
RUDDOCK CREEK MINE PROJECT

Summary of the Project Description

Submitted to:

Canadian Environmental Assessment Agency
Suite 410, 701 West Georgia Street
Vancouver, BC V7T 1C6

Prepared and Submitted by:

Ruddock Creek Mining Corporation
200-580 Hornby Street
Vancouver, BC, V6C 3B6

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S1. INTRODUCTION

Ruddock Creek Mining Corporation (the Proponent or RCMC) proposes to construct, operate and decommission the Ruddock Creek Mine Project (the Project) a 3,000 tonnes per day (t/d) zinc-lead underground mine over an anticipated mine life of eight years. Key facts regarding the Project are outlined in Table S-1.

Table S-1 Key Facts Regarding the Project

Category	Project Information
Project Name	Ruddock Creek Mine Project
Proponent	Ruddock Creek Mining Corporation 200-580 Hornby Street Vancouver, BC V6C 3B6 Telephone: 604-669-8959 Fax: 604-687-4030 Website: www.imperialmetals.com
Project Ownership	The Project is a joint venture between four subsidiary companies: Imperial Metals Corporation (at 50% between Selkirk Metals Corp. and Mount Polley Mining Corporation), Mitsui Mining & Smelting Proponent Limited (at 30%) and Itochu Corporation (at 20%).
President	Brian Kynoch President, Ruddock Creek Mining Corporation Email: bkynoch@imperialmetals.com Telephone: 604-669-8959
Principal Contact	Jim Miller-Tait Exploration Manager, Ruddock Creek Mining Corporation Email: jmillertait@imperialmetals.com Telephone: 604-669-8959
Type of Development	Zinc-lead underground mine, includes underground mining activities for four ore deposits, referred to as the Upper E, Lower E, V, and Creek Zone, and the development of associated surface and underground components and activities
Location	Geographically centered at the processing plant, at latitude 51° 46' 8.43"N and longitude 118° 54' 13.00"W, at UTM coordinates X: 368650 and Y: 5737061 within UTM Zone 11, approximate elevation of 1950masl. Located at the headwaters of Ruddock Creek and Oliver Creek in the Scrip Range of the Monashee Mountains in southeast BC, approximately 155 km northeast of Kamloops, 100 km north northwest of Revelstoke, 28 km east of Avola and 6.5 km west of Gordon Horne Peak.
Life of Project	Anticipated Project life of 10 years (1 year of construction, 8 years of mine operation, 1 year of active closure and decommissioning, and post-closure will begin after Year 10)
Production Rate	Nominal daily production capacity of 3,000 t/d or 1,050,000 tonnes per year (t/y) over 8 years of production
Products produced at the Mine site	Zinc Concentrate Lead Concentrate
Ore Processing	Conventional grinding, flotation, thickening circuits
Employment	Peak employment of 300 people during construction and 200 permanent positions during operations.
Site Access and Transport Route	The mine site is currently road accessible from the Yellowhead Highway #5 (through Vavenby) using primarily existing Forest Service Roads (FSRs) and the existing access road. All-weather access to the mine site will be established by upgrading a portion of the access road (for approximately 6.2 km), replacing one bridge and upgrading the decking on another bridge.

S1.1 Objectives of the Summary

The Summary of the Project Description has been prepared and submitted in both English and French to the Canadian Environmental Assessment Agency (the Agency). This Summary summarizes the information identified in the Agency’s guidance document titled “*Guide to Preparing a Description of a Designated Project under the Canadian Environmental Assessment Act, 2012*” (July 2012). Under CEAA 2012, the Agency will post the Summary of the Project Description on the Agency’s internet site to consult the public and potentially affected Aboriginal groups on the Project. The primary purpose of the Summary is to provide interested parties, an early opportunity to determine their level of engagement in the review process.

S1.2 Regulatory Requirements

The Proponent anticipates that the Project will be subject to *Canadian Environmental Assessment Act, 2012* (CEAA 2012); though a determination will be made by the Agency as to whether an environmental assessment is required. The Project is a “designated activity” as per Section 16(a) of the *Regulations Designating Physical Activities* for the construction, operation, decommissioning and abandonment of new metal mine, other than a rare earth element mine or gold mine, with an ore production capacity of 3,000 t/d or more; submission of a project description to the Agency is required. If an environmental assessment pursuant to CEAA 2012 is required, the Agency will lead the federal review process.

The Proponent anticipates that the Project will be subject to the *British Columbia Environmental Assessment Act* (BCEAA) because the Project has an estimated annual production rate of 1,050,000 t of ore on average, which exceeds the prescribed threshold under the *Reviewable Projects Regulation* for mining projects of 75,000 t/y of mineral ore. The Environmental Assessment Office (EAO) will lead the provincial review process pursuant to the BCEAA.

If an environmental assessment of the Project is required under both BCEAA and CEAA 2012, the provincial and federal processes will be conducted in accordance with the *Canada-British Columbia Agreement for Environmental Assessment Cooperation (2004)*. A cooperative environmental assessment will be undertaken to generate the information required by all parties making decisions on the basis of the cooperative environmental assessment and to avoid duplication, enhance timeliness and predictability.

S1.2.1 Federal Permits

In addition to RCMC’s request for an Environmental Assessment Decision Statement pursuant to CEAA 2012, the Project will require a number of other federal authorizations, licenses, approvals and permits to construct and operate the Project. The anticipated federal permits to construct and operate the Project are listed in Table S-2. The exact requirements will be defined by the permitting departments through the environmental assessment and permitting process.

Table S-2 Anticipated Federal Permits

Requirement	Statute	Department	Purpose of Authorization
Environmental Assessment Decision Statement ¹	<i>Canadian Environmental Assessment Act, 2012</i>	Canadian Environmental Assessment Agency	A positive Environmental Assessment Decision Statement is required before any decisions can be made on permits and other approvals that are required to construct and operate a designated project in Canada.
Fish - Permit for Scientific Licence - Authorization for Works or Undertakings Affecting Fish Habitat	<i>Fisheries Act</i>	Fisheries and Oceans Canada	Fish salvage for data collection. Preventing serious harm to fish defined in the <i>Fisheries Act</i> as “the death of fish or any permanent alteration to, or destruction of, fish habitat.”
Radio Licenses	<i>Radio Communication</i>	Industry Canada	Licence for radio frequencies for the Project

	<i>Act</i>		
Explosives User Magazine Licence	<i>Explosives Act</i>	Natural Resources Canada	Storage of blasting explosives and other types of industrial explosives (required permits and/or licences to be obtained by explosives vendor)
Approval of works built in, on, over, under, through or across any scheduled waterways ²	<i>Navigation Protection Act</i>	Transport Canada	Authorizes the construction, placement, repairing or modification of work which will substantially interfere with navigation in, over, under, through or across scheduled navigable waterways.
Authorization for a regulatory amendment to list the water body on Schedule 2 of the <i>Metal Mining Effluent Regulations</i> ³	<i>Metal Mining Effluent Regulations (under the Fisheries Act)</i>	Environment Canada, with Fisheries and Oceans Canada	Authorization to use a natural water body that is frequented by fish, to dispose of mine waste by a metal mine .

NOTE 1: The Proponent anticipates that the Project will be subject to Canadian Environmental Assessment Act, 2012 (CEAA 2012); though a determination will be made by the Agency as to whether an environmental assessment is required.

NOTE 2: The Proponent does not anticipate that a formal approval for the aerial crossing of alternative transmission lines (E1, E2 and E3) over Lake Revelstoke Reservoir will be required for the Project but has added this for Transport Canada's determination.

NOTE 3: The Proponent does not anticipate that a Schedule 2 amendment of the MMER will be required for the Project because Light Lake is not frequented by fish but has added this for Fisheries and Oceans Canada's review and Environment Canada's determination.

The Proponent is not seeking federal funding for the Project.

S1.2.2 Provincial Permits

In addition to RCMC's application for an Environmental Assessment Certificate (EAC) pursuant to the BCEAA, the Project will require a number of other provincial authorizations, licenses, and permits to construct and operate the Project. The anticipated provincial permits to construct and operate the Project are listed in Table S-3. The exact requirements will be defined by the permitting ministries through the environmental assessment and permitting process.

Table S-3 Anticipated Provincial Permits

Requirement	Statute	Ministry	Purpose of Authorization
Environmental Assessment Certificate	<i>Environmental Assessment Act</i>	Environmental Assessment Office	A certificate is required before any decisions can be made on permits and other approvals that are required to construct and operate a reviewable project in BC.
Notice of Work	<i>Mines Act</i>	Energy and Mines	Exploration permits
Mine Plan and Reclamation Program Permit	<i>Mines Act</i>	Energy and Mines	Approval of mining projects with respect to the Mines Act and its accompanying Health, Safety and Reclamation Code for Mines in BC
Mining Lease	<i>Mineral Tenure Act</i>	Energy and Mines	Required before production on a mineral tenure
Licence of Occupation	<i>Land Act</i>	Forest, Lands and Natural Resource Operations	For Borrow and Gravel Pits; Staging Areas, Transmission Line prior to issuance of right of way
Occupant Licence to Cut	<i>Forest Act</i>	Forest, Lands and Natural Resource Operations	The right to harvest timber on Crown Land (transmission line ROW and Road Corridors)
Special Use Permit Road Use Permit Forest Service Road	<i>Forest Act</i>	Forest, Lands and Natural Resource	Access road construction For use of existing road

Requirement	Statute	Ministry	Purpose of Authorization
		Operations	
Highway Access Permit	<i>Highway Act</i>	Transportation and Infrastructure	Highway access permits are required for accesses
Crown Land Tenure	<i>Land Act</i>	Forest, Lands and Natural Resource Operations	Authorization to conduct work on Crown Land
Right of Way	<i>Land Act</i>	Forest, Lands and Natural Resource Operations	For transmission line after construction
Explosives Magazine Storage and Use Permit	<i>Mines Act; Health, Safety, and Reclamation Code for Mines in British Columbia</i>	Energy and Mines	For explosive use and storage during construction
Accommodations Camp - Approval and operation permit	<i>Health Act</i>	Health	Regional health permits for food handling and drinking water. Permit for drinking water, sewage disposal, sanitation and food
Archaeology - Heritage Investigation Permit - Heritage Inspection Permit - Site Alteration Permit	<i>Heritage Conservation Act</i>	Forest, Lands and Natural Resource Operations	Conduct a archaeological field study. Conduct systematic data recovery (excavation) to recover information. Authorizes the removal of archaeological deposits.
Fish Collection	<i>Wildlife Act</i>	Forest, Lands and Natural Resource Operations	Fish salvage for data collection
Waste Management - Waste Discharge Permit - Special Waste Generator Permit (Waste Oil) - Open Burning Permit	<i>Environmental Management Act</i>	Environment	Authorization to discharge waste under the Environmental Management Act for mining effluent (sediment, tailings and sewage, discharge from filter plant), air emissions (crushers, concentrator), refuse, and incinerator. Authorization to store, handle and dispose of waste oil generated by mining activities. Open Burning Permit for land clearing activities
Water Management - Notifications - Approvals - Short Term Water Use Approval - Water Licence	<i>Water Act</i>	Environment	Notifications for works. Approval for changes in and about a stream that are of a complex nature. Short Term Water Use. Authority to divert and use surface water.
Wildlife Permits - Wildlife Salvage Permit - Permit to Possess, Take or Destroy Bird Nest and/or Egg	<i>Wildlife Act</i>	Forest, Lands and Natural Resource Operations	For possessing, taking or destroying a bird / nest. For amphibian / small mammal capture and release

S2. PROJECT INFORMATION

S2.1 Project History

Exploration activities in the Project area began before the 1960s with the discovery of massive sulphide mineralization. Since the first exploration activities, the property has changed ownership between 1975 and 2005 and different exploration and drilling programs were carried out by the owners. Selkirk Metals Corp., a corporation formed in 2005 and a current owner of the Project, continued exploration work on the property from 2005 to 2008.

In 2008 Selkirk Metals Corp. initiated the environmental assessment process under the BCEAA with the submission of a project description. A Section 10 Order and a Section 11 Order were subsequently issued by the EAO. At that time, under the former CEAA legislation (2003), the Agency and participating federal departments had not determined if an environmental assessment was required.

In 2010 Selkirk Metals Corp. signed a Joint Venture Agreement with Mitsui Mining and Smelting Co. Ltd. and Itochu Corporation to share ownership of the Project. With additional exploration programs completed since 2010, the mine plan and Project have changed to reflect a better understanding of the Project setting and resources. Due to these changes, in 2013 after consultation with the EAO and Agency, RCMC requested to submit a new project description and initiate a new environmental assessment process.

S2.2 Estimated Resources

The resources quoted in the Project Description are based on preliminary economic assessments and include inferred resources that should not be considered a mining reserve; there is no certainty that the preliminary economic assessment will be realized and the resource models for indicated and inferred mineral resources may be updated. The mineral resource estimate for the Project as of January 2013 is shown in Table S-4. These resources are predicated on approximately eight years of operation at an average throughput of 3,000 t/d.

Table S-4 Mineral Resources

Cutoff Grade % Pb+Zn	Indicated				Inferred			
	Tonnes 000's	% Zn	% Pb	% comb Pb+Zn	Tonnes 000's	% Zn	% Pb	% comb Pb+Zn
3.0	7,083	6.07	1.25	7.32	8,048	5.74	1.08	6.81
4.0	6,246	6.50	1.33	7.83	6,678	6.33	1.20	7.52
5.0	5,131	7.10	1.45	8.55	5,350	6.99	1.31	8.30
6.0 ¹	4,121	7.73	1.57	9.30	4,258	7.62	1.43	9.04

NOTE 1: The cutoff grade of 6% for Pb and Zn was used to calculate the Project's mineral resources.

S2.3 Context and Objectives

The objectives of the Project include optimizing benefits to all stakeholders and avoiding or minimizing Project-related potential adverse effects on the environment and people. The anticipated benefits of the Project on the local region, BC, Canada and globally include:

- Employment opportunities;
- Government revenues;
- Contribution to community developments; and
- Meeting global demand for zinc and lead.

The Proponent anticipates that the Project will have substantial positive socioeconomic effects on the region, especially the neighbouring community of Vavenby and the District of Clearwater. The Project is anticipated to employ approximately 300 people during construction and will create 200 permanent positions during operations.

The Project will generate provincial and federal government revenues through corporate income and revenue taxes as follows:

- Stage I: 2.00% Tax on net current proceeds from operation;
- Stage II: 13.00% Tax on cumulative net revenue from less capital cost;
- Federal Income Tax rate: 15.00%; and
- Provincial Income Tax rate: 11.00%.

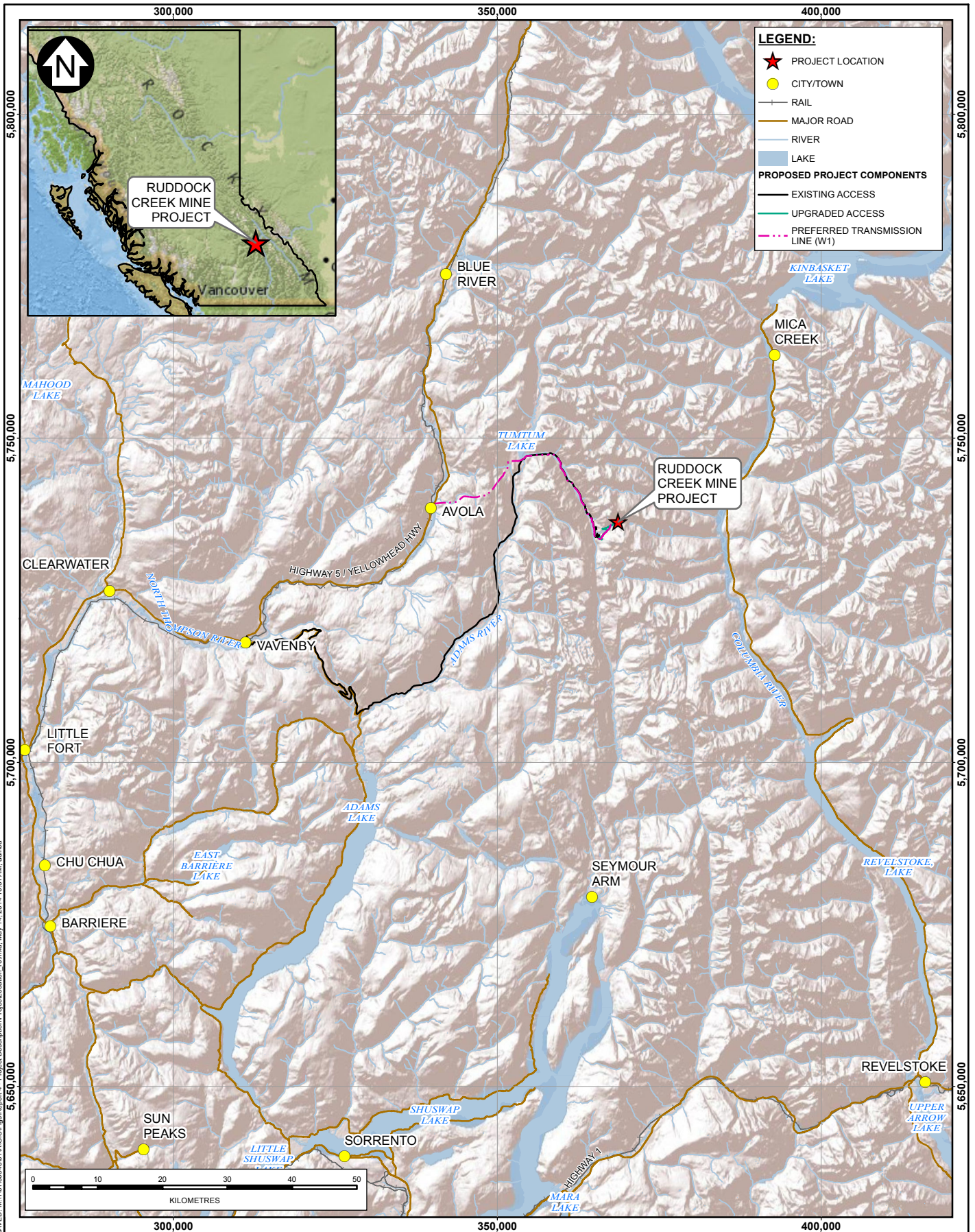
The Proponent anticipates that the Project will bring training opportunities for local community members and increased investment in services to the local population and all of BC. On a national level, development of the Project will contribute to Canada's role as a producer of zinc and lead in the world economy. This purpose is consistent with the Government of Canada's overall strategy of encouraging private corporations to generate national export commodities and tax revenues from natural resource development.

New mine production in recent years has only replaced that of closed mines and future production is expected to be flat or declining. There is increasing difficulty in finding new deposits, increased costs of mine production, and the long lead times required to develop new mines while zinc and lead are used in many industrial and consumer applications worldwide and the global demand for these metals continues to grow. The Project will help meet the current and forecasted global demand for zinc and lead.

S3. PROJECT SETTING

S3.1 Location

The Project is located between the headwaters of Ruddock Creek and Oliver Creek in the Scrip Range of the Monashee Mountains in southeast BC, approximately 155 km northeast of Kamloops, 100 km north northwest of Revelstoke, 28 km east of Avola and 6.5 km west of Gordon Horne Peak as shown on Figure S-1. The Project, centered at the Primary Building that houses the Processing Plant is located at UTM coordinates X: 368650 and Y: 5737061 within UTM Zone 11, and latitude 51° 46' 8.43"N and longitude 118° 54' 13.00"W. At this location, the Project is at an elevation of approximately 1,950 masl. The principal mineral tenures for the Project are situated on NTS map sheet 82M/15W and B.C. Geographic System map sheet 082M.076.



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 1. BASE MAP: ESRI ARCGIS ONLINE
 MAPPING; BC GOVERNMENT DATA.
 2. PROJECTION: NAD 1983 UTM ZONE 11N
 3. COORDINATE GRID: METRES.

**RUDDOCK CREEK
 MINE PROJECT**

PROJECT LOCATION	
FIGURE S-1	REF REPORT 4
	P/A VA101-548/01

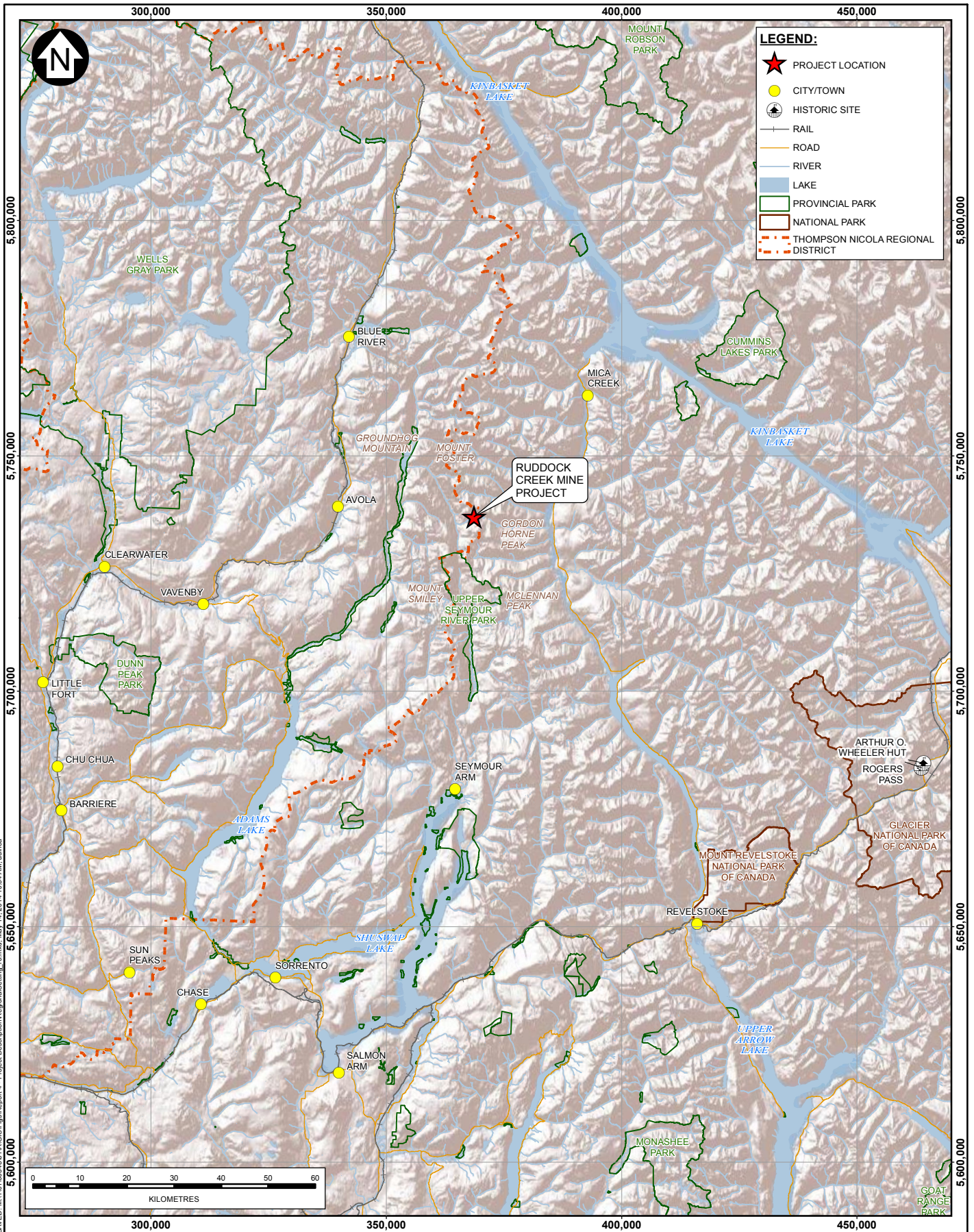
S3.2 Site Features

Table S-5 outlines the key existing site features of the Project location. The regional setting of the Project is shown on Figure S-2.

Table S-5 Key Existing Site Features

Category	Site Features
Regional District	Area “A” of the Thompson-Nicola Regional District
Nearest Communities (from the mine site)	<ul style="list-style-type: none"> • District of Clearwater, approximately 79.2 km southwest • Vavenby, approximately 60.4 km southwest • Avola, approximately 30.0 km west • Revelstoke, approximately 98.6 km southeast
Federal Lands (including parks, Indian reserves or wilderness reserves) and National Historic Sites	<p>The Project is not located and will not cross federal lands, provincial parks or wilderness reserves. The closest federal features to the Project are:</p> <ul style="list-style-type: none"> • Mount Revelstoke National Park, approximately 84.4 km southeast • Glacier National Park, approximately 77.0 km southeast • Yoho National Park, approximately 151.3 km southeast • Kootenay National Park, approximately 187.0 km southeast • Arthur O. Wheeler Hut (Federal Heritage Building), approximately 110 km southeast • Rogers Pass (National Historic Site of Canada), approximately 110 km southeast • Myra Canyon Section of the Kettle Valley Railway (National Historic Site of Canada), approximately 210 km south <p>The closest Indian reserves are listed in Table S-6.</p>
Provincial Lands (including parks, or wilderness reserves)	<ul style="list-style-type: none"> • The Upper Adams River Provincial Park is located 17 km northwest of the Project area and overlaps with a very small portion of RCMC’s mineral claims near Tumtum Lake; this area of overlap is not included as part of the Project being proposed. • The Upper Seymour River Provincial Park is situated approximately 10 km south of the mine site.
Water Courses and Water Bodies (crossed by Project components)	<ul style="list-style-type: none"> • Oliver Creek is crossed by transmission line (W1) • Light Creek and several un-named tributaries (unofficial geographic names) area crossed by Bridge Crossing 1 and 2 • Light Lake (unofficial geographic name) is used for deposition of NAG tailings for 6 months • Lake Revelstoke Reservoir may be potentially used for an aerial crossing of transmission line alternatives (E1, E2 or E3) <p>The majority of surface facilities within the mine site are located within one catchment area as shown on Figure S-5. The access road and preferred transmission line, as well as the underground workings of V-Zone are located in adjacent catchment areas.</p>
Provincial and International Boundaries	The mine site is located 85 km from the BC-Alberta provincial border and 310 km from the Canada-United States international border.
Existing Linear Features and Transportation	<p>The mine site is currently road accessible using existing Forest Service Roads from the Yellowhead Highway #5 (through to Vavenby):</p> <ul style="list-style-type: none"> • Vavenby No. 2-Adams FSR (approximately 38 km) • Tumtum FSR (approximately 55 km) • Oliver Creek FSR (approximately 22 km) <p>The preferred option for power is to construct a new transmission line from an existing substation in Avola to the mine site. An existing 69kV line from the Mica Dam down the east side of Revelstoke Lake offers an alternative connection point. The closest commercial airport is located in Kamloops, BC, approximately 215 km southwest of the mine site. This facility has regularly scheduled flights to Vancouver and other points in B.C. and Calgary.</p>

Category	Site Features
Fisheries and Fishing Areas	The Proponent is not aware of any commercial or Aboriginal fisheries or fishing areas within the mine site. Some recreational fishing might occur in the Project area.
Environmentally Sensitive Areas	The Proponent is not aware of any environmentally sensitive areas within the Project area.
Permanent, Seasonal or Temporary residences	The Proponent is not aware of any permanent, seasonal or temporary residences in the Project area.
Other Features	The Proponent is not aware of any existing past land uses such as archaeological sites, commercial development, houses, industrial facilities, residential areas or any waterborne structures within the Project area.



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 CONSULTING

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NOTES:
 1. BASE MAP: ESRI ARCGIS ONLINE MAPPING; BC GOVERNMENT DATA.
 2. PROJECTION: NAD 1983 UTM ZONE 11N
 3. COORDINATE GRID: METRES.

RUDDOCK CREEK MINE PROJECT

REGIONAL SETTING

FIGURE S-2

REF	REPORT 4
P/A	VA101-548/01

S3.3 Aboriginal Groups

Note that for the Project Description, the term Aboriginal groups refers to the indigenous inhabitants of Canada when describing in a general manner the Inuit, First Nations, and Métis people; this is consistent with the definition under Section 35(2) of the *Constitution Act*, 1982 (Ministry of Supply and Services Canada, 1996). Following accepted practice and as a general rule for the Project Description, the term Aboriginal group is used as an all-encompassing term that includes First Nations and Métis in BC.

S3.3.1 *Aboriginal Groups Identified by the Agency and EAO*

The following Aboriginal groups have been identified to RCMC as Aboriginal groups that may be potentially affected by Project components and activities within the mine site:

Secwepemc Nation bands:

- Adams Lake Indian Band;
- Little Shuswap Lake Indian Band;
- Neskonlith Indian Band; and
- Simpcw First Nation.

Other Aboriginal groups potentially affected by the Project, which have been identified to RCMC, include:

Secwepemc Nation bands:

- Bonaparte Indian Band
- Shuswap Indian Band
- Skeetchestn Indian Band
- Splantsin (Spallumcheen) First Nation
- Tk'emlups Indian Band
- Whispering Pines/Clinton Indian Band

Okanagan Nation Alliance:

- Okanagan Indian Band
- Upper Nicola Indian Band
- Westbank First Nation
- Penticton Indian Band
- Osoyoos Indian Band
- Lower Similkameen Indian Band
- Upper Similkameen Indian Band

Ktunaxa Nation:

- St. Mary's Indian Band
- Lower Kootenay Indian Band
- Tobacco Plains Indian Band
- Akisq'nuk First Nation

Stoney Nakoda Nation, signatory of Treaty 7

Métis Nation BC

Through consultation with Aboriginal groups during the course of the environmental assessment, RCMC will seek to clarify its understanding of how the Project can affect Aboriginal interests and/or asserted Aboriginal rights. RCMC will also seek to clarify the extent to which the other Aboriginal groups identified above may be potentially affected by the Project during the environmental assessment process.

Based on the information publically available in the BC Consultative Area Database with respect to the Aboriginal groups identified above, the mine site, existing access road and the preferred transmission line

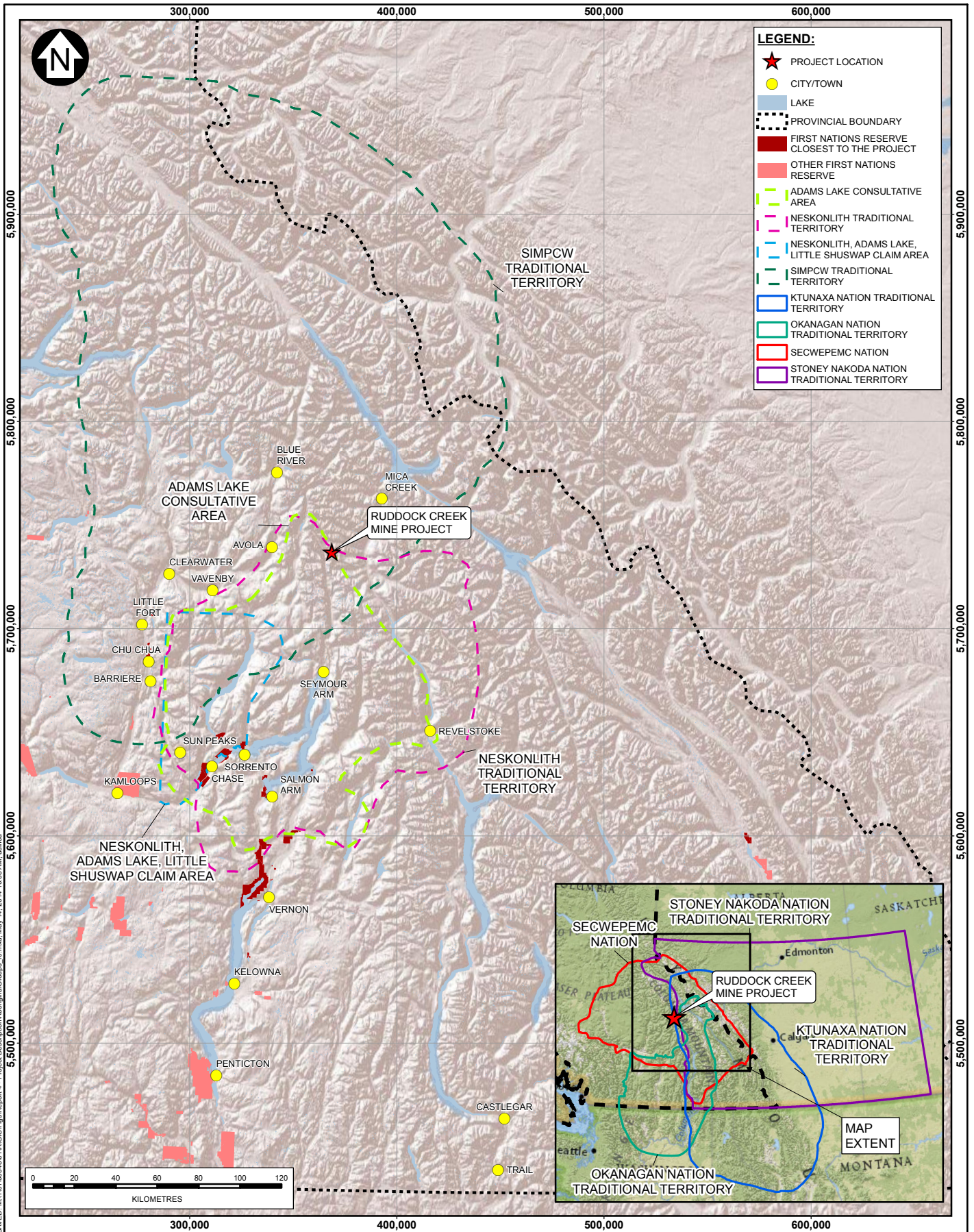
(W1) are located within the asserted traditional territories of the Adams Lake Indian Band, Neskonlith Indian Band, Little Shuswap Lake Indian Band, and Simpcw First Nation. Portions of the transmission line alternatives (E1, E2, and E3) are located within the asserted traditional territories of the Okanagan Indian Band, Shuswap Indian Band and the Splitsin First Nation. The approximate distances of their closest reserves to the mine site (centered at the processing plant) are presented in Table S-6. Where publicly available, the traditional territories (or asserted areas) of these and other potentially affected Aboriginal groups are shown Figure S-3.

Table S-6 Aboriginal Groups and Reserves in Relation to the Project

Aboriginal Groups	Reserves (and closest Reserve to the Project)¹	Distance from the Project (km)	Traditional Territory (or Asserted Area) Available	Project Component(s) within Traditional Territory (or Asserted Area)
Simpcw First Nation	07190 - BOULDER CREEK 5 ¹ 07188 - BARRIERE RIVER 3A 07189 - LOUIS CREEK 4 07187 - NEKALLISTON 2 07186 - NORTH THOMPSON 1	90	Yes ²	Mine site, access road, and transmission line (W1)
Adams Lake Indian Band	07153 - SQUAAM 2 ¹ 07152 - HUSTALEN 1 07155 - SAHHALTKUM 4 07156 - STEQUMWHULPA 5 07157 - SWITSEMALPH 6 07158 - SWITSEMALPH 7 07154 - TOOPS 3	98	Yes ³	Mine site, access road, and transmission line (W1)
Little Shuswap Lake Indian Band	07181 - SCOTCH CREEK 4 ¹ 07179 - CHUM CREEK 2 07180 - MEADOW CREEK 3 07182 - NORTH BAY 5 07178 - QUAAOUT 1	100	Yes ³	Mine site, access road, and transmission line (W1)
Neskonlith Indian Band	07185 - SWITSEMALPH 3 ¹ 07183 - NESKONLITH 1 07184 - NESKONLITH 2	12	Yes ⁴	Mine site, access road, and transmission line (W1)
Okanagan Indian Band	07390 - OKANAGAN 1 ¹ 07394 - DUCK LAKE 7 07392 - HARRIS 3 07391 - OTTER LAKE 2 07393 - PRIEST'S VALLEY 6 00122 - SWAN LAKE 4	146	Yes ⁵	A portion of the alternate transmission line (E1,E2, E3)
Shuswap Indian Band	07428 - SHUSWAP ¹ 07437 - ST. MARY'S 1A	240	No	A portion of the alternate transmission line (E1,E2, E3)
Splitsin First Nation	07418 - SICAMOUS 3 ¹ 07417 - ENDERBY 2 07416 - SALMON RIVER 1	105	No	A portion of the alternate transmission line (E1,E2, E3)

NOTES:

1. The closest reserve was used to calculate the distance from the Project.
2. Area digitized from <http://www.simpcw.com/>.
3. Area estimated from historic claim data; areas are approximate.
4. Area digitized from Forest Tenure Opportunity Agreement A89989 FTOA, 2011Nov25.
5. Area digitized from <http://www.sylx.org/>.



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PREPARED BY:
Knight Piésold
 CONSULTING

DESIGNED	CAH
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RUDDOCK CREEK MINE PROJECT
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ABORIGINAL GROUPS
FIGURE S-3

REF	REPORT 4
P/A	VA101-548/01

A brief overview of the Aboriginal groups, listed in Table S-6 is provided below. This description is based on information summarized from the BC Ministry of Aboriginal Relations and Reconciliation, the department of Aboriginal Affairs and Northern Development Canada or the Aboriginal groups' website.

Adams Lake Indian Band

The Adams Lake Indian Band is a member of the Shuswap Nation Tribal Council. The Band is situated on seven reserves, totaling 2,885.5 ha and has a membership of 728 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The main community is on the Sahkaltum Indian Reserve #4, on the Thompson River near Chase, BC, though the closest reserve to the mine site is Squaam Reserve #2 which is approximately 98 km away. The majority of the administrative offices are located on Sahkaltum IR#4. The Adams Lake Indian Band is not involved in the BC Treaty process.

Neskonlith Indian Band

The Neskonlith Indian Band is a member of the Shuswap Nation Tribal Council. The main community of the Band is on Neskonlith Indian Reserve #1, on the South Thompson River just below Little Shuswap Lake, near Chase, though the closest reserve to the mine site is Switsemalph #3 which is approximately 12.0 km away. The Band is situated on three reserves, totaling 2,786.7 ha and has a membership of 591 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The Neskonlith Indian Band is not involved in the BC Treaty process.

Little Shuswap Lake Indian Band

The Little Shuswap Lake Indian Band is a Secwepmec Nation band that is no longer affiliated with the Shuswap Nation Tribal Council. The main communities of the Band are located along the eastern end of the Little Shuswap Lake, along the western and northern end of the Big Shuswap Lake, and follow along the Adams River and Little River. The closest reserve to the mine site is Scotch Creek #4 which is approximately 100 km away. The Band is situated on five reserves, totaling 3,112.7 ha and has a membership of 309 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The Little Shuswap Lake Indian Band is not involved in the BC Treaty process.

Simpw First Nation

The Simpcw First Nation is a member of the Shuswap Nation Tribal Council. The main community of the Band is located on the North Thompson Indian Reserve #1, on the North Thompson River, approximately 70 km north of Kamloops. The closest reserve to the mine site is Boulder Creek #5, which is approximately 90 km away. The Band is situated on five reserves, totaling 1,500.7 ha and has a membership of 640 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The Simpcw First Nation is not involved in the BC Treaty process.

Okanagan Indian Band

The Okanagan Indian Band is a member of the Okanagan Nation Alliance, which has an office in Westbank, BC. The main community of the Band is on the Okanagan #1 reserve, north of Vernon, BC, between the north end of Okanagan Lake and the Salmon River. The closest reserve to the mine site is Okanagan #1 which is approximately 146 km away. The Band is situated on six reserves, totaling 11,282.5 ha and has a membership of 1,818 as of May 2011 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The Okanagan Indian Band is not involved in the BC Treaty process.

Shuswap Indian Band

The Shuswap Indian Band is a member of the Shuswap Nation Tribal Council. The main community of the Band is located on the left bank of the Columbia River, one mile north of Invermere. The closest

reserve to the mine site is Shuswap Reserve located approximately 240km away. The Band is situated on two reserves, totaling 1,246.1 ha and has a membership of 231 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007). The Shuswap Indian Band was part of the Ktunaxa Kinbasket Treaty Council but made the decision to withdraw from the group and the BC Treaty process in 2009.

Splatsin First Nation

The Splatsin (Spallumcheen) First Nation is a member of the Shuswap Nation Tribal Council. The main community is on Enderby Reserve #2 located at Enderby on the Shuswap River at the mouth of Fortune Creek. The closest reserve to the mine site is Sicamous #3 which is located approximately 105 km away from the Project. The Band is situated on three reserves totaling 3,905.2 ha and has a membership of 757 as of December 2007 (Registered Indian Population by Sex and Residence, Aboriginal Affairs and Northern Development Canada, Dec 2007).

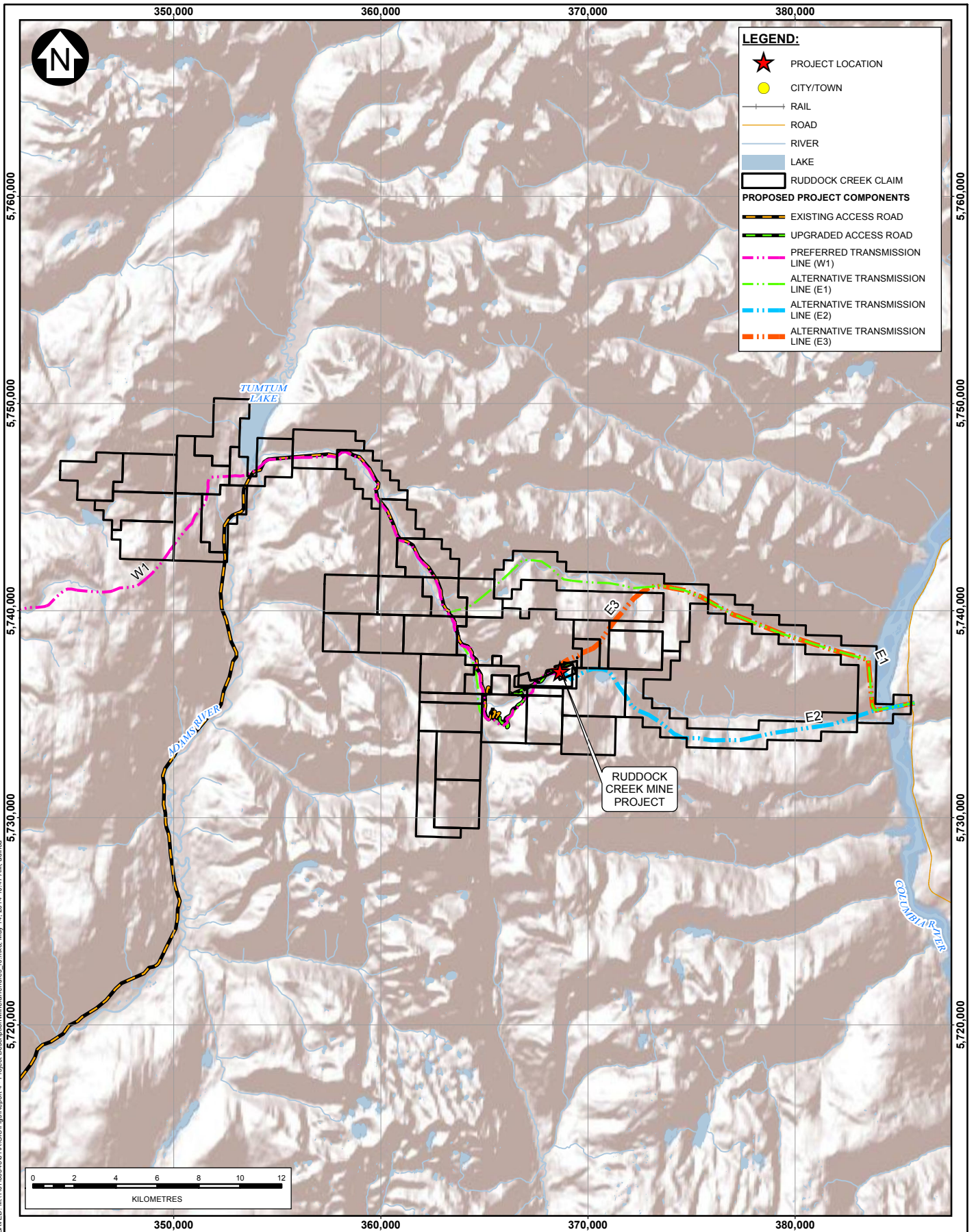
S3.4 Land and Water Use

The following subsections describe the ownership and zoning of land and water that may interact with the Project components and activities including information on zoning designations, land ownership and sub-surface rights, management plans, local community land use and any information on land and resources currently used by Aboriginal peoples for traditional purposes.

S3.4.1 Land Ownership Including Sub-Surface Rights and Zoning Designations

The mine site is located on Crown Land. The Project is located on a small portion of a property comprised of 42 cell claims containing an aggregate of 1,055 cells and covering a gross area of 21,155.56 ha (Figure S-4). As shown on the figure, the footprint of the Project covers a very small portion of the entire property. The claims are located primarily in the Kamloops Mining Division although a portion of the Property extends eastward into the Revelstoke Mining Division and the principal claim is Tenure No. 516624.

There are no authorizations required for use of a water lot for the Project.



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PREPARED BY:
Knight Piésold
 CONSULTING

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NOTES:
 1. BASE MAP: ESRI ARCGIS ONLINE MAPPING; BC GOVERNMENT DATA.
 2. PROJECTION: NAD 1983 UTM ZONE 11N
 3. COORDINATE GRID: METRES.

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RUDDOCK CREEK MINE PROJECT

MINERAL TENURES	
FIGURE S-4	REF REPORT 4
	P/A VA101-548/01

S3.4.2 *Land and Resource Use Management Plans*

The Project is located in the central part of the provincial sub-region covered by the Kamloops Land and Resource Management Plan (KLRMP), which encompasses 2.2M ha of terrain, characterized by transitional mountainous terrain. The KLRMP has been in place since 1996 as a high-level sub-regional plan providing policy for the management of Crown land in the plan area.

S3.4.3 *Regional Environmental Studies*

The Proponent is not aware of any regional environmental studies within the area of the Project that may be relevant to the environmental assessment for this Project.

S3.4.4 *Local Community Land Uses*

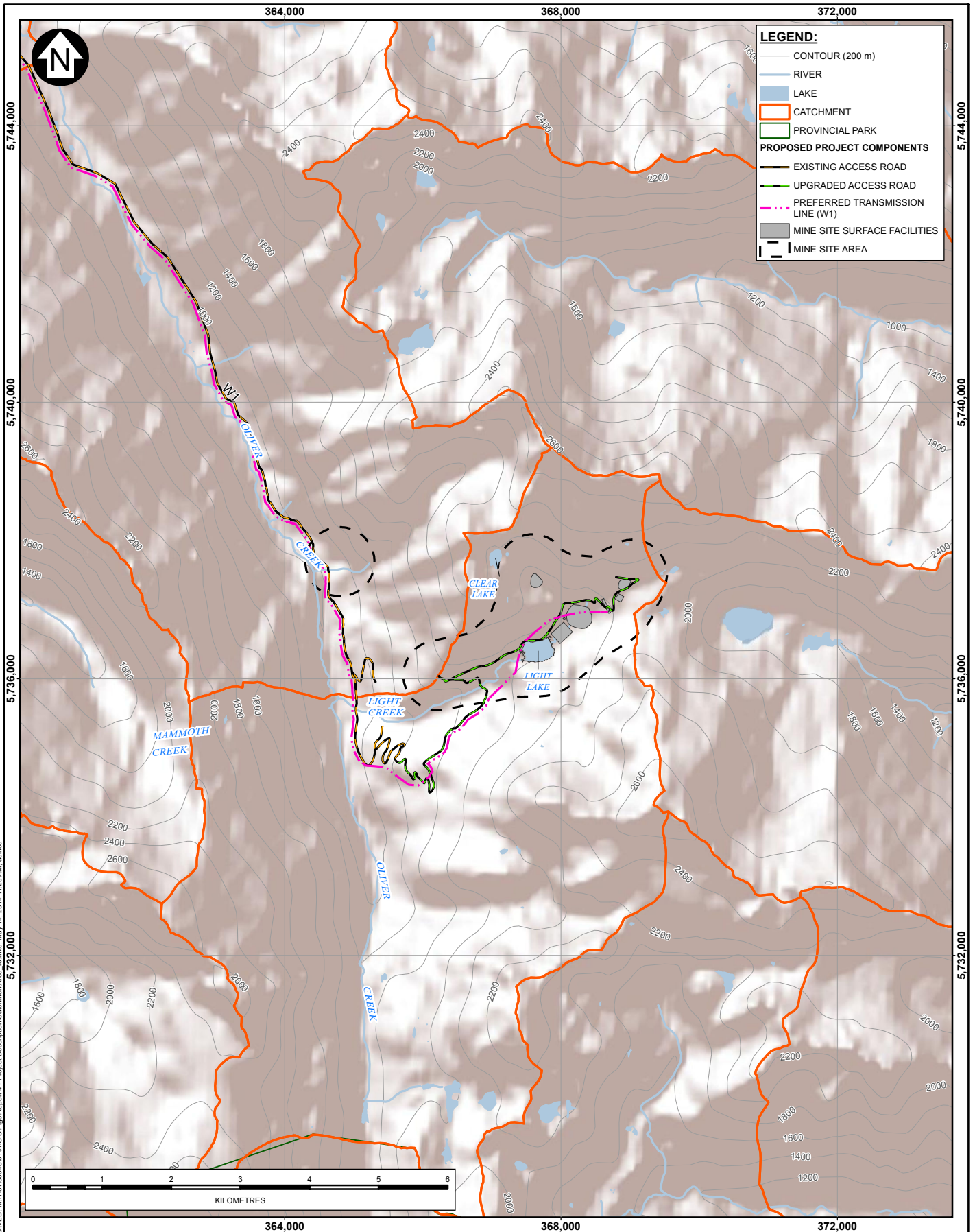
RCMC is not aware of local community land uses within the mine site, most likely due to the lack of accessibility and high elevation. The most active local community uses in the Project area other than mineral exploration has been periodic logging on the slopes of Oliver Creek and the occasional heli-skiing activity. The mine site is located at the extreme south end of the Mike Wiegler heli-skiing area of operations and they have been observed to the east of the mine site on the glacier during the winter. Within the Project area, some recreational fishing has been known to occur, most likely in Oliver Creek.

S3.4.5 *Lands and Resources Currently Used for Traditional Purposes*


At the time of the Project Description submission, the Proponent is not aware of any land or resources currently used for traditional purposes by Aboriginal peoples in the mine site or Project area. RCMC intends to gather additional information regarding potential land and resources currently used for traditional purposes by Aboriginal peoples through consultation with Aboriginal groups as part of the environmental assessment.

S3.5 *Economics*

The Thompson-Nicola Regional District is typical of semi-rural resource regions of BC with slightly higher levels of unemployment than the provincial average and greater levels of employment in the natural resource sector. It is anticipated that the Project will have positive impact on the economy of the region and especially for neighboring communities.



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PREPARED BY: Knight Piésold CONSULTING	DESIGNED	CAH	NOTES: 1. BASE MAP: ESRI ARCGIS ONLINE MAPPING; BC GOVERNMENT DATA. 2. PROJECTION: NAD 1983 UTM ZONE 11N 3. COORDINATE GRID: METRES.	 Ruddock an Imperial Metals company	CATCHMENT AREAS			
	DRAWN	CAC						
	CHK'D	CAH			RUDDOCK CREEK MINE PROJECT	FIGURE S-5	REF	REPORT 4
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S4. PROJECT OVERVIEW

S4.1 Mine Plan and Schedule

The mine planning process is a forward-looking exercise designed to develop an optimal mine plan and production schedule that consists of consecutively more detailed studies to address project construction, operation, decommissioning and closure, and the final site reclamation. The Project mine plan and schedule presented in the Project Description is based on the best current available information. Some Project details will be confirmed as new information becomes available through additional characterization, trade-off and feasibility studies, or discussions with decision makers.

Table S-7 presents the timing of Project phases for construction, operation (or mine production), decommissioning and closure and the beginning of post-closure. The Project will begin construction only after receipt of a provincial EAC, a positive federal Environmental Assessment Decision Statement and provincial and federal permits, authorizations and approvals. As well, the duration of the post-closure phase will be determined through consultation with the *Ministry of Energy and Mines* and set out in the *Mines Act* permit.

Table S-7 Project Schedule

Project Phase	Year											
	-1	1	2	3	4	5	6	7	8	9	10	
Construction												
Operation												
Decommissioning and Closure												
Post Closure (begins)												

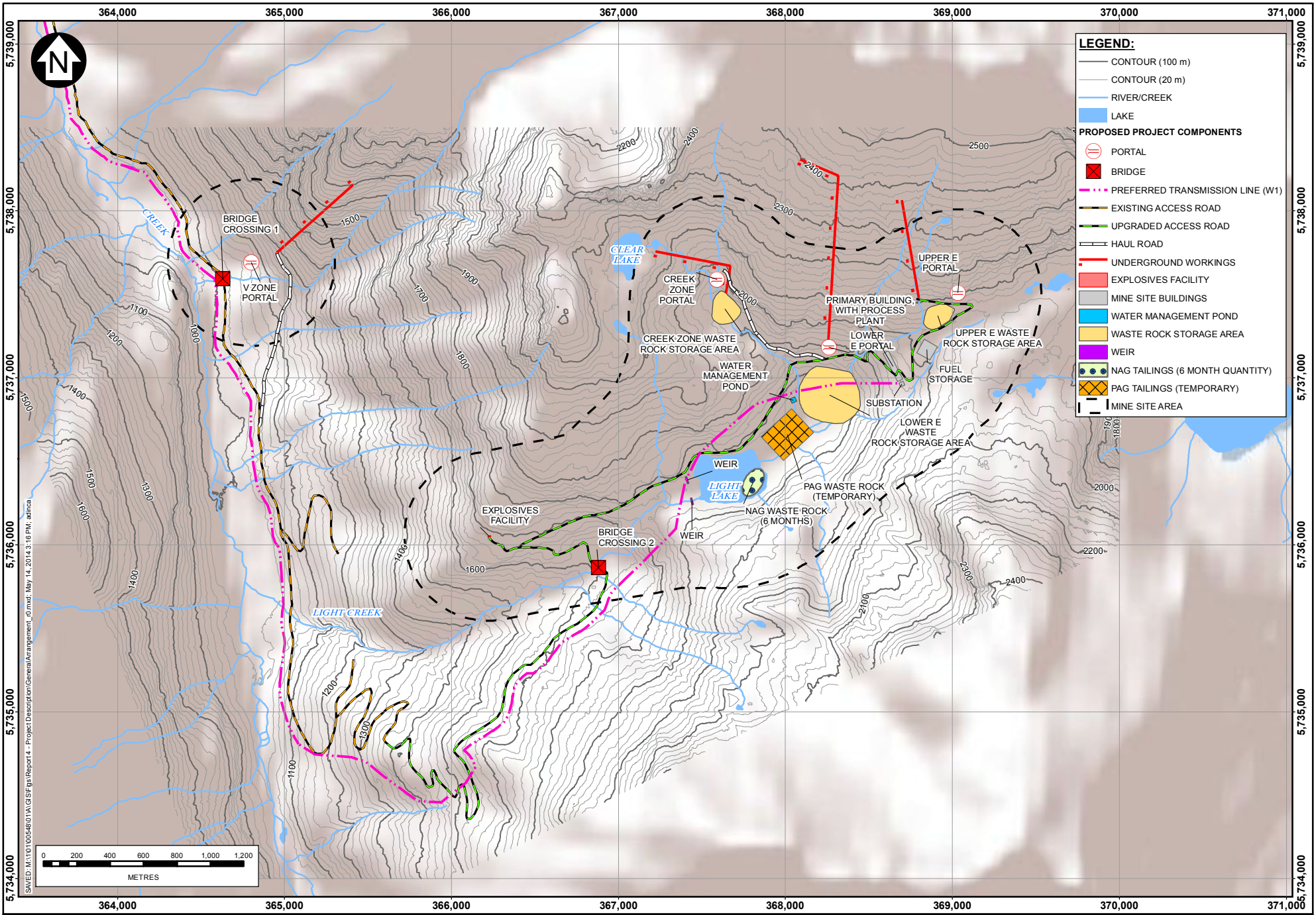
S4.2 Project Components

The Project can be considered as the mine site and the Project area as outlined in Table S-8. In general, the mine site is defined as the footprint of the Project’s surface components with a buffer of 500 m around the greatest extent of surface infrastructures as shown in Figure S-6. The Project area is defined as the area including the mine site and beyond to the extent of the furthest point of new linear components.

Table S-8 Project Components

Areas	Components
Mine Site (approximately 644 ha with a surface facilities footprint of 33 ha)	<ul style="list-style-type: none"> • Underground mine with five portals • Underground infrastructure including ventilation and conveyor • Dense media separation plant and mill • Processing plant • Paste backfill into underground mined areas • Concentrate shed • Maintenance facilities • Assay lab • Accommodation camp and offices • Water management structures • Storage of non-acid generating (NAG) thickened tailings, generated in the first six months of operations, in the southeast corner of Light Lake • Temporary storage of potentially acid generating (PAG) thickened tailings in a lined surface containment structure for the first six months of operations until it can be used as paste backfill in the underground mined areas • Waste rock storage areas • Site haul roads • Explosives storage facility • Fuel storage • Equipment lay down area
Project Area	<ul style="list-style-type: none"> • Mine site components listed above

	<ul style="list-style-type: none">• Upgrade existing access road and existing bridges• New transmission line with preferred routing from the mine site to an existing substation in Avola• Transport of concentrate by truck to Vavenby
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NOTES:
 1. BASE MAP: RUDDOCK CREEK MINING CORP; ESRI ARCGIS ONLINE MAPPING.
 2. PROJECTION: NAD 1983 UTM ZONE 11N
 3. COORDINATE GRID: METRES.

**RUDDOCK CREEK
MINE PROJECT**

PROJECT GENERAL ARRANGEMENT

FIGURE S-6

REF	REPORT 1
P/A	VA101-548/01

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Three primary design principles have been applied by RCMC for the selection and placement of Project components and activities:

- Minimize the surface footprint from components and activities (in this manner avoiding or minimizing potential adverse effects of the Project);
- Maximize functionality through all seasons; and
- Minimize personnel travel between the camp and all workplaces.

S4.2.1 *Underground Workings*

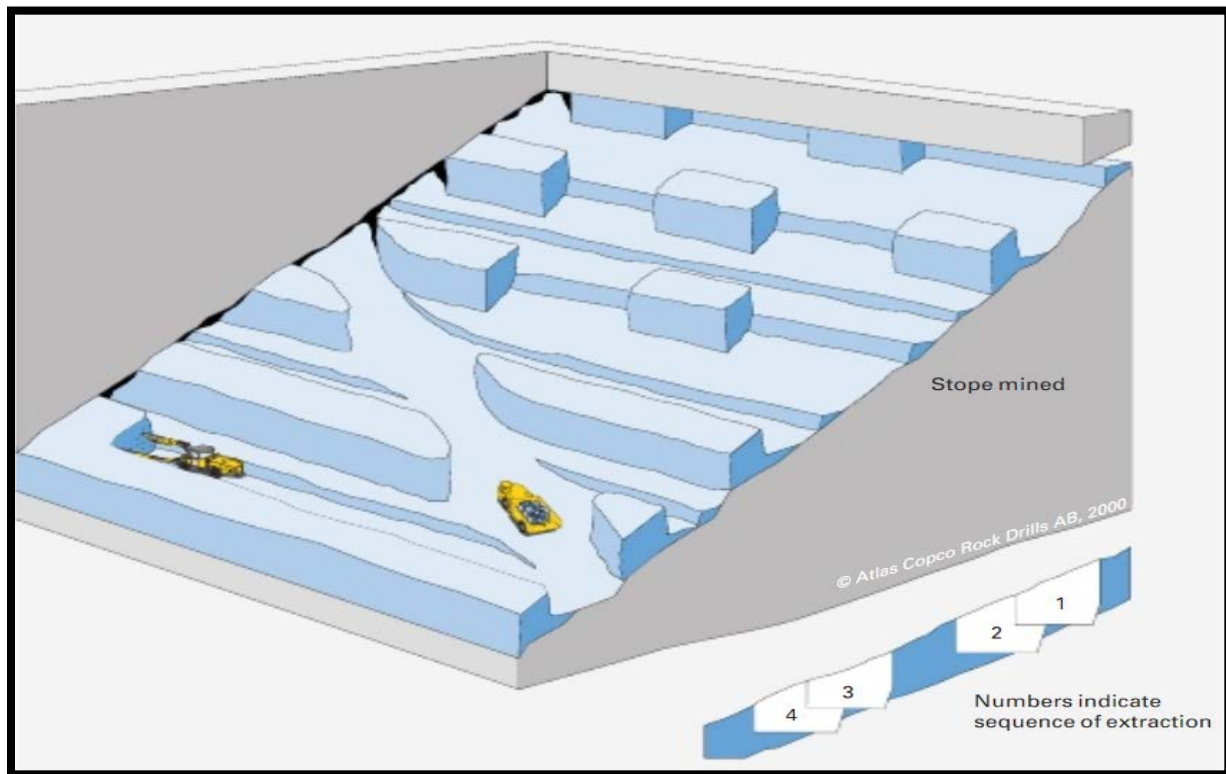
The Project consists of four ore zones (or underground workings) referred to as:

- Upper E;
- Lower E;
- Creek; and
- V-Zone.

Access to the underground workings will be by level entry adits using five separate portals for the extraction of ore from the four zones. Step room and pillar mining will be used in stopes with an ore thickness less than 6 m. All other ore will be mined using longhole stoping methods.

For step room and pillar mining, an initial ore drift will be driven parallel to the strike of the orebody for the extent of the stope, exposing the hanging wall. A second parallel drift will then be slashed beside initial drift, stepped down in elevation to follow the contact. A third drift will then be slashed down-dip, widening to the maximum allowable span. This pattern will then be repeated, nominally every 8 vertical metres of the ore body. Mining will generally proceed on an up-dip direction. The step room and pillar mining method is shown in orthogonal view on Figure S-7. The stopes that remain from step room and pillar mining will be backfilled with paste backfill after the completion of mining in the area.

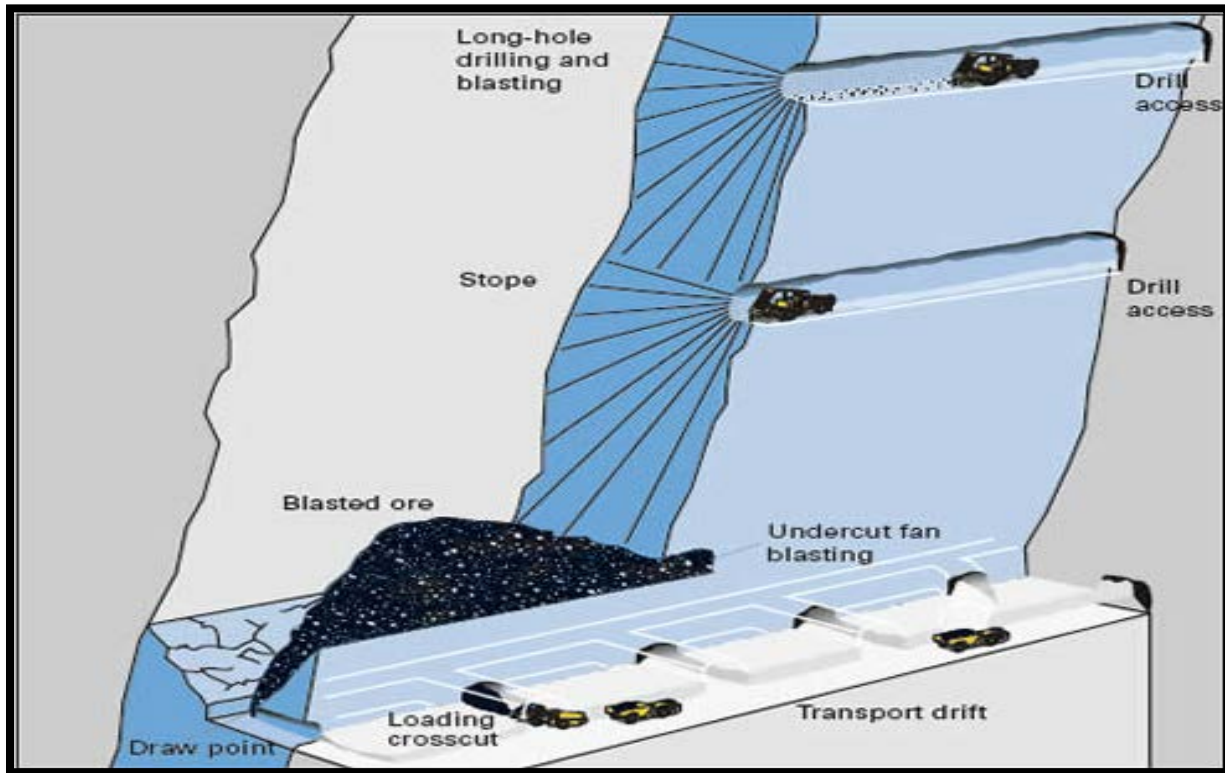
Figure S-7 Step Room and Pillar Mining Method



SOURCE: Atlas Copco 2000

For longhole stope mining, stope accesses will be located in the center of the ore body. An ore sill will be driven on each the upper and lower levels of each stope to the extents of mining, exposing the full width of mineralization. These will be nominally sized at 6 to 10 m wide by 5 m high so that drill holes can be located on the hanging wall and footwall contacts. A representation of the longhole stoping method is shown on Figure S-8.

Figure S-8 Longhole Stoping Mining Method



SOURCE: Atlas Copco 2000

One main fan will be used to exhaust both the Upper E and Lower E-Zones. A damper on the access drift will be used to regulate the airflow from both of these mining zones. Fresh air will be fed into both the Lower E and Upper E-Zones via portals, which will be equipped with heaters during the winter months. When the Creek-Zone is mined, its portal will also be used as a fresh air feed, exhausting to the main exhaust. When V-Zone is mined, it will be provided with a ventilation (exhaust) raise to surface. Fresh air to the V-zone will be obtained from the Creek-Zone portal.

Secondary egress will be established for all underground workings throughout the life of the operations by equipping all ventilation raises with manways.

Power from surface to underground will be supplied to the Lower E-Zone from the new main substation on surface via the conveyor gallery. A new overhead line will convey power to the Upper E-Zone, elevated sufficiently for vehicular traffic to pass beneath the line. The underground electrical system will consist of separate underground transformers and systems for each ore zone, plus an additional electrical feed for the underground crusher and conveyor installation. On startup, the total estimated underground connected load is approximately 4.4 MW, increasing to 6.6 MW with the addition of the Creek and V-Zones.

S4.2.2 Ore Crushing and Processing

At an overview level, the processing of ore mined from the underground workings into lead (Pb) concentrate and zinc (Zn) concentrate involves five key steps:

- Underground crushing and conveying;
- Tertiary crushing and dense media separation;
- Primary grinding;
- Pb flotation circuit; and
- Zn flotation circuit.

The Pb concentrate is also anticipated to contain small quantities of silver (Ag), so it is sometimes referred to as Pb + Ag concentrate.

An additional step, the pyrrhotite flotation system, will separate the PAG fraction of the tailings stream from the NAG fraction. Pyrrhotite ($\text{Fe}_{(1-x)}\text{S}$ ($x = 0$ to 0.2)) is also called magnetic pyrite because the color is similar to pyrite and it is weakly magnetic.

All ore mined from the underground workings will be crushed underground prior to being conveyed to the surface by transfer conveyors. Haulage trucks will be used to transfer mined ore to the crushing and conveying system.

From the underground workings, the crushed ore (approximately ½ inch size), will be conveyed to the surface and crushed in the tertiary crusher at the Dense Media Separation (DMS) plant located at the processing plant. The DMS circuit will separate the “light” fraction (waste minerals) from the “heavy” fraction (ore minerals). The light fraction, which is non-acid generating, will be transferred to the surface waste storage areas or mixed with paste backfill for backfill of underground workings. The heavy fraction will be sent to primary grinding in the form of slurry for further concentrating.

Slurry from the DMS circuit will be pumped to the primary ball mill and pass through cyclones for sizing. Flocculent will be added to the feed of the primary ball mill in order to depress the zinc in the ore. Oversize ore from the cyclones will discharge into the ball mill for grinding and undersize ore will be sized. The product of primary grinding will feed the Pb flotation circuit.

The Pb flotation circuit will consist of mechanical rougher flotation cells that make up the rougher circuit. A collector and frother will be added to the slurry from the primary grinding circuit prior to being fed to the rougher circuit to increase recovery. The tailings of the rougher circuit will form the majority of the feed for the Zn flotation circuit.

The cleaning circuit will consist of five column cells operating in series to produce the final Pb concentrate. The final Pb concentrate is thickened to 65% solids and then pumped to an agitated stock tank to dewater the Pb concentrate to a desired moisture content of 8%. Dewatered Pb concentrate is discharged onto a conveyor and transported to a load-out for transport by truck to market.

Tailings from the Pb rougher circuit will be fed to the Zn rougher circuit. Copper sulphate, lime, a Zn collector and a frother will be added to slurry to activate the zinc and maximize recovery. The Zn flotation circuit will consist of mechanical rougher flotation cells, a regrind mill with cyclones and a cleaning circuit of 4 column cells operating in series. The final Zn concentrate will be thickened to 65% solids and filtered press in order to dewater the product to the desired moisture content of 8%. The dewatered Zn concentrate product is discharged onto a conveyor that transports the material to a load-out for truck transport to market.

The tailings of the Zn rougher circuit combined with the Zn cleaner scavenger tails will form the tailings for the pyrrhotite flotation circuit. Test work has shown that the combined tailings have a low capacity to be potentially acid generating, though the acid generating potential will be further reduced by pyrrhotite flotation circuit. Further static Acid Base Accounting test work will be conducted on each stream in order to determine whether one or both are potentially acid generating.

A pyrrhotite flotation system will separate the PAG fraction of the tailings stream from the NAG fraction. The flotation circuit will remove pyrrhotite from the tailings, which may prevent acid generation from tailings by removing one of the agents of acid drainage.

Pyrrhotite flotation will include a desulfurization process and will reduce the pH of the tailings from the alkaline (pH > 10) conditions that resulted from the use of lime in the previous Zn and Pb flotation

circuits. Pyrrhotite surface activation will be induced by oxygen and oxidation of ferrous iron to ferric hydroxides or oxyhydroxides. Carbon dioxide dissolution will lead to calcium carbonate precipitation and adsorption onto pyrrhotite surfaces.

The products of the pyrrhotite flotation circuit are a NAG tailings stream and a PAG tailings stream.

S4.2.3 *Tailings Management*

The tailings management approach is based on best available current information. The Proponent intends to conduct additional testing (including acid base accounting and acid consuming, metal leaching characteristics studies) for the different fractions of tailings to help inform the management approach. In general, tailings management will involve a two stage approach:

- For the first six months of operations: storage of NAG thickened tailings in the northeast corner of Light Lake (acting as a tailings storage area) and temporary storage of PAG thickened tailings in a lined surface impoundment; and
- From month 6 of operations to Year 8: underground storage of thickened tailings as paste backfill.

For the first six months of operations, until there is sufficient room in the underground workings to backfill, NAG tails from the pyrrhotite flotation circuit will be transferred by pipeline to the southeast corner of Light Lake, which will serve as the permanent disposal site for the volume of tailings generated in the first six months of operations. Two concrete control weirs will be constructed at the outflow of Light Lake. Overflow from Light Lake to Light Creek will be active; water quality modelling during the environmental assessment and additional Acid Base Accounting of the NAG tailings stream will reaffirm water quality expectations.

The PAG portion of the tailings from the pyrrhotite flotation circuit will be temporarily stored in a lined surface containment structure in the flat area near the Processing Plant until it can be used as backfill for the underground workings.

Tailings management for the Project will maximize the use of paste backfill, and therefore reduce the requirement to store tailings in Light Lake. The pyrrhotite flotation system in the processing plant will be implemented to prevent acid generation from tailings by removing one of the agents of acid drainage.

The Proponent believes that paste backfill will be the most efficient and environmentally friendly method for tailings disposal for the Project and will generate paste backfill in the processing plant using the thickened tailings from the pyrrhotite flotation circuit to progressively back fill the mined areas of the underground workings. The main benefits of paste backfill will be lower operating costs and a reduction of the amount of tailings and water sent to Light Lake for disposal. The decrease in the amount of waste generated by ore processing will reduce the overall environmental effects of the Project.

Paste will be generated in the processing plant using the thickened tailings from the Zn and Pb flotation circuits. Paste backfill will have a cement-like composition, like concrete, and will be composed of primarily tailings mixed with hydraulic binder and water. The role of the binding agents will be to develop cohesion and strength within the paste backfill so that the exposed fill faces will be self-supporting and stable when adjacent stopes are extracted.

Paste will be pumped into the underground workings from the processing plant via distribution lines. Pumping stations and booster stations will be installed inside the underground workings as required to lift the paste to the final pour site.

S4.2.4 *Water Management*

The objectives of water management for the Project will be to:

- Maximize the use of mine contact or previously disturbed water in the processing plant as makeup water;
- Prevent unintended release of mine contact water into the environment;
- Minimize the need to withdraw water from freshwater sources for the Project;
- Minimize potential effects on existing freshwater sources; and

- Protect the aquatic environment from potential Project-related adverse effects.

The Processing Plant will require make-up water for its operation. Mine contact water will be diverted around facilities and captured and used as make-up water for the processing plant or stored in two surface water ponds located on the gravel plain northeast of Light Lake. As well, a water reclaim system for Light Lake will be installed to pump water to the processing plant for make-up water.

The water management objective for Light Lake (acting as a NAG tailings storage area) is to operate as a passive system with surface water allowed to flow into Light Lake from the various streams and continuing to overflow to feed Oliver Creek. Water quality modelling will be completed as part of the environmental assessment to support this design and sampling at the outflow will be incorporated as monitoring measures to ensure compliance with water quality standards downstream.

Separate independent de-watering systems will be installed for each mining zone to manage groundwater flow. A main sump will be established at the bottom of each mining zone with dirty and clean cells for settling suspended solids prior to pumping. A main reservoir will be established in the Upper E-Zone and drill holes will be projected from this location into the E-Zone fault to collect as much groundwater as possible, keeping it from continuing on to the Lower E-Zone underground workings. The water collected will supply the underground workings with drill water.

S4.2.5 Waste Rock Management

The Project will generate two different sources of waste rock: development of the underground workings and the float rock from the DMS circuit. The total surface waste rock storage requirements for the Project have been estimated and are presented in Table S-9. Generated waste rock will either be used in the underground workings as loose waste fill or stored on the surface in waste rock storage areas (WRSA).

Table S-9 Waste Rock Storage Areas

Waste Rock Storage Areas	Tonnes	m³
Lower E Zone (including V-Zone) WRSA, located at the upper end of the Light Lake basin	1,792,112	896,056
Upper E Zone WRSA, located near the Upper E Zone access portal	352,928	16,464
Creek Zone WRSA, located near the Creek Zone access portal	327,790	163,895
DMS Float Rock	2,202,920	1,101,460
Total	2,202,920	2,337,875

The majority of waste rock from the development of the underground workings will be used underground as loose waste fill and the excess will be hauled from the underground workings and placed on the surface in waste rock storage areas located near the portals. The DMS float rock will be disposed of by means of a conveyor from the Processing Plant. The float rock will be placed on the hillside towards Light Lake. The locations for the proposed waste rock storage areas are shown on Figure S-6.

S4.2.6 Primary Building

In keeping with the objectives of the primary design principles for the Project components and activities, a single primary building (of approximately 40 m wide by 190 m long and four stories high) on the slope east of and above Light Lake will house the following infrastructure and activities:

- Processing Plant: components will be modular construction and will house all processing activities;
- Concentrate Shed: temporarily store Zn and Pb-Ag concentrates before shipping off-site, and will act as a load-out facility for trucks;
- Assay Lab;
- Maintenance Shop: for repairs and preventative maintenance on surface vehicles, and underground equipment;
- Warehouse: receive and store parts and supplies;
- Accommodations facilities; 180 individual residences for workers and will include a dining hall, kitchen, washrooms, showers, laundry facilities, exercise rooms, and lounges; and

- Administration and technical offices: a wicket area will contain the offices of the mine superintendent, mine foremen, mine training, safety officer, and first aid.

The Proponent chose to apply the “everything under one roof” concept to the Project design to mitigate for the winter climate. The benefits of a single primary building include:

- Minimizing the overall Project footprint (to avoid and minimize potential adverse effects);
- Minimizing site preparation costs for construction;
- Managing construction more effectively due to the compactness of the work site;
- Eliminating surface travel between work and residences for most workers, maximizing the efficiency of the workforce;
- Minimizing heating costs; and
- Minimizing surface road maintenance and snow removal requirements.

S4.2.7 *Haul Roads*

A network of haul roads will be constructed and maintained as part of the mine site. Mined waste rock from construction activities may be used to construct haul road bases if determined to be acceptable for road construction.

S4.2.8 *Borrow Sources*

There are potentially good borrow materials, sand, and gravel, located on the flats east of Light Lake that may be suitable for construction and road capping. Borrow sources for the Project will be confirmed through additional planned investigations.

S4.2.9 *Fuel Storage*

The Proponent will use diesel for the underground mining fleet of equipment. There will be one week’s worth of fuel consumption stored on site, of approximately 150,000 L in double-walled enviro-tanks. The fuel storage site will be located north east of the primary building set back from water courses.

S4.2.10 *Explosives Storage Facility*

The Proponent will contract a licensed explosives contractor to manage the storage and handling of explosives for the Project. The bulk explosives and blasting agent storage facilities could be located at the existing exploration explosive storage facility along the access road west of the Primary Building. The current location is approved and meets the acceptable setback distance as per the *BC Mines Act* and the Natural Resources Canada guidelines.

S4.2.11 *Communications Network*

A communications network will be established for the mine site. This will utilize satellite technology and wireless communication for voice, fax, internet, and computer network traffic. The communications infrastructure will be similar to the existing system used at the exploration camp and include a satellite link, telephone private branch exchange system, wireless internet, desktop and laptop computers, copper and fiber cable and site VHF radio system.

S4.2.12 *Reagent Mixing and Distribution*

All reagents will be mixed in a tank equipped with an agitator and then transferred to head tanks for distribution. The head tanks will be situated so that all reagents will flow by gravity to a metering pump that will pump the required quantity to the desired location in the Processing Plant.

A 40 t lime silo will be located outside the building along the access road so that transport trucks have easy access to unloading. The lime silo will be connected to a lime slaking system, which will then be pumped to the desired location in the Processing Plant. The slaking system is a self-contained system that will be pumped in a continuous loop around the plant to avoid plugging of piping. A 60 t cement silo will be located adjacent to the lime silo. The cement will be used in the preparation of the paste backfill that will be used in the underground workings.

S4.2.13 *Transmission Line*

The Project will require a reliable power source for operations, of approximately 10 MW. RCMC is currently engaged in discussions with BC Hydro and other stakeholders on the four potential transmission line route options shown on Figure S-9.

The two potential points of interconnection for the transmission line are:

- Existing substation in Avola; and
- Existing line from the Mica Dam.

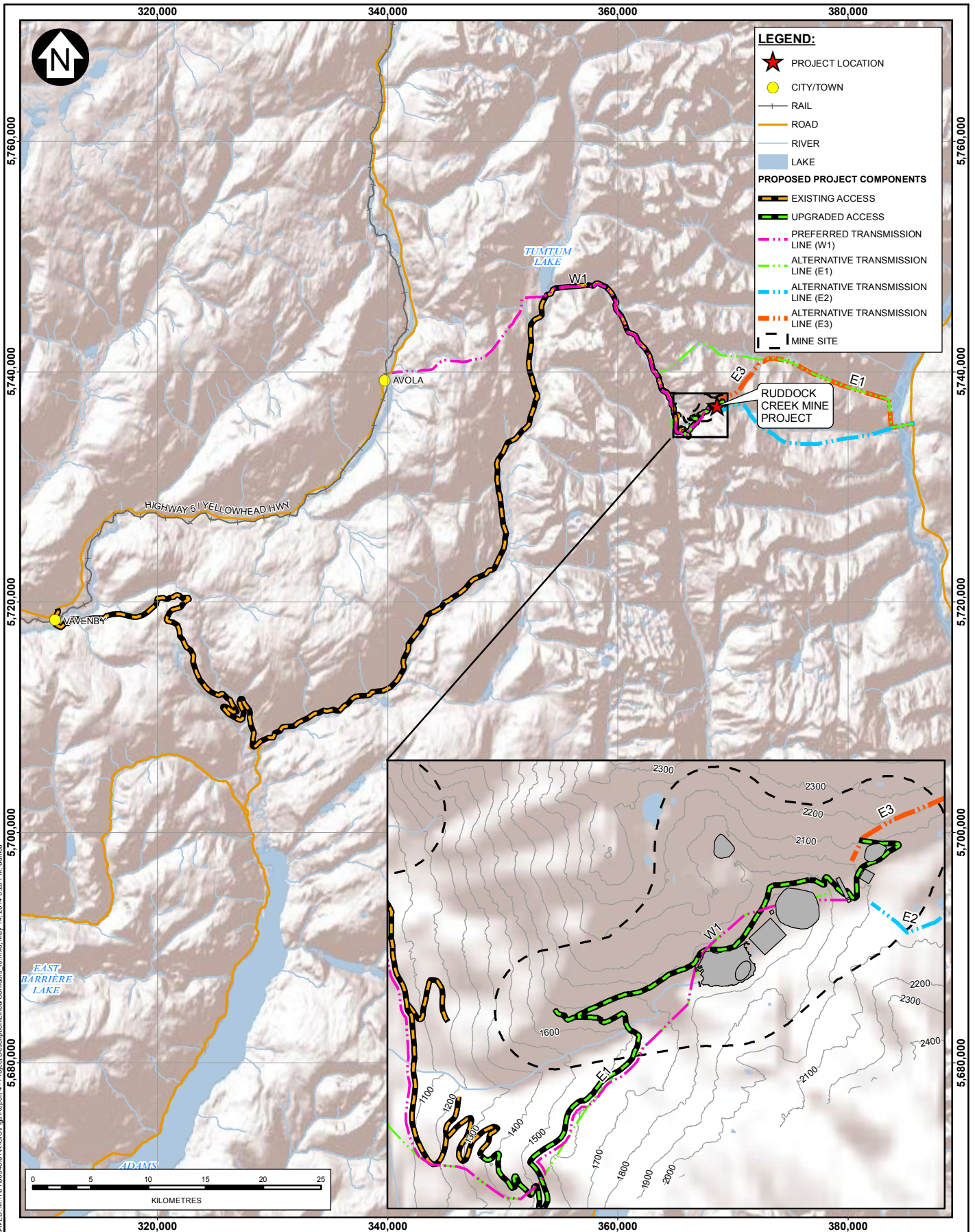
The four potential transmission line routes that have been preliminarily studied and their approximate distances from the two potential points of interconnection are:

- Route W1 = 41.43 km;
- Route E1= 36.88 km;
- Route E2= 18.70 km; and
- Route E3= 21.52 km.

The Project's preferred point of interconnection is the existing substation in Avola and the Project's preferred transmission line route is Route W1; therefore the Project proposes to construct a new transmission line that would follow the access road from the existing substation in Avola to the mine site. The new transmission line will likely be in the form of a single wood pole or H-frame wood pole transmission line that will follow the existing FSRs and access road for ease of maintenance.

Due to the fact that the existing Avola grid may not have sufficient capacity for the Project and there has been no assurance from BC Hydro, RCMC will continue investigation of the Mica routes (E1, E2, and E3) from the east. These alternatives would use the existing 69 kV line from the Mica Dam down the east side of Revelstoke Lake where it used to power the now shut down Goldstream Mine and require the construction of a new substation; these options are not as preferred as Route W1.

The selection of the preferred point of interconnection, along with the preferred transmission line route corridor will be carried out during the environmental assessment. The preferred option will consider the technical feasibility of the transmission line and point of interconnection, as well as potential environmental effects.



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PREPARED BY:

Knight Piésold
CONSULTING

DESIGNED	CAH
DRAWN	CAC
CHK'D	CAH
APP'D	GLS
REV	0
DATE	08MAY'14

NOTES:
 1. BASE MAP: ESRI ARCGIS ONLINE
 MAPPING; BC GOVERNMENT DATA.
 2. PROJECTION: NAD 1983 UTM ZONE 11N
 3. COORDINATE GRID: METRES.



**RUDDOCK CREEK
MINE PROJECT**

LINEAR CORRIDORS

FIGURE S-9

REF	REPORT 4
P/A	VA101-548/01

S4.2.14 *Access Roads and Bridges*

The Project is currently accessible by road using existing FSRs from the Yellowhead Highway #5 through Vavenby to the mine site. These existing FSRs are identified in Table S-5. The distance of the route between the mine site and Highway #5 will be approximately 74.8 km.

There will be a short section (of approximately 6.2 km) of existing access road that will require upgrading from Oliver Creek to the mine site to reduce the grade of the steeper sections. The majority of the existing bridges along the access road are already rated for the anticipated tonnage of the concentrate haul trucks. One bridge will require upgrading through the application of new bridge decking and increased signage. One bridge will require replacement and will be replaced as a 10 m clear span bridge.

S4.2.15 *Concentrate Transport*

The Project will produce Zn and Pb concentrates, which will be transported off site by trucks. The Project will transport concentrates to Vavenby on existing FSRs using 75 t tandem trucks. The Proponent anticipates that there will be approximately 12 concentrate trucks leaving the mine site per day. Concentrates will be trucked to markets via the Port of Vancouver, or alternatively, the Pb concentrate may be sent by rail to the existing Teck smelter in Trail.

S4.3 Project Phases and Activities

S4.3.1 *Construction Phase Activities*

The majority of Project construction will occur over one year (in Year-1) with some activities carrying into the beginning of operations (Year 1). Construction will commence upon receipt of the required regulatory approvals and permits and will include the following key activities at the mine site:

- Preparation works including site clearing, grading, and grubbing;
- Construction of sediment control and water management facilities;
- Set up of mine infrastructure (including the primary building which houses the accommodations camp, processing plant, maintenance shop, and administration offices);
- Construct surface lined impoundment area for PAG tailings;
- Construct pipeline to transfer NAG thickened tailings from Processing Plant to northeast corner of Light Lake for disposal;
- Construct weirs for NAG tailings in Light Lake;
- Excavation of necessary underground workings for production;
- Installation of underground crushers, ventilation and conveyors;
- Set up explosives storage facility; and
- Develop haul road network.

The construction phase of the Project will include the following key activities off site:

- Upgrade existing access road and bridges for delivery of construction-related materials and equipment;
- Construct transmission line; and
- Transport construction workers, equipment and supplies to the mine site.

The objectives of the construction phase for the Project are to establish both mine site and off site infrastructure in preparation for mine production. Upgrading of the existing access road and construction of the Project transmission line will take priority, as overall Project construction and operations depends on having suitable electricity and access to the mine site. A 1 MW diesel generator will supply temporary power for construction activities.

The Proponent will negotiate construction contracts and carry out purchases of equipment and materials, particularly the process plant and the accommodations facilities, in advance of the start of the construction phase to minimize the duration of construction. Project set-up and earth and foundation works will be completed to the extent possible each year before weather prohibits outdoor work in the winter.

S4.3.2 *Operation Phase Activities*

Based on the best available information, the anticipated operation phase of the Project is 8 years, though this is contingent on material changes that could arise during the continued exploration work, process refinement, or throughput modifications. The process of removing the ore through development of the underground workings will generate waste rock and tailings which will either be used as fill for the underground workings, or deposited in Light Lake or in waste rock storage areas. During the operation phase of the Project, the following key activities will occur at the mine site:

- Underground mining, crushing, handling and processing of ore at an anticipated rate of 3,000 t/d. Ore will be crushed (primary and secondary) underground and conveyed to the surface for tertiary crushing at the DMS plant located at the Primary Building;
- The DMS circuit will separate the “light” fraction (waste minerals) from the “heavy” fraction (ore minerals).
- Ore processing will include a lead flotation circuit to produce Pb concentrate, a zinc flotation circuit to produce Zn concentrate and a pyrrhotite flotation circuit to produce separate thickened tailings streams of NAG and PAG tailings.
- Waste rock management includes using waste rock from mine development as loose waste fill for backfill in the underground workings and storage of excess waste rock at surface waste rock storage areas;
- Tailings management includes storage of thickened NAG tailings generated in the first 6 months of operations in Light Lake, acting as a tailings storage area, and temporary storage of PAG tailings for 6 months in a lined surface impoundment until it can be used as backfill for the underground workings;
- Continued backfilling of mined areas;
- Operation of sediment control and water management facilities;
- Ongoing reclamation of disturbed areas; and
- Environmental monitoring, supervision and surveillance.

The following key activities will occur off site during the operation phase:

- Maintenance and vegetation management along transmission line and access roads;
- Transport of workers, equipment and supplies to the mine site; and
- Transport of Zn and Pb concentrates by trucks through Vavenby to market.

S4.3.3 *Decommissioning and Closure Phase*

The decommissioning and closure phase of the Project is anticipated to take one year and will include activities that are designed to ensure that the mine site will be left in a manner that reduces the potential environmental and socioeconomic impacts. Project infrastructure will be removed and environmental monitoring will take place until it is shown that the site meets all agreed closure conditions. Primary activities during decommissioning and closure include:

- All mining equipment from surface and underground workings will be removed;
- All processing equipment and buildings will be removed;
- All underground access, secondary egress and ventilation routes will be permanently closed;
- All surface workings will be re-contoured and reclaimed to its natural landscape; and
- Ongoing monitoring will be planned and implemented as required.

Conceptual plans for the decommissioning and closure of the mine (including reclamation activities, end use objectives and reclamation monitoring program) will be developed by RCMC and presented during the environmental assessment. Detailed closure plans will be submitted during the permitting phase after the environmental assessment phase as part of the *BC Mines Act* permit application. It is important to note that reclamation, to the extent possible, will be progressive and will occur over the life of the Project. The closure and reclamation plan will adhere to *Health & Safety Reclamation Codes for Mines in BC* (2008) and will take into consideration all Project components, reclamation and long-term monitoring that will

occur into post closure. The key objectives that will be considered in planning for decommissioning and closure include:

- Protect public health and safety;
- Alleviate or eliminate effects that have occurred because of the Project;
- Achieve a productive use of the land, or a return to its original condition or an acceptable alternative; and
- To the extent achievable, provide for sustainability of social and economic benefits resulting from mine development and operations.

S4.3.4 Post Closure Phase

Activities during the post closure phase will focus on monitoring programs and maintaining the integrity of the environment and of any retained infrastructure. The post closure phase will begin once decommissioning and closure activities have been completed and post closure activities is anticipated to extend 3-5 years after the closure of the mine but will depend on the final detailed closure and reclamation plan developed and submitted and approved as part of the *BC Mines Act* permit application.

S4.3.5 Workforce

The Proponent anticipates that the total workforce requirement for the Project will vary from 131 to 225 workers on the payroll in any given year as shown in Table S-10.

Table S-10 Total Workforce Requirement by Department

Department	Construction	Operation							
	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8
Mining & Technical	68	106	110	153	142	147	138	135	86
Processing Plant	6	53	53	53	53	53	53	53	33
General & Administration	13	19	19	19	19	19	19	19	12
Construction	80	-	-	-	-	-	-	-	-
Total Payroll	167	178	182	225	214	219	210	207	131
On Site Total	132	102	104	126	120	123	118	117	73
Room Requirement	142	112	114	136	130	133	128	127	83

Hourly workers for the mine and processing plant will work 12 hour shifts with a two-week on and two-week off rotation due to the remote location of the Project.

S5. ENVIRONMENTAL SETTING

Ruddock Creek Mine Corporation has completed several studies to characterize the baseline environmental setting for the Project area and mine site and plans to complete additional baseline studies as part of the environmental assessment. Studies have included climate, hydrology, water quality, sediments, fish, wildlife and vegetation, and have been carried out by:

- ENKON Environmental Limited, supported by Levelton Consultants Ltd.;
- Northwest Hydraulics Consultants;
- Nautilus Environmental; and
- Knight Piésold Ltd.

S5.1 Climate

The climate in the area can be characterized as temperate with generally warm summers and cool, wet winters. Regional data indicate that both precipitation and runoff generally increase with elevation.

Air temperature in the Project area is relatively cool with a mean annual temperature between 3°C to 7°C. Mean monthly temperatures are below 0°C for three to five months and above 10°C for four to five months. The mean annual precipitation is estimated to be in the order of 850 mm in drier portions and up

to 1,400 mm in wetter areas. Substantial snow accumulations of 3 m to 5 m are the norm and permanent snow cover exists on some of the higher areas of the mine site.

There are several years of site-specific and regional meteorology and climate data available to characterize the baseline climate at the mine site. Two meteorological stations have been installed at the mine site by RCMC. In addition to the ongoing monitoring from the mine site stations, historical climate data is available from five Environment Canada meteorological stations within a 50 km radius. Data from these Environment Canada stations have more than 63 years of data on record. In addition, data from other stations farther away (within a 100 km radius) are available for reference

S5.2 Air Quality

The baseline air quality characteristics for the mine site are considered to be typical of a rural area with no known current large sources of emissions. The joint report published by the Ministry of Water, Land and Air Protection and Environment Canada on *Particulate Matter in British Columbia A Report on PM₁₀, PM_{2.5} and Mass Concentrations up to 2000* (WLAP 2003) provides expected background air quality concentrations for PM₁₀ and PM_{2.5} for a rural setting:

- PM₁₀: range of 2.9 to 12.0 µg/m³ with a mean value of 8.8 µg/m³; and
- PM_{2.5}: range of 1.7 to 3.8 µg/m³ with an average of 3.2 µg/m³.

S5.3 Fish and Fish Habitat

Very little or no fisheries resource data existed for the Project area and surrounding waterways prior to baseline works undertaken by RCMC. Completed surveys over two years in 2006 and 2007 confirmed the presence of fish in Oliver Creek and the lower reach of Light Creek.

Bull trout (*Salvelinus confluentus*) occurred within Oliver Creek. Historically, Bull Trout has been known as the Dolly Varden, but was reclassified as a separate species in 1980. Four unnamed Oliver Creek tributaries have favourable fish-habitat suitability features between the Oliver Creek Road and the confluence of each tributary with Oliver Creek; salmonid fry were located in three of the four tributaries.

Bull trout may also occur in the lower reach of Light Creek and its confluence with Oliver Creek; though Light Creek is likely to be fish-bearing only in the lower reach because there is a gradient barrier approximately 800 m upstream of the confluence with Oliver Creek above which fish are unlikely. A waterfall located approximately 2.6 km above the confluence with Oliver Creek forms another obstruction to upstream fish passage. The portion of Light Creek above Light Lake and Light Lake itself are likely non-fish bearing, due to the fact that no fish were captured in the surveys over two years of sampling.

S5.3.1 Aquatic Species at Risk

Baseline studies completed to date indicate that there are no known aquatic species at risk as defined in the *Species at Risk Act* (SARA) within the Project area. Future studies will be conducted to increase the confidence in the results of previous investigations within the mine site. Appropriate best management practices and strategies (if defined by a recovery strategy) will be implemented to minimize risk to any critical habitat identified.

S5.3.2 Aquatic Resources

Aquatic resources include water quality, sediment quality, and the spatial distribution, taxonomic composition and abundance of plants and animals other than fish. This includes periphyton (streams), phytoplankton (lakes), benthic invertebrates (streams and lakes), and zooplankton (lakes). As part of the environmental assessment, RCMC will characterize the baseline aquatic resources in the Project area through baseline collection programs.

S5.4 Wildlife

The 2006-2007 terrestrial studies focused primarily on the presence and habitat requirements of federal and provincial wildlife species of concern. Provincial and federal listed species that are potentially found in the Project area include:

- Woodland caribou (*Rangifer tarandus*), Southern Mountain population;
- Grizzly bear (*Ursus arctos*);
- Bighorn sheep (*Ovis canadensis*);
- Wolverine (*Gulo gulo*); and
- Western toad (*Bufo boreas*).

The Western toad is a SARA Schedule 1, federally listed amphibian species of Special Concern, there is currently no recovery strategy in place for the Western toad. The Woodland caribou, Southern Mountain population is a SARA Schedule 1, federally listed Threatened Species, there is currently a draft proposed recovery strategy for the Woodland caribou, Southern Mountain population, developed and proposed by Environment Canada (Environment Canada, 2014). Based on the “Current distribution of the southern mountain caribou subpopulations and local population units” map provided in the proposed recovery strategy, the subpopulation is likely to be the Columbia North; the subpopulation and local population unit of Woodland caribou, Southern Mountain population will be confirmed through consultations with the Ministry of Environment and Environment Canada as part of the environmental assessment.

Other regionally important large mammals that may exist in the Project area include:

- Rocky Mountain goat (*Oreamnos americanus*);
- Moose (*Alces alces*);
- Rocky Mountain elk (*Cervus canadensis nelsoni*);
- Mule deer (*Odocoileus hemionus*);
- White-tailed deer (*Odocoileus virginianus*);
- Black bear (*Ursus americanus*);
- Cougar (*Puma concolor*); and
- Prairie falcons (*Falco mexicanus*).

Caribou presence in the Project area has been documented by local government and research biologists in the past and a few individuals were observed by exploration camp staff using the road near the camp. Other species observed during ground and aerial transect surveys include moose, hoary marmot, Columbian ground squirrel, red squirrel, snowshoe hare, deer mouse and a wide range of bird species. Black bears, moose and mountain goat were observed in a wide variety of sites. Wolf and coyote scat were observed on roads and trails.

Birds listed under the Migratory Birds Convention Act, with the possibility of occurring in the Project area include:

- Barn Swallow (*Hirundo rustica*);
- Common Nighthawk (protected by the *Migratory Birds Convention Act*, 1994 even though hawks species and subspecies are not usually protected under provincial jurisdiction) (*Chordeiles minor*);
- Olive-Sided Flycatcher (*Contopus cooperi*);
- Great Blue Heron (*Ardea herodias*); and
- Harlequin Duck (*Histrionicus histrionicus*).

Several raptors were observed in surveys including: golden eagles, falcons, Swainson hawks, red-tailed hawks, merlin, sharp-shinned hawk and American kestrels. Game birds such as blue and ruffed grouse are also common. In 2006, one western toad was observed on moss-covered rocky substrate above Oliver Creek.

A wildlife log has been created for exploration camp personnel to record observations of these and other wildlife species. Wildlife species that have been recorded as of July 2013 include grizzly bears, black bears, moose, mountain goats, white-tailed deer, wolves, porcupines, squirrels, toads, and marmots.

S5.5 Vegetation

The mine site is situated in extremely mountainous terrain at the height of land between the drainages of the Columbia River and Fraser River systems. The terrain is characterized by heavily timbered lower slopes and steeper alpine-glaciated upper slopes. The terrain is extremely steep in some areas making access very difficult. A number of small alpine lakes or tarns dot the area. Water supply from streams fed by glacial and snow melt varies according to elevation and time of year.

The vegetation is mainly below the 1,900 m level and consists primarily of subalpine Balsam Fir, Spruce, Hemlock and Western Red Cedar. Vegetation is limited to heather and stunted shrubs in the lower alpine regions above tree-line and in the upper areas the ground is either barren rock or is covered by permanent snow, small glaciers or glacial moraine and rock talus.

The Project area lies within four biogeoclimatic subzones: Interior Cedar Hemlock Very Wet Cool (ICHvk), Engelmann Spruce-Subalpine Fir Very Wet Cold (ESSFvc), Engelmann Spruce-Subalpine Fir Very Wet Cold Parkland (ESSFvcp) and Alpine Tundra Undifferentiated Parkland (ATunp). Within the Project area, the predominant tree cover is coniferous over most of the terrain with minimal deciduous cover adjacent to lakes and in riparian areas. Vegetation consists primarily of subalpine Balsam Fir, Spruce, Hemlock and Western Red Cedar. Vegetation is limited to heather and stunted shrubs in the lower alpine regions above the tree-line and in the upper areas the ground is either barren rock or is covered by permanent snow, small glaciers or glacial moraine and rock talus.

Ground-based habitat surveys conducted by ENKON indicated that vegetation within a random sample of forest cover sites mapped for the Project area by Ministry of Forests was representative of the expected vegetation cover for the elevation, aspect and slope within each of the biogeoclimatic subzones. Provincially red or blue listed plant species and SARA listed Schedule 1 plant species were not detected during the surveys in 2006 to 2007; additional vegetation surveys are planned as part of the environmental assessment.

S5.6 Topography and Surface Hydrology

The Project is situated in extremely mountainous terrain between the drainages of the Columbia River and Fraser River systems. The terrain in the area is characterized by heavily timbered lower slopes and steeper alpine-glaciated upper slopes. Elevations range from 950 masl at the western edge of the Project area in the Oliver Creek drainage to 2,854 masl on an unnamed peak at the northern edge. The terrain is extremely steep in some areas making access to the site potentially difficult. A number of small alpine lakes or tarns dot the area. Water from streams fed by glacial and snow melt varies according to elevation and time of year.

Regional runoff patterns are characterized by low flows during the winter months when precipitation falls almost exclusively as snow, high flows during the spring and early summer snowmelt freshet, low flows during the dry late summer months, and moderate flows during the fall months, as precipitation increases. The change in runoff with elevation is also quite evident, with lower runoff from lower elevation watersheds and an earlier onset of the spring freshet resulting from warm spring temperatures arriving earlier at the lower elevations. The annual hydrograph in the Project area has a uni-modal shape, with the majority of runoff occurring in May and June during the snowmelt freshet.

Hydrology programs are currently in place for the Project. Two stream flow gauging stations were installed at the mine site in early July 2006; one on Light Creek at the outlet of Light Lake and one under the bridge over Oliver Creek, at km 7.7 on the Oliver Creek FSR. The Oliver Creek station will provide integrated information on runoff patterns throughout most of the Project area, while the Light Creek station will provide more specific information on the mine site area proposed for most intensive development. A third stream flow gauging station was installed in September 2012 on the Creek Zone Creek nearing the flatlands area behind Light Lake.

The baseline topography and surface hydrology baseline conditions from the ongoing programs will be characterized and presented in the environmental assessment.

S5.7 Water Quality

A baseline monitoring program was established for the Project in 2006. Water samples were collected from 12 sites concentrated in the mineral exploration area around Light Lake and extending to Oliver Creek and the Adams River during 2006 and 2007. Sampling has continued and the program has been expanded to the current sampling at 18 sites on a near monthly basis. Water samples are analyzed for anions, nutrients, general physical variables, total phosphorus, and total dissolved metals.

Initial analysis of the water quality completed to date at the mine site indicate that in general, existing water in the mine site is very soft with low dissolved solids and low to moderate alkalinity. Several unknown tributaries to Light Lake periodically had alkalinity <10 mg/L (as CaCO₃). Sulphate concentrations were low (average <5.0 mg/L) at most sites. Nutrient concentrations (nitrogen and phosphorus) and total organic carbon were low. Baseline cadmium and zinc concentrations at some sites exceeded applicable BC water quality guidelines. The baseline cadmium and zinc concentrations were particularly elevated in a tributary of Light Creek; this tributary also had the highest baseline concentrations of lead. It is likely that this tributary is influenced by the ore body over which the creek flows.

As part of the environmental assessment, the current water quality monitoring program being used by RCMC will be re-evaluated to include an assessment of other water bodies or sources that may potentially be affected by the Project. The main objectives of water quality program related to the environmental assessment of the Project will be to:

- Assess the ambient (baseline) surface and groundwater conditions before the Project;
- Identify whether provincial water quality guideline are naturally exceeded during baseline conditions and whether site-specific water quality objectives may need to be established;
- Collect baseline information that can be used to predict and assess impacts as part of the water quality model;
- Determine the need for monitoring and management (including an assessment of the potential requirement for treatment); and
- Allow the comparison of baseline with operational and post-closure water quality data in order to identify whether water quality is affected by mine-related activities and to verify established water quality objectives or guidelines are being met and water quality is being protected.

S5.8 Groundwater

The majority of the hydrogeological measurements have been made during underground exploration activities with use of a flow meter on the underground discharge. The majority of the underground exploration workings are dry except for fractures that contain standing water. It was observed that water inflows are from areas where the workings cross a fault that has continuous water flow.

The Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators prepared by the BC MOE (BC MOE 2012) provides guidance on the study objectives and data collection in carrying groundwater studies. Detailed hydrogeological studies have yet to be initiated at the mine site and will commence with the installation of groundwater monitoring wells established for baseline monitoring.

S5.9 Geology

The geologic and structural description of the regional geology that exists in the Project area below is summarized from the BCDM Bulletin #57 by J.T. Fyles (Fyles, 1970).

The Project's deposits lay within the metasedimentary rocks of the Shuswap metamorphic complex on the northwest flank of the Frenchman Cap Gneiss Dome. The Dome is elongate with the long axis trending north-northwest, parallel to the Columbia River. In the northern area of the "Dome" the core gneisses lay beneath gently northerly dipping metasedimentary rocks which grade upward into metasedimentary rocks containing abundant pegmatite. This pegmatite rich zone covers wide areas between the Columbia River and Oliver Creek.

S5.10 Soils

Overburden in the mine site is generally shallow (ranging from 0 to 6.5 m in depth) and consists of gravel and cobbles with varying amounts of boulders and silty sand. Areas of deeper overburden have been found up to a depth of up to approximately 33 m. Overburden composition in these areas range from boulders, cobbles, and gravel to silty sand with some clay and gravel. Additional studies will be conducted as part of the environmental assessment to characterize the soils in the mine site and to determine the availability and suitability of soils for future reclamation purposes.

S6. POTENTIAL PROJECT EFFECTS

The following is a preliminary and brief assessment of potential interactions between the environment and the Project, intended to satisfy the requirements Sections 16, 17, 18, & 19 of the *Prescribed Information for the Description of a Designated Project Regulations* (2012), and based on best available current information. This is not intended to be a full or detailed assessment of potential Project effects; a full and detailed assessment of potential Project effects will be presented in the environmental assessment Application and/or Environmental Impact Statement.

The Application and/or Environmental Impact Statement will define valued components and include consideration of the potential environmental, social, cultural, economic, health and heritage effects and potential effects on Aboriginal interests. The Application and/or Environmental Impact Statement will also identify and evaluate practical means of avoiding or mitigating potential adverse effects to the extent possible, while maximizing the benefits of the Project for all stakeholders.

S6.1 Solid, Liquid, Gaseous or Hazardous Wastes

A description of the solid, liquid, gaseous or hazardous wastes likely to be generated by the Project, potential environmental effects and plans to mitigate and manage those wastes are described in Table S-11.

Atmospheric contaminant emissions will be generated by the Project, including criteria air contaminants and greenhouse gases, or other non-criteria contaminants that are of potential concern). Air quality modelling will be carried out to predict levels of air contaminants and to identify if mitigation will be required.

Table S-11 Wastes Generated by the Project and Potential Environmental Effects

Type of Waste	Project Phase ¹	Description of Waste, Project Source and Potential Environmental Effects	Management Plans/Strategies
Atmospheric	C, O, D	<ul style="list-style-type: none"> - Increase criteria air contaminants and greenhouse gases from construction equipment, diesel generator and vehicles - Dust and particulate matter from transportation, roads, ore conveyance, and construction activities - Potential effects on sensitive receptors (if present) 	<ul style="list-style-type: none"> - An Air Quality Management Plan will be developed for the Project - For surface works, strategically placed air quality monitoring sites will be installed. - For underground operations daily air quality will be measured. - Minimize idling, maintain equipment and vehicles - Use low sulfur fuel - Use covered conveyors for ore transport
Sewage Waste	C, O	<ul style="list-style-type: none"> - Liquid sewage waste from the accommodations camp and primary building - Potential effects to downstream water quality (if accidentally released) 	<ul style="list-style-type: none"> - A Non-Hazardous Materials Management Plan will be developed for the Project - Sewage waste will be treated before discharge
Mine Contact	C, O, D	<ul style="list-style-type: none"> - Contact water with mine facilities 	<ul style="list-style-type: none"> - A Mine Site Water Management Plan

Water		- Potential effects to downstream water quality (if released)	- will be developed for the Project - Mine contact water will be diverted from facilities with diversion ditches and stored in water management ponds for use as make up water for the processing plant
Mine Wastes	C, O	- Waste rock from DMS float - Waste rock from development of underground workings - Thickened NAG tailings - Thickened PAG tailings - Increased potential for ML/ARD effects and adverse downstream water quality effects if not appropriately managed	- Waste rock will be disposed of as progressive backfill of the underground workings - Excess will be disposed of at surface waste rock storage areas - NAG tailings will be disposed of in Light Lake for 6 months - PAG tailings will be temporarily placed in a lined surface impoundment for 6 months until backfilled in underground workings
Non-hazardous materials	C, O, D	- The mine will generate recyclable materials, non hazardous materials from the accommodations camp, maintenance facility, and warehouse	- A Non-Hazardous Materials Management Plan will be developed for the Project - Disposed of through a combination of incineration or disposal at the site - Recyclable material will be sent to off-site recycling.
Hazardous Materials	C, O	- Hazardous materials such as used batteries, waste hydrocarbon products, engine oil, and oil filters - Potential human health and environmental effects if not managed appropriately	- A Hazardous Waste Management Plan will be developed for the Project - Disposed of through licensed off site disposal facility

NOTE: (C) Construction phase, (O) Operation phase, (D) Decommissioning and Closure, and (PC) Post Closure

S6.2 Fish and Fish Habitat

Fish and fish habitat baseline assessment work done to-date for the Project indicates that the Project may have the potential to:

- Alter fish habitat in the lower reach of Light Creek and confluence of Oliver Creek because of a potential changes in seasonal surface and groundwater flow patterns and/or a potential change in water quality; and
- Change species occurrence and abundance in the lower reach of Light Creek and confluence of Oliver Creek.

It is unlikely that the Project components and activities will adversely affect the ongoing productivity of any commercial, recreational or Aboriginal fisheries as defined in the *Fisheries Act*, with the application of mitigation measures. As well, baseline surveys indicate that it is very likely that Light Lake is non-fish bearing and a natural fish barrier prevents fish in the lower reach of Light Creek from reaching the mine site.

As described in Section S5.3.1, baseline studies to date indicate that there are no aquatic species as defined in the *Species at Risk Act* within the Project area. Future fish and aquatics studies will be conducted to increase the confidence in the results of previous investigations. Appropriate best management practices and strategies (if defined by a recovery strategy) will be implemented to minimize risk to any critical habitat if identified.

All potential effects to fish and fish habitat from Project components and activities will be carefully characterized and evaluated as part of the environmental assessment.

S6.3 Wildlife

Potential effects to wildlife (including migratory birds listed under the *Migratory Birds Convention Act* and wildlife species listed under *Schedule 1 of the Species at Risk Act*) and their habitat can result from Project activities. Generally mine developments have the potential to affect wildlife through the loss of habitat because of site clearing activities and disturbance from noise and Project related traffic. The potential exist for increased mortality risk through clearing activities. Sensory disturbance can occur primarily through Project generated noise, as well as ingestion of contaminants directly or indirectly and dermal absorption.

Appropriate best management practices and strategies (of applicable recovery strategies) will be considered and implemented to the extent possible to minimize potential effects to wildlife or any critical habitat identified. The Proponent anticipates that with the implementation of best management practices and mitigation measures the Project is not anticipated to cause significant adverse effects on wildlife or their habitat. There will be future wildlife surveys conducted as part of the environmental assessment to inform the assessment of potential effects.

S6.4 Noise

Project activities, primarily during the construction phase, will generate noise from the operation of heavy machinery for site clearing activities, vehicle movements, and diesel generators. The Proponent anticipates that noise generation will be reduced during operations as there will be limited noise from underground workings, the processing plant and vehicle movements.

Noise levels will be modelled to predict potential effects on sensitive human and wildlife receptors. If required, mitigation for potential noise effects on sensitive human and wildlife receptors will be implemented in the form of best management practices and sound reducing devices to the extent practical.

S6.5 Human Health

Potential contamination of country food supplies, as well as potential effects to human health through air quality, noise, and drinking water quality changes will be investigated further and assessed during the environmental assessment as part of the assessment of the Project's potential effects on human health.

Due to the high altitude of the mine site and lack of access, RCMC believes that there is a very limited country food supply for humans and a very limited number of sensitive receptors in the Project area. Accordingly the Proponent feels that the likely occurrence of human consumption of game or vegetation in the Project area is low. As well, RCMC is not aware of any permanent or temporary residents near the mine site and there is likely to be a limited number of seasonal hunters and trappers in area.

S6.6 Heritage and Archaeology

To further understand Aboriginal relations with the land base and to further relationships, RCMC will explore opportunities to collaborate with potentially affected Aboriginal groups on traditional use/traditional knowledge studies for the purposes of the environmental assessment. These studies typically identify locations where Aboriginal groups have traditionally engaged in hunting, fishing, gathering, and spiritual activities. The results of these studies will be used to inform planning for the Project and the environmental assessment.

An archeological impact assessment will be carried out for the mine site and key portions of the Project area to determine the potential impacts of the Project on known archaeological sites. Currently, a chance find procedure has been developed and implemented for the exploration phase of the Project; there are no known heritage sites of significance in the Project area.

S6.7 Socioeconomics

The Proponent anticipates that the Project will have a positive socioeconomic effect for local communities. The Project will provide training for local community members and increased investment in services to the local population.

S6.8 International and Provincial Boundary Effects

No changes to the environment as a result of the Project are anticipated to affect Alberta or the United States given the distance from the Project to provincial and international boundaries.

S6.9 Effects on Aboriginal Peoples of Any Changes to the Environment that may be caused as a Result of Carrying out the Project

Based on the current available information at the time of submitting the Project Description and limited information regarding potential interests and asserted Aboriginal rights in the Project area, it is difficult to predict if the changes to the environment that may result from the Project will have an effect on Aboriginal peoples. A summary of general types of potential effects, based on similar resource developments, is presented in Table S-12.

Table S-12 General Types of Potential Effects on Aboriginal Peoples from Mine Developments

Potential Project Effect	Potential Effect on Aboriginal Peoples	Potential Mitigation
Limited access to the mine site due to Project construction and operation.	Reduced ability to hunt, gather, fish and trap in the area of the mine site due to access limitations.	An access management strategy will consider measures to minimize adverse effects on access for traditional uses.
Project disturbance area and footprint.	Potential loss of structures or sites of historical, archaeological, paleontological, architectural or spiritual significance.	An archaeology impact assessment will be carried out to identify potential sites of significance and options for to avoid potential impacts. A chance find procedure has been implemented for the Project.
Potential effects to wildlife and vegetation that support subsistence hunting and traditional use due to the Project footprint, disturbance area and activities.	Potential to affect asserted Aboriginal rights to traditional food harvesting practices, including hunting, trapping and country food harvesting.	The Project design will limit new disturbance. A wildlife management and monitoring plan will be developed for the Project. A vegetation management and monitoring plan will be developed for the Project. Progressive reclamation will be implemented as appropriate.
Potential effects to downstream water quality, and fish and fish habitat from the Project.	Potential to affect asserted Rights to traditional food harvesting practices, including fishing.	Project design will minimize water use and manage mine contact water to avoid potential effects to downstream water quality. A water management and monitoring plan will be developed for the Project to manage water quality. In addition, to a fish habitat compensation plan (if required) will be developed.

Through additional studies and consultation with potentially affected Aboriginal groups, RCMC will determine if the potential effects of the Project to the environment will have an effect on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. This analysis will be presented in the Application and/or Environmental Impact Statement.

S6.10 Cumulative Effects

A cumulative effects assessment will be carried out as part of the environmental assessment and include an assessment of other past, present and reasonably foreseeable future projects that may interact temporarily or spatially with the Ruddock Creek Mine Project. The cumulative effects assessment will follow applicable guidelines for cumulative effects assessment developed by the Agency and EAO.

S7. ENGAGEMENT AND CONSULTATION

Prior to submission of the Project Description, the Proponent engaged and consulted with representatives of:

- Governments (Provincial, Federal, Regional and Local);
- Potentially affected Aboriginal groups; and
- Public Stakeholders.

S7.1 Governments

The Proponent has conducted consultations to date with provincial, federal, regional and local governments about the Project. These consultations focused on introducing the Project, the Proponent and receiving feedback and guidance on the Project Description.

The Proponent has met with the EAO and Agency and other provincial and federal departments on numerous occasions between 2008 and 2009 when the previous project description was submitted and the previous provincial environmental assessment commenced. Upon substantial revisions to the mine plan and the Project as a whole, RCMC held meetings with both the EAO and Agency in mid-2013 to re-introduce the Project with its “new” updated design. The Proponent, worked closely with the EAO and Agency to incorporate their recommendations and requirements into the development of the Project Description.

Provincial ministries and organizations that have been involved in consultations with RCMC include:

- Environmental Assessment Office;
- Ministry of Energy and Mines;
- Ministry of Environment;
- Interior Health;
- Ministry of Transportation and Infrastructure;
- Ministry of Community, Sport and Cultural Development;
- Columbia Shuswap Regional District;
- Ministry of Forests, Lands and Natural Resource Operations;
- Ministry of Aboriginal Relations and Reconciliation;
- Ministry of Advanced Education;
- Ministry of Agriculture; and
- BC Hydro and Power Authority.

Federal agencies/departments that have been involved in consultations with RCMC include:

- Canadian Environmental Assessment Agency;
- Natural Resources Canada;
- Environment Canada;
- Fisheries and Oceans Canada;
- Transport Canada;
- Health Canada; and
- Aboriginal Affairs and Northern Development Canada.

The Proponent has held several meetings with local and regional government representatives to discuss and understand their issues and concerns, since exploration activities for the Project began in 2004. During 2008, Community Open Houses for the Project were held in Chase and Clearwater by RCMC. Since Clearwater is the closest community to the Project and RCMC anticipates that the community of Clearwater will be the most directly affected by Project activities there have been several presentations given to the Mayor and Council on the Project. The Proponent maintains regular contact via meetings, phone and email communications with local and regional government representatives, including:

- Regional District of Clearwater;
- Community of Chase; and
- Community of Vavenby.

Future consultation opportunities are anticipated with relevant government agencies through the environmental assessment Working Group, led provincially by the EAO and federally by the Agency. These future opportunities for consultation with government agencies will focus on guidance for data collection programs, presentation of impact assessment results, and ideas to avoid or mitigate for potential adverse Project effects.

S7.2 Potentially Affected Aboriginal Groups

RCMC is committed to consulting with potentially affected Aboriginal groups about the potential impacts of the Project on their interests and asserted Aboriginal rights. Consultation with Aboriginal groups will inform the consideration of Aboriginal interests in the environmental assessment and allow the environmental assessment process to explore opportunities to mitigate potential effects on asserted rights.

The Agency and EAO have provided preliminary advice regarding the Aboriginal groups that may be potentially affected by the Project components and activities (including the alternate transmission line routes). These groups are listed in Sections S3.3.1. To date, RCMC has commenced consultations with the following Aboriginal groups:

- Adams Lake Indian Band;
- Neskonlith Indian Band;
- Little Shuswap Lake Indian Band;
- Simpcw First Nation;
- Okanagan Indian Band; and
- Shuswap Indian Band.

The Proponent will engage other Aboriginal groups identified by the EAO and/or Agency, upon commencement of the environmental assessment. An overview of RCMC's consultation history with potentially affected Aboriginal groups on the Project is presented below from the perspective of the Proponent.

Engagement activities with the Adams Lake Indian Band, Neskonlith Indian Band, Little Shuswap Lake Indian Band and Simpcw First Nation have been more extensive to date due to the fact that the proposed mine site and access road, as understood by RCMC, are within these Aboriginal groups' traditional territories. Engagement activities have been varied in nature and have included one-on-one meetings with representatives, meetings with Chief and Council, joint open houses, site visits, and job fairs. A Community Agreement was signed between RCMC and the Little Shuswap Lake Indian Band (on January 1, 2014). A Memorandum of Understanding was signed by RCMC and the Adams Lake Indian Band (dated September 3, 2013). A Community Investment Agreement was signed between the Simpcw First Nation and RCMC on May 17, 2012. The Proponent is exploring opportunities to develop a similar agreement with the Neskonlith Indian Band.

Invitations were extended by RCMC to these Aboriginal groups for guided visits to the proposed mine site, as well as meetings to discuss the Project and future opportunities to conduct traditional use studies. The draft Project Description was shared with these Aboriginal groups most recently on October 10, 2013. The Proponent has provided capacity funding to the Simpcw First Nation, Adams Lake Indian Band, and Little Shuswap Lake Indian Band as part of the capacity agreements that have been established. In response to specific comments and issues raised by the Aboriginal groups, RCMC has provided and shared all information with Aboriginal groups that may help to answer the questions, for example water quality reports and analytical results of the exploration programs have been shared. The Proponent has also hired a consultant to aid in interpretation of scientific data; this same information and data was available for review at open houses and at meetings with Mayors and Council. To date, the Proponent has

employed 10 members of the Adams Lake Indian Band, 2 members from the Simpcw First Nation and 2 members from the Neskonlith Indian Band for Project exploration activities.

The Proponent has notified the Okanagan Indian Band and Shuswap Indian Band that the three alternative power transmission line routes east of the Project from Mica, as identified to RCMC, have the potential to affect their Aboriginal interests and asserted Aboriginal rights and have shared advance copies of the Project Description with them. Through additional consultation and engagement activities as part of the environmental assessment process, RCMC hopes to have a better understanding of how the alternate transmission line routes could affect their Aboriginal interests and/or asserted Aboriginal rights so that avoidance, mitigation and accommodation measures can be considered as part of the environmental assessment, if one of the three alternate transmission line routes is selected for the Project.

Table S-13 is a summary of the comments raised by Aboriginal groups prior to submission of the Project Description and how the Project could affect Aboriginal interests and asserted Aboriginal rights, as understood by RCMC, and the Proponent’s preliminary response to the comments raised; RCMC welcomes comments and clarifications from Aboriginal groups on the information presented.

Table S-13 Summary of Comments Raised by Aboriginal Groups

Comments Raised (as understood by RCMC)	Interests or Asserted Rights (as understood by RCMC)	Preliminary Response from RCMC
Timing of activities	Interest in economic benefits including job opportunities	RCMC has and will continue to share updates with Aboriginal groups on the anticipated timing of Project development. In addition, RCMC will continue to explore opportunities for jobs for Aboriginal peoples with interested Aboriginal groups.
Caribou protection and questions on how the Proponent will minimize the impact of the Project on the Woodland caribou, Southern Mountain population.	Asserted rights to traditional food harvesting practices including hunting	Potential effects to the Woodland caribou, Southern Mountain population will be assessed as part of the environmental assessment, including proposed mitigation measures that will be implemented by the Project to avoid and/or minimize adverse effects. RCMC will take into consideration the draft proposed Recovery Strategy developed by Environment Canada to guide the development of mitigation measures.
Water quality protection and questions on how the Proponent will protect the integrity of the water due to its location and the downstream fisheries	Asserted rights to traditional food harvesting practices including fishing	Potential effects of the Project to water quality and subsequent downstream fisheries will be assessed as part of the environmental assessment, including proposed mitigation measures that will be implemented by the Project to avoid and/or minimize adverse effects.
Jobs, training and business opportunities, questions on what jobs and training will be offered and what may be available for contractors	Interest in job opportunities	RCMC will continue to explore opportunities for jobs for Aboriginal peoples with interested Aboriginal groups.
Process plant contaminants, questions on if there are any chemicals used in the processing of ore that could potentially harm the environment	Interest in understanding potential environmental effects of the Project from ore processing.	A detailed description of any reagents used in ore processing will be provided in the environmental assessment as well the potential effects of ore processing on the environment.
Acid Rock Drainage/Metal Leaching, questions on	Interest in understanding potential environmental effects of the Project	The environmental assessment will assess the potential for acid rock drainage/metal

whether there will be a rock or metal leaching problem that may harm the environment long term	from acid rock drainage/metal leaching.	leaching from the Project after the implementation of mitigation measures.
Traditional Ecological Knowledge, questions on whether First Nation's Traditional Use Knowledge will be used in the design and operations of the mine	Interest in understanding if traditional ecological knowledge will be incorporated into the Project design and operations.	RCMC looks forward to working with Aboriginal groups to document their traditional ecological knowledge and explore opportunities to incorporate it into the environmental assessment.
Tailings, questions on how the tailings will be handled	Interest in understanding how tailings will be managed for the Project	A preliminary description of the proposed tailings management process is provided in the Project Description. A detailed description of tailings management will be provided in the environmental assessment.

As part of future consultations during the environmental assessment, RCMC will continue to look for opportunities to clarify potential impacts on asserted Aboriginal rights with all Aboriginal groups.

The Province of British Columbia and the Government of Canada have the duty to consult and where required, accommodate Aboriginal groups whenever a decision or activity could impact Treaty rights or asserted or established Aboriginal Rights and Title. As part of the environmental assessment, the EAO and/or Agency may delegate the procedural aspects of consultation to the Proponent. The Proponent will look to the EAO and/or Agency to identify the scope of consultation delegated to the RCMC for the environmental assessment of the Project and the depth of consultation required.

Moving forward into the environmental assessment, RCMC intends to consult potentially affected Aboriginal groups on the Project to:

- Gain an understanding of the potential effects of the Project on Aboriginal interests and asserted Aboriginal rights;
- Discuss the type of information required to assess those potential impacts as part of the environmental assessment; and
- Discuss the methods of gathering that information for the environmental assessment.

A preliminary schedule of proposed consultation and information gathering activities is presented in the Table S-14, to provide an overview of the types of general consultation activities being considered by RCMC. Through consultation with the EAO and/or Agency, and potentially affected Aboriginal groups, and the receipt of new information, a schedule and proposed activities will be more clearly defined and proposed as part of the Proponent's consultation plan.

Table S-14 Proposed Aboriginal Consultation and Information Gathering Activities

Proposed Activity	Environmental Assessment Phase	Purpose of Activity
Information sharing, notifications, meetings, community open houses and presentations	Throughout	To provide potentially affected Aboriginal groups with all relevant information about the Project so that they can consider their interests and participation level. Request confirmation and clarifications on RCMC's understanding of how the Project could affect their Aboriginal interests and/or asserted Rights. Identify and develop accommodation measures to prevent, mitigate or address potential effects on Aboriginal Interests
Studies	Prior to submitting the Application and/or Environmental Impact Statement	To involve potentially affected Aboriginal groups in relevant studies including archaeology, traditional use, and ethnography and socioeconomic. To integrate traditional knowledge where possible into the environmental assessment.

Consultation plan	Prior to the Application Information Requirements	To share with potentially affected Aboriginal groups how RCMC intends to consult and seek their feedback on the approach
Report on consultation results	Application/Environmental Impact Statement	Document and report to EAO and/or Agency the results of the Proponent's consultation with potentially affected Aboriginal groups.
Discussions	Throughout the environmental assessment	To provide potentially affected Aboriginal groups with all relevant information about the Project so that they can consider their interests and participation level. Request confirmation and clarifications on RCMC's understanding of how the Project could affect their Aboriginal interests and/or asserted Rights with the goal of identifying and developing accommodation measures to prevent, mitigate or address potential effects on Aboriginal interests and/or asserted Rights. Explore opportunities for short-term and long-term employment.
Agreements	Currently and throughout the Application/Environmental Impact Statement review phase	To encourage participation in the environmental assessment and provide capacity funding support. To address a range of matters of concern to the band including environment, employment, contracting and internal capacity to assess and respond to permitting.

S7.3 Public Stakeholders

Potentially interested public stakeholders in the Project include:

- Thompson Nicola Regional District;
- District of Clearwater;
- Community of Chase;
- Community of Vavenby;
- Community of Avola;
- City of Revelstoke;
- BC Hydro;
- Mike Wiegler heli-skiing area operators;
- Recreational fishing guides; and
- Logging companies in the Project area.

The Proponent's ongoing public consultation program is aimed at establishing a local presence in the region to facilitate consultation on the Project with the public and interested stakeholders. As part of the environmental assessment, RCMC will conduct additional public and stakeholder consultation activities to determine if the Project has a potential to affect the public and other stakeholders in the area.

Table S-15 is a summary of questions from public stakeholders, as understood by RCMC, and the Proponent's preliminary response to the questions; RCMC welcomes comments and clarifications from public stakeholders on the information presented.

Table S-15 Summary of Questions from Public Stakeholders

Questions (as understood by RCMC)	Preliminary Response from RCMC
Transportation route, are there are several possible routes to the provincial highways or railroads, which one will the Project use?	The Project proposes to use the using existing Forest Service Roads from the Yellowhead Highway #5 through Vavenby to the mine site.
How will Project generated traffic be controlled on the transport routes?	The Project will develop a transportation management plan that will outline measures to control Project generated traffic along the proposed transport route. As well, best practices will be adopted by Project generated traffic to promote safety, the protection of

	wildlife and avoidance of potential accidents and malfunctions.
Power line transmission route, will the Project use the Thompson River corridor or the Columbia/Mica corridor?	At this time, the preferred transmission route is from the existing substation in Avola to the mine site, following the existing access road as closely as possible. Due to the fact that the existing Avola grid may not have sufficient power for the Project and there has been no assurance from BC Hydro, RCMC will continue investigation of the Mica routes from the east.
Process plant contaminants, will the Project use any chemicals used in the processing of ore that could potentially harm the environment?	A detailed description of any reagents used in ore processing will be provided in the environmental assessment as well the potential effects of ore processing on the environment.
Schedule and camp for Project operations, what is the schedule for workers and will it be primarily camp-style accommodations for the Project?	A preliminary schedule for Project operations is provided in the Project Description; a detailed schedule will be provided in the environmental assessment. An accommodations camp with 180 individual residences for workers and associated facilities is proposed for the Project.
Acid Rock Drainage/Metal Leaching, are there rock or metal leaching problems that may harm the environment in the long term?	The environmental assessment will assess the potential for acid rock drainage/metal leaching from the Project after the implementation of mitigation measures.
Where and how will the tailings be handled and deposited for the Project?	A preliminary description of the proposed tailings management process is provided in the Project Description. A detailed description of tailings management will be provided in the environmental assessment.