using the global warming potentials for greenhouse gases (ECCC 2023a) and the emission factor in Table 4.5-3. The annual ROM coal mined and corresponding GHG emissions are presented in Table 4.5-4.

TABLE 4.5-4 ANNUAL FUEL CONSUMPTION AND GREENHOUSE GAS EMISSIONS

Year	ROM Coal Mined (t)	CH_4 Emissions (t)	CO_2e Emissions (t)
1	750,000	697	20,785
2	1,500,000	1,395	41,571
3	2,250,000	2,093	62,357
4	3,000,000	2,790	83,142
5	3,000,000	2,790	83,142
6	3,000,000	2,790	83,142
7	3,000,000	2,790	83,142
8	3,000,000	2,790	83,142
9	3,000,000	2,790	83,142
10	3,000,000	2,790	83,142
11	3,000,000	2,790	83,142
12	3,000,000	2,790	83,142
13	3,000,000	2,790	83,142
14	1,337,814	1,244	37,076

Notes:
CH_4 = methane; CO_2e = carbon dioxide equivalent; ROM = run-of-mine; t = tonne

Acquired Energy Emissions

Acquired GHG emissions are associated with the generation of electricity, heat, steam, or cooling, that is purchased or acquired from a third-party for the Project. Acquired energy GHG emissions for the Project include emissions associated with the generation of purchased or acquired electricity from BC Hydro. The estimated acquired electricity consumption per year is provided in Table 4.5-5. The estimate of electricity consumption is based on a conservative estimate of the required connected load for the Project of 15 megawatts (MW). This electricity load would result in an annual consumption of 131.4 gigawatt hours (GWh). It is assumed that the annual electricity consumption will be refined as the Project develops.

BC Hydro's GHG intensity is 11.3 tCO_2e/GWh (Province of BC 2024b). Based on this intensity the annual acquired energy GHG emissions for the Project are provided in Table 4.5-5. Based on the annual amounts, the total acquired energy GHG emissions for the Operations phase of the Project is 20,788 tCO_2e.

TABLE 4.5-5 ACQUIRED ENERGY GHG EMISSIONS

Year of Operation	Electricity Consumption (GWh)	Total GHG Emissions (tCO_2e)
1	131.4	1,485
2	131.4	1,485
3	131.4	1,485
4	131.4	1,485
5	131.4	1,485
6	131.4	1,485
7	131.4	1,485
8	131.4	1,485
9	131.4	1,485
10	131.4	1,485
11	131.4	1,485
12	131.4	1,485
13	131.4	1,485
14	131.4	1,485

Notes:
GWh = gigawatt hour; tCO_2e = tonnes of carbon dioxide equivalent

Land Use Emissions

Changes to land use and vegetation can create carbon sources or carbon sinks. Clearing of vegetation creates carbon sources, and restoration of vegetation causes carbon sinks over time. Land use carbon sources and sinks have not been evaluated at this stage of the Project, due to lack of information on the expected changes in land use and are not included in the current estimate of net GHG emissions.

CO_2 Captured and Stored, Avoided Domestic Greenhouse Gas Emissions, and Offset Credits

At this point in time, CTI Plus has not pursued plans for CO_2 capture and storage, nor for offset credits. CTI Plus will be assessing these as the Project advances. The Project is not currently expected to directly contribute to avoided domestic GHG emissions.

Net Greenhouse Gas Emissions

Based on the direct GHG emissions for the Operations phase of the Project, the total net GHG emissions summed over all years of the Project are 1,718,256 tCO_2e. The maximum annual net GHG emissions for the Project are in Year 11, with 160,515 tCO_2e. See Table 4.5-6 for a summary of annual net GHG emissions.

4.5.1.2 NET-ZERO PLAN

According to the SACC (ECCC 2020a) a credible net-zero plan is required for projects with a lifetime beyond 2050. The Project's Operations phase is not expected to extend beyond 2050, and therefore GHG emissions beyond this time frame are expected to be very low relative to the emissions during the Operations phase. Therefore, it is expected that a net-zero plan will only be required during the Closure and Decommissioning phase. As the calculation of net GHG emissions is updated through the continued refinement of the Project, including quantifying emissions during the Closure and Decommission phase of the Project, a net-zero plan will be implemented to satisfy all requirements of the SACC.

4.5.1.3 CONCLUSIONS

The Project is subject to an assessment of the impacts of climate change. Based on guidance provided in the SACC (ECCC 2020a), the Project must provide an estimate of net GHG emissions during the Construction and Operations phases.

Under the *Climate Change Accountability Act* (2007), BC has committed to reduce total provincial GHG emissions to 40% below 2007 levels by 2030 (38,800,000 tCO_2e/year) and 60% below 2007 levels by 2040 (25,900,000 tCO_2e/year). Net emissions from the Project at peak emissions are estimated to be 160,515 tCO_2e, which represents 0.41% of the *Climate Change Accountability Act* (2007) 2030 target.

Under the *Paris Agreement* (2015), Canada committed to reducing its GHG emissions by 30% below 2005 levels by 2030. In 2019, the 2005 level was estimated at 730 megatonnes of carbon dioxide equivalent ($MtCO_2e$); therefore, Canada's 2030 target is 511 $MtCO_2e$. Net emissions from the Project at peak annual emissions are estimated to be 160,515 tCO_2e, which represents 0.03% of the Canadian 2030 target.

TABLE 4.5-6 PROJECT DIRECT GREENHOUSE GASE EMISSIONS BY YEAR IN CARBON DIOXIDE EQUIVALENT

Emissions Source	Units	Year of Operation						
		1	2	3	4	5	6	7
Diesel	L	6,740,000	11,491,000	15,932,000	21,668,000	19,746,000	13,236,000	21,317,000
Blasting Fuel	L	239,000	400,000	608,000	847,000	751,000	439,000	811,000
Emulsion (explosives)	t	389	5,664	8,619	12,005	10,645	6,214	11,482
ROM Coal Mined	t	750,000	1,500,000	2,250,000	3,000,000	3,000,000	3,000,000	3,000,000
Electricity Consumption	GWh	131.4	131.4	131.4	131.4	131.4	131.4	131.4
Diesel GHG Emissions	tCO_2e	18,124	30,899	42,841	58,266	53,097	35,592	57,322
Blasting Fuel GHG Emissions	tCO_2e	643	1,076	1,635	2,278	2,019	1,180	2,181
Emulsion GHG Emissions	tCO_2e	74	1,070	1,629	2,269	2,012	1,174	2,170
Fugitive GHG Emissions	tCO_2e	20,785	41,571	62,357	83,142	83,142	83,142	83,142
Electricity Consumption GHG Emissions	tCO_2e	1,485	1,485	1,485	1,485	1,485	1,485	1,485
Net GHG Emissions	tCO_2e	41,110	76,101	109,947	147,439	141,755	122,574	146,299

Emissions Source	Units	Year of Operation						
		8	9	10	11	12	13	14
Diesel	L	19,848,000	22,217,000	19,210,000	26,571,000	19,804,000	20,948,000	7,062,000
Blasting Fuel	L	713,000	856,000	680,000	827,000	429,000	468,000	111,000
Emulsion (explosives)	t	10,101	12,127	9,632	11,717	6,071	6,630	1,580
ROM Coal Mined	t	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	1,337,814
Electricity Consumption	GWh	131.4	131.4	131.4	131.4	131.4	131.4	131.4
Diesel GHG Emissions	tCO_2e	53,372	59,742	51,656	71,450	53,253	56,329	18,990
Blasting Fuel GHG Emissions	tCO_2e	1,917	2,302	1,829	2,224	1,154	1,258	298
Emulsion GHG Emissions	tCO_2e	1,909	2,292	1,820	2,215	1,147	1,253	299
Fugitive GHG Emissions	tCO_2e	83,142	83,142	83,142	83,142	83,142	83,142	37,076
Electricity Consumption GHG Emissions	tCO_2e	1,485	1,485	1,485	1,485	1,485	1,485	1,485
Net GHG Emissions	tCO_2e	141,825	148,962	139,932	160,515	140,181	143,468	58,148

Notes:
GHG = greenhouse gas; GWh = gigawatt hour; L = litre; t = tonne; ROM = run-of-mine; tCO_2e = tonnes of carbon dioxide equivalent

4.5.2 WASTE EMISSIONS

The Project is expected to generate the three main types of waste, which are listed below:

- Waste Rock:
  - Overburden: stockpiled separately or be placed within the WRSFs.
  - Non-acid generating waste rock: Based on the sampling work completed to date, the waste rock is believed to be NAG. The waste rock will be placed in the WRSFs and Plant rejects will be placed as layers within the WRSFs as part of the selenium management strategy.
- Processing Waste:
  - Breaker rejects: placed within the WRSFs.
  - Plant process rejects: placed as layers within the WRSFs as part of the selenium management strategy.
- Office, maintenance facility, and domestic waste:
  - Non-hazardous materials: for waste materials that cannot be recycled, the materials may be placed within a landfill area located within the Project footprint or trucked offsite to a licensed facility. The need and location of a landfill are still being evaluated.
  - Hazardous materials (engine oil, brake fluids): collected and removed offsite to be recycled or to be disposed of at licenced facilities.
  - Sewage waste: potentially managed with septic fields or be stored in tanks and pumped for offsite disposal at licenced facilities.

The overall waste management strategy is to manage Project waste materials onsite when possible. For some specific waste such as hazardous waste, chemical, vehicle fluid, oil, and equipment parts will be disposed offsite and/or recycled at licenced facilities. Additional engineering work is currently underway to finalize the different types of waste that may be generated from the Project, and to provide additional design details regarding the waste management strategy.

4.5.3 WATER EMISSIONS

Water emissions include the discharge of contact water (i.e., that which has been in contact with potential sources of contamination) and non-contact water (i.e., from upstream catchments that have not been in contact with mine workings) to the receiving environment. Water discharge monitoring would be a fundamental component of the Environmental Management System. Water will meet provincial permit limits and any relevant federal standards prior to discharge. Feedback from Indigenous nations about water management and discharge will be incorporated into ongoing planning.

Contact water from various Project components will be managed through a network of sumps, collection ditches, and sedimentation ponds prior to discharge to the environment. CTI Plus is currently investigating if active water treatment will be necessary.

Non-contact water will be diverted around the mine by utilizing constructed water channels and discharged to the environment without treatment.

4.6 ALTERNATIVES TO THE PROJECT

CTI Plus is considering potential alternatives to the Project that are technically and economically feasible. The possible alternatives that have and are being considered are presented in Table 4.6-1.

TABLE 4.6-1 ALTERNATIVES TO THE PROJECT BEING CONSIDERED

Alternative Considered	Preferred Option
Not undertaking the Project	The "no project" alternative would not provide the positive economic effects associated with the Project's development and would not fulfill the purpose of the Project.
Changing the timing of the Project	This alternative would generally have the same environmental and socio-economic effects as those associated with proceeding with the Project as proposed.
Changing the location of the Project	The current Project site has significant advantages. It is within CTI Plus's existing coal licences, the licences have been subject to historical and ongoing exploration work, and it is near critical infrastructure (e.g., power, highway, road networks, rail) and established communities. CTI Plus is not aware of viable alternatives to the Project, of similar scale, in northeast BC.

Notes:
BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; Project = Rocky Creek Metallurgical Coal Project

4.7 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

Table 4.7-1 provides a summary of the potential alternative means of carrying out the Project that CTI Plus has considered that are technically and economically feasible, including by using best available technologies. CTI Plus will consider the inclusion of feedback provided through ongoing engagement activities as well as other technical, environmental, and engineering aspects in additional design alternatives.

TABLE 4.7-1 ALTERNATIVES MEANS OF CARRYING OUT THE PROJECT BEING CONSIDERED

Component/Activity	Alternatives Considered	Preferred Option
Mining equipment	Electrifying the mining equipment instead of diesel powered.	The current assumption is to utilize diesel powered mining equipment because of equipment availability, additional infrastructure requirements for power supply, and additional capital requirements. CTI Plus is currently developing a decarbonization strategy for the Project and may be able to present the results as part of the ongoing engineering and design and the DPD.
Starting mining area	Start mining in the SE Block instead of NW Block.	Starting the Project in the SE Block can help minimize the overall Project disturbance in the early years. At the current production rate of 3.00 Mt of coal processing rate per year, it was determined at a high level that the SE Block could only supply enough resources for 3 to 4 years; therefore, additional capital may be required to move the infrastructure to the NW Block. In addition to that, starting in the NW Block allows a shorter haul distance to the rail loop that is currently proposed to be located in the Hasler Flat area.
CHPP location	The Project reviewed seven possible CHPP locations: two locations located in the SE Block, one location located between the two resource areas, and four located in the NW Block.	Based on the high-level economic analysis, the results showed that the two major contributing factors are the haulage distance for the clean coal and ROM. The proposed CHPP location, as shown in the site layout, minimizes the coal haulage cost and also the truck requirements for hauling the coal.

Component/Activity	Alternatives Considered	Preferred Option
Clean coal transportation	Alternative electrified technology to reduce carbon emissions.	The current Project design assumes clean coal will be hauled from the Project site to the Rail Loadout Facility approximately 64 km away using diesel powered trucks with trailers. Distance and tonnes of material being moved likely does not support an electrified conveyor or rail line. However, electrified options exist for material transport trucks being used in this type of an application. The viability of using battery electric off-highway material transport trucks will need to be determined, as well as other possible alternatives.

Notes:
BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; DPD = Detailed Project Description; km = kilometre; Mt = megatonne; ROM = run-of-mine; NW Block = Northwest Block; Project = Rocky Creek Metallurgical Coal Project; SE = Southeast Block

In addition to the alternatives described above, CTI Plus is investigating potential regional partnerships for certain onsite and offsite mine-related infrastructure needs, including the Clean Coal Haul Road, Transmission Line, CHPP, and the Rail Loop and Rail Loadout Facility.

5. REGULATORY AND POLICY FRAMEWORK

5.1 ENVIRONMENTAL ASSESSMENT

CTI Plus will utilize the IPD for entry into the assessment process of the BC EAA (2018) and federal IAA (2019).

Pursuant to sections 3(1) and 4(1) of the Reviewable Projects Regulation (RPR; 2019), the proposed production capacity exceeds the criteria of 250,000 t/year of clean coal, and potentially GHG emission triggers, and will require a provincial EA in accordance with the BC EAA (2018). The specific RPR trigger is as follows:

- Part 3 (Mine Projects), Table 6; Row 1 Coal Mines: "A new mine facility that, during operations, will have a production capacity of greater than or equal to (≥) 250 000 tonnes/year of clean coal or raw coal or both."

The potential trigger under the RPR related to GHG emissions is as follows:

- Part 1 (Interpretation), Effects Thresholds section 4(1)(a): "emits 380,000 tonnes or more per year of one or more greenhouse gases directly from project facilities, measured in carbon dioxide equivalents, determined in accordance with Part 3 of the Greenhouse Gas Emission Reporting Regulation (BC Reg 249/2015)."

The Project is also reviewable under the federal IAA (2019) Physical Activities Regulations (2019) based on daily coal production capacity over 5,000 tpd. The specific trigger is as follows:

- Section 18(a) (Mines and Metal Mills): "The construction, operation, decommissioning and abandonment of … a new coal mine with a coal production capacity of 5 000 t/day or more."

CTI Plus will seek to obtain a substituted federal IA pursuant to the IAA (2019) and the Cooperation Agreement (Government of Canada 2020). CTI Plus will ask that the Province makes a request to the federal Minister of ECCC to approve the substitution of the BC EA process for the federal IA process. If the substitution request is approved for the Project, the Province would commit to meet the legislative requirements of the federal IA process and fulfill the conditions for substitution under the IAA (2019) set out in the Cooperation Agreement and the *Substitution Decision*. At the end of the assessment process, the EAO will provide its report to both the provincial and federal ministers for their consideration and decision.

The Cooperation Agreement identifies how the two jurisdictions will work together on project impact assessments that are required by both levels of government. This agreement is intended to provide a more predictable and timely process, increase efficiency and certainty, and result in quality assessments that draw on the best available expertise, supporting the shared principle of "one project, one assessment." The agreement would facilitate the substituted review of the Project, if approved by the federal government.

5.2 OTHER PROVINCIAL AND FEDERAL PERMITS, LICENCES, AND APPROVALS REQUIRED FOR THE PROJECT

CTI Plus will require several permits to construct and operate the Project. Key provincial and federal permits possibly required are provided in Table 5.2-1 and Table 5.2-2, respectively, and will be confirmed as Project design advances and in consultation with regulatory agencies. The need for a provincial water lot lease is not anticipated.

TABLE 5.2-1 SUMMARY OF POTENTIAL PROVINCIAL PERMITS, LICENCES AND APPROVALS

Authorization	Responsible Agency	Legislation	Purpose
Mines Act (1996) Permit	EMLI	*Mines Act*, Health, Safety and Reclamation Code for Mines in BC (2024)	Approves the mine plan and reclamation program.
Water System Construction Permit Water System Operating Permit	MoH	*Drinking Water Protection Act*, Drinking Water Protection Regulation (2018)	Authorizes construction and operation of potable water supply systems.
Food Facility—Health Approval Application	MoH	*Drinking Water Protection Act* (2001)	Approves opening and operation of food service facility.
Sewage Registration	MoH	*Environmental Management Act* (2003)	Authorizes sewage treatment plant.
Environmental Management Act (Effluent)	ENV	*Environmental Management Act* (2003)	Authorizes discharges from sedimentation ponds and seepage.
Environmental Management Act (Air)	ENV	*Environmental Management Act* (2003)	Authorizes process plant discharges
Hazardous Waste Registration	ENV	*Environmental Management Act* (2003) Hazardous Waste Regulation	Required to register hazardous waste transfer facility, truck shop.
Fuel Storage Registration	ENV	*Environmental Management Act* (2003)	Authorizes fuel storage.
Water Licence	ENV	*Water Sustainability Act* (2014)	Authorizes storage, use or diversion of surface water or groundwater for one or more purposes.
Approval for Works in and about a Stream (Section 11)	ENV	*Water Sustainability Act* (2014)	Approves changes in or about a stream.
Investigation or Inspection Permit	WLRS	*Heritage Conservation Act* (1996)	Undertake AIA.
Site Alteration Permit	WLRS	*Heritage Conservation Act* (1996)	Required to alter an archaeological site (should any be identified and impacted by the Project).
Occupant Licence to Cut	MoF	*Forest Act* (1996)	Authorizes cutting and removal of timber on Crown land.
Road Use Permit	MoF	*Forest Act* (1996)	Authorizes use of existing roads.
Fish Collection Permit	WLRS	*Wildlife Act* (1996)	Required for fish salvage (e.g., data collection).
Wildlife Permit	WLRS	*Wildlife Act* (1996)	Required for amphibian / small mammal capture and release.
Licence of Occupation	WLRS	*Land Act* (1996)	Required to occupy Crown land (e.g., transmission line, temporary borrow and gravel pits, construction staging areas).

Notes:
AIA = Archaeological Impact Assessment; EMLI = Ministry of Energy, Mines and Low Carbon Innovation; ENV = Ministry of Environment and Climate Change Strategy; MoF = Ministry of Forests; MoH = Ministry of Health; Project = Rocky Creek Metallurgical Coal Project; WLRS = Water, Lands, and Resource Stewardship

TABLE 5.2-2 SUMMARY OF POTENTIAL FEDERAL PERMITS, LICENCES, AND APPROVALS

Authorization	Responsible Agency	Legislation	Purpose
Explosives Permit	Natural Resources Canada	*Explosives Act* (1985)	Required to manufacture, store, and use explosives.
Fisheries Authorization	DFO	*Fisheries Act* (1996)	Required if the Project will result in the harmful alteration, disruption, or destruction of fish habitat or death of fish.
Migratory Bird Permit	ECCC	*Migratory Birds Convention Act* (1994)	Required if nesting habitats used by migratory birds might be impacted or if activities occur during the nesting season (e.g., clearing of vegetation).
Species at Risk Permit	ECCC	*Species at Risk Act* (2002)	Authorizes an activity affecting listed wildlife species, any part of its critical habitat, or the residences of its individuals.
Environmental Emergency Registration	ECCC	*Canadian Environmental Protection Act* (1999) Environmental Emergency Regulations (2019)	Registers substances over specified volumes. The site must have the suitable emergency response plan for the substances.
Nuclear Safety Authorization	Canadian Nuclear Safety Commission	*Nuclear Safety and Control Act* (1997)	Required for possession of instruments containing radioactive material, such as nuclear density gauges (portable and fixed).
Radio Licence	Industry Canada	*Radio Communication Act* (1985)	Authorizes use of radio equipment on site.
Navigable Waters Approval	Transport Canada	*Canadian Navigable Waters Act* (1985)	Required for works that take place within navigable waters that do not meet works established under the *Minor Works Order* and which may interfere with navigation.
Transportation of Dangerous Goods Permits	Transport Canada	*Transportation of Dangerous Goods Act* (1992)	Authorizes transportation and handling of dangerous goods

Notes:
DFO = Fisheries and Oceans Canada; ECCC = Environment and Climate Change Canada; Project = Rocky Creek Metallurgical Coal Project

In addition, the proposed federal Coal Mining Effluent Regulations are likely to come into force before the Project is constructed. The regulations are currently proposed to include effluent quality standards for all coal mines, including those for selenium, and provisions for environmental effects monitoring and reporting.

CTI Plus is not aware of any relevant government policies that the Project may not be compatible with.

5.3 PROPOSED REGULATORY PROCESS SCHEDULE AND PROJECT MILESTONES

The anticipated EAC/EIS Application schedule and major Project milestones are summarized in Table 5.3-1. This timeline is subject to change, based on engineering design studies and discussions with the EAO and assumes a substituted federal review will occur using the BC EA process. Should this not be the case, the timelines below will be re-assessed.

Appropriate seasonal work windows for wildlife and fish will be incorporated into the Project construction schedule. There are seasonal timing constraints when working in high-elevation and low-elevation caribou habitat as well as Ungulate Winter Ranges and Wildlife Management Areas; however, the Project's components are located in caribou Matrix

habitat, based on draft provincial mapping (see Section 7.2.2) that does not have seasonal timing restrictions. Therefore, seasonal caribou work windows are not relevant to the Project. No other seasonal timing constraints have been identified.

TABLE 5.3-1 PROPOSED ENVIRONMENTAL ASSESSMENT SCHEDULE AND PROJECT MILESTONES

Milestone/Activity	Start Date	End Date
CTI Plus engages with McLeod Lake Indian Band, Saulteau First Nations, West Moberly First Nations, and Halfway River First Nation about the Project and potential regulatory process.	2019	Ongoing
CTI Plus engages with the EAO and the Agency about the Project and potential regulatory process.	Q1 2024	Ongoing
CTI Plus provides draft IPD and draft Engagement Plan to Indigenous nations for review and comment.	Q2 2024	Q2 2024
CTI Plus submits the IPD and Engagement Plan to the EAO and the Agency in fulfillment of BC EAA and IAA requirements	Q3 2024	Q3 2024
The EAO issues "Designation as Reviewable Project" Order and accepts IPD and Engagement Plan within 10 days of submission, formally starting the Early Engagement phase of the BC EA process.	Q3 2024	Q3 2024
The Agency issues acceptance letter to CTI Plus	Q3 2024	Q3 2024
CTI Plus engages with Indigenous nations, local governments, and stakeholders on the IPD	Q3 2024	Q3 2024
The EAO makes the substitution request	Q3 2024	Q3 2024
Joint (EAO and the Agency) public comment period on the IPD	Q3 2024	Q3 2024
Joint (EAO and the Agency) engagement and public information sessions	Q3 2024	Q3 2024
The EAO and the Agency issue the Summary of Issues/Engagement and direction for the DPD	Q3 2024	Q4 2024
Technical Advisory Committee / Community Advisory Committee formed	Q3 2024	Q3 2024
CTI Plus submits DPD to the EAO and the Agency in fulfilment of BC EAA and IAA requirements	Q4 2024	Q1 2025
The EAO issues a Readiness Decision	Q4 2024	Q1 2025
CTI Plus engagement with Indigenous nations, local governments, and stakeholders	Q3 2025	Ongoing
Federal Minister issues the substitution decision	Q1 2025	Q2 2025
The EAO issues the Process Order	Q2 2025	Q3 2025
CTI Plus submits draft EAC/EIS Application to the EAO	Q3 2026	Q3 2026
The EAO releases direction for final EAC/EIS Application	Q1 2027	Q2 2027
CTI Plus submit final EAC/EIS Application	Q2 2027	Q2 2027
The EAO releases the Assessment Report	Q3 2027	Q3 2027
EAO / the Agency Decisions	Q4 2027	Q4 2027
EA Certificate and Decision Statement are issued	-	Q4 2027
Permitting	Q3 2027	Q2 2028
Construction	Q2 2028	Q2 2030
Start of Operations	-	Q3 2030

Notes:
Agency = Impact Assessment Agency Canada; BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; DPD = Detailed Project Description; EA = Environmental Assessment; EAA = *Environmental Assessment Act*, 2018; EAC/EIS Application = Environmental Assessment Certificate / Environmental Impact Assessment Application; EAO = Environmental Assessment Office; Engagement Plan = Rocky Creek Metallurgical Coal Project Engagement Plan; IAA = *Impact Assessment Act*, 2019; IPD = Initial Project Description; Project = Rocky Creek Metallurgical Coal Project; Q = Quarter

6. INDIGENOUS NATIONS AND INTERESTS

The Project overlaps the territories of Blueberry River First Nations, Doig River First Nation, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations (see Figure 6-1), all of whom are Treaty 8 signatories (Government of Canada 1966). Treaty 8, signed in 1899, covers approximately 840,000 square kilometres (km^2) across BC, Alberta, Northwest Territories, and Saskatchewan (Indigenous Services Canada 2023). CTI Plus have requested the territory boundaries of Doig River First Nation, Halfway River First Nation, and Saulteau First Nations.

CTI Plus acknowledges that the Project is also close to communities that are members of the Métis Nation British Columbia (MNBC), including the Kelly Lake Métis Settlement Society and four other chartered communities (see Section 6.8).

An overview on CTI Plus's engagement efforts with each Indigenous nation is captured in Section 9.1, and detailed engagement records are included in the Engagement Plan (CTI Plus 2024). CTI Plus understands that while the duty to consult ultimately rests with the Crown, it may delegate the procedural aspects of that duty to industry proponents.

This section provides an overview of the Indigenous nations with potential interests in the Project based on the overlap of the Project with their territories and based on information from the BC consultation database (BC Ministry of Indigenous Relations and Reconciliation 2024).

6.1 BLUEBERRY RIVER FIRST NATIONS

Blueberry River First Nations' territory is located north of the Project and extends over 38,300 km^2 (Figure 6-1). The majority of Blueberry River First Nations' population reside at the Blueberry River 205, located 80 km northwest of Fort St. John. Blueberry River First Nations has a registered population on and off reserve of 549 (CIRNAC 2024).

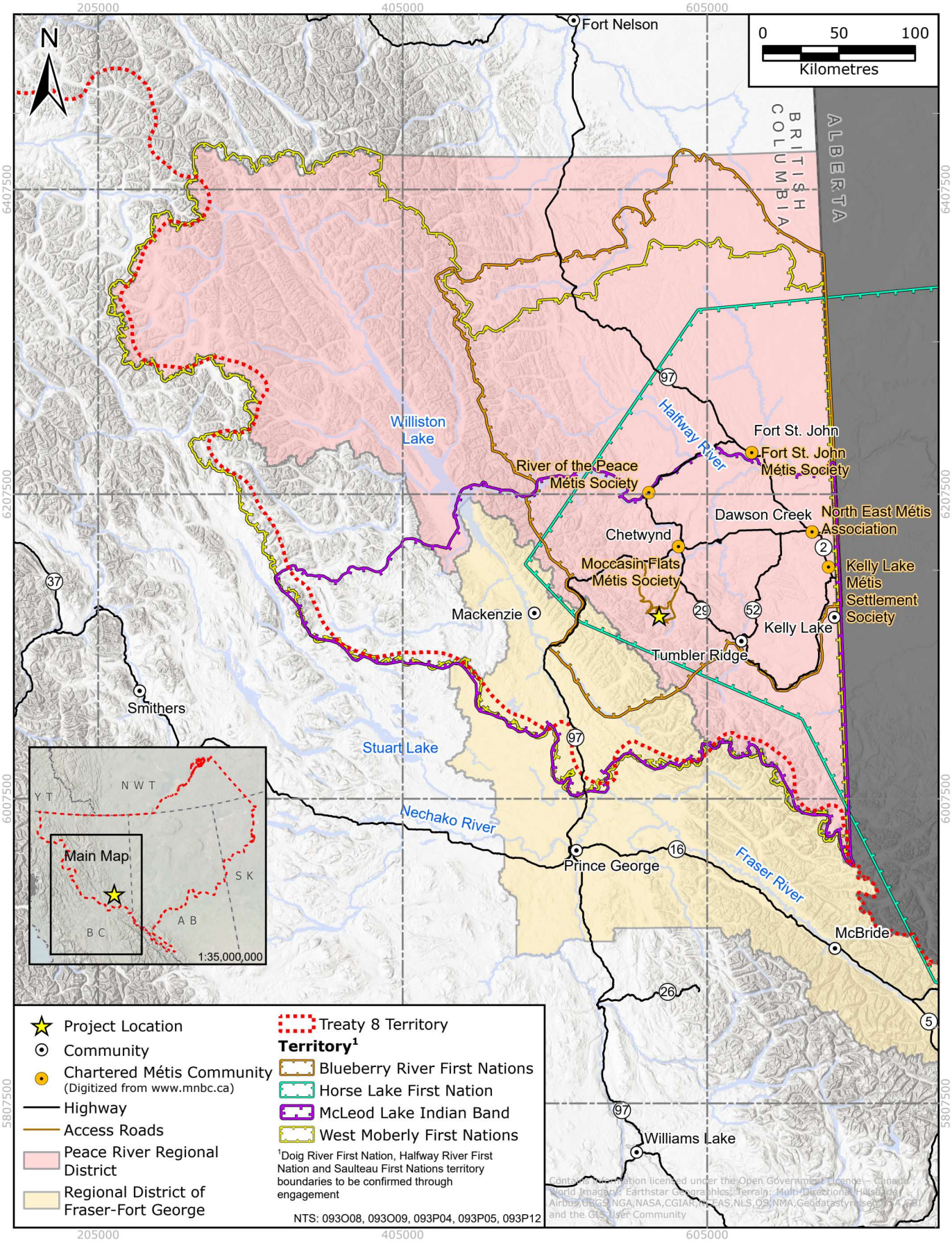
Blueberry River First Nations is governed by the Chief and Council, elected for a 4-year term. The current chief is Judy Desjarlais, elected in February 2022 (CIRNAC 2024). Blueberry River First Nations' mission is to exercise their right to self-govern in a way that is aligned with their values and culture for the benefit of all current and future generations (Blueberry River First Nations 2023).

Key services provided by Blueberry River First Nations include education, employment, family support, health services, housing and public works, lands, and restoration (i.e., the healing of the land and waters for future generations; Blueberry River First Nations 2022). Through their Lands Resources Department, Blueberry River First Nations is engaged with land stewardship to sustain their rights, culture, community, and economies within healthy ecosystems by maintaining ecological integrity and Treaty rights practices (Blueberry River First Nations 2022).

Blueberry River First Nations is party to Treaty 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus does not have any Project-specific agreements with Blueberry River First Nations. For a list of agreements that Blueberry River First Nations has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with Blueberry River First Nations in 2020 to establish an initial connection and provide information on the exploration programs, Archaeological Impact Assessment (AIA) Application, the planning around EA baseline studies, and the Project.

FIGURE 6-1 ROCKY CREEK PROJECT REGIONAL AREA



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-19-001-05

DATE: 14 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:3,450,000 when printed at 8.5x11

Blueberry River First Nations was provided with draft copies of the IPD and Engagement Plan and is currently reviewing them. Blueberry River First Nations have not provided comments or specific issues and concerns about the Project (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to engage with Blueberry River First Nations regarding the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.2 DOIG RIVER FIRST NATION

Doig River First Nation's territory is located north of the Project and approximately 70 km northeast of the City of Fort St. John. There is a registered population on and off reserve of 324 (CIRNAC 2024).

Doig River First Nation is governed by the Chief and Council, elected for a 2-year term. The current chief is Trevor Makadahay, elected in November 2023 (CIRNAC 2024). Key services include education, employment and training, community economic development, health and social development, housing, public works, lands and resources, and information and technology (Doig River First Nation 2024).

Doig River First Nation Lands and Resources department facilitates Treaty implementation including through land and environmental stewardship, land use planning, wildlife management, water initiatives, and conducting Traditional Land Use Studies. The department is also involved in engagement activities with industry and government regarding potential issues of concerns and interests on the land base (Doig River First Nation n.d.a).

Doig River First Nation is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus does not have any Project-specific agreements with Doig River First Nation. For a list of agreements that Doig River First Nation has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with Doig River First Nation in 2020 to establish an initial connection and provide information on the exploration programs and the Project.

Doig River First Nation was provided with draft copies of the IPD and Engagement Plan and is currently reviewing them. To date, Doig River First Nation has not provided comments or specific issues and concerns about the Project (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to have dialogue and communications with Doig River First Nation to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.3 HALFWAY RIVER FIRST NATION

Halfway River First Nation's territory is located north of the Project. Halfway River First Nation population is primarily residing within Halfway River 168, near Wonowon, and approximately 75 km northwest of the City of Fort St. John. Halfway River First Nation has a registered population on and off reserve of 299 (CIRNAC 2024).

Halfway River First Nation is governed by the Chief and Council, elected for a 4-year term. The current chief is Darlene Hunter, elected in December 2020 (CIRNAC 2024). Key services include education, economic development, health, social development, housing, and lands (Halfway River First Nation 2024). Halfway River First Nation's mission is focused on protecting its lands, water, natural resources, and wildlife, and promoting sustainable development and environmental responsibility while honoring and celebrating culture (Halfway River First Nation 2024). Halfway River First Nation Lands

Department is involved in environmental and land-based initiatives focused on clean air, clean water, and resilient land. The department is involved in reviewing industrial project proposals (Halfway River First Nation 2024).

Halfway River First Nation is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus does not have any Project-specific agreements with Halfway River First Nation. For a list of agreements that Halfway River First Nation has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with Halfway River First Nation in 2019 to establish an initial connection and provide information on the exploration programs and the Project. To date, Halfway River First Nation has raised concerns about caribou, elk, deer, fish, water quality, worker accommodations, and CGL pipeline safety related to the Project (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to have dialogue and communications with Halfway River First Nation to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.4 HORSE LAKE FIRST NATION

Horse Lake First Nation's territory is located east of the Project, and it extends from BC to within Alberta (Figure 6-1). Horse Lake First Nation's population is mainly residing within Horse Lakes 152B, which is located west of Hythe, Alberta. Horse Lake First Nation has a registered population on and off reserve of 1,402 (CIRNAC 2024).

Horse Lake First Nation is governed by the Chief and Council, elected for a 4-year term. The current chief is Ramona Horseman, elected in October 2021 (CIRNAC 2024).

Horse Lake First Nation is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus does not have any Project-specific agreements with Horse Lake First Nation. Horse Lake First Nation does not hold agreements with the Province of BC.

CTI Plus began communications with Horse Lake First Nation in 2020 to establish an initial connection and provide information on the exploration programs and the Project.

Horse Lake First Nation has raised concerns about the Project regarding Project-related water quality discharges as well as Project-related traffic on FSRs and regional highways (see Section 9.1 for more details on engagement effort and topics to date). Horse Lake First Nation expressed interest in conducting a site tour with CTI Plus as well as an interest in employment opportunities for the Project. CTI Plus will continue to engage with Horse Lake First Nation to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.5 MCLEOD LAKE INDIAN BAND

McLeod Lake Indian Band's territory overlaps the Project (Figure 6-1), with the main office located in McLeod Lake, BC. The main populated reserves are located on McLeod Lake 1 and McLeod Lake 5, approximately 150 km north of Prince George (McLeod Lake Indian Band 2024). McLeod Lake Indian Band has a registered population on and off reserve of 574 (CIRNAC 2024).

McLeod Lake Indian Band is governed by the Chief and Council, elected for a 3-year term. The current chief is Harley Chingee, elected in June 2023 (CIRNAC 2024). Key services include education, human resources, social and health, public works, and lands management and stewardship (McLeod Lake Indian Band 2024). McLeod Lake Indian Band Land Management department develops and implements policies and guidelines that preserve and manage the lands and resources to ensure and enhance long-term sustainability (McLeod Lake Indian Band 2024). The Land Stewardship Referrals Office is involved in engagement regarding resource development projects in the territory. The Referrals Office works with a Traditional Land Use database to ensure McLeod Lake Indian Band's Treaty 8 Rights and interests are understood and addressed in relation to resource development proposals (McLeod Lake Indian Band 2024).

McLeod Lake Indian Band is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus signed an agreement to initiate a Treaty Impact Assessment with McLeod Lake Indian Band on June 21, 2024. For a list of agreements that McLeod Lake Indian Band has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with McLeod Lake Indian Band in 2020 to establish an initial connection and provide information on the exploration programs and the Project. During this engagement, McLeod Lake Indian Band expressed an interest in undertaking a Treaty Impact Assessment, and has shared a workplan for this assessment, which includes information gathering related to traditional knowledge/traditional land use. CTI Plus signed an agreement to initiate a Treaty Impact Assessment with McLeod Lake Indian Band on June 21, 2024. The Treaty Impact Assessment will enhance the understanding of the Project's interactions with McLeod Lake Indian Band's interests and culture.

To date, McLeod Lake Indian Band has raised issues and concerns about potential impacts of the Project on wildlife and on water quality (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to have dialogue and communications with McLeod Lake Indian Band to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.6 SAULTEAU FIRST NATIONS

Saulteau First Nations' territory is located north of the Project. Saulteau First Nations population is based at East Moberly Lake 169 at the east end of Moberly Lake, approximately 20 km north of the District of Chetwynd and 90 km southwest of the City of Fort St. John. Saulteau First Nations has a registered population on and off reserve of 1,411 (CIRNAC 2024), with around 66% of members living off reserve (Saulteau First Nations 2022).

Saulteau First Nations is governed by the Chief and Council, elected for a 3-year term. The current chief is Ruby Paquette, elected in June 2023 (CIRNAC 2024). Saulteau First Nations uses a governance approach that is centred on collective, consensus-style leadership, respect for other viewpoints and roles, a sustainable future, and priorities as defined by citizens. Key services include capital and infrastructure, communications, education, health, housing, lands, Treaty rights, environmental protection, and social development (Saulteau First Nations n.d.). Saulteau First Nations strives to be self-sufficient by adopting the best sustainable practices now and in the future (Saulteau First Nations n.d.).

The Lands Office is responsible for the development, conservation, protection, management, and use of land associated with the territory and reserve lands. The Lands Office's duties include (Saulteau First Nations n.d.):

- Zoning and land use planning;
- Environmental assessment and protection;

- Hunting, fishing, and management and protection of fish, wildlife, and their habitat; and
- Archaeological assessment and protection of archaeological and cultural resources.

Saulteau First Nations is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus does not have any Project-specific agreements with Saulteau First Nations. For a list of agreements that Saulteau First Nations has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with Saulteau First Nations in 2019 to establish an initial connection and provide information on the exploration programs and the Project. In 2020, Saulteau First Nations was asked to review the AIA application. In regard to the AIA, Saulteau First Nations provided areas of concern to the BC Archaeology Branch, including of historical sites and trade routes, possible grave sites, and traditional use sites. During this engagement, Saulteau First Nations expressed willingness and interest in preparing a TK/TLU study to enhance the understanding of the Project's interactions with Saulteau First Nations' interests and culture.

To date, Saulteau First Nations has raised concerns about potential impacts of the Project on caribou, Treaty rights, selenium, and reclamation and closure (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to engage with Saulteau First Nations to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.7 WEST MOBERLY FIRST NATIONS

West Moberly First Nations' territory overlaps the Project and extends toward the north (Figure 6-1). West Moberly First Nations' population is based in West Moberly Lake 168A at the west end of Moberly Lake approximately 90 km southwest of the City of Fort St. John. West Moberly First Nations has a registered population on and off reserve of 374 (CIRNAC 2024).

West Moberly First Nations is governed by the Chief and Council, elected for a 3-year term. The current chief is Roland Willson, elected in July 2021 (CIRNAC 2024). Key services include capital projects, education, health, housing, lands, and information systems and programs (West Moberly First Nations 2024).

West Moberly First Nations Lands Department is responsible for assessing cultural health of the land, and reviewing and following up on resource development applications with a focus on protecting or mitigating effects to West Moberly First Nations culture and rights. The Lands Department provides a range of environmental, cultural, spiritual, and operational services (West Moberly First Nations 2024).

West Moberly First Nations is a signatory of Treaty No. 8 (1899). Treaty 8 outlines the rights to hunt, fish, practice cultural activities and use burial grounds within all of Treaty 8. CTI Plus signed an exploration agreement with West Moberly First Nations in August 2020, prior to drilling activities. The agreement outlines the approach for technical experts to conduct independent technical investigation. Based on West Moberly First Nations' recommendations from their technical review, CTI Plus cancelled a number of drillholes that were close to a culturally sensitive area. For a list of agreements that West Moberly First Nations has with the Province of BC and other development projects, refer to the Engagement Plan (CTI Plus 2024).

CTI Plus began communications with West Moberly First Nations in 2019 to establish an initial connection and provide information on the exploration programs and the Project. In 2020, West Moberly First Nations was asked to review the AIA application. West Moberly First Nations provided areas of concern to the BC Archaeology Branch, including of historical sites and trade routes, possible grave sites, and traditional use sites. During early engagement, West Moberly

First Nations expressed willingness and interest in preparing a TK/TLU study to enhance the understanding of the Project's interactions with West Moberly First Nations' interests and culture.

To date, West Moberly First Nations has raised concerns about potential Project effects to air quality, archaeology, culturally sensitive areas, and has also inquired about selenium, mercury, and traffic (see Section 9.1 for more details on engagement effort and topics to date). CTI Plus will continue to engage with West Moberly First Nations to discuss the Project as it advances through design and the regulatory process, and work to develop a path to resolution for identified issues and concerns.

6.8 MÉTIS

The Métis people are individuals of mixed Indigenous and European heritage. As a designated Indigenous group under section 35(2) of the *Constitution Act*, 1982, the rights of Métis people are recognized. Métis people reflect Indigenous and non-Indigenous cultures, including stewardship, respect for the land and its resources, and traditional livelihoods. The Métis language is derived from French and an Indigenous language (most commonly Cree) with some additional words from English and other Indigenous languages.

6.8.1 METIS NATION BRITISH COLUMBIA

Métis Nation British Columbia (MNBC) is the Governing Nation for Métis in BC. It represents 39 Chartered Communities across the province. There are around 25,000 registered Métis Citizens and over 98,000 self-identified Métis in BC (MNBC 2024). The MNBC represents BC Métis interests with the federal and provincial governments. The MNBC Constitution asserts the right of self-determination and pursuit of "political, legal and constitutional recognition and guarantees of the rights of Métis people, including the right to a land and resource base, self-governance and self-government institutions" (MNBC 2003). MNBC does not have a land base such as reserves and do not assert Aboriginal title (MNBC 2023).

Table 6.8-1 lists the five Métis communities located in northeastern BC, in the same region as the Project. These communities are also shown on Figure 6-1.

TABLE 6.8-1 MÉTIS COMMUNITIES AND DISTANCE TO PROJECT

Métis Community	Associated Municipality	Distance from the Project Footprint (km)	Direction from the Project
Moccasin Flats Métis Society	Chetwynd	47	North-northeast
Fort St. John Métis Society	Fort St. John	123	Northeast
River of the Peace Métis Society	Hudson's Hope	81	North
North East Métis Association	Dawson Creek	114	East-northeast
Kelly Lake Métis Settlement Society	Kelly Lake	115	East

6.8.2 KELLY LAKE MÉTIS SETTLEMENT SOCIETY

The Kelly Lake Métis Settlement Society (KLMSS) is an organization that represents Métis in the community of Kelly Lake, BC. The Kelly Lake community was established around 1910 by Métis migrating west (Dorion-Paquin and Young, n.d.), and have asserted Aboriginal rights to harvesting and trapping in the Kelly Lake area.

CTI Plus has introduced the Project to KLMSS via email on July 19, 2024, as well as through sharing the draft Engagement Plan and IPD. Through email correspondences and phone calls, CTI Plus is currently developing plans to engage on the Project at a time suitable for KLMSS President. CTI Plus plans to engage the KLMSS regarding their preferred methods for engagement, their interests in the Project and the Project area, as well as potential issues or concerns with the Project.

6.9 OTHER INDIGENOUS NATIONS

In addition to the Indigenous nations listed above, other Indigenous nations in northeast BC may be interested in and potentially affected by the Project and may self-identify as participating Indigenous nations throughout the EA process. These include:

- Prophet River First Nation, a signatory of Treaty 8, is located about 100 km south of Fort Nelson on the Alaska Highway. Their registered population is 297 people (CIRNAC 2024); and
- Fort Nelson First Nation, a signatory of Treaty 8, is located 7 km south of Fort Nelson on the Alaska Highway. Their population, on and off reserve, is 1,006 people (CIRNAC 2024).

6.10 SUMMARY OF INDIGENOUS INTERESTS

Based on initial engagements between CTI Plus and Indigenous nations (see the Engagement Plan for additional details), issues and concerns about the Project have included:

- Air quality, raised by West Moberly First Nations;
- Archeological sites and culturally sensitive sites, raised by West Moberly First Nations;
- Caribou and caribou habitat, raised by Halfway River First Nation, McLeod Lake Indian Band, and Saulteau First Nations;
- CGL pipeline proximity to proposed Project infrastructure, raised by Halfway River First Nation and Saulteau First Nations;
- Closure and reclamation, raised by Saulteau First Nations;
- Fish and fish habitat, raised by Halfway River First Nation;
- Land use and cumulative effects on territories and Treaty 8 Rights, raised by Saulteau First Nations;
- Selenium and mercury affecting water quality, raised by Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations;
- Traffic, raised by Horse Lake First Nation and West Moberly First Nations;
- Wildlife and wildlife habitat, raised by McLeod Lake Indian Band; and
- Worker accommodations, raised by Halfway River First Nation.

Engagement with Indigenous nations is a core component of the CTI Plus engagement program. CTI Plus is committed to ongoing engagement with Indigenous nations to identify and further understand Indigenous interests, issues and concerns, and will work to develop a path to resolution for identified issues and concerns. As further detailed in the Engagement Plan (CTI Plus 2024), CTI Plus is conducting desktop and field studies to understand biophysical and socio-economic contexts. Findings from the studies will be shared with Indigenous nations and be used to inform the assessment of potential effects of the Project. Details on how CTI Plus plans to engage with Indigenous nations to identify and consider Indigenous interests, issues, and concerns are provided in the Engagement Plan (CTI Plus 2024). Feedback from Indigenous nations will be considered by CTI Plus in project design and the development of mitigation measures.

See Section 10 for an overview of potential interactions and effects associated with the Project. Table 10-1 shows that there are potential Project interactions between various Project components and the physical environment, terrestrial environment, human and socio-economic environment, and Indigenous rights and title. These interactions can lead to potential effects on traditional, current, and future use of the land, as well as Indigenous rights. Table 10-2 further summarizes some of the potential Project effects and their mitigations. Project interactions and potential effects will be assessed and mitigated throughout the assessment process.

7. EXISTING PHYSICAL, BIOLOGICAL, AND HUMAN ENVIRONMENT

This section summarizes the existing physical, biological, and human environment surrounding the Project site, based on information available to date. This section has been informed by Project-specific studies completed to date, provincial and federal datasets, and other previous environmental assessments applications completed in the region, including:

- Sukunka Coal Mine Project (Stantec 2015);
- Brule Mine (Western Canadian Coal 2005); and
- Murray River Coal Project (ERM Rescan 2014).

CTI Plus initiated baseline studies in 2023 and will continue with additional studies in 2024 and 2025. See Table 7-1 for a list of baseline studies and activities completed to date and known for 2024 and 2025. Indigenous input into to the scope, nature, and findings of the baseline studies will be incorporated as part of ongoing and pending engagement work.

TABLE 7-1 SUMMARY OF HISTORICAL, CURRENT, AND PLANNED ENVIRONMENTAL, SOCIAL, AND HUMAN BASELINE STUDIES

Discipline	Years Active	Study Activities
Climate	2023, 2024, 2025	• Installation of two new meteorological stations; and • Operation of stations.
Air Quality	2023, 2024, 2025	• Installation of $PM_{2.5}$ and PM_{10} equipment (Valley station); • Installation of dustfall stations (Valley station, Rail Loadout Facility); and • Operation of monitoring equipment.
Noise	2024, 2025	• Baseline noise monitoring (Rail Loadout Facility, Valley station, other locations).
Hydrology	2023, 2024, 2025	• Discharge measurements.
Hydrogeology	2023, 2024, 2025	• Quarterly sampling at 10 groundwater monitoring wells in 2023; and • Installation and monitoring of six additional wells in 2024.
Fish and Fish Habitat	2024, 2025	• Desktop review of historical data; • Reconnaissance fish and fish habitat inventory, fish habitat assessments, and barrier assessments; • Watercourse crossing assessments for road upgrades and transmission line; • Collection of fish tissue samples (targeting slimy sculpin and rainbow trout); and • Overwintering study.
Aquatic Resources	2024, 2025	• Collection of sediment quality samples; • Collection of benthic invertebrate community and tissue samples; and • Collection of periphyton community, biomass, and tissue samples.
Water Quality	2023, 2024, 2025	• Collection of surface water quality samples and measurement of in-situ water quality.
Wildlife	2023, 2024, 2025	• Avian point-count, call-playback, and ARU surveys; • Amphibian pond-breeding surveys; • Bat ARU surveys; • Remote camera study; and • Habitat assessment and modelling.

Discipline	Years Active	Study Activities
Ecosystems/ Wetlands	2024, 2025	• Terrestrial Ecosystem Mapping and Predictive Ecosystem Mapping; • Rare and culturally important plants and ecosystems surveys; • Invasive plants survey; • Wetland function assessments; and • Trace metal uptake sampling.
Geochemistry	2024, 2025	• Characterization from the 2020 exploration cores; and • Additional drilling for geochemical assessment.
Socio-economic	2024	• Project socio-economic desktop study and data collection (e.g., key informant interviews); and • Considerations for GBA Plus analysis (e.g., identification of under-represented or sub-population groups)
Non-Traditional Land and Resource Use	2024	• Desktop studies and interviews; and • Considerations for GBA Plus analysis
TK/TLU	2024, 2025	• Development of TK/TLU study methodologies with Indigenous nations or support Indigenous nations in conducting independent studies; and • Incorporation of TK/TLU in discipline studies subject to information sensitivity.
Archaeology / Cultural Heritage & Paleontology	2020 (exploration), 2024, 2025	• Completion of an AIA; and • Completion of a Paleontological Impact Assessment.
Human Health	2024, 2025	• Desktop study; • Human health risk assessment; and • Considerations for GBA Plus analysis.

Notes:
AIA = Archaeological Impact Assessment; ARU = autonomous recording unit; GBA = gender-based analysis; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; PM_{10} = particulate matter with a diameter of 10 microns or less; TK/TLU = Traditional Knowledge / Traditional Land Use

7.1 PHYSICAL ENVIRONMENT

7.1.1 ATMOSPHERICS

The Project is in a region of northeast BC marked by the Rocky Mountains to the west and an extension of the Prairies to the east. The terrain is generally flat but steadily rises approaching the Rockies. Climate in this area is influenced by topography and two principal air masses: the maritime Pacific and the continental Arctic. Regional climate may be classified as northern temperate and distinguished by cold winters and cool summers. Chinook conditions can emerge during southwesterly flow that can cause periodic warming during the winter.

The closest regional meteorological station is Chetwynd A. For the period 1981 to 2010, the mean daily temperature was 3.0 degrees Celsius (°C), and the mean daily maximum and minimum temperatures were 9.1°C and -3.0°C, respectively (ECCC 2024). The mean annual precipitation at the Chetwynd A station was 440.6 millimetres (mm).

The prevailing wind direction at the Chetwynd airport in 2015 indicates the prevalence of southwesterly flow in the region at moderately high speeds. This wind pattern is expected to be consistent with that at the Project site, based on initial meteorological modelling and monitoring, acknowledging that the proximity of the Rocky Mountains and valley channeling would cause some adjustment to the prominent wind direction for a particular location.

The Project is within the Northeast Air Zone, as defined by the ENV and national Canadian Ambient Air Quality Standards Air Quality Management System. In the most recent Air Quality Management System report, this air zone was assigned the "yellow" management level for fine particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$) and sulphur dioxide (SO_2) and "orange" for nitrogen dioxide (NO_2). While the zone achieved the 2020 Canadian Ambient Air Quality Standards for all air contaminants, NO_2 receives increased attention over the other air contaminants (BC ENV 2024a).

In 2023 CTI Plus installed two meteorological stations at the Project: a high elevation station (Alpine station) near the NW Block open pits and a central valley station (Valley station) between the NW and SE block open pits. The Valley station includes air quality monitoring instrumentation ($PM_{2.5}$ and PM_{10}) as well as dustfall.

7.1.2 SURFACE WATER

The Project is in the Sukunka River watershed, and the regional topography is undulating or hilly and dominated by numerous foothill ridges, which generally trend northwest to southeast and are cut by creeks and rivers, which include the Sukunka River, the lower Burnt River, and Rocky Creek. The Sukunka River flows south to north and is the primary waterway in this region. The lower Burnt River flows west to east, approximately 3 km north of the NW Block, before connecting with the Sukunka River. Rocky Creek flows from the southwest to the northeast between the NW Block and the SE Block before joining the Sukunka River.

Surface water baseline studies have been underway since 2023, including monthly surface water quality sampling, flow measurements, and installation of hydrometric stations distributed across the catchment and selected sub-catchments. Surface water monitoring and sampling will continue monthly for a 2-year period, continuing through October 2025. Additional sampling activities will include a period of weekly sampling (i.e., a 5-in-30 monitoring event) during a period of maximum hydrograph fluctuation (e.g., freshet) at core baseline sampling events. The surface water monitoring and sampling program design and implementation has been developed to meet the *Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators* Guidance (BC MOE 2016).

7.1.3 GROUNDWATER

Groundwater flow at the Project site is primarily influenced by topography, generating flow from higher to lower elevations, primarily within shallow bedrock and permeable overburden units including stream valleys. Groundwater flow in bedrock occurs primarily in the shallow bedrock (upper 50 m) of relatively higher hydraulic conductivity and within permeable overburden materials, flowing down the topographic gradient. Groundwater recharge generally occurs at higher elevations from infiltration of precipitation into the shallow and deep bedrock.

Since topography controls groundwater flow directions, catchment boundaries for both groundwater and surface water flow are the same for both the NW Block and SE Block. Groundwater baseline studies have been underway since 2023, including installation of monitoring wells and piezometers.

7.2 BIOLOGICAL ENVIRONMENT

7.2.1 ECOSYSTEMS AND VEGETATION

The Project is located within the Hart Foothills Ecosection of the Sub-boreal Interior Ecoprovince, an area of low, rounded mountains and wide valleys on the east side of the Rocky Mountains. The area surrounding the Project is characterized by relatively low, rounded ridges and valleys, ranging from 1,000 m to 2,000 m in elevation. Much of this area is within the boreal white and black spruce, sub-boreal spruce, and Engelmann spruce subalpine fir biogeoclimatic zones and is dominated by mature coniferous forest with some mixedwood forest present at lower elevations.

Ecosystem and vegetation baseline studies at the Project site will begin in 2024 and will continue in 2025 to characterize the biological environment and understand potential impacts due to Project activities. Existing Terrestrial Ecosystem Mapping will be updated, and areas requiring new mapping will be completed in accordance the Resources Information Standards Committee standards to characterize vegetation. Field verification of the Terrestrial Ecosystem Mapping is planned for the summer of 2024, with surveys for rare and culturally important plants and ecosystems, wetland function, and trace metal uptake expected to be completed in 2025.

7.2.2 WILDLIFE AND WILDLIFE HABITAT

Northeastern BC is home to a number of ungulate species, including moose (*Alces alces*), Rocky Mountain elk (*Cervus canadensis nelsoni*), white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus hemionus*), mountain goat (*Oreamnos americanus*), thinhorn sheep (*Ovis dalli*), Rocky Mountain big-horned sheep (*Ovis canadensis*), and caribou (*Rangifer tarandus*). In the 1990s, wood bison (*Bison bison athabascae*) were reintroduced to northeastern BC.

The Project is within the Southern Mountain caribou ecotype. The Local Population Unit (LPU) mapping for Southern Mountain caribou differs between the provincial and federal data. Based on draft provincial mapping, the entirety of the mine site, majority of the Site Access Road, and majority of the Transmission Line are within Matrix habitat of the Quintette LPU. The closest Core habitat for this LPU, a High Elevation Winter-Summer Range, is present approximately 8 km southeast of the Project. The Rail Loop, Rail Loadout Facility, and the Clean Coal Haul Road are within the Burnt Pine LPU, which is listed as an extirpated subpopulation (Government of BC 2024a).

Based on federal caribou mapping (Environment Canada 2014), the entirety of the mine site is outside both LPU boundaries; the majority of the Site Access Road, majority of the Transmission Line, and the Substation are within the Quintette LPU; and the Rail Loop, Rail Loadout Facility, and majority of the Clean Coal Haul Road are within the Burnt Pine LPU. A caribou mitigation plan was developed by CTI Plus to support Project exploration work (Sharpe 2020), and associated surveys identified the location of the mine site to be in Matrix habitat.

Site-specific wildlife baseline studies began in 2023. Wildlife cameras and autonomous recording units (ARUs) have been installed to collect mammal and avian data across multiple seasons, and targeted field studies are being conducted in 2024 and 2025 to characterize and understand the wildlife and wildlife habitat conditions.

7.2.3 FISH AND FISH HABITAT

The major watercourse regionally is the Sukunka River, which originates in the Rocky Mountains and flows north into the Pine River 16 km south of Chetwynd. The Sukunka River is approximately 145 km long (BC CDC 2024), has a relatively high fisheries value, and supports several regionally important sport-fish populations. Arctic grayling (*Thymallus arcticus*), mountain whitefish (*Propsopium williamsoni*), bull trout (*Salvelinus confluentus*), rainbow trout (*Oncorhynchus mykiss*), northern pike (*Esox Lucius*), longnose dace (*Rhinichthys cataractae*), longnose sucker (*Catostomus catostomus),* and slimy sculpin (*Cottus cognatus*) are all present in the Sukunka River (BC MOE 2012). A 6-m rock fall and long cascade section is located upstream of the confluence with the Burnt River and downstream of the confluence with Rocky Creek. These rock falls form a permanent fish barrier and represent the upper limit of distribution for some fish species in the Sukunka River. Populations of some species including bull trout, mountain whitefish, and rainbow trout do exist upstream of the falls (Hatfield 1998).

Rocky Creek bisects the NW and SE blocks and flows into the Sukunka River approximately 5 km downstream of CTI Plus's coal licence boundary. Species present in Rocky Creek include bull trout, finescale dace (*Chrosomus neogaeus*), longnose sucker, mountain whitefish, rainbow trout, and slimy sculpin (BC CDC 2024). Burnt River is north of CTI Plus's lease boundary and is known to have a similar fisheries assemblage as Rocky Creek, although Arctic grayling have also been observed (BC CDC 2024).

Fisheries and aquatic baseline assessments will begin in 2024 to expand CTI Plus's understanding of fish distribution and habitat suitability in the region. Critical habitat features such as important spawning, rearing, and overwintering habitat will be identified, and relative abundance of regionally important species such a bull trout will be determined. An understanding of the aquatic ecosystem interactions will also be developed through the evaluation of sediment chemistry, periphyton chemistry and composition, benthic invertebrate chemistry, and composition and fish tissue chemistry.

7.2.4 SPECIES OF CONSERVATION CONCERN

Species of conservation concern information in BC is available from both provincial and federal sources. The ENV maintains conservation information on the BC Species and Ecosystems Explorer for several thousand species in the province (BC ENV 2019). Data on known occurrences (referred to as element occurrences) are available through the BC Conservation Data Centre (BC CDC; 2021). The BC Conservation Data Centre (BC CDC) assigns a provincial rank or listing of red, blue, or yellow to a species or ecosystem based on its conservation status within BC. Red-listed species or ecosystems are considered to be at risk of being lost (i.e., Extirpated, Endangered, or Threatened) in BC, Blue-listed species or ecosystems are considered to be of Special Concern (formally Vulnerable) in BC, and Yellow-listed species or ecosystems includes any species or ecosystems that are at the least risk of being lost.

Federal species status assessments are conducted by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), established under section 14 of the *Species at Risk Act* (SARA; 2002). COSEWIC ranks each species assessed as Extinct, Extirpated, Endangered, Threatened, Special Concern, Data Deficient, or Not at Risk. Once assessed, the federal government may add species ranked as Extirpated, Endangered, Threatened, or Special Concern to Schedule 1 of SARA, which provide measures for the management and protection of these species. Prohibitions of SARA apply to those species ranked as Endangered, Threatened, or Extirpated (if there is a recovery strategy in place and these species are afforded protection of critical habitat, as defined in the relevant recovery strategy), while species ranked as Special Concern require the development of management plans.

The provincial, federal, and international conservation status was determined for those species that potentially occur in the region surrounding the Project. Table 7.2-1 identifies species of conservation concern potentially occurring in the region. For the purposes of this IPD, species of conservation concern include:

- Species or populations on the provincial Red and Blue lists and/or provincially ranked as critically imperiled, imperiled, and vulnerable (BC CDC 2021);
- Species classified by COSEWIC as Endangered, Threatened, or Special Concern (Government of Canada 2021); and
- Species listed on Schedule 1 of SARA (Government of Canada 2021).

TABLE 7.2-1 SPECIES OF CONSERVATION CONCERN POTENTIALLY OCCURRING IN THE PROJECT AREA

Common Name	Scientific Name	BC List[1]	COSEWIC[2]	SARA[3]
Amphibians				
Western toad	*Anaxyrus boreas*	Yellow	SC	1-SC (2018)
Birds				
Broad-winged hawk	*Buteo platypterus*	Yellow	-	-
Rough-legged hawk	*Buteo lagopus*	Blue	Not at Risk	-
American goshawk, atricapillus subspecies	*Accipiter atricapillus atricapillus*	Blue	Not at Risk	-
Great blue heron, herodias subspecies	*Ardea herodias herodias*	Blue	-	-
Eared grebe	*Podiceps nigricollis*	Blue	-	-
Common nighthawk	*Chordeiles minor*	Blue	SC	1-SC (2023)
Ruby-throated hummingbird	*Archilochus colubris*	Red	-	-
Olive-sided flycatcher	*Contopus cooperi*	Yellow	SC	1-SC (2023)
Barn swallow	*Hirundo rustica*	Yellow	SC	1-T (2017)
Baltimore oriole	*Icterus galbula*	Blue	-	-
Rusty blackbird	*Euphagus carolinus*	Blue	SC	1-SC (2009)
Evening grosbeak	*Coccothraustes vespertinus*	Yellow	SC	1-SC (2019)
Nelson's sparrow	*Ammospiza nelsoni*	Red	Not at Risk	-
Cape may warbler	*Setophaga tigrina*	Blue	-	-
Bay-breasted warbler	*Setophaga castanea*	Red	-	-
Black-throated green warbler	*Setophaga virens*	Blue	-	-
Canada warbler	*Cardellina canadensis*	Blue	SC	1-T (2010)
Connecticut warbler	*Oporornis agilis*	Blue	-	-
Mammals				
American water shrew	*Sorex palustris*	Blue	-	-
Big brown bat	*Eptesicus fuscus*	Yellow	-	-
Eastern red bat	*Lasiurus borealis*	Unknown	-	-
Hoary bat	*Lasiurus cinereus*	Blue	E	
Silver-haired bat	*Lasionycteris noctivagans*	Yellow	-	-
Little brown myotis	*Myotis lucifugus*	Blue	E	1-E (2014)
Northern myotis	*Myotis septentrionalis*	Blue	E	1-E (2014)
Long-eared myotis	*Myotis evotis*	Yellow	-	-
Long-legged myotis	*Myotis volans*	Yellow	-	-
Fisher	*Pekania pennanti*	Blue (Boreal population)	-	-
Wolverine	*Gulo gulo*	No Status	SC	1-SC (2018)

Common Name	Scientific Name	BC List[1]	COSEWIC[2]	SARA[3]
Grizzly bear	*Ursus arctos*	Blue	SC	1-SC (2018)
Caribou (central mountain population)	*Rangifer tarandus pop. 18*	Red	E	1-T (2003)
Caribou (southern mountain population)	*Rangifer tarandus pop. 1*	Red	E	1-T (2003)
Mountain goat	*Oreamnos americanus*	Blue	-	-
Ecosystems				
Arctic rush - Nuttall's alkaligrass - seablite	*Juncus arcticus - Puccinellia nuttalliana - Suaeda calceoliformis*	Red	-	-
Common cattail marsh	*Typha latifolia Marsh*	Blue	-	-
Narrow-leaved cotton-grass—shore sedge	*Eriophorum angustifolium - Carex limosa*	Blue	-	-
Shore sedge - buckbean / hook-mosses	*Carex limosa - Menyanthes trifoliata / Drepanocladus* spp.	Blue	-	-
Tufted clubrush / golden star-moss	*Trichophorum cespitosum / Campylium stellatum*	Blue	-	
Narrow-leaf willow shrubland	*Salix exigua Shrubland*	Red	-	-
Black spruce / lingonberry / peat-mosses	*Picea mariana / Vaccinium vitis-idaea / Sphagnum* spp.	N/A	-	-
Tamarack / scrub birch / buckbean	*Larix laricina / Betula nana / Menyanthes trifoliata*	Blue	-	-
Lodgepole pine / black huckleberry / reindeer lichens	*Pinus contorta / Vaccinium membranaceum / Cladina* spp.	Blue	-	-
Lodgepole pine / few-flowered sedge / peat-mosses	*Pinus contorta / Carex pauciflora / Sphagnum* spp.	Blue	-	-
White spruce—black spruce / Labrador-tea / glow moss	*Picea glauca - Picea mariana / Rhododendron groenlandicum / Aulacomnium palustre*	Blue	-	-
White spruce—lodgepole pine / soopolallie / showy aster	*Picea glauca - Pinus contorta / Shepherdia canadensis / Eurybia conspicua*	Blue	-	-
White spruce - subalpine fir / black huckleberry / red-stemmed feathermoss	*Picea glauca - Abies lasiocarpa / Vaccinium membranaceum / Pleurozium schreberi*	Blue	-	-
White spruce / oak fern—wild sarsaparilla	*Picea glauca / Gymnocarpium dryopteris - Aralia nudicaulis*	Blue	-	-
White spruce / red swamp currant / horsetails	*Picea glauca / Ribes triste / Equisetum* spp.	Blue	-	-
Balsam poplar—white spruce / mountain alder - red-osier dogwood	*Populus balsamifera - Picea glauca / Alnus incana - Cornus sericea*	Blue	-	-
Pacific willow / red-osier dogwood / horsetails	*Salix lasiandra var. lasiandra / Cornus sericea / Equisetum* spp.	Blue	-	-
Subalpine fir / alders / horsetails	*Abies lasiocarpa / Alnus* spp. */ Equisetum* spp.	Blue	-	-
Mat muhly—arctic rush—Nevada bluegrass	*Muhlenbergia richardsonis - Juncus arcticus - Poa secunda* ssp. *juncifolia*	Red	-	-

Common Name	Scientific Name	BC List[1]	COSEWIC[2]	SARA[3]
Vegetation				
Arkansas rose	*Rosa arkansana*	Blue	-	-
Davis' locoweed	*Oxytropis campestris var. davisii*	Yellow	-	-
One-flower oxytrope	*Oxytropis nigrescens var. uniflora*	Unknown	-	-
Seneca-snakeroot	*Polygala senega*	Red	-	-
Slender penstemon	*Penstemon gracilis*	Blue	-	-
Pink campion	*Silene repens*	Blue	-	-
Prairie buttercup	*Ranunculus rhomboideus*	Blue	-	-
Heart-leaved buttercup	*Ranunculus cardiophyllus*	Red	-	-
Northern Jacob's-ladder	*Polemonium boreale*	Unknown	-	-
Purple rattlesnake-root	*Nabalus racemosus*	Red	-	
Marsh fleabane	*Tephroseris palustris*	Blue	-	-
Meadow willow	*Salix petiolaris*	Blue	-	-
Common pitcher-plant	*Sarracenia purpurea ssp. purpurea*	Red	-	-
Canada ricegrass	*Piptatheropsis canadensis*	Red	-	-
Gardner's sagebrush	*Atriplex gardneri var. gardneri*	Red	-	-
Rock selaginella	*Selaginella rupestris*	Red	-	-
Bear paw	*Nephroma helveticum ssp. helveticum*	Blue	-	-
Chestnut pelt	*Peltigera castanea*	Red	-	-
Creeping sulphur	*Fulgensia subbracteata*	Blue	-	
Crumpled tarpaper	*Collema coniophilum*	Red	T	1-T (2017)
Greater eye shadow	*Phaeophyscia ciliata*	Blue	-	-
Northwest waterfan	*Peltigera gowardii*	Red	SC	1-SC (2018)
Rockfrog	*Xanthoparmelia camtschadalis*	Red	-	-
Dry-land sedge	*Carex xerantica*	Blue	-	-
Torrey's sedge	*Carex torreyi*	Blue	-	-
Fennel-leaved desert-parsley	*Lomatium foeniculaceum var. foeniculaceum*	Blue	-	-
Fish				
Bull trout	*Salvelinus confluentus*	Blue	SC	-

Notes:
BC = British Columbia; COSEWIC = Committee on the Status of Endangered Wildlife in Canada; N/A = not applicable; SARA = *Species at Risk Act*, 2002

[1] BC List Status: Red = Extirpated, Endangered, or Threatened; Blue = Special Concern; Yellow = Not At Risk (BC CDC 2021).

[2] COSEWIC Ranks: E = Endangered; T = Threatened; SC = Special Concern (Government of Canada 2021).

[3] SARA (2002) Federal Schedule 1 Rank: E = Endangered; T = Threatened; SC = Special Concern (Government of Canada 2021).

Baseline studies currently underway will further inform the Project's understanding of species of conservation concern in the region. Searches will be re-run and species and ecological communities will be updated in concert with baseline field studies, as well as through engagement with Indigenous nations and regulators, as the Project progresses.

7.3 HUMAN ENVIRONMENT

The following subsections provide an overview of existing conditions within the human environment surrounding the Project. This overview is based on currently available information, which will be refined through baseline studies that CTI Plus plans to initiate in 2024.

7.3.1 LAND MANAGEMENT PLANS, BOUNDARIES AND ZONING

The Project is located in Treaty 8, and within the territories of Blueberry River First Nations, Doig River First Nation, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations (Government of Canada 1966). CTI Plus acknowledges that the Project is also close to MNBC charted communities.

Treaty 8 Nations reached consensus with the Province of BC on a collaborative approach to land and resource planning (Government of BC 2023b). The initiatives discussed as part of the consensus are included in the *Consensus Document* (Government of BC 2024b) that describes the Crown's obligations to uphold the rights of Treaty 8 First Nations, restore the environment, and support responsible resource development and economic activity in northeast BC (Government of BC 2023b). A list of initiatives also includes new land use plans development. No further information about new land use plans is publicly available.

The Project is located within the boundaries of the Dawson Creek Land and Resource Management Plan (DCLRMP). The DCLRMP is a strategic planning framework for resource development, approved in March 1999. The DCLRMP has land and resource management objectives to reduce land and resource use conflicts, while providing economic security for resource development (BC MOF 1999). The DCLRMP separates and classifies Crown land within the Dawson Creek area into 12 resource management zones. Each resource management zone has specific resource values and management objectives, setting out the type of activities (e.g., timber harvesting, trapping, hunting, fishing, recreation) and level of intensity permitted in each zone. The Project is located in the South Peace resource management zone, which includes lands with existing intensive resource development or with future potential development; where special or combined resource management emphasis is prioritized; and in full compliance with existing regulations, where investments in resource development and enhancement are encouraged (BC MOF 1999).

The Project is within the area covered by the Regional Strategic Environmental Assessment,[1] an agreement between BC and seven Treaty 8 First Nations.[2] The parties are assessing the cumulative effects of natural resource development activities within an area near the Montney shale gas basin. The results of the assessment will be used to inform and recommend management responses on the exercise of Treaty 8 rights (Government of BC 2023c).

The *Provincial Operational Restoration Framework for Woodland Caribou Habitat Restoration* (BC FLNRORD 2021) was developed to provide a common approach to planning, implementing, and monitoring caribou site level restoration initiatives in BC. The framework is designed to provide guidance for restoration projects (Government of BC 2023d).

[1] The Regional Strategic Environmental Assessment agreements are developed by Regional Stewardship Forums that have been established in the Skeena, Omineca, Northeast, and North Coast regions to identify and develop projects according to priorities in each area (Government of BC 2023c).

[2] Blueberry River First Nation, Doig River First Nation, Halfway River First Nation, Prophet River First Nation, Saulteau First Nations, West Moberly First Nation, and McLeod Lake Indian Band.

The Project overlaps with the Burnt Pine and Quintette range boundaries (Government of BC 2024a). The Quintette range has a draft Woodland Caribou Plan outlining its subpopulation, threats and limiting factors, management history, implications to other wildlife and values, and recommended actions (Government of BC n.d.).

On February 21, 2020, the governments of Canada and BC and Saulteau and West Moberly First Nations finalized two conservation agreements for the Southern Mountain Caribou, under Section 11 of the federal *Species at Risk Act*: 1) a Section 11 conservation agreement between Canada and British Columbia (ECCC 2020b) and 2) a partnership agreement between Saulteau First Nations, West Moberly First Nations, Canada, and BC (ECCC 2020c). The bilateral Section 11 agreement establishes a framework for cooperation and sets out immediate and long-term measures in support of Southern Mountain Caribou conservation and recovery in each of the northern, central, and southern groups of the species in the province. The partnership agreement focuses on populations in the central group and proposes immediate and long-term protections for critical habitat, among other measures. Subsequently on June 14, 2024, the governments of Canada and BC announced the expansion of Klinse-Za/Twin Sisters Park, encompassing nearly 200,000 ha north of the Project, across Highway 97. A management plan for the park is planned to be developed with Saulteau and West Moberly First Nations (BC ENV 2024b).

No federal regional or strategic assessments, studies, or plans have been undertaken in the area surrounding the Project under sections 92,93, or 95 of the IAA (2019).

7.3.2 NON-TRADITIONAL LAND USE AND TENURE

The Project is located on coal licences held by CTI Plus. Other mineral tenures held in the area include coal licences held by Conuma Coal Resources Ltd. and First Coal Corporation. The Project will use the Hasler Creek FSR as the Clean Coal Haul Road and Sukunka River FSR as the Site Access Road.

Land and resource uses within the area surrounding the Project include mining, forestry, trapping, guided hunting, commercial recreation, and outdoor recreation (including fishing, hunting, camping, hiking, snowmobiling, all-terrain vehicle riding, and backcountry skiing).

There are private land parcels located along the Sukunka River FSR (Parcel Identifier [PID] 009621351), at the junction of Sukunka River FSR and Highway 29 (PIDs 004301340, 01153345, 014827115, and 025084291), and at the Rail Loadout Facility and Rail Loop next to Highway 97 (PIDs 004522273, 028084322, 014913569, and 014903121).

The agricultural capability of the area surrounding the Project has been classified as non-arable but capable of producing native and/or uncultivated perennial forage crops, or having no capability for arable culture (i.e., classifications 6 and 7; Agriculture and Agri-Food Canada 2013). Agricultural Land Reserve areas exist alongside the Sukunka River valley and Highway 97 and would overlap the Transmission Line and Substation, Site Access Road, and the Rail Loop and Rail Loadout Facility.

The Project overlaps with Tree Farm Licence 48 (Block 4), held by Canadian Forest Products Ltd. and an Occupant Licence to Cut (OLTC) held by CTI Plus. Old Growth Management Areas are located along Highway 97 and the Sukunka River FSR. Forest harvesting has been, and continues to be, active in the region. The diversity of terrain and climate has led to considerable variation in tree species and productivity. Forest productivity ratings for the area are generally moderate to low due to poor soil development (Government of BC 2023d).

Oil and gas rights-of-ways and tenures overlap with the Project, with additional well sites and pipelines located in the region. There is also a helipad associated with the CGL Pipeline within the Project's coal licences but the Project footprint does not overlap with this feature.

The Project overlaps a windpower investigative licence (Windpower Tenure #8014895). Such licences allow up to 10 years for site investigation and to obtain information required to complete a development plan. There are no publicly available development plans for Windpower Tenure #8014895.

The Project overlaps four provincially registered traplines (TR0 722 T001, TR0 722 T002, TR0 722 T003, and TR0 722 T006) and three guide outfitter areas (Certificate 701266, 701267 and 750007). Another guide outfitter area is adjacent the Sukunka River FSR (Certificate 750013). Fishing and boating on the Sukunka and Pine rivers are common recreational activities within the vicinity of the Project. The nearest recreation sites are Boulder Lake (REC6204), located 10 km east, and Windfall Creek (REC1359) located 12 km south of the Project. The Sukunka River FSR is used for recreational travel and access.

7.3.3 PARKS AND PROTECTED AREAS

Sukunka Falls Park is located 9 km northeast from the Project and has a variety of recreational opportunities including fishing, hiking, picnicking, and camping. Visitors to this park are advised to use extreme caution when travelling the Sukunka River FSR and have the radio frequency to maintain contact with the truck traffic (BC Parks 2024a).

Hole-in-the-wall Park is located 16 km south from the Project and is named after the resurgence spring that emerges from a limestone rock wall. The park provides opportunities for hiking, wildlife viewing, horseback riding, and winter recreation. The park is located 50 km from the start of the Sukunka River FSR at Highway 29 and has no reported advisories (BC Parks 2024b).

7.3.4 ARCHAEOLOGICAL RESOURCES

Six previously identified archaeological sites (GhRl-1, GhRl-2, GhRk-2, GhRk-3, GhRk-5, and GhRk-6) are located within 5 km of CTI Plus's coal licence boundaries (Ecofor Consulting Ltd. 2020a).

CTI Plus completed an AIA in advance of the 2020 exploration program (Ecofor Consulting Ltd. 2020a, 2020b, 2020c). Eight areas of moderate to high archaeological potential were observed in the SE Block, and 66 shovel tests were conducted with negative results. Nine areas of moderate archaeological potential were observed in the NW Block, and 105 shovel tests were conducted with negative results.

CTI Plus is planning to initiate an AIA and Fossil Impact Study on the Project footprint in 2024 and 2025 to support the EAC/EIS Application.

7.3.5 SOCIO-ECONOMIC CONDITIONS

The Project is located in the Peace River Regional District (PRRD). The PRRD has a population of 66,477 residents, 7 incorporated communities and 4 electoral areas that represent over 40 unincorporated communities (PRRD 2024). Services provided by the PRRD includes community planning, community recreation, fire protection, water and sewage services, solid waste management, and nuisance regulation. The primary industries in the area include oil and gas, coal mining, ranching, tourism, and forestry. Since the early 1980s, oil and gas development, forestry, and coal development have been key economic drivers in the region. During this period, the development of hydrocarbon resources has

contributed significantly to the provincial economy. Past, current, and reasonably foreseeable major projects in the region are provided in Table 10.3-1 in Section 10.3.

There are seven incorporated communities within the PRRD: Chetwynd, Tumbler Ridge, Hudson's Hope, Dawson Creek, Pouce Coupe, Taylor, and Fort St. John. Each community is described below, in order of closest proximity to the Project (Figure 6-1).

7.3.5.1 CHETWYND

Chetwynd is located in the foothills of the eastern slope of the Rocky Mountains, approximately 47 km northeast of the Project, at the junction of Highways 97 and 29 and the CN rail line. Chetwynd has tourism and outdoor activities, ranging from camping to visiting a heritage museum (Chetwynd 2024). As of 2021, the population of the District Municipality of Chetwynd is 2,302, down 8% from 2016 (Statistics Canada 2021).

Chetwynd has a labour force of 1,275 people, with a participation rate of 67.6%. At 7.1%, unemployment in Chetwynd is lower than the provincial and PRRD rates (which are 8.4% and 8.8%, respectively). Nearly 11% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Chetwynd in 2020 was $60,950 (Canadian dollar [CAD]), which was slightly higher than the provincial average (Statistics Canada 2021).

Chetwynd is within the School District (SD) 59, Peace River South and has three elementary schools (Grades Kindergarten [K]-7) and one secondary school (grades 8-12), and an independent school (grades K-12) (Government of BC 2024c). Chetwynd has a satellite campus associated with Northern Lights College (NLC; NLC 2024).

The District of Chetwynd hosts a landfill that is operated by the PRRD. The landfills accept a variety of items but does not accept liquid waste, hazardous waste, smouldering ashes and oil, gas and industrial waste (PRRD n.d.).

The District of Chetwynd has a water treatment plant that sources water from the Pine River. Many rural properties outside of the District of Chetwynd's boundary also use the water produced by the treatment plant by filling tanks at the bulk water filling station (District of Chetwynd 2023).

7.3.5.2 TUMBLER RIDGE

Tumbler Ridge is located approximately 57 km southeast of the Project, at the intersection of Highway 52 and Highway 29, with a branch of the CN rail line through the Rocky Mountains. Tumbler Ridge is known for its tourism and outdoor activities. The community of Tumbler Ridge is home to the Tumbler Ridge UNESCO (United Nations Educational, Scientific and Cultural Organization) Global Geopark, one of the largest Geoparks in North America (Tumbler Ridge 2024). As of 2021, the population of the District Municipality of Tumbler Ridge is 2,399, up 20.7% from 2016 (Statistics Canada 2021).

Tumbler Ridge has a labour force of 1,230 people, with a participation rate of 65.3%. At 7.7%, unemployment in Tumbler Ridge is lower than the provincial and PRRD rates. Almost 37% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Tumbler Ridge in 2020 was $67,300 (CAD), which was higher than the provincial average (Statistics Canada 2021).

Tumbler Ridge has one elementary school (grades K-6) and one secondary school (7-12) , administered by SD 59, Peace River South (Government of BC 2024c). Tumbler Ridge has a satellite campus associated with NLC (NLC 2024).

Tumbler Ridge hosts a transfer station, operated by the PRRD, and a share shed operated by the District of Tumbler Ridge (PRRD n.d.).

Tumbler Ridge has a water treatment plant that has various water sources. Two groundwater wells at Flatbed Creek are the primary supply wells for the community water system. During high water demand situations, two additional wells off Highway 52 are used to supply water to Tumbler Ridge's Industrial Park. Tumbler Ridge also has a bulk water facility to supply water to commercial water haulers (District of Tumbler Ridge 2023).

7.3.5.3 HUDSON'S HOPE

Hudson's Hope is located approximately 82 km northeast of the of the Project, along the Peace River in the Rocky Mountain foothills. Hudson's Hope is known for its hydropower industry and contribution to the province's grain production (Hudson's Hope 2024). As of 2021, the population of the District Municipality of Hudson's Hope is 841, down 17.1% from 2016 (Statistics Canada 2021)

Hudson's Hope has a labour force of 380 people, with a participation rate of 57.6%. At 6.6%, unemployment in Hudson's Hope is lower than the provincial and PRRD rates. Less than 3% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Hudson's Hope in 2020 was $54,600 (CAD), which was slightly higher than the provincial average (Statistics Canada 2021).

Hudson's Hope has a range of public schools offering a range of school grades: there are 11 elementary schools (grades K-6), five elementary/junior high (grades K-7/8/9/10), three junior high schools (grades 7-10), one secondary school (grades 10-12), and two elementary/middle/secondary schools (grades K-12). These schools are administered by SD 60, Peace River North. In addition, within SD 60 there are two independent schools (grades K-9; 4-9 respectively; Government of BC 2024c). Hudson's Hope also has an access centre for NLC (NLC 2024).

Hudson's Hope has a water treatment plant built in 2021 to supply water to its residents connected to its municipal water system. In 2021, the plant experienced system failures including a series of Boil Water Notices and Do Not Consume Orders for 12 months. Since mid-July 2023, Hudson's Hope has had a temporary water treatment plant, resulting in no Boil Water Notices (District of Hudson's Hope 2024a). Residents who are not connected to the system can purchase water from its Residential Water Stands, facilitated by the Hudson's Hope Public Works and Engineering Department (District of Hudson's Hope 2024b).

7.3.5.4 MACKENZIE

Mackenzie is located approximately 82 km northwest of the Project, near the Williston Lake Reservoir, at the end of a branch of the CN rail line (Mackenzie 2024). As of 2021, the population of Mackenzie is 3,281, down 11% from 2016 (Statistics Canada 2021).

Mackenzie has a labour force of 1,905 people, with a participation rate of 67.1%. At 12.3%, unemployment in Mackenzie is much higher than the provincial rate and the Regional District of Fraser-Fort rate (at 9.1%). About 4% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Mackenzie in 2020 was $55,800 (CAD), which was slightly higher than the provincial average (Statistics Canada 2021).

Mackenzie has one elementary school (grades K-6) and one secondary schools (grades 7-12) , with are within SD 57, Prince George (Government of BC 2024c). Mackenzie also has a satellite campus associated with the College of New Caledonia (College of New Caledonia 2024).

Mackenzie has three separate water distribution systems (town, airport, and Gantahaz) which are supplied by wells and an open water reservoir for the airport system (District of Mackenzie 2024).

7.3.5.5 DAWSON CREEK

Dawson Creek is one of the larger cities in northeast BC, located 115 km northeast of the Project, at the junction of Highways 97, 49, and 2, and the CN rail line. The city is a transportation hub between northeast BC and northwest Alberta (Dawson Creek 2024). According to 2021 census data, the population of Dawson Creek was 12,323, up by 1.2% from 2016 (Statistics Canada 2021).

Dawson Creek has a labour force of 6,790 people, with a participation rate of 69.6%. At 9.8%, unemployment in Dawson Creek is higher than the provincial and PRRD rates. Over 12% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Dawson Creek in 2020 was $55,450 (CAD), which was slightly higher than the provincial average (Statistics Canada 2021).

Dawson Creek has six elementary schools (grades K-7), two elementary/junior high schools (grades 1-9; 1-10) and one secondary school (grades 8-12) and two independent schools (K-7; K-12) administered by SD 59, Peace River South (Government of BC 2024c). Dawson Creek has a satellite campus associated with the NLC (NLC 2024).

Dawson Creek has a water supply system that sources from the Kiskatinaw River including a Level 4 water treatment plant (City of Dawson Creek 2024).

7.3.5.6 POUCE COUPE

Pouce Coupe is located approximately 119 km east of the Project, near the city of Dawson Creek and the BC-Alberta provincial border. Pouce Coupe is considered a “bedroom community”, where people reside and then leverage economic opportunities and services in the nearby and larger urban centre of Dawson Creek (Pouce Coupe 2024). According to census data, the population of the Village of Pouce Coupe is 762, down 3.8% from 2016 (Statistics Canada 2021).

Pouce Coupe has a labour force of 385 people, with a participation rate of 66.4%. At 16.9%, unemployment in Pouce Coupe is higher, and nearly twice, the provincial and PRRD rates. Over 19% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Pouce Coupe in 2020 was $58,800 (CAD), which was higher than the provincial average (Statistics Canada 2021).

Pouce Coupe has one elementary public school (grades K-7) administered by SD 59, Peace River South (Government of BC 2024c).

Pouce Coupe has a waterworks retention and distribution system and purchases water from the City of Dawson Creek (Pouce Coupe 2024).

7.3.5.7 TAYLOR

Taylor is located approximately 122 km northeast of the Project, near the city of Fort St. John, on the northern banks of the Peace River, with the CN rail line passing between Chetwynd and Fort St. John. Taylor hosts the annual World’s Invitational Class “A” Gold Panning Championships (Taylor 2024). The 2021 census data indicates the population of Taylor is approximately 1,317, over 10% down from 2016 (Statistics Canada 2021).

Taylor has a labour force of 695 people, with a participation rate of 67.5%. At 12.2%, unemployment in Taylor is much higher than the provincial and PRRD rates. Over 15% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Taylor in 2020 was $61,000 (CAD), which was higher than the provincial average (Statistics Canada 2021).

Taylor has one elementary public school (grades K-6) administered by SD 60, Peace River North (Government of BC 2024c). Taylor has a Public Works and Operations department that manages its water supply system (District of Taylor 2024). Taylor also has a wastewater treatment plant which received provincial and federal funding for an upgrade announced in May 2023 (Housing, Infrastructure and Communities Canada 2023).

7.3.5.8 FORT ST. JOHN

Fort St. John is the largest city in northeast BC, located 124 km northeast of the Project, near the junction of Highways 97 and 29 and the CN rail line. As the city is the largest and most populated municipality in the area, it is central to natural resource development, agriculture, and travel in the vicinity (Fort St. John 2024). In 2021, the population of Fort St. John was 21,465 people, up 5.9% from 2016 (Statistics Canada 2021).

Fort St. John has a labour force of 12,600 people, with a participation rate of 75.9%. At 8.9%, unemployment in Fort St. John is higher than the provincial and PRRD rates. Nearly 11% of the labour force is employed by the mining, quarrying, and oil and gas extraction industries. The average total income for Fort St. John in 2020 was $63,400 (CAD) ($78,400 for men and $47,600 for women), which was higher than the provincial average (Statistics Canada 2021).

Fort St. John has six elementary schools (grades K-6), two elementary/junior high schools (grades K-8; K-9), three junior high schools (grades 7-9; 10), and one secondary school (grades 10-12), as well as one independent school (K-9) administered by SD 60, Peace River North (Government of BC 2024c). Fort St. John has a satellite campus associated each with NLC (NLC 2024) and the University of Northern British Columbia (University of Northern British Columbia 2024).

Fort St. John has a water supply system sourcing from five wells located near Taylor, pumped to the City of Fort St. John's water treatment facility (Fort St. John 2024).

7.3.6 HEALTH SERVICES

The Project is located within Local Health Area 531 (Peace River South), which is within Health Service Delivery Area 53 (Northeast) of the Northern Health authority (Northern Health) (Northern Health 2024a). Northern Health provides services including hospital services, mental health and substance use, Indigenous health, environmental health, end-of-life care / palliative care, and home and community care. Northern Health also provides various programs related to dental health, chronic diseases, and speech and language. Northern Health Connections, a bus service, is available for patients requiring transportation assistance to access services (Northern Health 2024a).

There are four hospitals in the area surrounding the Project, located in Chetwynd, Fort St. John, Dawson Creek, and Mackenzie. There are also six ambulance stations (BC Ambulance Service), located in Chetwynd, Fort St. John, Dawson Creek, Mackenzie, Hudson's Hope, and Tumbler Ridge. Two health centres (diagnostic or treatment) are located in Hudson's Hope and Tumbler Ridge (Northern Health 2024b).

The Project is located within the Northern Region of the First Nations Health Authority (FNHA). The FNHA collaborates with Northern Health on the planning, implementation, and evaluation of culturally appropriate, safe, and effective services for Indigenous nations residing in the region. The FNHA provides community-based services for Indigenous nations, largely focusing on health promotion and disease prevention. FNHA services include primary health care, medical services for children, youth and maternal health, communicable disease control, and health and wellness planning (FNHA 2024). Health and wellness centres located in the reserves are associated with the following First Nations: Blueberry River First Nations, Doig River First Nation, Halfway River First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations.

8. PUBLIC AND ENVIRONMENTAL SAFETY

Potential effects from accidents or malfunctions would be assessed in the EAC/EIS Application and could include:

- Spill incidents to land, water, or air, including release of hazardous materials stored onsite (reagents, fuel, or oils);
- Release of contaminants to watercourses;
- Slope failures in open pits or waste rock dumps;
- Failure of material storage piles;
- Failure or breach of water containment structures;
- Motor vehicle accidents;
- Accidents resulting from explosive malfunctions such as fly rock or excessive noise;
- Fire or fire-related explosions;
- Prolonged power failure;
- Flood events;
- Landslides;
- Wildfire risk; and
- Extreme weather events, such as excessive snowfall.

Based on engagement completed to date (see Section 9), concerns have been raised on the release of selenium and mercury to watercourses, effects on wildlife (caribou, elk and deer), safety of the CGL Pipeline, and an increase in traffic as a result of Project activities. As part of Project engagement, CTI Plus is continuing to seek an understanding of the issues and concerns that Indigenous nations, local government, rightsholders, stakeholders, and the public have about accidents and malfunctions, and develop approaches to resolving the concerns through engagement as the Project progresses through the EA Process, including, where needed, developing mitigation measures (such as for water quality concerns, potential effects on caribou, traffic and road conditions). CTI Plus will work with CGL to determine final pit and infrastructure design and to develop safety protocols for working near the pipeline. See the Engagement Plan for additional detail (CTI Plus 2024).

In addition, and prior to construction, emergency response, emergency preparedness, and community response plans will be developed with input from Indigenous nations and regulators. These plans will include contact information for Indigenous nations, BC government agencies, and affected communities so they can be notified in the event of an emergency and engaged in larger responses, as needed.

9. SUMMARY OF ENGAGEMENT

This section summarizes CTI Plus's engagement activities to date and provides a high-level overview of the Engagement Plan with Indigenous nations, regulatory agencies, local government, and the public. Through engagement thus far, CTI Plus has begun building relationships with Indigenous nations, regulatory agencies, local governments and the public, and has documented any issues and concerns expressed about the Project and Project activities. Issues and concerns raised during engagement will be further explored with Indigenous nations, regulatory agencies, local governments, and the public, and will be considered by CTI Plus when finalizing Project design and developing Project mitigation measures. Full details on engagement activities undertaken to date and issues and concerns raised are provided in the Engagement Plan (CTI Plus 2024).

9.1 INDIGENOUS NATIONS

CTI Plus is committed to conducting meaningful engagement with Indigenous nations that are potentially affected by the Project, or who may have an interest in the Project. Engagement will align with Indigenous nations' specific processes and protocols, be built upon the International Association of Public Participation (IAP2) framework for public engagement (International Association for Public Participation n.d.), and consider direction provided by BC EAO and the Agency.

In 2019, CTI Plus initiated engagement activities with Indigenous nations in Treaty 8 whose territories overlapped with the Project. The engagement was focused on providing information and discussing exploration and Project-related activities.

Table 9.1-1 provides a summary of CTI Plus's preliminary engagement with Indigenous nations.

TABLE 9.1-1 PRELIMINARY ENGAGEMENT WITH INDIGENOUS NATIONS

Date	Indigenous Nations	Activity	Notes
December 2019 – January 2020	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations	Initial meetings	CTI Plus engaged with Indigenous nations on the Project, hearing concerns related to selenium, wildlife (caribou), and progressive reclamation.
21 February 2020	• Saulteau First Nations • West Moberly First Nations	Signing ceremony	CTI Plus attended Saulteau First Nations and West Moberly First Nations' signing ceremony with the Governments of Canada and BC for a partnership agreement to protect caribou.
April–May 2020	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations	NoW application	Indigenous nations were asked to review the NoW application and provide comments. No comments were received by CTI Plus.

Date	Indigenous Nations	Activity	Notes
April–May 2020	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations	AIA application	Indigenous nations were asked to review the AIA application and provide comments. Saulteau First Nations and West Moberly First Nations provided areas of concern to the BC Archaeology Branch, including of historical sites and trade routes, possible grave sites, and traditional use sites.
August 2020	• West Moberly First Nations	Exploration Agreement	CTI Plus signed an exploration agreement with West Moberly First Nations in August 2020, prior to the drilling, so that Indigenous technical experts could conduct their own technical investigation. Subsequently, CTI Plus adopted West Moberly First Nations' recommendation and cancelled a number of drillholes that were close to a culturally sensitive area.
May–June 2023	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations	Exploration Program and EA process commencement	CTI Plus notified Indigenous nations of remaining exploration work and upcoming EA process commencement. CTI Plus provided a preliminary Project description to all notified Indigenous nations and requested an in-person meeting. Saulteau First Nations and West Moberly First Nations accepted the meeting request and met with CTI Plus in July 2023.
July/August 2023	• Saulteau First Nations • West Moberly First Nations	Community participation	CTI Plus participated in West Moberly First Nations' West Mo Days in July 2023. CTI Plus joined Saulteau First Nations' Cultural Camp in August 2023.
August 2023	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Prophet River First Nation • Saulteau First Nations • West Moberly First Nations	EA Baseline Studies Planning	CTI Plus shared the plan with Indigenous nations for initiating EA baseline studies. McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations informed CTI Plus that they will conduct their own TK/TLU studies.
March 2024	• Halfway River First Nation • McLeod Lake Indian Band	Coal Licence Re-application and EA Process	CTI Plus provided an update on coal licence re-application activities and discussed Indigenous nations' involvement in the Project's EA process.
April 2024	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations • MNBC	Engagement letters	CTI Plus sent engagement letters to update Indigenous nations via email on the Project and request meetings to discuss the Project and regulatory process.

Date	Indigenous Nations	Activity	Notes
May 2024	• Halfway River First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations	Meetings	CTI Plus held hybrid meetings to provide Indigenous nations with a Project update, discuss engagement protocol, key contacts and early conversations about key issues and concerns with the Project. CTI forwarded draft IPD for review and comments.
May 2024	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations • MNBC	Project update email	CTI Plus sent updates to Indigenous nations on the Project and shared the draft IPD and draft Engagement Plan for review and comment with Indigenous nations. The communications included the anticipated submission timeline for the IPD and Engagement Plan.
June 2024	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations • MNBC	Project update and meetings	CTI Plus met with interested Indigenous nations to provide Project updates and to discuss engagement preferences, key contacts, interests, issues and concerns, and next steps in the regulatory process. CTI Plus followed-up with each Indigenous nation on their respective level of interest and availability to review the Draft IPD and Engagement Plan.
July 2024	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations • MNBC • Kelly Lake Métis Settlement Society	Community participation; OLTC application notification email; Request for field monitor for Preliminary Archaeology Reconnaissance field trip	CTI Plus participated West Moberly First Nations Cultural Days. CTI Plus forwarded OLTC application. CTI Plus sent a request for First Nations field monitors to join a Preliminary Archaeology Reconnaissance field trip which is intended to provide preliminary assessment for drill pads, geotechnical wells.
August 2024	• Blueberry River First Nations • Doig River First Nation • Halfway River First Nation • Horse Lake First Nation • McLeod Lake Indian Band • Saulteau First Nations • West Moberly First Nations • MNBC • Kelly Lake Métis Settlement Society	Community Participation; Email to notify submission of IPD and Engagement Plan	CTI Plus participated in McLeod Lake Indian Band's Annual General Assembly. CTI Plus participated in Halfway River First Nation's annual rodeo. CTI Plus participated in Saulteau First Nations's Cultural week. CTI Plus notified all Indigenous nations and Kelly Lake Métis Settlement Society of the submission of the IPD and Engagement Plan on August 26 to EAO and the Agency.

Notes:
AIA = Archaeological Impact Assessment; BC = British Columbia; CTI Plus = CTI Plus Resources Ltd.; EA = Environmental Assessment; NoW = Notice of Work; Project = Rocky Creek Metallurgical Coal Project; TK/TLU = Traditional Knowledge / Traditional Land Use

Early engagement activities will involve notifying Indigenous nations of the Project and the intent to initiate the regulatory process and determine which Indigenous nations would like to participate in deeper engagement or to simply remain informed. CTI Plus will collaborate with Indigenous nations to design engagement activities to align with cultural protocols, engagement and decision-making processes, be flexible to accommodate seasonal variability in availability, and include community engagement activities when possible (e.g., community gatherings, council meetings, and traditional fishing and hunting camps). CTI Plus will use mixed-engagement methods (e.g., offering virtual and in-person events, updating information on the Project website, and social media posts), offer variable timing options, make use of mixed-media (e.g., written and oral engagement, videos, and audio), consider written and visual differences (e.g., providing translation and interpretation services where needed) and provide honorariums to community participants, or other methods determined through engagement, with particular consideration to underrepresented populations in each Indigenous nation.

At the time of preparing the IPD, Halfway River First Nation, Horse Lake First Nation, McLeod Lake Indian Band, Saulteau First Nations, and West Moberly First Nations have expressed interest in being engaged throughout the EA process. Other Indigenous nations will continue to be informed of the Project and will continue to be provided with opportunities to engage throughout the process. CTI Plus is committed to continue engaging and involving potentially affected Indigenous nations to integrate their interests, concerns, and Indigenous Knowledge into the Project design, mitigation measures, and the EAC/EIS Application as per their preferences and protocols.

9.2 GOVERNMENT AGENCIES

The EAO and the Agency will be the lead regulatory agencies in the EA process, as per the Cooperation Agreement and will establish a joint early engagement process once the IPD is accepted.

Numerous provincial and federal government agencies will be involved in reviewing the environmental assessment application through the EAO Technical Advisory Committee and in permitting the Project. This section highlights the agencies that may likely be involved in the EA process. Agency contacts will be confirmed by the EAO and the Agency.

CTI Plus may engage with the following federal agencies:

- Crown Indigenous Relations and Northern Affairs Canada (CIRNAC);
- Department for Women and Gender Equality (WAGE);
- Employment and Social Development Canada (ESDC);
- Environment and Climate Change Canada (ECCC);
- Fisheries and Oceans Canada (DFO);
- Health Canada (HC);
- Impact Assessment Agency of Canada (the Agency);
- Indigenous Services Canada (ISC);
- Innovation, Science and Economic Development Canada (ISED);
- Natural Resources Canada (NRCan);
- Public Safety Canada (PSC); and
- Transport Canada (TC).

CTI Plus will engage with the following provincial government agencies:

- Environmental Assessment Office (EAO);
- Ministry of Energy, Mines and Low Carbon Innovation (EMLI);
- Ministry of Environment and Climate Change Strategy (ENV);
- Ministry of Forests (MoF);
- Ministry of Health (MoH);
- Ministry of Transportation and Infrastructure (MoTI);
- Ministry of Water, Land and Resource Stewardship (WLRS); and
- Northern Health.

CTI Plus began communications with EAO and the Agency in 2024 to introduce CTI Plus, the Project and the intent to initiate both the federal and provincial impact assessment processes. Table 9.2-1 provides a summary of CTI Plus's preliminary engagement with government agencies.

TABLE 9.2-1 SUMMARY OF ENGAGEMENT WITH GOVERNMENT AGENCIES

Date	Agency	Activity	Notes
2019-2020	• EMLI • FLNRORD	Emails and meetings with EMLI and FLNRORD regarding NoW, AIA, and OLTC applications.	CTI Plus submitted various permitting applications to support the exploration and drilling programs.
2019-2020	• FLNRORD	Emails and meetings regarding caribou management.	CTI Plus developed a Caribou Management and Reclamation Plan.
April 19, 2024	• the Agency • EAO	Notification of the Project.	Follow-up emails with the Agency to plan a joint meeting with both agencies in May 2024.
1 May 2024	• the Agency • EAO	Hybrid meeting with both agencies at the Agency's office in Vancouver.	Introduce CTI Plus and present the Project.
14 May 2024	• EMLI and MoF	Notification of the Project	Project notification and sharing Project information presentation.
23 May 2024	• EAO	Project and engagement update	Update on recent engagement activities and planned submission of IPD and Engagement Plan.
24 June 2024	• EAO	Project and engagement update	Update on recent engagement activities and planned submission of IPD and Engagement Plan.
5 July 2024	• EAO • the Agency	The draft Engagement Plan and draft Initial Project Description were submitted to the EAO and the Agency.	Comments received from the EAO on July 16, 2024. Comments received from the Agency on July 19, 2024.
8 August 2024	• EAO • the Agency	Project and engagement update.	Update on planned submission of the IPD and Engagement Plan; Early Engagement timelines and planned Project engagement activities.

Notes:
Agency = Impact Assessment Agency of Canada; AIA = Archaeological Impact Assessment; CTI Plus = CTI Plus Resources Ltd; EAO = Environmental Assessment Office; EMLI = Ministry of Energy, Mines and Low Carbon Innovation; FLNRORD = Ministry of Forests, Land, Natural Resource Operations and Rural Development; MoF = Ministry of Forests; NoW = Notice of Work; OLTC = Occupant Licence to Cut; Project = Rocky Creek Metallurgical Coal Project

CTI Plus aims to develop productive relationships with the identified government agencies to seek their input and collaborate to address Project-related concerns. Details on how CTI Plus plans to engage with government agencies to identify and consider issues and concerns are provided in the Engagement Plan (CTI Plus 2024).

9.3 LOCAL GOVERNMENTS

The Project is located close to the District of Chetwynd and District of Tumbler Ridge in the PRRD. CTI Plus has initiated preliminary engagement with the following local governments and/or communities:

- PRRD;
- District of Chetwynd;
- District of Tumbler Ridge;
- District of Mackenzie; and
- Regional District of Fraser-Fort George.

Table 9.3-1 provides a summary of CTI Plus's preliminary engagement with local governments.

TABLE 9.3-1 SUMMARY OF ENGAGEMENT WITH LOCAL GOVERNMENTS

Date	Local Government	Activity	Notes
19 April 2024	• District of Tumbler Ridge • District of Chetwynd • District of Mackenzie • City of Dawson Creek • PRRD • Regional District Fraser-Fort George	Notification email introducing the Project, CTI Plus, and the regulatory process.	Meetings set up with Chetwynd and Tumbler Ridge.
1 May 2024	• PRRD	Email dialogue to confirm receipt and use of the Project introduction presentation	Discussed sharing the Project introduction presentation with the Peace River Regional District Council
7 May 2024	• District of Chetwynd	In person meeting to discuss the project and engagement with the community.	Discussed presenting to the Chetwynd Town Delegation Council and the Chamber of Commerce.
8 May 2024	• District of Tumbler Ridge	In person meeting to discuss the project and engagement with the community.	Discussed presenting at a Town Council meeting.
14 May 2024	• District of Tumbler Ridge • District of Chetwynd • PRRD	Email dialogue to discuss Project timeline, description, and milestones.	CTI Plus shared key Project information and an introductory presentation.
17 May 2024	• District of Tumbler Ridge • District of Chetwynd • District of Mackenzie • City of Dawson Creek • PRRD • Regional District Fraser-Fort George	Email dialogue to discuss Project timeline, description, and milestones.	CTI Plus shared the IPD and Engagement Plan and requested a meeting to discuss the Project.

Date	Local Government	Activity	Notes
24 May 2024	• PRRD	Email dialogue to discuss Project timeline, description, and milestones.	Peace River Regional District confirmed that the Project introductory presentation has been publicized to community members.
3 June 2024	• District of Chetwynd	In person presentation at Mayor and Council meeting.	CTI Plus presented the Project. Mayor and Council asked about the haul road, employment, and housing challenges.
10 June 2024	• District of Tumbler Ridge	In person presentation at Mayor and Council meeting.	Mayor and Council asked about mitigation plans for impacts to caribou, engagement with Indigenous nations, employment, training, market and coal prices, housing challenges, and local services.
5 July 2024	• District of Tumbler Ridge	Email dialogue with District of Tumbler Ridge staff	CTI Plus requested information and points of contact of local newsletters in Tumbler Ridge to publish Project information.
19 July 2024	• District of Tumbler Ridge	Email dialogue with District of Tumbler Ridge staff	CTI Plus requested information on local venues to host a community open house

Note:
PRRD = Peace River Regional District

To date, the District of Chetwynd and Tumbler Ridge have raised concerns about the Project's ability to draw skilled labour from local communities and the impact of the Project's in-migration workforce on local educational services and housing in the region. The District of Tumbler Ridge has also raised concerns with the Project's potential impact to caribou in the region. Details on how CTI Plus plans to engage with local governments to identify and consider issues and concerns are provided in the Engagement Plan (CTI Plus 2024), such as completion of wildlife baseline studies and development of caribou mitigation to minimize the Project's potential effects on caribou.

9.4 THE PUBLIC

CTI Plus's overall objective for engagement with members of the public is to keep the public informed and provide opportunities to participate and provide input into the Project. Rightsholders, stakeholders, and members of the public who may have potential interests in the Project and will be engaged include:

- Tenure holders (e.g., prospectors, holders of provincially registered traplines, and forestry lots/tenures);
- Land users (e.g., guide outfitters, hunters, fishers, and recreational users);
- Private landowners including CN Rail; and
- Non-governmental organizations with an interest in the area.

Table 9.4-1 provides a summary of CTI Plus's preliminary engagement with the public.

TABLE 9.4-1 SUMMARY OF ENGAGEMENT WITH PUBLIC STAKEHOLDERS

Date	Activity	Description
2020	Clarence Wilson: in person meeting.	Consultation of Trap Line of CTI Plus Rocky Creek Coal Drilling Project
2021	West Fraser Timber Co. Ltd.: emails and phone calls	Executing the Road Use Agreement
2023	Glencore Canada: meetings and calls	Establishing a connection with the company
2023–2024	SNRI / CNRL: emails and phone calls	Discussing the submission of the IPD and discussing Project infrastructure, including the rail loadout, powerline, and roads
	Conuma Resources: emails and phone calls	Discussing the IPD submission and sharing baseline data and existing infrastructure
	Canfor Corporation: emails and phone calls	Discussing field programs and Road Use Agreement
19 April 2024	CNRL, Canfor Corporation, Conuma Resources, West Fraser Timber Co. Ltd., and Glencore Canada: emails	Email notifications and Project presentation sent to tenure holders.
14 May 2024	CGL: email	Email notifications and Project presentation sent to tenure holders.
17 May 2024	CNRL, Canfor Corporation, Conuma Resources, West Fraser Timber Co. Ltd., CGL, Glencore Canada, guide outfitters, and trappers: emails	CTI Plus shared the IPD and Engagement Plan and requested a meeting to discuss the Project.
28 May 2024	CNRL: phone call	CTI Plus discussed Project components and activities.
31 May 2024	Ryan Hallaert: phone call	CTI Plus discussed Project components and activities, and potential impacts to traplines.
31 May 2024	Clarence Wilson and Denise Caron: phone call	CTI Plus discussed Project components and activities, and potential impacts to traplines.
17 June 2024	CGL: phone call	CTI Plus discussed Project components and activities.
17 June 2024	Canfor: email	Discussion on use of the Hasler Creek FSR for 2024 field activities.
17 June 2024	CNRL: email	CTI Plus discussed Project components and activities, including the Project's impact on CNRL's pipeline in the area.
20 June 2024	Glencore: email	CTI Plus discussed Project components and activities. Glencore expressed concerns with the Project's water-related infrastructure planned on Glencore's land.
26 June 2024	Conuma Resources: email	CTI Plus requested a meeting to introduce the Project.
3 July 2024	CNRL: email	CTI Plus requested a meeting to discuss the Project's impact on CNRL's pipeline and substation in the area.
5 July 2024	Glencore: email	CTI Plus requested a meeting to introduce the Project. CTI Plus and Glencore arranged a future meeting date.
8 July 2024	Conuma Resources: email	CTI Plus followed up to request a meeting to introduce the Project.
11 July 2024	Trigon Pacific Terminals	Initial discussions on Trigon Pacific Terminals' requirements and expectations for CTI Plus to deliver clean coal to the Prince Rupert port area for export

Date	Activity	Description
14 Jul 2024	Glencore: email	CTI Plus and Glencore confirmed a future meeting date.
14 Jul 2024	CNRL: email	CTI Plus followed up with CNRL on a meeting request
14 July 2024	Chetwynd Chamber of Commerce	CTI Plus and the Project introduction; discussions on local media points of contact to develop publications and advertisements to inform local communities members about the Project, as well as potential venue options for a Project open house in Chetwynd.
18 July 2024	Conuma Resources: email	CTI Plus followed up to request a meeting to introduce the Project.
25 July 2024	CNRL: meeting	CTI Plus and CNRL met to discuss the Project's impact on CNRL's pipeline and substation in the area. CNRL and CTI Plus arranged future meeting dates to continue discussions.
28 July 2024	Conuma Resources: email	CTI Plus and Conuma Resources confirmed a future meeting date.
1 August 2024	Glencore: meeting	CTI Plus discussed Glencore's land uses near the Project, and data sharing processes and methods for the Project.
8 August 2024	Canfor: meeting	Discussion on overlaps with Tree Farm Licence 48

Note:
FSR = Forest Service Road; IPD = Initial Project Description; Project = Rocky Creek Metallurgical Coal Project; SNRI = Sukunka Natural Resources Inc.; CNRL = Canadian Natural Resources Ltd.

To date, trapline holders have raised concerns with the Lower Burnt Road being used for mine activities, impacts to traplines, and increased road use and waste across the region. Glencore has raised concerns with water-related infrastructure being planned in relation to the Project. Details on how CTI Plus plans to engage with the public to identify and consider issues and concerns are provided in the Engagement Plan (CTI Plus 2024), such as working with trapline holders to develop appropriate mitigation for their land uses and considering water-related infrastructure in the engineering design.

10. POTENTIAL EFFECTS OF THE PROJECT

This section discusses how the Project might interact with the physical, biological, and human environments and possible Project-related environmental and social effects. Table 10-1 indicates potential interactions that might occur during the Project's Construction, Operations, Closure and Decommissioning, and Post-closure phases.

The potential effects of the Project on environmental, economic, social, heritage, and human health will be assessed as part of the EA processes. The EAC/EIS Application will focus on specific Valued Components (VC) identified in collaboration with Indigenous nations, government agencies, and the public. The assessment of potential effects to VCs will include consideration of mitigation measures and plans to avoid, minimize, rehabilitate, or offset impacts; residual and cumulative effects associated with the Project; and reasonably foreseeable developments. A preliminary list of potential effects and mitigation measures is provided in Table 10-2.

10.1 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

Environmental factors could lead to potential effects on the Project's physical infrastructure or Project activities. These factors include climate change and natural hazards, such as natural seismic events, volcanic events, avalanche events, extreme weather events, and fire. Risks associated with climate change and natural hazards will be assessed in the EAC/EIS Application and appropriate mitigations will be incorporated into the Project designs and plans.

10.2 POTENTIAL CHANGES TO THE ENVIRONMENT OUTSIDE OF BRITISH COLUMBIA AND CANADA

Potential changes to the environment as a result of carrying out the Project are not anticipated on federal lands, lands or waters outside of BC, or lands or waters outside of Canada.

10.3 POTENTIAL PROJECT CUMULATIVE EFFECTS

The EAC/EIS Application will consider the Project's potential cumulative effects due to changes to environmental, economic, social, cultural, and health values caused by the combined effect of past, present, and potential future human activities. Table 10.3-1 summarizes historical, active, and likely industrial projects to occur within the vicinity of the Project that may present cumulative effects in an area broader than the Project boundaries. Based on publicly available information, Figure 10.3-1 shows the approximate location of these projects in the region. CTI Plus anticipates engagement on cumulative effects assessment with Indigenous nations, regulatory agencies, and communities of interest.

TABLE 10-1 POTENTIAL PROJECT INTERACTIONS

	Physical Environment							Terrestrial Environment			Human and Socio-economic Environment					Indigenous Rights and Title		
Project Component	**Air Quality**	**Climate Change**	**Noise and Vibration**	**Groundwater**	**Surface Water Hydrology**	**Surface Water Quality**	**Fish and Fish Habitat/ Aquatic Resources**	**Terrain and Soil**	**Vegetation and Ecosystems**	**Wildlife and Wildlife Habitat**	**Community Health and Well-being**	**Human Health**	**Economic**	**Non-Traditional Land Use**	**Heritage Resources**	**Indigenous Rights and Title**	**Indigenous Interests**	**Current Use of Lands and Resources for Traditional Purposes**
Project Construction and Operation (Overview Level)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NW Block																		
Open Pits	X	X	X	X	X	X	X	X	X	X		X			X			
WRSFs	X	X	X	X	X	X	X	X	X	X					X			
Main Plant Site Area Pad (including ROM Coal Pad, CHPP, Coal Reject Dewatering Facility, Clean Coal Stockpile, Truck Maintenance Shop and Warehouse Facility, Mine Dry, Office and Administration Facility, Onsite Power Distribution Network, Fuel Storage / Fuel Island, Electrical Substation, Laydown Area)	X		X	X	X	X	X	X	X	X					X			
Roads (Site Access Road, Clean Coal Haul Road, NW SE Connection Road, other Haul and Service Roads)	X	X	X		X	X	X	X	X	X					X			
Water Management Structures (contact and non-contact water)		X		X	X	X	X	X	X	X		X			X	X	X	X
Landfill	X		X	X	X	X	X	X	X	X					X			
Topsoil and Overburden Stockpiles	X	X	X	X	X	X	X	X	X	X					X			
Explosives Storage Facility	X	X	X		X	X		X	X	X	X				X			
SE Block																		
Open Pit	X	X	X	X	X	X	X	X	X	X		X			X			
NW-SE Connection Road	X	X	X		X	X	X	X	X	X					X			
WRSF	X	X	X	X	X	X	X	X	X	X					X			
Water Management Structures (contact and non-contact water)		X		X	X	X	X	X	X	X		X			X	X	X	X
Roads (Site Access Road, NW SE Connection Road, other Haul and Service Roads)	X	X	X		X	X	X	X	X	X					X			
Potential Support Facility Area Pad (potentially including Secondary Laydown Area, Temporary Equipment Maintenance Facility, Fuel Storage / Fuel Island, Power Generators, Temporary trailers for lunchroom / offices / first aid facilities)	X		X	X	X	X	X	X	X	X					X			
Offsite Infrastructure																		
Transmission Line and Substation	X	X	X		X	X	X	X	X	X	X	X			X	X	X	X
Roads (Clean Coal Haul Road, Site Access Road)	X	X	X		X	X	X	X	X	X	X	X			X	X	X	X
Rail Loop and Rail Loadout Facility	X	X	X		X	X	X	X	X	X	X	X			X	X	X	X

Note:
CHPP = Coal Handling and Processing Plant; NW Block = Northwest Block; Project = Rocky Creek Metallurgical Coal Project; ROM = run-of-mine; SE Block = Southeast Block; WRSF = Waste Rock Storage Facility

TABLE 10-2 POTENTIAL PROJECT EFFECTS AND MITIGATIONS

Component	Potential Effect	Example of Potential Mitigation
Physical Environment		
Air Quality and GHG Emissions	• Fugitive dust emissions from material handling, blasting, vehicle, and processing can increase ambient particulate matter concentrations that can negatively affect human and wildlife health, and increases in dust fall deposition can affect vegetation and waterbodies. • Combustion emissions from vehicles and equipment can result in increases in ambient concentrations of NO_2, SO_2, and other contaminants that can negatively affect human health and vegetation.	• Minimize removal of vegetative cover through design stage by stacking, re-use of previously disturbed areas/linear corridors, and re-vegetate as soon as practical. • Select and maintain fossil fuel burning equipment to achieve best/cleanest possible emissions, lowest fuel consumption, and most efficient operations. • Using cyclones and air scrubbers for particulate collection. • Efficient operation of Project vehicle fleet and equipment to minimize GHG emissions. • Stabilize and re-vegetate soil stockpiles. • Water haul roads when required. • Cover clean coal haul trucks while in transit. • Utilize electrified equipment/building heating designs where possible, instead of fossil fuels, and implement energy conservation programs. • Provide electrical power to the mine site so onsite generation is not required or is minimized. • In-pit waste rock disposal to reduce the land clearing footprint. • Target lower GHG intensity, higher efficiency transportation methods for people, supplies, and products. • Implement an air quality and dust control management plan.
Noise and Vibration	• Noise from mining can result in increases in noise levels for human and wildlife receptors. • Vibrations from blasting and equipment may affect human and wildlife receptors. • Vibration can impact geotechnical stability near mine site infrastructure.	• Use noise minimization equipment where appropriate. • Install engineering controls on equipment (e.g., mufflers, buildings or enclosures, and air intake treatments). • Maintain equipment on a regular basis (e.g., replace worn parts, lubricate as required). • Use material to create berms and barriers. • Implement a noise management plan, including scheduling blasting events during daytime hours or other times to accommodate identified receptors. • Include potential vibration impacts in reviews of geotechnical stability.
Geology, Soils and Terrain	• Loss of soil profile and changes to terrain from vegetation removal, overburden removal, waste storage rock, and development of open pit mine. • Changes to soil quality due to changes in chemical and physical soil characteristics during mining and reclamation activities. • Long-term storage of soils leading to loss of soil productivity.	• Conduct soil salvage, soil stockpile, and soil placement management. • Implement an erosion and sediment control plan. • Implement a reclamation and closure plan, incorporating soil salvage plans, and targeted end land use objectives.
Groundwater	• Changes to groundwater quality and quantity from ML/ARD (waste piles, pits) or chemical contamination (e.g., fuel spills) or over-extraction. • Changes to groundwater quality and quantity from mining interaction with groundwater table resulting from changes to topography, including disturbance to bedrock and surficial materials. • Changes to groundwater quality interactions between groundwater and mine-influenced surface water. • Changes to groundwater quality from water infiltration through waste rock, pit walls, mine pits, etc.	• Implement groundwater management and monitoring plans during Construction, Operations, and Closure and Decommissioning to confirm resource status and update water quality models and predictions. • Implement an erosion and sediment control plan. • Maximize contact water recycling for process water to reduce supplementation from non-contact sources. • Utilize best management practices, engineered controls, and monitoring of chemical/fuel storage, and use to prevent accidental spills/releases. • Implement a reclamation and closure plan, including a closure water management plan.
Hydrology and Surface Water Quality	• Changes in water quality downstream of the mine site from discharge of treated mine contact water, site runoff erosion/sedimentation, blasting residue leaching, interactions with groundwater, accidents/spills, or ML/ARD risks. • Potential effects could change concentrations of key parameters, including metals, physical parameters (pH, temperature, turbidity/total suspended solids, etc.), which affect suitability to downstream uses, toxicity to aquatic life, and nutrient levels. • Changes in flow regime and sediment loading in watercourses. • Erosion/deposition associated with changes in surface water flow regime. • Changes in groundwater-surface water interactions.	• Implement a surface water management plan during Construction and Operations. • Design for closure to minimize potential for mine contact water and re-establish the natural drainage at the end of the mine life. • Integrate water management into reclamation and closure planning. • Management of PAG materials.

Component	Potential Effect	Example of Potential Mitigation
Biological Environment		
Fish and Fish Habitat/Aquatic Resources	• Direct loss or change in quantity of aquatic habitat due to mine infrastructure. • Change in quantity and quality of aquatic habitat resulting from alteration of stream flows. • Change in water quality resulting in potential health effects to aquatic resources and aquatic species (e.g., fish, benthic invertebrates, amphibians, and birds). • Change in amount, suitability, migration, and distribution of habitats (including sediment quality) for fish or aquatic organisms from road upgrades or sediment/erosion inputs at stream crossings.	• Avoid and/or minimize Project direct loss of aquatic habitat through selection of mine pit and waste rock storage locations that do not directly interact with fish bearing waterbodies. • Implement appropriate management practices and environmental management plans. • Minimize mine footprint through phased operation and maximize backfill waste deposition. • Implement appropriate management practices (e.g., Standards and Practices for Instream Works) and environmental management plans (e.g., erosion and sediment control plan). • Implement a habitat offset plan to compensate for unavoidable harmful alteration, disruption, or destruction of fish habitat. • Implement surface water quality management.
Vegetation and Ecosystems	• Loss and/or alteration of ecosystems, vegetation, and wetlands from land clearing and mine construction. • Health effects on vegetation due to changes in air, water, soil quality, and dust deposition. • Deposition of dust on plants and soil, which can result in uptake of metals to plants, which are then consumed by wildlife.	• Implement appropriate management practices and ecosystem/species management plans. • Avoid and/or minimize Project interaction with sensitive and at-risk ecosystem and biodiversity elements (i.e., reduce the size and timing of impacts). • Design for closure approach to allow for re-establishment of natural ecosystems at the end of the mine life, prevent invasive plant establishment, and minimize vegetation losses through re-use of existing disturbed areas. • Minimize mine footprint through progressive and interim reclamation. • Implement appropriate management practices and plans to minimize loss of sensitive vegetation/ecosystems through design, and preserve land capacity for reclamation (soil quality) to endemic ecosystems and minimize potential for health effects (metal uptake). • Implement a reclamation and closure plan incorporating specific end land use objectives. • Implement an air quality and dust control plan. • Implement a storm water runoff control plan.
Wildlife and Wildlife Habitat	• Loss and/or alteration of wildlife habitats, including migratory bird habitat, from land clearing and mine construction. • Sensory disturbance to wildlife (light and noise). • Disruption of wildlife (e.g., bears, small furbearers) seasonal movement patterns in regional and local landscapes. • Direct mortality of wildlife due to wildlife-vehicle collisions and indirect mortalities from mine operations. • Changes to population dynamics, including potentially moose, bears, and small furbearers due to changes to predator–prey dynamics. • Health effects on wildlife due to changes in air, water, and soil quality. • Loss of riparian habitats affecting waterbirds and amphibians that use lentic and lotic environments.	• Design for closure approach to allow for reestablishment of wildlife-supporting ecosystems at the end of the mine life. • During design and operation, develop collaborative approaches to management plans/practices that influence biophysical factors that will maintain/enhance wildlife supporting ecosystems. • Minimize Project interaction with wildlife. • Implement a reclamation and closure plan incorporating targeted end use objectives (e.g., wildlife habitat). • Mitigate habitat loss to migratory birds by reusing existing disturbances, where possible, and conducting timely reclamation. • Implement an erosion control and sediment management plan (e.g., sedimentation ponds). • Conduct habitat clearing outside of the migratory bird nesting period, wherever possible, to avoid effects on nesting birds and comply with Avoidance Guidelines and other provisions of the *Migratory Birds Convention Act* (1994). • Observe applicable best management practices for wildlife. • Implement a traffic management plan.
Social, Health, Economic, and Heritage Environment		
Community Infrastructure and Services, and Community Well-being	• Changes to and/or maintenance of community and individual health and well-being. • Health and safety of workers and public. • Changes to local community services and infrastructure due to either Project demand or Project-driven population change.	• Conduct community management planning with Indigenous nations and stakeholders to address provision of services and effects to community health and well-being. • Seek input on end land use objectives. • Implement reclamation and closure plans consistent with end land use objectives. • Develop employee occupational health and safety plans. • Work with local government authorities and health, protective, and emergency service organizations to plan for and adjust to anticipated changes in population and associated changes in service demand. • Implement a traffic management plan.

Component	Potential Effect	Example of Potential Mitigation
Human Health	• Change to particulate matter concentrations (e.g., $PM_{2.5}$ and PM_{10}), which may cause health risks to the workforce. • Deposition of dust to plants and soil, which can result in uptake of metals to plants which are then consumed by people. • Health effects due to changes in water quality. • Increased levels of noise and traffic can cause stress or harm, such as sleep disturbance.	• Implement an air quality and dust control plan. • Implement a storm water runoff control plan. • Implement noise mitigations.
Employment and Economy	• Provincial and local economic stimulus via Project procurement and contracting for goods, services, and personal services, and consumer spending of employees. • Employment, income, and local government revenue generation and gross domestic product benefits. • Changes to employment, employment income, and training. • Changes to gross domestic product. • Changes to local government revenues and expenditures. • Changes to wage and non-wage economy due to Project-driven changes in hunting, trapping, and gathering. • Changes to local population and demographics due to Project-driven labour market changes.	• Implement reclamation and closure plans consistent with end land use objectives. • Implement skills inventory, training, and skills development with Indigenous nations and local communities. • Conduct employment planning. • Plan for local procurement of goods and services. • Transition planning for mine workers at the end of mine life.
Non-traditional Land Use	• Changes to opportunities associated with public and tenured land and resources, including changes to use of and/or access to certain public lands and waters and availability of certain species.	• Seek and implement input on recreational access and end land use objectives. • Implement reclamation and closure plans consistent with end land use objective.
Heritage Resources	• Effects to heritage resources due to land clearing, mining, and associated infrastructure.	• Conduct AIAs to discover previously undocumented archaeological sites within the Project area. • Develop an archaeology chance find procedure. • Where possible, avoid ground-disturbing activity within archaeological sites. If disturbance to archaeological site is anticipated to occur, implement mitigation strategies to salvage pre-contact cultural heritage information.
Indigenous Interests		
Sites of Historical, Archaeological or Cultural Importance	• Changes to resource integrity and increased or decreased accessibility to paleontological, archaeological, or historical sites could result during all Project phases.	• Conduct an archaeological impact assessment. • Develop an archaeology chance find procedure. • Implement a heritage resources management plan that outlines any areas where ground disturbance should be avoided and mitigative strategies if disturbance to archaeological sites is anticipated.
Current Use of Lands and Resources for Traditional Purposes	• Change in the ability to access preferred locations used for traditional purposes. • Change to the safe and productive use of the land for traditional purposes by Indigenous nations. • Changes in presence, absence, abundance, quality or spatial distribution of freshwater, terrestrial, or other resources that are currently used for traditional purposes. • Changes in the quality of experience associated with the current use of lands and resources for traditional purposes as a result of items such as increased activity in the area, noise, dust, light, etc. • Changes to Indigenous interests including socio-economic status, community well-being and cultural sustainability (e.g., the ability to transfer Indigenous knowledge.	• Work cooperatively with Indigenous nations to identify concerns and develop specific mitigation plans that address use of lands and resources. • Incorporate traditional knowledge and traditional land use in Project planning. • Maintain an ongoing dialogue with Indigenous nations to ensure that their specific interests and concerns are understood and that such Indigenous nations have the information required to inform consideration of potential effects. • Mitigation as discussed earlier for noise, dust, water quality, traffic, etc. • Develop participation agreements with Indigenous nations.
Indigenous Nations' Health, Social or Economic Conditions	• Potential effects are related to the Project's potential impacts to the biophysical environment and to social and economic factors (e.g., related to food security, transmission of knowledge, employment). These could, in combination, potentially affect legal, spiritual, and cultural practices; transmission of traditional culture, knowledge, and law; and improve employment and economic opportunities. • Identified Indigenous interests (as discussed in Section 6.10) related to fish, caribou, and surface water quality are addressed in the physical and biological environment components of this table.	• Health: Monitor workers' exposure to air quality / dust factors and utilize enhanced dust controls to minimize health effects from dust exposure. • Social: Implement a socio-economic baseline survey update every 5 to 10 years to characterize changes and continue engagement to support Indigenous Knowledge characterization and cataloguing for long-term preservation. • Economic: Support Indigenous nations with skills inventory, training, and skills development.

Component	Potential Effect	Example of Potential Mitigation
Components of the Environment that are within the Legislative Authority of the Federal Government		
Fish and Fish Habitat	• Direct loss or change in quantity of aquatic habitat due to mine infrastructure. • Change in quantity and quality of aquatic habitat resulting from alteration of stream flows. • Change in water quality resulting in potential health effects to aquatic resources and aquatic species (e.g., fish, benthic invertebrates, amphibians, and birds). • Change in amount, suitability, migration, and distribution of habitats (including sediment quality) for fish or aquatic organisms from road upgrades or sediment/erosion inputs at stream crossings.	• Avoid and/or minimize Project direct loss of aquatic habitat through selection of mine pit and waste rock storage locations that do not directly interact with fish-bearing waterbodies. • Implement appropriate management practices (e.g., Standards and Practices for Instream Works) and environmental management plans (e.g., erosion and sediment control plan). • Implement a habitat offset plan to compensate for unavoidable harmful alteration, disruption, or destruction of fish habitat.
Aquatic Species at Risk (as defined by SARA)	• There are no aquatic SARA-listed species in the vicinity of the Project.	• No mitigation measures are proposed.
Migratory Birds	• Loss and/or alteration of migratory bird habitat, from land clearing and mine construction.	• Mitigate habitat loss to migratory birds by reusing existing disturbances, where possible, and conducting timely reclamation. • Conduct habitat clearing outside of the migratory bird nesting period wherever possible to avoid effects on nesting birds and comply with Avoidance Guidelines and other provisions of the *Migratory Birds Convention Act* (1994).
Potential Effects outside of BC and Canada or on Federal Lands		
Potential Effects outside of BC within Canada	• No potential effects are anticipated outside of BC within Canada.	• No mitigation measures are proposed.
Potential Effects Outside of Canada	• No potential effects are anticipated outside of Canada.	• No mitigation measures are proposed.
Potential Effects on Federal Lands	• No potential effects are anticipated on Federal lands.	• No mitigation measures are proposed.

Notes:
BC = British Columbia; AIA = Archaeological Impact Assessment; GHG = greenhouse gases; ML/ARD = metal leaching / acid rock drainage; NO_2 = nitrogen dioxide; PAG = potentially acid generating; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; PM_{10} = particulate matter with a diameter of 10 microns or less; Project = Rocky Creek Metallurgical Coal Project; SARA = *Species at Risk Act* (2002); SO_2 = sulphur dioxide

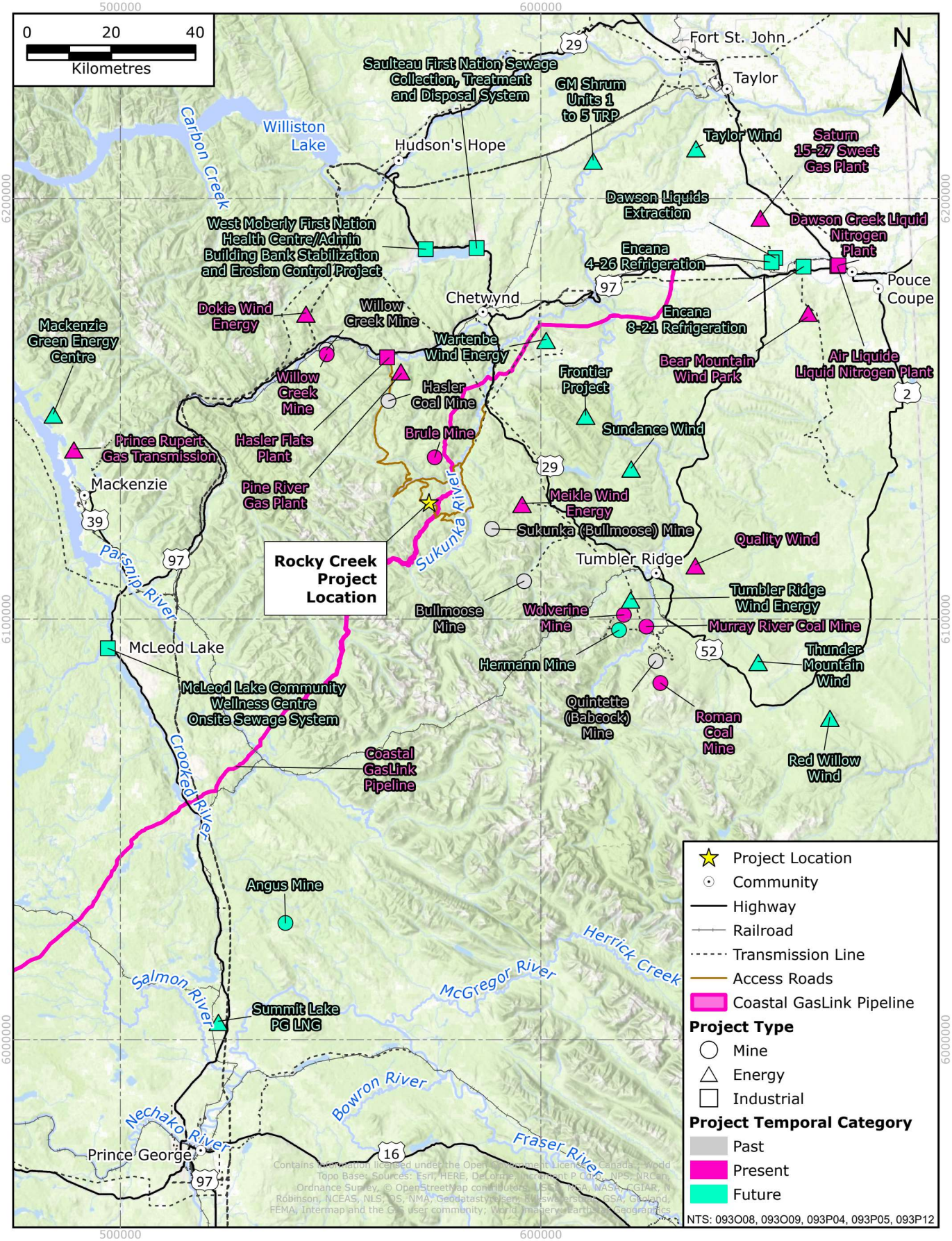
TABLE 10.3-1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE REGION

Timeframe	Name of Action	Dates Active	Proponent (If Applicable)
Past	Hasler Coal Mine	1941–1945	Hasler Creek Coal Company
	Sukunka (Bullmoose) Mine[1]	1969–1985	BP Exploration Canada Limited
	Bullmoose Mine	1983–2003	Teck Resources Limited
	Dillon Coal Mine[2]	2004–2007	Western Coal Corporation
	Quintette (Babcock) Mine[3]	1983–2000	Teck Resources Limited
	Willow Creek Mine[4]	1999–2014	Walter Energy
Present	Quality Wind	2012–2037	Capital Power L.P.
	Meikle Wind Energy	2014–2039+	Meikle Wind Energy Limited Partnership
	Wolverine Coal Mine	2005–Unknown	Conuma Coal Resources Limited
	Murray River Coal Mine	2020–2051	HD Mining International Limited
	Roman Coal Mine	2012–Unknown	Peace River Coal Incorporated
	Brule Mine	2006–Unknown	Conuma Coal Resources Limited
	Willow Creek Mine	2020–Unknown	Conuma Coal Resources Limited
	Dokie Wind Energy	2006–Unknown	EarthFirst Canada Incorporated
	Prince Rupert Gas Transmission	2014–Unknown	Prince Rupert Gas Transmission Limited
	Saturn 15-27 Sweet Gas Plant	2015–Unknown	Encana Corporation
	Air Liquide Liquid Nitrogen Plant	2012–Unknown	Air Liquide Canada Incorporated
	Dawson Creek Liquid Nitrogen Plant	2011–Unknown	Ferus Group of Companies
	Bear Mountain Wind Park	2007–Unknown	Bear Mountain Wind Limited Partnership
	Hasler Flats Plant	1994-Unknown	Enersul Limited
	Pine River Gas Plant[5]	1979-Unknown	Sukunka Natural Resources Inc.
	Coastal GasLink Pipeline	2023-Unknown	TC Energy Corporation
Reasonably Foreseeable[6]	GM Shrum Units 1 to 5 TRP	2010–Unknown	BC Hydro and Power Authority
	Encana 8-21 Refrigeration	2014–Unknown	Encana Corporation
	Dawson Liquids Extraction	2013–Unknown	Spectra Energy Midstream Corporation
	Encana 4-26 Refrigeration	2014–Unknown	Encana Corporation
	Angus Mine	2024–2044	Vitreo Minerals Limited
	Sundance Wind Project	2015–2040	Sundance Wind Project Limited Partnership
	Tumbler Ridge Wind Energy	2012–Unknown	Finavera Wind Energy Incorporated
	Frontier Project	2024–Unknown	Enbridge Frontier Incorporated
	Hermann Mine	2018–Unknown	Conuma Coal Resources Limited
	Thunder Mountain Wind	2019–Unknown	Thunder Mountain Wind Limited Partnership
	Red Willow Wind	2015–Unknown	Red Willow Wind Limited Partnership
	Wartenbe Wind Energy	2016–Unknown	Wartenbe Wind Project Limited Partnership
	Mackenzie Green Energy Centre	2007–Unknown	Mackenzie Green Energy Limited Partnership
	Taylor Wind	2012–Unknown	Taylor Wind Project Limited Partnership

Timeframe	Name of Action	Dates Active	Proponent (If Applicable)
Reasonably Foreseeable[6]	Saulteau First Nation Sewage Collection, Treatment and Disposal System	2023–Unknown	Saulteau First Nation
	West Moberly First Nation Health Centre/Administration Building Bank Stabilization and Erosion Control Project	2023–Unknown	West Moberly First Nation
	Summit Lake PG LNG	2024–Unknown	JX LNG Canada Limited
	McLeod Lake Community Wellness Centre Onsite Sewage System	2023–Unknown	McLeod Lake Indian Band

Notes:
BC = British Columbia; EA = Environmental Assessment; EAO = Environmental Assessment Office; LNG = liquefied natural gas
[1] Sukunka (Bullmoose) Mine was acquired by Glencore plc in 2012 and entered a substituted EA process for an open pit mine in 2013; the EAO refused the certificate in December of 2022.
[2] The Dillon Mine is the predecessor to the Brule Mine, currently owned by Conuma Coal Resources Ltd.
[3] The Quintette (Babcock) Mine was acquired by Conuma Coal Resources Ltd. in 2023 and work is in progress to bring this mine back into operation.
[4] The past Willow Creek Mine was restarted in 2020 and is also a currently operating mine under Conuma Coal Resources Ltd.
[5] The Pine River Gas Plant was reportedly decommissioned in 2021.
[6] The start date for "Reasonably Foreseeable" projects generally refers to the date a project entered a regulatory approval process.

FIGURE 10.3-1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE REGION



ERM

CLIENT: CTI Plus Resources Ltd.
GIS NUMBER: ROC-05-001-01

DATE: 16 August 2024

PROJECTION: NAD 1983 UTM Zone 10N
SCALE: 1:1,250,000 when printed at 8.5x11

11. CLOSING

The Rocky Creek Metallurgical Coal Project (the Project) is a proposed open pit metallurgical coal mine. The Project would provide employment and associated economic benefits to communities in northeast BC.

Through the IPD, CTI Plus is providing an early design of the Project with the intention that this document will form the basis for the provincial Early Engagement Phase, which will help shape Project design and other details. The assessment process will be initiated when the EAO seeks public comments on the IPD. Regulators, agencies, Indigenous nations, and the public will have the opportunity to provide initial feedback on the Project and its components that are still being evaluated.

Following engagement on the IPD, CTI Plus's next step in the assessment process will be the preparation of the Detailed Project Description (DPD), which will present a more refined design and consider input provided by government agencies, Indigenous nations, and the public during the Early Engagement Phase.

12. REFERENCES

Legislation and Regulation

Canadian Environmental Protection Act, SC 1999, c. 33.

Canadian Navigable Waters Act, RSC 1985, C. N-22.

Climate Change Accountability Act, SBC 2007, c. 42.

Constitution Act, Schedule B to the *Canada Act*, 1982, c. 11.

Drinking Water Protection Act, SBC 2001, c. 9.

Drinking Water Protection Regulation, BC Reg 200/2003.

Environmental Assessment Act, SBC 2018, c. 51.

Environmental Emergency Regulations, SOR/2019-51.

Environmental Management Act, SBC 2003, c. 53.

Explosives Act, RSC 1985, c. E-17.

First Nations Land Management Act. SC 1999, c 24.

Fisheries Act, RSC 1985, c. F-14.

Forest Act, SBC 1996, c.157.

Framework Agreement on First Nations Land Management Act, SC 2022, c. 19, s. 121.

Greenhouse Gas Emission Reporting Regulation, BC Reg 249/2015.

Hazardous Waste Regulation, BC Reg 63/88.

Heritage Conservation Act, SBC 1996, c. 187.

Impact Assessment Act, SC 2019, c. 28, s. 1.

Land Act, RSBC 1996, c. 245.

Migratory Birds Convention Act, SC 1994, c. 22.

Mines Act, SBC 1996, c. 293.

Nuclear Safety and Control Act, SC 1997, c. 9.

Physical Activities Regulations, SOR/2019-285.

Radio Communication Act, RSC 1985, c. R-2.

Reviewable Projects Regulation, BC Reg 243/2019.

Species at Risk Act, SC 2002, c. 29.

Transportation of Dangerous Goods Act, SC 1992, c. 34.

Water Sustainability Act, SBC 2014, c. 15.

Wildlife Act, SBC 1996, c. 488.

Other Sources

Agriculture and Agri-Food Canada. 2013. *Overview Of Classification Methodology for Determining Land Capability For Agriculture.* Available at: https://sis.agr.gc.ca/cansis/nsdb/cli/classdesc.html.

BC CDC (BC Conservation Data Centre). 2021. *BC Species and Ecosystem Explorer.* Available at: https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/species-and-ecosystems-explorer.

BC CDC. 2024. *iMap Habitat Wizard*. 2024. Available online at: https://maps.gov.bc.ca/ess/hm/cdc/.

BC EAO (BC Environmental Assessment Office). 2019. *Early Engagement Policy, Version 1*. Environmental Assessment Office. December 16, 2019.

BC EMLI (BC Ministry of Energy, Mines and Low Carbon Innovation). 2024. *Health, Safety and Reclamation Code for Mines in British Columbia*: BC Energy, Mining and Low Carbon Innovations, Victoria, BC. Available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/health-and-safety/code-review/minescode_april_2024_web.pdf.

BC ENV (BC Ministry of Environment and Climate Change Strategy). 2019. *BC Species and Ecosystems Explorer*. Available at: https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/explore-cdc-data/species-and-ecosystems-explorer.

BC ENV. 2024a. *Northeast Air Zone Report (2018-2020)*. Available online at: https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/air-zone-reports/2018-to-2020/northeast_air_zone_report_2018_to_2020.pdf.

BC ENV. 2024b. *Major park expansion will better protect sacred sites, caribou habitat.* Available online at: https://news.gov.bc.ca/releases/2024ENV0029-000925.

BC FLNRORD (BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development). 2021. *Operational Restoration Framework Woodland Caribou Habitat Restoration in British Columbia*. Available at: https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/caribou/operational_restoration_framework.pdf.

BC Ministry of Energy and Mines. 1998. Metal Leaching and Acid Rock Drainage at Minesites in British. Available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/ml-ard_guidelines.pdf.

BC Ministry of Indigenous Relations and Reconciliation. 2024. Contacts for First nations Consultation Areas. Available at: https://maps.gov.bc.ca/ess/hm/cadb/.

BC MOE (BC Ministry of Environment). 2012. *Habitat Wizard Online Database.* Available at: http://webmaps.gov.bc.ca/imf5/imf.jsp?site=moe_habwiz.

BC MOE. 2016. *Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators.* Available online at: https://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/water_air_baseline_monitoring.pdf.

BC MOF (BC Ministry of Forests). 1999. *Dawson Creek Land and Resource Management Plan.* Available at: https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/northeast/dawsoncreek-lrmp.

BC Parks. 2024a. *Sukunka Falls Park*. Available at: https://bcparks.ca/sukunka-falls-park/ (accessed April 2024).

BC Parks. 2024b. *Hole-in-the-Wall Park*. Available at: https://bcparks.ca/hole-in-the-wall-park/ (accessed April 2024).

Blueberry River First Nations. 2022. *Lands.* Retrieved from https://blueberryfn.com/departments-services/lands/ (accessed April 2024).

Blueberry River First Nations. 2023. *Blueberry River First Nations Implementation Agreement.* Retrieved from https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/blueberry_river_implementation_agreement.pdf (accessed April 2024).

CDA (Canadian Dam Association). 2007. Canadian Dam Association Dam Safety Guidelines. Canadian Dam Association, Markham, ON.

Chetwynd. 2024. *What to do in Chetwynd.* https://www.gochetwynd.com/visitors/what-to-do-in-chetwynd/ (accessed February 2024).

Cheminfo Services Inc., and Clearstone Engineering Ltd. 2014. *Compilation of a national inventory of greenhouse gas and fugitive VOC emissions by the Canadian coal mining industry.* Final report submitted to the Energy Group, Pollutant Inventories and Reporting Division, Environment Canada.

CIRNAC (Crown-Indigenous Relations and Northern Affairs Canada). 2024. *Search by First Nation.* https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/SearchFN.aspx?%E2%80%8Blang=eng& (accessed July 2024).

City of Dawson Creek. 2024. *Water and Sewer Treatment*. https://www.dawsoncreek.ca/en/Home-Property-Utilities/water-and-sewer-treatment.aspx (accessed July 2024).

College of New Caledonia. 2024. *Mackenzie: Programs & Courses*. https://cnc.bc.ca/campuses/mackenzie (accessed July 2024).

Conuma Coal Resources Ltd. 2019. *Wolverine – Herman Amendment Project Geochemical Characterization and Source Term Development Report.* Prepared by Lorax Environmental Services Ltd.

CTI Plus (CTI Plus Resources Ltd.). 2024. *Rocky Creek Metallurgical Coal Project Engagement Plan.* Draft document.

Dawson Creek. 2024. *Community Profile*. https://www.dawsoncreek.ca/en/business-development/community-profile.aspx (accessed February 2024).

District of Chetwynd. 2023. *Community Water System Annual Report.* https://www.gochetwynd.com/wp-content/uploads/2024/01/2023-DOC-Annual-Water-Report-Northern-Health.pdf (accessed July 2024).

District of Hudson's Hope. 2024a. *Water Treatment Plant Updates*. https://hudsonshope.ca/water-treatment-plant-updates/ (accessed July 2024).

District of Hudson's Hope. 2024b. *Water Services*. https://hudsonshope.ca/district-office/public-works/water-services/ (accessed July 2024).

District of Mackenzie. 2024. *Water System Annual Report – 2023.* Prepared by L&M Engineering Limited. https://districtofmackenzie.ca/wp-content/uploads/2024/07/Annual-Water-Report_DoM_2023_Final1.pdf (accessed July 2024).

District of Taylor. 2024. *Public Works and Operations*. https://districtoftaylor.com/staff-departments/public-works-operations/ (accessed July 2024).

District of Tumbler Ridge. 2023. *Water System Annual Report 2022.* https://tumblerridgedist.municipalwebsites.ca/ckfinder/connector?command=Proxy&lang=en&type=Files&currentFolder=%2F&hash=c245c263ce0eced480effe66bbede6b4d46c15ae&fileName=2022%20Annual%20Water%20Report.pdf (accessed July 2024).

Doig River First Nation. 2024. *Doig River First Nation*. Retrieved from About Us: https://doigriverfn.com/about/about-doig-river/ (accessed April 2024).

Doig River First Nation. n.d.a. *About Our Lands*. Retrieved from https://doigriverfn.com/our-lands/our-land/ (accessed April 2024).

Dorion-Paquin, Leah and Todd Paquin Patrick Young, n.d. *The Kelly Lake, British Columbia Métis*. https://www.metismuseum.ca/media/document.php/01274.Kelly%20Lake,%20BC.pdf (accessed August 2024).

Ecofor Consulting Ltd. 2020a. A*rchaeological Impact Assessment Interim Report (NW Area)*. Prepared for CTI Plus Resources Ltd. by Ecofor Consulting Ltd, Fort St. John, BC.

Ecofor Consulting Ltd. 2020b. *Archaeological Impact Assessment Interim Report (SE Area)*. Prepared for CTI Plus Resources Ltd. by Ecofor Consulting Ltd, Fort St. John, BC.

Ecofor Consulting Ltd. 2020c. *Archaeological Impact Assessment Interim Report (NW and SE Area)*. Prepared for CTI Plus Resources Ltd. by Ecofor Consulting Ltd, Fort St. John, BC.

ECCC (Environment and Climate Change Canada). 2020a. *Strategic Assessment of Climate Change.* Available at: https://www.canada.ca/en/services/environment/conservation/assessments/strategic-assessments/climate-change.html (accessed April 2024).

ECCC (Environment and Climate Change Canada). 2020b. Canada British Columbia Conservation Agreement For Southern Mountain Caribou In British Columbia. Available at: https://wildlife-species.az.ec.gc.ca/species-risk-registry/virtual_sara/files//Ca-SmcCaribouMdsCbc-v00-2020Feb-Eng.pdf (accessed June 2024).

ECCC (Environment and Climate Change Canada). 2020c. Intergovernmental Partnership Agreement For The Conservation Of The Central Group Of The Southern Mountain Caribou. Available at: https://wildlife-species.az.ec.gc.ca/species-risk-registry/virtual_sara/files//Ca-SthnMtnCaribouMtgnsSud-AccordPartnAgrmt-v00-2020Feb-Eng.pdf (accessed June 2024).

ECCC. 2023a. Environment and Climate Change Canada. *Global warming potentials for greenhouse gases*. Available at: https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/quantification-guidance/global-warming-potentials.html (accessed April 2024).

ECCC. 2023b. Environment and Climate Change Canada. *National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada, Part 2.* Available at: https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-2-eng.pdf (accessed April 2024).

ECCC. 2023c. Environment and Climate Change Canada. *National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada, Part 3.* Available at: https://publications.gc.ca/collections/collection_2023/eccc/En81-4-2021-3-eng.pdf. (accessed April 2024).

ECCC. 2024. *Canadian Climate Normals 1981-2010 Station Data.* Available online at: https://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?stnID=1400&autofwd=1.

Environment Canada. 2014. Recovery Strategy for the Woodland Caribou, Southern Mountain population (*Rangifer tarandus caribou*) in Canada. *Species at Risk Act* Recovery Strategy Series. 103 pp.

ERM Rescan. 2014. *Murray River Coal Project: Application for an Environmental Assessment Certificate / Environmental Impact Statement.* Prepared for HD Mining International Ltd. by ERM Consultants Canada Ltd.: Vancouver, British Columbia.

FNHA (First Nations Health Authority). 2024. *About the FNHA.* https://www.fnha.ca/about/fnha-overview (accessed February 2024).

Fort Nelson First Nation. n.d. *Fort Nelson First Nation.* Retrieved from: http://www.fortnelsonfirstnation.org/ (accessed April 2024).

Fort St. John. 2024. *Home page*. https://www.fortstjohn.ca/ (accessed February 2024).

Government of BC. 2023a. *Provincial Caribou Recovery Program.* Retrieved from https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-conservation/caribou/recovery-program.

Government of BC. 2023b. *Treaty 8 First Nations build path forward together.* Retrieved from https://news.gov.bc.ca/releases/2023PREM0005-000060.

Government of BC. 2023c. *Assessments by Region: Northeast.* https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/cumulative-effects-framework/regional-assessments/northeast (accessed April 2024).

Government of BC. 2023d. *Site productivity.* https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-inventory/site-productivity.

Government of BC. 2024a. *Caribou in British Columbia*. Retrieved from https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-conservation/caribou (accessed August 2024).

Government of BC. 2024b. *First Nations A-Z Listing*. Retrieved from https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing.

Government of BC. 2024c. *District Directory*. Retrieved from https://studentsuccess.gov.bc.ca/all/school-districts.

Government of BC. n.d. *Woodland Caribou Plan, Quintette Subpopulation*. Retrieved from https://www.for.gov.bc.ca/ftp/HTH/external/!publish/Caribou%20Recovery%20Program/Herd%20Plans/FTP_upload_herd_plans/southern_mountain_central/Caribou%20Herd%20Plan%20Quintette_EN_disclaimer.pdf (accessed August 2024).

Government of Canada. 1966. *Government of Canada*. Retrieved from Treaty Texts: Treaty No. 8: https://www.rcaanc-cirnac.gc.ca/eng/1100100028813/1581293624572.

Government of Canada. 2020. *Impact Assessment Cooperation Agreement Between Canada and British Columbia.* https://www.canada.ca/en/impact-assessment-agency/corporate/acts-regulations/legislation-regulations/canada-british-columbia-impact-assessment-cooperation/canada-bc-cooperation-agreement.html (accessed February 2024).

Government of Canada. 2021. *Species at Risk Public Registry.* (January). Available at: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html.

Halfway River First Nation. 2024. *Halfway River First Nation.* Retrieved from https://hrfn.ca/lands-department/.

Hatfield Consultants Ltd. 1998. *Reconnaissance (1:20,000) Fish and Fish Habitat Inventory of 1997 Watersheds in the Canfor Operating Area of TFL#48.* Prepared for Canadian Forest Products Ltd. Chetwynd, BC

Hollingshead B. 1990. *Methane emissions from Canadian coal operations: A quantitative estimate.* Report CI 8936. Devon (AB): Coal Mining Research Company.

Housing, Infrastructure and Communities Canada. 2023. *Canada and British Columbia invest in District of Taylor's Wastewater Treatment Plant.* https://www.canada.ca/en/office-infrastructure/news/2023/05/canada-and-british-columbia-invest-in-district-of-taylors-wastewater-treatment-plant.html (accessed July 2024).

Hudson's Hope. 2024. *Economic Development.* https://hudsonshope.ca/business/economic-development/ (accessed February 2024).

Indigenous Services Canada. 2023. *List of First Nations entitled to Treaty Annuities*. Retrieved from: https://www.sac-isc.gc.ca/eng/1595274954300/1595274980122#s8.

International Association for Public Participation. n.d. *Core Values, Ethics, Spectrum – The 3 Pillars of Public Participation.* https://www.iap2.org/general/custom.asp?page=pillars (accessed April 2024).

King B. 1994. *Management of methane emissions from coal mines: Environmental, engineering, economic and institutional implications of options.* Report prepared by Neill and Gunter for Environment Canada.

Mackenzie. 2024. *About*. https://districtofmackenzie.ca/ (accessed April 2024).

McLeod Lake Indian Band. 2024. *About*. Retrieved from McLeod Lake Indian Band: https://www.mlib.ca/about/.

MNBC (Métis Nation of British Columbia). 2003. *Métis Nation of British Columbia Constitution.* https://www.mnbc.ca/media/1254 (accessed August 2024).

MNBC. 2023. *Métis Nation British Columbia acknowledges, upholds, and respects First Nations' inherent rights, title, and treaty rights*. https://www.mnbc.ca/news/metis-nation-british-columbia-acknowledges-upholds-and-respects-first-nations-inherent-rights (accessed August 2024).

MNBC. 2024. *Chartered Communities.* https://www.mnbc.ca/citizens-culture/chartered-communities (accessed April 2024). Mining Association of Canada. 2014. Energy and GHG Emissions Management Reference Guide. Available online at: https://mining.ca/wp-content/uploads/dlm_uploads/2021/06/EnergyandGreenhouseGasEmissionsManagementReferenceGuide2014.pdf.

Northern Health. 2024a. *Services*. https://www.northernhealth.ca/services (accessed February 2024).

Northern Health. 2024b. *Maps*. https://www.northernhealth.ca/for-health-professionals/community-health-information-page-chip/maps (accessed February 2024).

NLC (Northern Lights College). 2024. *Home page*. https://www.nlc.bc.ca/ (accessed July 2024).

Pouce Coupe. 2024. *About*. https://poucecoupe.ca/ (accessed April 2024).

PRRD (Peace River Regional District). 2024. *Regional District.* https://prrd.bc.ca/who-we-are/regional-district/ (accessed February 2024).

PRRD. n.d. *Landfills and Transfer Stations.* https://prrd.bc.ca/landfill-transfer-station/ (accessed August 2024).

Province of BC. 2024a. *Mineral Titles Online*. Available online at: https://www.mtonline.gov.bc.ca/mtov/home. (accessed February 2024).

Province of BC. 2024b. *Electricity Emission Intensity Factors for Grid-Connected Entities.* Available at: https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity (accessed May 2024).

Saulteau First Nations. 2022. *Comprehensive Community Plan.* Retrieved from https://www.saulteau.com/component/edocman/saulteau-ccp/viewdocument/133?Itemid=0.

Saulteau First Nations. n.d. *Saulteau First Nations.* Retrieved from https://www.saulteau.com/.

Sharpe (Sean Sharpe Environmental Consulting Ltd.). 2020. *Rocky Creek Coal Exploration Program (East and West Rocky Creek) - Caribou Mitigation and Monitoring Management Plan*. Prepared for CTI Plus Resources Ltd. by Sean Sharpe Environmental Consulting Ltd., Smithers BC.

Stantec (Stantec Consulting Ltd.). 2015. *Environmental Assessment Certificate Application - Sukunka Coal Mine Project*. Prepared for Glencore PLC by Stantec Consulting Ltd.

Stantec. 2021. *Technical Report - Rocky Creek Coal Property*. Prepared for CTI Plus Resources Ltd. by Stantec Consulting Ltd., Calgary AB.

Statistics Canada. 2021. *2021 Census of Population*. https://www12.statcan.gc.ca/census-recensement/index-eng.cfm (accessed February 2024).

Taylor. 2024. *About Taylor.* https://districtoftaylor.com/about-taylor/ (accessed February 2024).

Tumber Ridge. 2024. *Home page.* https://www.visittumblerridge.ca/ (accessed February 2024).

University of Northern British Columbia. 2024. *Peace River-Liard Campus*. https://www.unbc.ca/peace-river-liard (accessed July 2024).

West Moberly First Nations. 2024. *West Moberly First Nations*. https://westmo.org/ (accessed April 2024).

Western Canadian Coal. 2005. *Brule Coal Mine: Application for an Environmental Assessment Certificate.*

APPENDIX A CONCORDANCE TABLES

TABLE A-1 FEDERAL CONCORDANCE (*IMPACT ASSESSMENT ACT*)

Initial Project Description Guidelines	Section
General Information	
• The project's name, type or sector and proposed location.	1.0
• The proponent's name and contact information and the name and contact information of their primary representative for the purpose of the description of the project.	2.0
• A summary of any engagement undertaken with any jurisdiction or other party, including a summary of the key issues raised and the results of the engagement, and a brief description of any plan for future engagement.	9.0
• A list of the Indigenous groups that may be affected by the carrying out of the project, a summary of any engagement undertaken with the Indigenous peoples of Canada, including a summary of key issues raised and the results of the engagement, and a brief description of any plan for future engagement.	6.0 9.1
• Any study or plan, relevant to the project, that is being or has been conducted in respect of the region where the project is to be carried out, including a regional assessment that is being or has been carried out under section 92 or 93 of the Act or by any jurisdiction, including by or on behalf of an Indigenous governing body, if the study or plan is available to the public.	7.3.1
• Any strategic assessment, relevant to the project, that is being or has been carried out under section 95 of the Act.	7.3.1
Project Information	
• A statement of the purpose of and need for the project, including any potential benefits.	3.1
• The provisions in the schedule to the Physical Activities Regulations describing the project, in whole or in part.	5.1
• A list of all activities, infrastructure, permanent or temporary structures and physical works to be included in and associated with the construction, operation and decommissioning of the project.	4.0
• An estimate of the maximum production capacity of the project and a description of the production processes to be used.	4.1
• The anticipated schedule for the project's construction, operation, decommissioning and abandonment, including any expansions of the project.	4.2

• A list of:
  ◦ Potential alternative means of carrying out the project that the proponent is considering and that are technically and economically feasible, including through the use of best available technologies; and
  ◦ Potential alternatives to the project that the proponent is considering and that are technically and economically feasible and directly related to the project.
	4.6
	4.7

Location Information	
Description of the project's proposed location, including:	
• Its proposed geographic coordinates, including, for linear development projects, the proposed locations of major ancillary facilities that are integral to the project and a description of the spatial boundaries of the proposed study corridor;	3.2
• Site maps produced at an appropriate scale in order to determine the project's proposed general location and the spatial relationship of the project components;	1.0 (Figure 1-1) 4.0 (Figures 4.1-1, 4.1-2, 4.1-3)
• The legal description of land to be used for the project, including, if the land has already been acquired, the title, deed or document and any authorization relating to a water lot;	3.2 5.2

Initial Project Description Guidelines	Section
• The project's proximity to any permanent, seasonal or temporary residences and to the nearest affected communities;	7.3.2 7.3.5
• The project's proximity to land used for traditional purposes by Indigenous peoples of Canada, land in a *reserve* as defined in subsection 2(1) of the *Indian Act*, *First Nation land* as defined in subsection 2(1) of the *First Nations Land Management Act*, land that is subject to a comprehensive land claim agreement or a self-government agreement and any other land set aside for the use and benefit of Indigenous peoples of Canada;	3.2 6.0
• The project's proximity to any federal lands;	3.2
• A brief description of the physical and biological environment of the project's location, based on information that is available to the public; and	7.1 7.2
• A brief description of the health, social and economic context in the region where the project is located, based on information that is available to the public or derived from any engagement undertaken.	7.3
Federal, Provincial, Territorial, Indigenous and Municipal Involvement	
• A description of any financial support that federal authorities are, or may be, providing to the project.	3.0
• A list of any federal lands that may be used for the purpose of carrying out the project.	3.0
• A list of any jurisdictions that have powers, duties or functions in relation to an assessment of the project's environmental effects.	5.2
Potential Effects of the Project	
• A list of any changes that, as a result of the carrying out of the project, may be caused to the following components of the environment that are within the legislative authority of Parliament:	
◦ Fish and fish habitat, as defined in subsection 2(1) of the *Fisheries Act*;	10.0 (Table 10-2)
◦ Aquatic species, as defined in subsection 2(1) of the *Species at Risk Act*; and	10.0 (Table 10-2)
◦ Migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*.	10.0 (Table 10-2)
• A list of any changes to the environment that, as a result of the carrying out of the project, may occur on federal lands, in a province other than the province in which the project is proposed to be carried out or outside Canada.	10.2
• With respect to the Indigenous peoples of Canada, a brief description of the impact — that, as a result of the carrying out of the project, may occur in Canada and result from any change to the environment — on physical and cultural heritage, the current use of lands and resources for traditional purposes and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.	10.0
• A brief description of any change that, as a result of the carrying out of the project, may occur in Canada to the health, social or economic conditions of Indigenous peoples of Canada, based on information that is available to the public or derived from any engagement undertaken with Indigenous peoples of Canada.	10.0 (Table 10-2)
• An estimate of any greenhouse gas emissions associated with the project.	4.5.1
• A list of the types of waste and emissions that are likely to be generated — in the air, in or on water and in or on land — during any phase of the project.	4.5
Summary	
• A plain-language summary of the information that is required under items 1 to 24 in English and in French.	Plain Language Summary (separate file)

TABLE A-2 PROVINCIAL CONCORDANCE (*ENVIRONMENTAL ASSESSMENT ACT)*

Initial Project Description Guidelines	Section
Executive Summary	
A plain language summary of the IPD that is clear and concise.	Plain Language Summary (separate file)
General Information and Contacts	
• Project name;	1.0
• Project location;	3.2
• Project industrial sector and type (e.g., open pit metal mine);	1.0
• Proponent name, mailing address, phone numbers, email address and website URL; and	2.0
• Include the name and contact information of the primary representative for the EA.	2.0
Purpose and Rationale	
• A general rationale for why the project has been proposed; and	3.1
• Potential project benefits.	3.1
Legislative and Regulatory Context	
• The type and size of the project, with specific reference to EA Regulatory Triggers [e.g., the EAO Reviewable Project Regulations and *Impact Assessment Act* (Canada) thresholds];	5.1
• A list of anticipated authorizations and permits;	5.2
• Consider the requirements of any applicable agreements between the Province and Indigenous nations, including treaties;	6.0
• Consider the requirements of any applicable international agreements between the Province and state or federal governments;	1.0 5.1
• A description of relevant government policies that the project may not be compatible with; and	5.2
• Proposed timing for conducting the provincial EA and federal EA, if applicable.	5.3
Project Status and History	
• Project history, including past ownership;	3.3
• State if it is a new project or a modification to an existing project;	1.0
• A list of any existing permits or tenure in place;	3.4
• A description of any previous proposal(s) for the project or a similar proposal and the outcomes and history of the proposal(s), if applicable; and	3.3.2
• If the project was previously declined or terminated, a description of how this proposal differs and how the issues for which the previous proposal was declined or terminated have been addressed.	3.3.2
Project Timing	
• A list of proposed project phases (e.g., construction, operation, decommissioning, and reclamation) and the anticipated timing and duration of each phase; and	4.2
• Include any known seasonal timing constraints.	5.3

Initial Project Description Guidelines	Section
Project Location, Activities and Components	
• A description of the proposed project's location in a local and regional context, including proximity to communities or locations of interest to the public, government, or Indigenous nations, and key designated or protected areas such as parks or Wildlife Habitat Areas;	3.2 6.0 7.3
• Proposed project activities and components;	4.1 4.2
• Proposed on and off-site facilities and equipment;	4.1
• A brief description of proposed activities related to processing, transportation and/or shipping of materials to/from the site;	4.1.3
• A description of any other project(s) that are needed for the proposed project to proceed and be feasible (e.g., a pipeline would be needed for an oil and gas facility to proceed);	N/A
• A description of the work that has been conducted to arrive at the proposed project as described in the IPD;	3.3.1
• A list of design or siting constraints that are flexible and those that are not flexible;	4.4
• A list of other design or siting options that may be considered; and	4.4 4.7
• Anticipated daily and annual maximum production or operational capacity of the project (if applicable).	4.1
Indigenous Nation Interests	
• A description of the proximity of the proposed project to Indigenous nations' territory, communities, locations of interest, *Indian Act* reserve lands, lands subject to a Treaty, or other relevant agreements;	3.2 (Table 3.2-2) 6.0
• A description of potential project interactions with any identified Indigenous interests;	6.0 9.1 10.0 (Table 10-1)
• A description of alignment of the IPD with Indigenous nation laws, customs and policies; and	6.0
• A list of any issues, concerns, or questions raised by Indigenous nations during engagement on the draft IPD or other information shared in relation to the proposed project.	6.0 9.1
Biophysical Environment	
• A description of the natural setting characteristics, including coastal, foreshore, riparian, mountainous, watersheds, and agricultural land;	7.0
• A description of disturbed area characteristics, including: brown field; contaminated site(s), and any history of development;	3.3
• Identification of sensitive or vulnerable species, ecosystems, and/or habitats in the project area;	7.2
• A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing biophysical conditions; and	7.0
• Include a table listing any studies that are underway and those that are anticipated, including known guidance and standards to be used in these studies.	7.0 (Table 7-1)
Human and Community Well-being	
• A description of the proposed project's proximity to local communities, including seasonal or temporary residences;	7.3.2 7.3.5
• Identification of the municipalities within which the proposed project is located or where effects may occur;	7.3.5

Initial Project Description Guidelines	Section
• A description of the proposed project's proximity to important or sensitive community and natural places such as: municipal boundaries, parks, schools, hospitals, housing, water supplies, roads, railways, and protected and recreational areas;	7.3.2 7.3.3 7.3.5 7.3.6
• A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing human environment conditions;	7.3
• Identification of any sensitive or vulnerable economic, social, heritage, or health values that may be affected by the project; and	7.3
• A preliminary understanding of the anticipated size of the workforce for each project phase, where the workforce will be drawn from, and where the workforce will be housed. Refer to the Human and Community Well-being Guidelines for further information.	4.3 7.3
Emissions, Discharges, and Waste	
• A high-level outline of anticipated direct project waste and emissions to land, air, and water, including estimated greenhouse gas (GHG) emissions:	4.5
◦ This information would include direct emissions that are expected to be above provincial or national standards and emissions that have the potential to interact with Indigenous interests, the biophysical environment, and/or the human environment; and	4.5
• A description of proposed mitigation measures and/or project design changes to address emissions, including GHGs.	4.7 (Table 4.7-1) 10.0 (Table 10-2)
Public and Environmental Safety	
• A description of potential malfunctions or accidents associated with the industry or specific to the proposed project and how they will be managed:	8.0
◦ Include any proposed outreach to help Indigenous nations, governments and the public better understand the risks and mitigations; and	8.0
◦ Include any issues raised about public and environmental safety during engagement with Indigenous nations, the public, provincial and federal government agencies, and stakeholders and how issues were considered in developing any mitigation measures or design changes.	6.0 8.0 9.0
Alternative Means of Carrying out the Project	
• A high-level description of the alternative options for the proposed project, including a rationale for the preferred option that demonstrates how positive and negative effects and/or issues raised during engagement have been considered;	4.7
• The alternative means of undertaking the proposed project may include information related to:	4.7
◦ The use of best available technologies;	
◦ The technical and economic feasibility;	
◦ The potential effects, risks and uncertainties of those alternatives;	
◦ The preferred option and a rationale for this preference; and	
◦ The different options for the project location, project routing, technologies, mitigation, or design.	
Effects of the Environment on the Project	
• An overview of potential effects of natural hazards or processes and climate change on the proposed project.	10.1

Initial Project Description Guidelines	Section
Land and Water Use	
• An outline of the anticipated project footprint and proposed area of disturbance;	4.1 (Figures 4.1-1, 4.1-2)
• A description of the land required for the proposed project, including whether the project is located on private lands, provincial or federal Crown lands, or Indian Reserve lands;	3.2
• Include the applicable zoning, Agriculture Land Reserve designation, land and resource management plans, and other land use designations (e.g., parks and protected areas) and the legal land descriptions and/or tenure numbers of those lands, if known;	7.3.1 7.3.2 7.3.3
• A description of past uses of the land required for the proposed project, including whether the site has been previously developed; and	3.3
• A description of water requirements for the proposed project, if applicable, and the proposed source of water.	4.1.6
Land Use Plans	
• A list of all relevant land use plans, including provincial land use plans, Indigenous land use plans, and relevant municipal plans; and	7.3.1
• An identification of any rezoning or changes in land designations that would be required for the proposed project.	5.2
Project Interactions	
• A description of potential interactions between the proposed project and the biophysical and human environments, including Indigenous interests. It may be helpful to present this information in a table format, refer to the Effects Assessment Policy for examples of interaction tables;	10.0 (Table 10-1)
• A summary of any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions, if applicable;	7.0
• A list of any activities proposed to be undertaken during the Early Engagement period to inform the development of the DPD or the Application, should the project proceed to an EA; and	9.0
• An identification of existing cumulative effects in the region that the project may interact with. Refer to the Effects Assessment Policy for more information.	10.3
Maps and Shapefiles	
• Local and regional scale maps of the project showing its location and known off-site components;	1.0 (Figure 1-1) 4.0 (Figures 4.1-1, 4.1-2)
• Shapefiles of the proposed project footprint and the footprint of known offsite components:	Separate File
◦ Shapefiles must be in ESRI format and include four file types: .shp, .shx, .dbf, and .prj;	
◦ Please also provide .KMZ files;	
◦ Shapefiles must be in BC Albers (NAD83) projection;	
◦ Shapefile polygons and their corresponding polygons on all maps must be identical in shape, size, and location;	
◦ Spatial features (.shp and .shx) must be represented as polygons, not as points or line features;	
◦ Shapefiles must be named in a way that clearly describes the contents;	
◦ To avoid having ArcGIS generate random errors, follow these best practices: avoid starting names by number, add an underscore instead of a space or dash, and do not include a symbol outside of the underscore; and	

Initial Project Description Guidelines	Section
◦ Provide shapefiles demonstrating the overlap of known project components with any identified communities or locations of interest to the public. This may include information regarding specific sites of importance to an Indigenous nation or their territory, if this information is not confidential in nature and an Indigenous nation has agreed to allow the information to be shared;	
• Maps must be presented in the required standard format with legible grids and suitable scaling (typically 1:100,000 to 1:150,000 for centralized projects such as a mine, and up to 1:1,500,000 or 1:1,250,000 scale for linear projects such as a pipeline or transmission line); and	All Figures
• Maps must also include a National Topographic System (NTS) Map number, latitude and longitude references, titles, a north arrow, and relevant legends.	All Figures