WEST HIGH YIELD (W.H.Y.) RESOURCES LTD.

2023

RECORD RIDGE INDUSTRIAL MINERAL MINE PROJECT
JOINT MINES ACT AND ENVIRONMENTAL MANAGEMENT ACT
APPLICATION SUMMARY

PREPARED FOR:

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WEST HIGH YIELD (W.H.Y.)
RESOURCES LTD.

RECORD RIDGE
INDUSTRIAL MINERAL MINE PROJECT

JOINT MINES ACT AND ENVIRONMENTAL MANAGEMENT ACT PERMIT

APPLICATION SUMMARY

NOVEMBER 2023

TABLE OF CONTENTS

TABLE OF CONTENTS I
LIST OF TABLES I
LIST OF FIGURES II
1.0 INTRODUCTION AND PROJECT OVERVIEW 1
1.1 APPLICATION BACKGROUND 1
1.1.1 Purpose and Scope of Application 2
1.1.2 Summary of Key Commitments 2
1.2 PROJECT OVERVIEW 3
1.2.1 Project History 3
1.2.2 Project changes 5
1.2.3 Overview of Products and Markets, and Projected Project Benefits 6
1.2.4 Location, Access and Land Use 9
1.2.5 Mine Components and Off-Site Infrastructure 14
1.2.6 Mine Development and Operations 17
1.2.7 Regulatory Framework 18
1.3 ENGAGEMENT AND CONSULTATION 19
1.3.1 Approach 19
1.3.2 Activities 20
2.0 SUMMARY OF BASELINE INFORMATION 21
3.0 SUMMARY OF RECLAMATION AND CLOSURE 22
4.0 SUMMARY OF MODELLING, MITIGATION, AND DISCHARGES 23
5.0 SUMMARY OF ENVIRONMENTAL ASSESSMENT PREDICTIONS 24
6.0 SUMMARY OF ENVIRONMENTAL MONITORING 26
7.0 SUMMARY OF HEALTH AND SAFETY 26
8.0 SUMMARY OF MANAGEMENT PLANS 27
9.0 CONCLUDING REMARKS 29
10.0 REFERENCES 30

LIST OF TABLES

Table 1.2.1: Record Ridge Mineral Resource Statement (2009) 4
Table 1.2.2: Record Ridge Mineral Resource Statement (2013) 5
Table 1.2.6: Anticipated Provincial Licenses, Permits, and Authorizations 18

LIST OF FIGURES

Figure 1.2.1: RRIMM Project Location.....10
Figure 1.2.2: Mineral Tenures and Claims 12
Figure 1.2.3: Key Mine Components 15

1.0 INTRODUCTION AND PROJECT OVERVIEW

1.1 APPLICATION BACKGROUND

West High Yield (W.H.Y.) Resources Ltd. (W.H.Y. Resources or the Company) initiated the permitting process for the proposed Record Ridge Industrial Mineral Mine Project (RRIMM Project) with submission of the RRIMM Project Description (May 2018) and draft Information Requirements Table (IRT). W.H.Y. Resources submitted a draft Joint BC Mines Act and BC Environmental Management Act (EMA) Permit Application (Joint Permit Application) in February 2019 for 'screening review' by the BC Mine Development Review Committee (MDRC).

The screening review process was initiated by the MDRC in 2019 and subsequently paused by W.H.Y. Resources until 2022. W.H.Y. Recourses and their technical consultants engaged the MDRC through 2022 and 2023 to revise the application to meet requirements of MDRC's technical review process. This Joint Permit Application (re-issued October 2023) includes outcomes from the 'screening review' process.

During 'screening review', W.H.Y. Resources conducted two open house sessions within the City of Rossland BC; May 17 and 18 2023. The open house sessions were attended by residents from the City of Rossland, the Regional District, Rossland Council members and Indigenous groups. Participants of the open house sessions raised various concerns and questions. The RRIMM Application (October 2023), and this Application Summary, includes revisions to the scope of the proposed RRIMM project and additional mitigation measures to address concerns raised during the May 2023 open house sessions, including the following:

Project Production Capacity Reduction – W.H.Y Resources has reduced the overall disturbance area of the project by limiting the production capacity to 200,000 tonnes per year from 249,000 tonnes per year. The reduced production capacity results in a smaller open pit and less development rock generated over the two-year duration of the proposed RRIMM Project.

Seven Summits Trail Mitigation – W.H.Y. Resources has provided the Kootenay Columbia Trail Society (KCTS) with funding to develop a proposal to relocate a portion (approximately 1.3 km) of the Seven Summits Trail in the vicinity of the proposed RRIMM Project. The KCTS has recently confirmed that terrain on the West side of the ridge is suitable for a re-route and would retain the character and quality experience of the existing trail. The preliminary estimate of approximately $30-40K is acceptable to W.H.Y. Resources and the relocation has been included in the updated application as a new proposed mitigating measure, subject of course to necessary approvals and Indigenous consultation. W.H.Y. Resources will engage the appropriate representatives in pursuit of permits required for the Seven Summits Trail mitigation.

Off-site Transportation of Ore – W.H.Y. Resources has revised the proposed RRIMM Project to avoid transportation of ore through the City of Rossland BC. W.H.Y. Resources is proposing to the BC Ministry of Transportation and Infrastructure (MOTI) to truck ore along Highway 22 to North Port, Washington, rather than passing through the City of Rossland. W.H.Y. Resources' revised transportation route is currently under consideration by MOTI.

Ore Extraction – W.H.Y. Resources has updated the operational plan to make mechanical extraction of ore the primary permitted means of ore removal during operations, with the alternate ability to use blasting

(explosives) if the Seven Summits Trail relocation is undertaken, the environmental considerations related to the original plan for blasting are satisfactory and W.H.Y. Resources encounters technical or economic reasons to make blasting during operations preferable.

Ore Crushing – W.H.Y. Resources has included a covered outfeed conveyor and a dust baghouse to the crushing equipment to effectively manage dust, noise, and emissions.

1.1.1 Purpose and Scope of Application

W.H.Y. Resources intends to develop the proposed RRIMM Project in an environmentally, socially, economically, and culturally safe manner to the benefit of the local community, First Nations, British Columbia and W.H.Y. Resources shareholders. This document is W.H.Y. Resources' Joint Permit Application for a BC *Mines Act* permit and BC *Environmental Management Act* (EMA) permit for the RRIMM Project.

The proposed RRIMM Project includes extraction of only a fraction of the potential resource as defined in the 2013 Preliminary Economic Assessment (PEA; Stryhas et al. 2013) and does not include various aspects of the 2013 PEA mine plan; i.e., an on-site processing facility and a tailings management facility. The mine plan for the proposed RRIMM Project includes only the extraction and crushing of ore to be trucked off-site and processed by a third party.

The operation and closure of the proposed RRIMM project herein would not result in the sterilization of any of the remaining resources reported in W.H.Y. Resources' 2013 PEA should a subsequent project be contemplated in the future. Any such future project would require a separate permitting process which may include an environmental assessment under the BC Environmental Management Act, BC *Mines Act* and BC *EMA* permitting and are not a part of this application.

The proposed RRIMM Project is designed to supply two years of run of mine (ROM) magnesium-bearing serpentinite rock (i.e., ore) at a rate no greater than 200,000 tonnes per year. The mine plan will be a conventional open pit operation with a sequence of ore extraction, loading ROM rock, crushing using a mobile crushing unit equipped with a covered conveyor and a dust baghouse to mitigate noise and fugitive dust, and then hauling cobble-sized, crushed rock off-site to a third-party processing facility.

1.1.2 Summary of Key Commitments

Key commitments that would apply to project development, as described in the Joint Permit Application, are summarized, below:

- Application of established best management practices throughout construction, operations, reclamation and closure, including diversion of clean water around the proposed RRIMM Project and collection and treatment of all contact water prior to its safe discharge in a manner that will not adversely affect the downstream receiving environment.
- Production capacity no greater than 200,000 tonnes per year.

- Substituting or augmenting the use of explosives with mechanized equipment for ore extraction as the primary means of ore extraction. Explosives will be used for construction and would be an alternate option for operations should mechanical means prove insufficient.
- Including covered outfeed conveyor and a dust baghouse to the crushing equipment to effectively manage dust and noise.
- No processing plant, no generation of tailings or a tailings management facility on site.
- Off-site disposal of all hazardous and non-hazardous wastes in approved licensed facilities.
- Closure and reclamation of the proposed RRIMM Project to acceptable land use and capability in accordance with the BC Mines Act and Health, Safety and Reclamation Code for Mines in BC.
- Proposing the option with MOTI of utilizing a trucking route heading south on Highway 22 to North Port (WA), rather than passing through the City of Rossland.

1.2 PROJECT OVERVIEW

1.2.1 PROJECT HISTORY

The RRIMM Project is focused on mining the mineral serpentine, a complex magnesium-iron phyllosilicate. The serpentine-bearing host rock is known as the “Record Ridge Ultramafic Body”. In the early 1900’s, the nearby Rossland-Trail Mining Camp was the second largest lode-gold camp in BC. Since lode-gold in quartz veins are often found spatially associated with ultramafic formations, the Record Ridge ultramafic has been the subject of more than 100 years of intensive mineral exploration and geological bulletins.

The RRIMM Project area is part of a larger claim block historically explored for gold, nickel, magnetite and/or chromite by at least three previous owners. In 1973, Mineral Resources International Ltd. (MRI) of Calgary, AB, owned the “Job” claims, located on Ivanhoe Ridge, 2 kilometres (km) east of Record Ridge. In 1973, George G. Addie, P.Eng. P.Geo., was retained by MRI to conduct a magnetometer survey over the claims in search for gold in serpentinite. The survey found anomalous magnetic zones within the claims linked to the occurrence of magnetite within the Record Ridge ultramafic body that lies in the area called Ivanhoe Ridge.

The next work documented on the property occurred in 1978, when the claims MAR 1-4, LAND 1-6, SKIN 1-4, ROSS and CAL, became the “Morrison-White” property. This property was evaluated for gold in ultramafics on behalf of United Canso Oil and Gas, Calgary, AB. A 460 hectares (ha) area was first mapped at a scale of 1:10,000 on an enlarged aerial photo base and then a location grid was established, and certain parts were geologically mapped at a scale of 1:2,500. The same area was also surveyed by soil sampling on a 50 meter (m) x 100 m grid. Magnetic profiling at 10 m station intervals was also completed. This work delineated eleven soil geochemical anomalies. Follow-up field work concluded that eight of these were of sufficient interest to warrant further geophysical and/or geochemical evaluation.

The next documented exploratory work was in 1984 on the CAL and ROSS 2-3 claims, by Noranda Exploration Company for chromite. They performed trenching, soil sampling, a magnetometer survey over 16 km, as well as induced polarization and electromagnetic surveys over 1 km. A total of 177 samples were taken.

In 2005, W.H.Y. Resource acquired mineral tenures covering a major portion of the 6.2 km² Record Ridge ultramafic body plus an additional three mineral claims (Hidden Valley, Hidden Valley 2 and Hidden Valley 3). Like its predecessors on the property, the Company's initial exploration focus was on gold. However, early exploration results indicated the Record Ridge ultramafic serpentines were principally nickeliferrous, cobalt-chromite-bearing and magnesium-rich.

During the 2007 and 2008 field seasons, surface sampling delineated a high magnesium anomaly located on the east flank of Record Ridge, interpreted to be representative of the underlying serpentinite unit. The anomalous zone was then drill tested by 51 diamond core drill holes totaling 6,340 m, with 3,874 assays. This information was compiled and verified by SRK and was utilized to provide a Technical Report on Resources by SRK of Lakewood, CO, compliant to Canadian National Instrument NI 43-101 (Stryhas and Collins 2009). That Resource Estimation provided a Classified Measured and Indicated (CIM) Mineral Resource (Table 1.2.1).

Table 1.2.1: Record Ridge Mineral Resource Statement (2009)

Resource Category	% Mg Cut-off	Total Mt (%)	Mg Grade	Contained Mg (Mt)
Measured	12	15.7	23.1	3.62
Indicated		24.0		5.54
Measure & Indicated		39.8		9.16

Stryhas and Collins (2009)

In 2011, the Company drilled an additional 26 diamond drill holes in the Record Ridge South area, comprising line-grid drilling north of the 2007 and 2008 holes. It also acquired an additional claim (847539) located west of, and contiguous with, the Frank Sr. 3 claim. As a result, W.H.Y. Resources controlled mineral tenures covering the entirety of the Record Ridge ultramafic. During three diamond drilling seasons the Company had drilled some 14,954 meters in 77 holes in Record Ridge South and another 15 holes to test prospects in the Ivanhoe Ridge, West Sophia, and Hidden Valley claims. Based on this drilling, the limits of the Record Ridge Resource (as summarized in Table 1.2.1) have not been delineated. The Record Ridge Resource is open to the south, to the west, to the north (particularly the northeast), and to depth.

During 2013, metallurgical test work was conducted to evaluate the potential of using a hydrometallurgical process to extract magnesium and convert it to a marketable product. The program was designed to evaluate the parameters which affect the amount of magnesium extracted via sulfuric acid leaching, slurry neutralization and impurity removal. Metallurgical test work focused on optimization of the extraction process and improving the grade and purity of a magnesium oxide end product. In 2013, SRK completed a *Revised NI 43-101 Technical Report Preliminary Economic Assessment, Record Ridge Project, British Columbia, Canada* (Stryhas et al. 2013) (hereafter referred to as a "PEA"). The PEA report provides a comprehensive review of exploration activities, metallurgical test work and economic analysis conducted for the Record Ridge Resource. Table 1.2.2 presents the revised Measured and Indicated Mineral Resource for Record Ridge.

Following the revised PEA, SRK and Greenwood were retained to undertake baseline studies in support of permitting and project development. Starting in 2016, baseline environmental studies in the RRIMM Project

area undertaken to characterize the local and regional environment include: rock geochemistry, soil type and geochemistry, surface water hydrology, groundwater hydrogeology, water quality, sediment quality, fisheries and aquatic resources, and vegetation and wildlife.

Table 1.2.2: Record Ridge Mineral Resource Statement (2013)

Resource Category	% Mg Cut-off	Total (Mt)	% Mg Grade	Contained Mg (Mt)
Measured	21.9	28.4	24.82	7.05
Indicated		14.6	24.21	3.54
M&I		43	24.61	10.59
Inferred		1.07	24.37	0.26

Stryhas et al. 2013

Archaeology, land use, and cultural use were also completed to characterize the human environment. Results of the baseline program are summarized in Section 2.0 Baseline Information and baseline reports are referenced and provided as appendices to this Joint Permit Application.

In late 2017, the Company engaged Kingston Process Metallurgy Inc. ("KPM") of Kingston, Ontario to evaluate magnesium processing and recovery alternatives and to conduct metallurgical testing on the Company's magnesium-bearing serpentine. The objective was to produce high value commercial grade magnesia (MgO) and magnesium hydroxide $Mg(OH)_2$ products. KPM recommended that the Company return to its initial metallurgical processing initiative and explore hydrometallurgical processing with a focus on using hydrochloric acid instead of sulfuric acid, aiming for better economic and environmental results. Subsequent metallurgical testing directed by KPM utilized a commercial hydrochloric acid processing circuit that has a higher magnesium (Mg) recovery rate and high leachate acid recovery.

It is important to note that the PEA and the metallurgical and processing test work are not relevant to the proposed RRIMM Project presented within this Joint Permit Application. The PEA contemplated a project that included on-site processing of ore and production/storage of tailings. Metallurgical and processing studies conducted after the PEA aimed to assess processing options to generate a final magnesium oxide product. The proposed RRIMM Project only includes extraction and crushing of ore on-site followed by transportation of the crushed ore to a third party for off-site processing.

1.2.2 PROJECT CHANGES

W.H.Y Resources conducted community meetings in May 2023 to present the Project as proposed to the British Columbia Mine Development Review Committee. WHY Resources heard clearly the concerns raised by the local communities and, in response, has committed to the following Project changes:

- Substituting or augmenting the use of explosives with mechanized equipment for ore extraction;
- Including covered outfeed conveyor and a dust baghouse to the crushing equipment to effectively manage dust and noise;
- Exploring the option with the Ministry of Transportation and Infrastructure (MoTI) of utilizing a trucking route along Highway 22 to North Port (WA), rather than passing through the City of Rossland.

Please note that these commitments are not part of the Application submitted to the MDRC in April 2023 and summarized herein. However, the Project commitments resulting from the May 2023 community meetings have been communicated to the MDRC. These commitments would be integrated into the approvals if issued by BC regulators.

1.2.3 Overview of Products and Markets, and Projected Project Benefits

1.2.3.1 Products and Markets

The Canadian portion of the RRIMM Project does not include processing of the host serpentinite rock other than crushing, which reduces the rock from a run of mine (ROM) size to that suitable for highway truck transport.

Metallurgical processing of RRIMM Project industrial mineral rock will be done in the United States (US). The final products are considered critical and strategic to both Canada and the US, encompassing high-purity magnesium oxide (MgO), magnesium hydroxide ($Mg(OH)_2$) and eventually, using the ALCOA Magnatherm process, Magnesium Metal. Additionally, the process yields high purity silica, nickel, and iron.

Although magnesium is found in more than 60 minerals, the industry-standard source rock for magnesium is magnesite $MgCO_3$ and dolomite $CaMg(CO_3)_2$. The Record Ridge host rock is differs significantly, as it is a polymorphous phyllosilicate of a mineral group called serpentine, basically $(Mg, Fe)_3\ Si_2O_5(OH)_4$.

In 2017, China controlled 67% of world magnesium mine production (USGS 2018) from magnesite which is used for the production of magnesium metal and magnesium compounds. The Chinese supply chain dominance pattern is similar to that they have used to gain and retain dominance in the Rare Earth Elements (REE's) and Tungsten metals. Until recently, lax environmental standards and abundant coal as the primary fuel (energy) for magnesium production, using the Pidgeon thermal process, have ensured that China was the lowest cost producer and ensuring its magnesium market share dominance. While there are currently numerous changes in the Chinese magnesium industry, the direction is towards centralized control and increased production efficiency. This will yield a greater share of profits at the federal level and ensure and entrench their monopolistic position in the world 'MgO trade'.

In the last few years, 2015 to 2017, the United States Geological Survey (USGS; USGS 2018) has indicated that seawater and natural brines accounted for between 63% and 70% of the annual US magnesium compound production. The remainder was recovered from the minerals dolomite, magnesite, and olivine. There is no US primary mining production of magnesium. Imports made up for the shortfall relative to consumption of domestic production of magnesium compounds with China as the main supplier, accounting for 55% of imports of caustic-calcined magnesia and 50% of imports of dead-burned magnesia (DBM) and fused magnesia.

The Net Import Reliance of the United States as a percentage of Apparent Consumption for the years 2006 to 2017 was between 66% and 47% (USGS 2018). China was the principal external source for US magnesium imports at 65.4% average over the prior 12 years and it has supplied an annual average of 212,000 tons of magnesium compounds to the US. China has exceeded this average annual tonnage for seven (7) of those 12 years.

So, while the overall, 'apparent' magnesium compound supply may not be an issue, the security of supply is likely a better lens with which to view the magnesium market in the United States.

Until recently, successive administrations in the west and, particularly, the US have studiously ignored the issue of potential control of the world supply of certain strategic metals and minerals, including magnesium. The potential impact on the political, economic and National Security of a country due to the threat or factual limitation of the supply of strategic minerals and metals would be very significant. China currently controls world production and sale of several critical metals and minerals, including rare earth metals which are vital for a variety of electronic technologies; tungsten, key for making metal tooling and cutting in the mining and construction industries; and magnesium for making aluminum alloys (aircraft and automobile components), iron manufacturing, flares and fireworks, and lightweight consumer goods (laptops, cameras, power tools).

Recently, the US began examining its industrial needs and are displaying signs of becoming increasingly concerned about their magnesium supply. In February 2018, magnesium was declared a strategic metal and included in a list of 35 critical mineral commodities considered vital to US interests.

MAGNESIUM AND MAGNESIUM COMPOUNDS – VITAL TO KEY US INDUSTRIES

Magnesium oxide is a widely used product in construction and industrial applications. It is used as a soil additive in the agricultural industry, a neutralizing agent in the chemical industry and, in very pure forms, is in high demand within the pharmaceutical industry. Magnesium wallboard can be used instead of conventional plywood with the added benefits of being fire, smoke and waterproof. MgO is also a key ingredient in Portland cement as magnesia based cements cure quickly, are corrosion resistant and are also fire proof. MgO has some key properties that make it ideal for a wide range of refractory and electrical applications, including being corrosion resistant, having a high thermal conductivity and low electrical conductivity.

Magnesium has important applications as a desulphurizing agent in the production of iron and steel; as a refractory brick for pyro-processing of aluminium alloys; in the production of die-cast products (alloyed with zinc) and the production of titanium. The 100 billion (B) pop cans made annually in the US contain about 1% magnesium in each of the can tops and bottoms.

The US is the world's third largest steel maker. In 2014, steel output was valued at $113 B. Magnesium is a key additive for the desulfurization of iron. This process produces steel having a higher tensile strength that makes thinner, lighter automotive steel, far stronger construction steel, and a much more wear-resistant steel for drilling deep oil and gas wells. Hot metal desulfurization with magnesium has proven to be the optimum solution for sulfur control during steelmaking. Magnesia Bricks (>90% Mg0) are heat resistant and therefore used in many industrial processes including basic open-hearth furnaces for steelmaking, electric furnaces, rotary cement kilns, heating furnaces, glass furnaces and hyperthermia tunnel kilns.

The automobile industry continues to make use of magnesium alloys as a strategic lightweight material to reduce the weight in vehicles to help reach the environmental guidelines. Because of the relatively higher cost of magnesium, the main sectors of the auto market segments using magnesium have been luxury vehicles, sports cars and high-end sport utility vehicles (SUVs). However, China, with its massive auto market, is experiencing increases in specific consumption of magnesium per vehicle as manufacturers seek

to comply with government-imposed emission reduction targets. Some typical applications of magnesium alloys in cars include steering hanger beam, wheels, cylinder head cover, intake manifold, steering wheel, tailgate inner door panel, transmission case, seat frame and inner door frame.

COMMERCIAL MAGNESIUM COMPOUNDS IN THE US

There are two leading magnesium compounds in the United States 'Apparent Consumption' magnesium market. In descending order of importance, they are magnesia (MgO) and magnesium hydroxide ($Mg(OH)_2$). There are three forms of magnesia: caustic-calcined magnesia, dead-burned magnesia, and fused magnesia.

The leading commercial magnesium compound was caustic-calcined magnesia, which is used, in descending order by volume, in the chemical industry, as agricultural supplements and environmental applications. Domestic apparent consumption of caustic-calcined magnesia increased by 11%; shipments in 2015 increased slightly from those in 2014, and imports for consumption increased by 21%.

The second-leading commercial magnesium compound was dead-burned magnesia, which is used for refractory products, in descending order of volume, by the steel, cement, and glass industries. US apparent consumption of dead-burned magnesia in 2015 decreased by 10%; production decreased by 19% from that in 2014, shipments decreased by 11%, imports for consumption increased by 8%, and exports increased by 19%. The decreased production of dead-burned magnesia was attributed to increased imports of magnesia from China and to decreased demand for refractory products.

The third-leading commercial magnesium compound was magnesium hydroxide, which is used for, in descending order of volume, environmental applications, chemicals, and flame retardants. Apparent consumption of magnesium hydroxide in 2015 was essentially unchanged from that in 2014; domestic shipments decreased slightly from those in 2014, exports decreased by 9%, and imports decreased by 4%.

1.2.3.2 Projected Project Benefits

The RRIMM Project will provide direct local employment (though short-term), as well as indirect contracts to various service providers. The Project will also serve to inform opportunities for future mining beyond the two-year mine plan currently proposed. It is anticipated that the proposed RRIMM Project will require approximately 12 permanent W.H.Y. Resources employees covering the professional responsibilities such as project management, accounting/payroll, legal support, human resources, logistical support, environmental monitoring, health and safety, engineering, and geology.

Given the seasonal operating period and short-term duration all additional positions outside of the management and administration roles will be contracted. Mining operations will be contracted to BC based mining contractor specializing in the construction, operation, and closure of projects of this nature. It is anticipated that the selected contractor will require a staff of approximately 18 individuals comprised of supervisors, trades people, miners/drillers, equipment operators and a pool of labourers.

W.H.Y. Resources will also contract with a BC based company specializing in transportation. The selected contractor will be responsible for transporting the crushed ore off-site to a third-party processing facility. It is estimated they will require a fleet of approximately nine 30 tonne trucks licensed for use on public

highways. The servicing of the fleet will be the responsibility of the contractor with those operating costs covered within that contract.

In addition, contracted services will be required to support mine operations in order to keep the RRIMM Project supplied with fuel, explosives, garbage removal and other miscellaneous services which will be sourced from nearby communities such as Trail and/or Rossland. It is difficult to project tax revenue for the proposed RRIMM Project as the processing will be completed in a different jurisdiction. There will however be revenues collected by the British Columbia government in the form of royalties for tonnages mined. These royalties will be calculated and collected in accordance with the *BC Mines Act*.

1.2.4 Location, Access and Land Use

1.2.4.1 Location and Access

The proposed RRIMM Project is an intermediate-advanced stage magnesium exploration project covering 8,972 hectares. It is located in the Lower Columbia/Old Glory Area B Kootenay Region, BC, Canada, 7.5 km west-southwest of the City of Rossland, 5.5 km north of the Canada-US International Border, and approximately 400 km east of Vancouver, BC (Figure 1.2.1). The RRIMM Project area is centered at approximately 49°02’29” N Latitude and 117°53’44” W Longitude (UTM coordinates 434,550 E and 5,432,430 N; NAD 83, Zone 11). The property is located on Canadian National Topographic System (NTS) Mapsheet 082F/04, or British Columbia Geographic System Terrain and Resource Inventory Management (TRIM) Mapsheet 82F001.

The area is readily accessible by 2WD vehicles during summer months with SUV or truck recommended during spring, fall, and winter months. Access from Rossland, BC, follows Provincial Highway 3B 1.5 km west, then proceeds along Highway 22 west for 0.4 km, and then turns right onto the Old Rossland-Cascade Highway. Follow this provincially maintained gravel road for 10.5 km to W.H.Y. Resource’s drill road access on the north side of the highway. The drill road climbs a 10% grade for about 200 m to the area of the southernmost drill sites. A network of four-wheel drive drill roads in good condition accesses the remainder of the exploration area. Drive time from Rossland is approximately 20 minutes to complete the 10.5 km route.

The City of Rossland lies approximately 22.5 km north of the US-Canada border via Highway 22. Trail, on the Columbia River, is approximately 9 km downhill from Rossland and is serviced by the Canadian Pacific (CP) Railway. This rail system routes directly to Calgary, Alberta or Vancouver, BC, and ties southward into the Burlington Northern Santa Fe (BNSF) Railway system near Cranbrook, BC, approximately 150 km to the east. The BNSF railway services the north and northwestern United States.

1.2.4.2 Mining Tenure

W.H.Y. Resources retains 100% of the mineral rights to the property of the RRIMM Project. The property consists of 29 contiguous mineral claims covering 8,972 ha as of August 31, 2018 (Table 1.2.3, and Figure 1.2.2). W.H.Y. Resources also has land holdings consisting of eight Crown Granted claims and one private tenure with surface and mineral rights (9 titles), totaling 86 ha (Table 1.2.4).

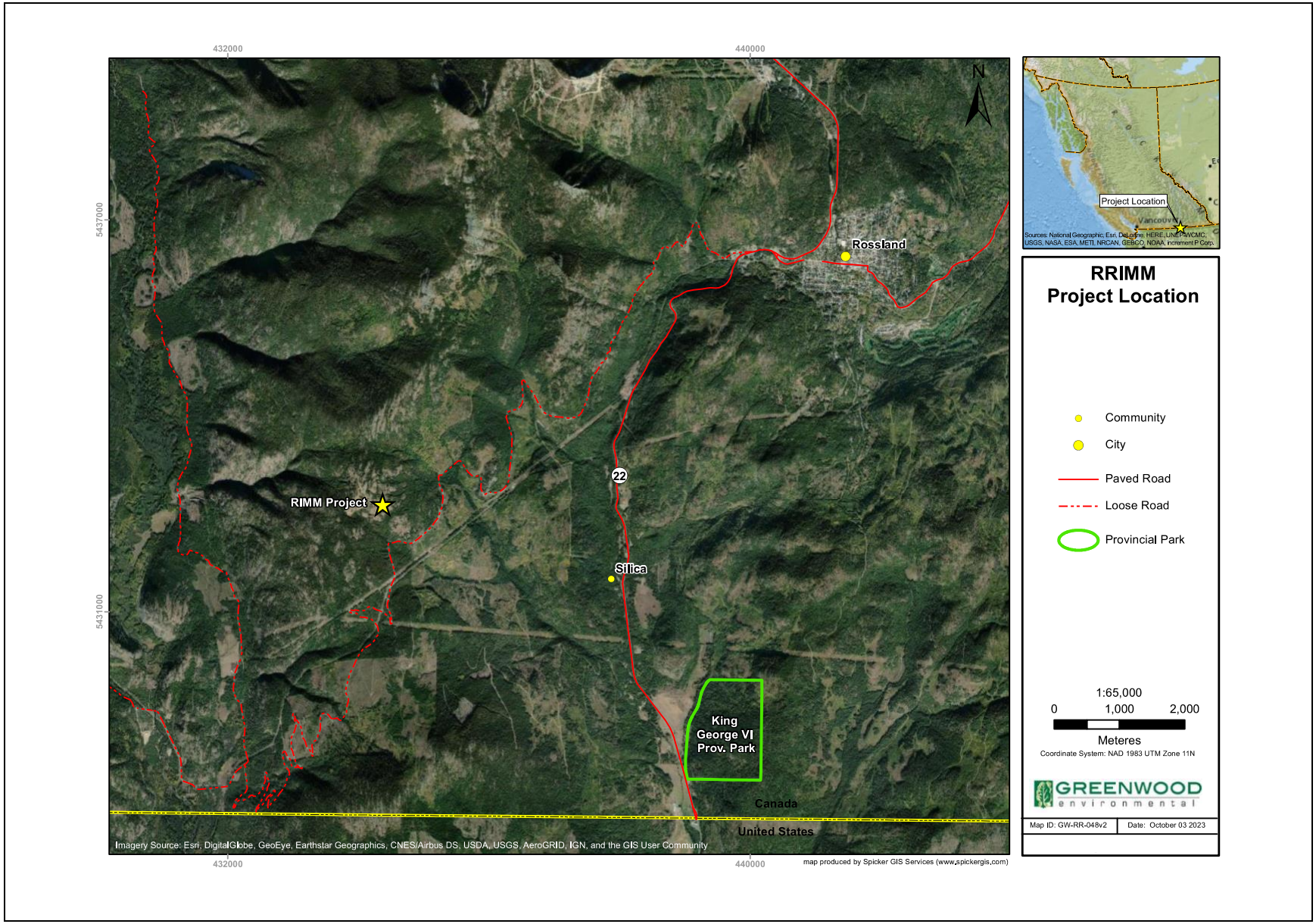

Figure 1.2.1: RRIMM Project Location

Table 1.2.3: W.H.Y. Resources Mineral Claims

Title Number	Claim Name	Issue Date	Good To Date	Status	Area (ha)
513010	RAM3	2005/MAY/19	2029/JAN/29	GOOD	528.87
513018	FRANK SR 2	2005/MAY/19	2029/JAN/29	GOOD	529.11
513757	HIDDEN VALLEY	2005/JUN/01	2029/JAN/29	GOOD	190.63
513788	HIDDEN VALLEY 2	2005/JUN/02	2029/JAN/29	GOOD	211.79
513794	HIDDEN VALLEY 3	2005/JUN/02	2029/JAN/29	GOOD	127.06
514607	FRANK SR3	2005/JUN/16	2029/JAN/29	GOOD	317.59
517620		2005/JUL/13	2029/JAN/29	GOOD	211.70
517622	FRANK SR3	2005/JUL/13	2029/JAN/29	GOOD	232.76
518969		2005/AUG/12	2029/JAN/29	GOOD	359.62
518970	RAM	2005/AUG/12	2029/JAN/29	GOOD	63.49
518971	RAMFRAC	2005/AUG/12	2029/JAN/29	GOOD	105.78
529246		2006/MAR/02	2029/JAN/29	GOOD	21.15
529441	WHITE BUFFALO	2006/MAR/05	2029/JAN/29	GOOD	254.14
574472	ROSSLAND 1	2008/JAN/25	2029/JAN/29	GOOD	528.65
574473	ROSSLAND 2	2008/JAN/25	2029/JAN/29	GOOD	528.58
580083	WEST HIGH YIELD RESOURCES	2008/APR/01	2029/JAN/29	GOOD	507.03
580084	WEST HIGH YIELD RESOURCES	2008/APR/01	2029/JAN/29	GOOD	528.44
580085	WEST HIGH YIELD RESOURCES	2008/APR/01	2029/JAN/29	GOOD	528.27
580087	WEST HIGH YIELD RESOURCES	2008/APR/01	2029/JAN/29	GOOD	359.31
847539	THE RIDGE	2011/FEB/26	2029/JAN/29	GOOD	381.18
1000746		2012/JUN/25	2029/JAN/29	GOOD	508.38
1020435	SUPER RIDGE	2013/JUN/21	2029/JAN/29	GOOD	402.32
1023877	SUPER RIDGE II	2013/NOV/18	2029/JAN/29	GOOD	465.68
1033138	WHY 1	2015/JAN/05	2029/JAN/29	GOOD	21.18
1044723	MALDIE	2016/JUN/13	2027/DEC/27	GOOD	127.13
1045540	MALDIE EAST	2016/JUL/24	2029/JAN/29	GOOD	169.51
1048034		2016/NOV/24	2029/JAN/29	GOOD	84.73
1050093	SILICA	2017/FEB/17	2029/JAN/29	GOOD	402.28
1052499	MALDE EAST	2017/JUN/12	2029/JAN/29	GOOD	275.38
29 Tenures					8971.69

Source: British Columbia Government, 2018

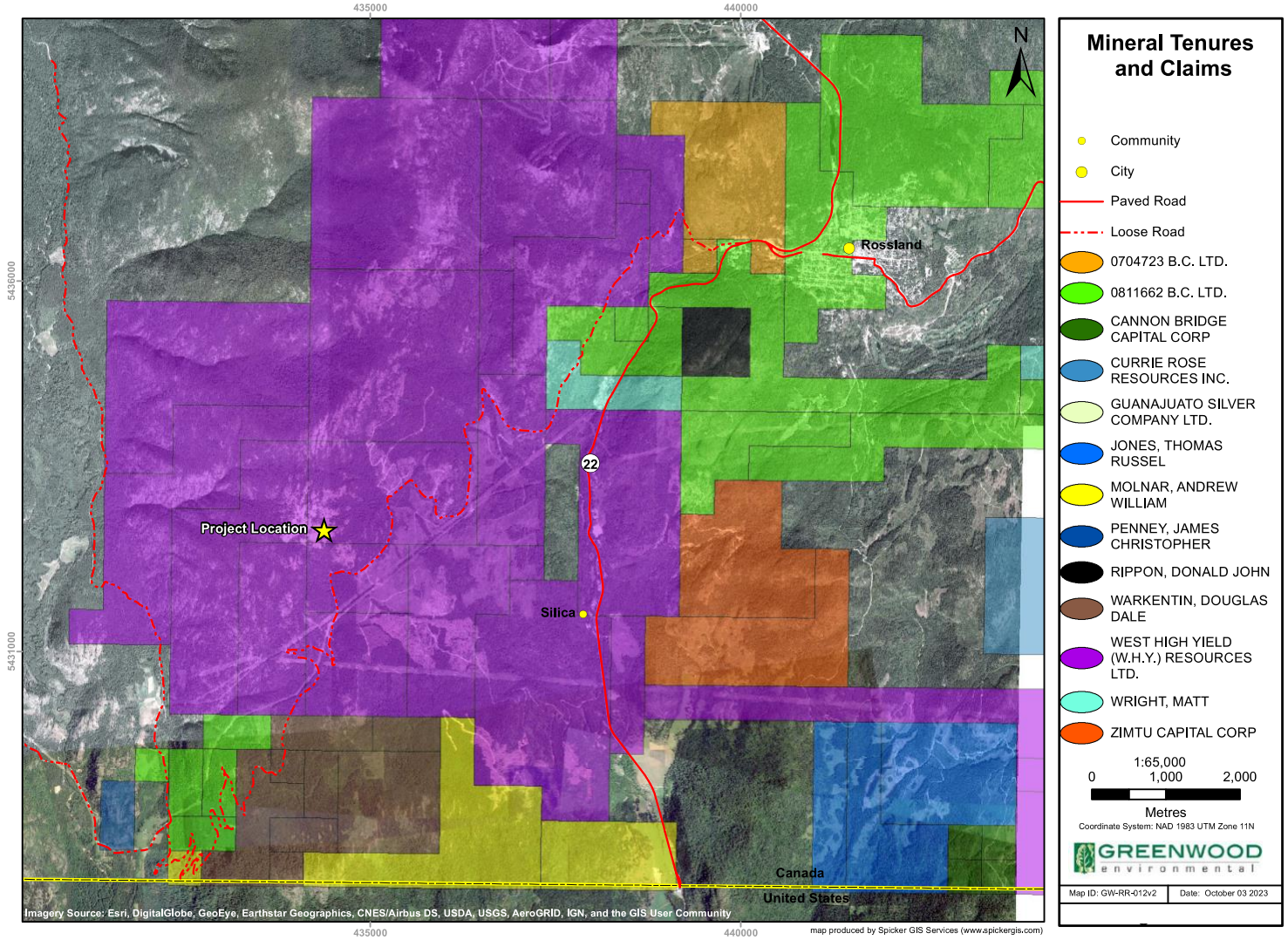

Figure 1.2.2: Mineral Tenures and Claims

Table 1.22.4: W.H.Y. Resources Crown Granted Lands and Private Titles

Name	Lot	Crown Grant #	Title ID	Area (ha)	WHY Equity (%)
Midnight	1186	87-70	1134921	17.66	100
June	1216	156-86	N.A.	17.40	100
Golden Butterfly	1217	200-90	N.A.	17.40	100
Golden Butterfly Fr.	1943	237-90	N.A.	4.57	100
Little Dalles	1215	278-87	KV110354	2.73	100
OK Fraction	2675	274-90	N.A.	0.49	100
OK	678	60-68	KV112056	12.85	51
IXL	679	68-68	KV112053	7.85	100
Sub Lot 82 (Midnight)	Plan S82	87-80	KV112055	4.98	51
9 Titles				85.93	

Source: West High Yield (W.H.Y.) Resources Ltd

The known magnesium mineralization of the RRIMM Project is located within two of the mineral claims. The northern portion of the identified mineralization is located within tenure #514607 (Frank SR), which covers approximately 318 ha. The southern portion of the mineralization is located on claim #513794 (Hidden Valley 3), which covers 127 ha. These tenures are also shown in Figure 1.2.2. Infrastructure for the proposed RRIMM Project is located on mineral tenures controlled by W.H.Y. Resources.

1.2.4.3 Physiography

Physiography of the property is gentle to moderately steep and controlled by the underlying geology. The RRIMM Project is located along the southeast facing slopes of the northeast trending Record Ridge. Record Ridge separates Big Sheep valley and creek on the west from the Little Sheep valley and creek to the east.

Topography of the regional area is characterized by steep hills and broad valleys, with elevations ranging from 1,023 m in Rossland to 1,720 m at the mountain summits within the RRIMM Project. Hills and ridges are drained by gentle to deeply incised creeks and valleys. The ground surface of elevated areas is covered by residual soil and bedrock outcrops are relatively plentiful. In the valley areas, glacial and alluvial gravel fill is relatively deep and bedrock outcrop is limited to stream banks.

Vegetation is typical of the northern Rocky Mountains; locally varying between dense forest and open grass covered areas. Coniferous trees include fir, spruce and tamarack on north and east facing slopes; whereas ponderosa and lodgepole pine grow more in the open south and west facing slopes. Various brush species and poplar (deciduous trees) are common along streams and riverbanks.

1.2.4.4 Land Use

The historic mining city of Rossland is located in the Monashee Mountain at an elevation of 1,023 m in the West Kootenay region of BC. In 1890, two prospectors started a gold rush when they staked the Le Roi claim. Soon other important discoveries were made, including the Center Star, War Eagle, and Joise mines. Production records indicate that the Rossland Camp produced approximately 9.9 million grams of Gold; 15.3 million grams of Silver and 6.2 million kilograms of Copper between 1896 and 1982, making the Rossland Camp the second largest source of lode gold in BC. By the turn of the nineteenth century,

Rossland was one of the largest cities in western Canada and a smelter was built in the valley below at Trail to service the mines. In 1906, the mines and smelter were amalgamated to form Cominco, which was subsequently bought out by Teck. By the 1940's, the heyday of gold mining at Rossland was over but the Cominco smelter remained active.

Today, Rossland is in an area with active forestry and outdoor recreation, including multi-season skiing, hiking and mountain biking sports. The Dewdney, Record Ridge and Seven Summits hiking and mountain bike trails are located in proximity to the proposed RRIMM Project. Red Mountain Ski resort is located to the north of Rossland and the RRIMM Project area. King George VI Provincial Park, hosting no facilities, is the closest provincial park located approximately five (5) km southeast of the Project near the US border.

In terms of forestry interests, there are two nearby cut blocks held by Kalesnikoff Lumber Co. Ltd and Wood Products Ltd. and 10 parcels of managed forest lands, including overlapping parcels owned by Selkirk Forest Mountain Ltd. and proximal parcels owned by Copper Creek Cedar Ltd.

Trapping and resident hunting occur in the area. One trapline (TR409T001) overlaps with the RRIMM Project area, having a primary focus on harvest of beaver, marten, and weasel, with a low rate of recorded harvest (Dialectic Research Services 2018). One guide, Barry Brandow of Granby Guide & Outfitters, has operated in an area 10 km west of the Project for nearly 40 years.

Land uses and tenures of the area in, and around, Rossland reveal the area's balance between reliance on resource development (such as mining and forestry) while making lands available for public enjoyment, such as outdoor recreation, among locals and visitors alike. Local residents take advantage of the local recreational opportunities and welcome tourists from across BC, Alberta and Washington State year-round, as well as for several key annual events, some of whose activities overlap with the RRIMM Project area (Dialectic Research Services 2018).

1.2.5 MINE COMPONENTS AND OFF-SITE INFRASTRUCTURE

1.2.5.1 Overview

This section provides a description of the key on-site facilities of the proposed RRIMM Project, including the open pit, waste rock storage facility, sediment ponds and diversion ditches, soil stockpile, associated support facilities, mine access and mine haulage roads, and additional ancillary facilities. Off-site facilities include power supply and distribution, highways, and processing facility.

Figure 1.2.3 illustrates the key mine components. These components include surface infrastructure to support the use of explosives to extract ore, i.e., powder magazine and access road. Note that the use of explosives to extract ore is a secondary option, intended to augment mechanical methods in case the latter prove to be inefficient for the operation.

There are no underground workings, on-site processing plant, tailings storage facility, or low-grade ore stockpile for this industrial mineral mine development.

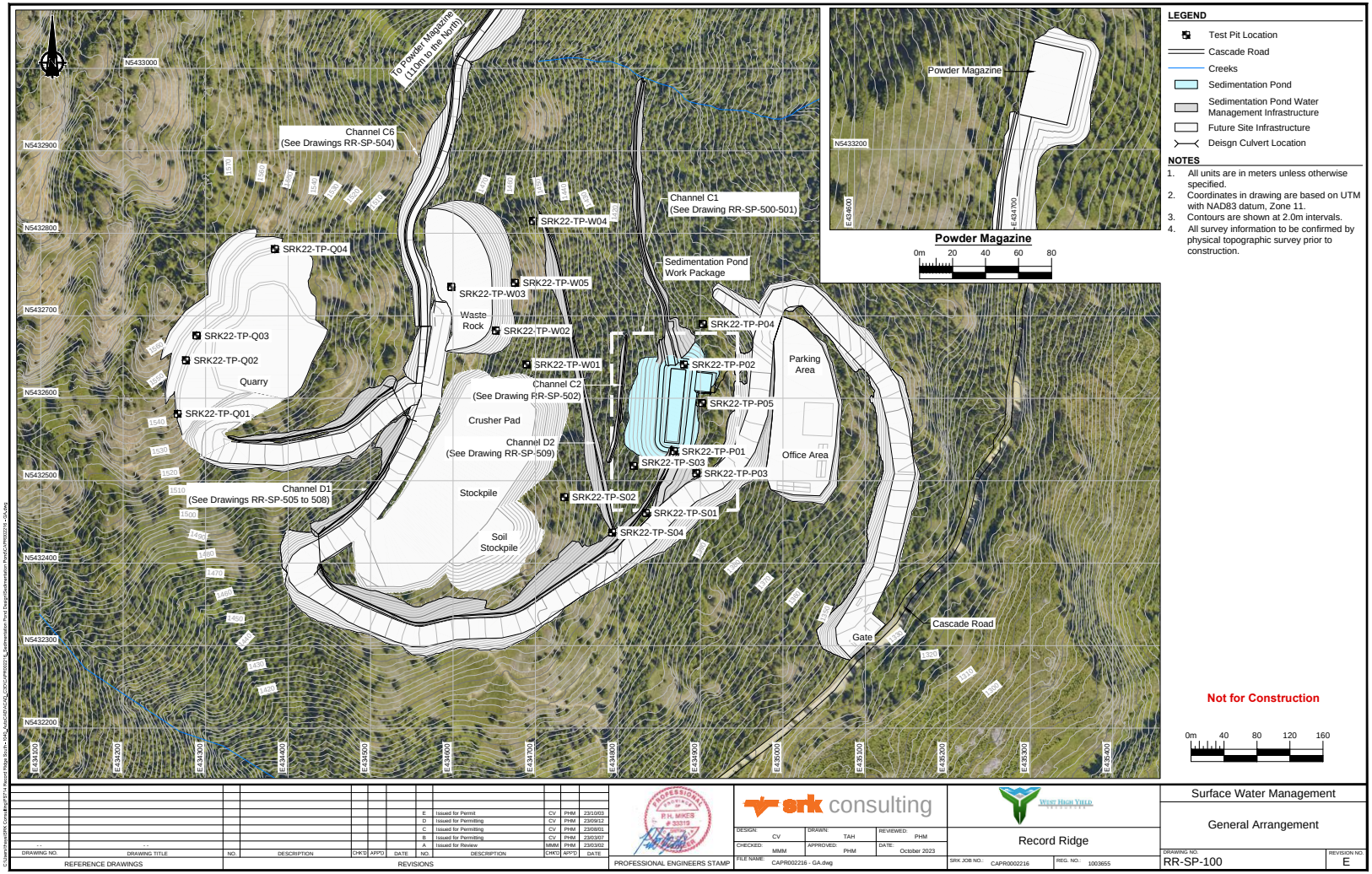

Figure 1.2.3: Key Mine Components

1.2.5.2 Open Pit

The two-year open pit is designed targeting near-surface magnesium bearing material known as serpentinite. The open pit area consists of undeveloped, bare land with no previous development, mining or milling history. Pit walls are designed to have low heights for long term geotechnical stability, with 6 m benches which will be double benched.

A mobile rock crushing unit will be mobilized to and used on-site. Run of mine feed will be crushed and screened to an appropriate size for haulage to an off-site processing plant. Crushed rock will be hauled to a process facility in the USA (or overseas) for magnesium extraction and recovery testing.

1.2.5.3 Waste Rock Storage Facilty

It is expected that the mine will generate approximately 320,380 tonnes of waste rock over the 2-year life of the project; of which, 281,780 tonnes is to be used in the construction of the crusher pad, and 38,600 tonnes is to be stored in the waste rock storage facility. The waste rock storage facility will be located north of the crusher pad. It will be a level dump head, developing the dump as a side-hill fill, down topography which has an existing slope of approximately 15°. The dump is designed to a maximum height of 35 m and has a face angle of 35° to 44°, which is the anticipated angle of repose. When production is completed, waste rock will be back-filled into the open pit.

1.2.5.4 Site Water Management Facilities

Water management infrastructure is designed to maximize diversion of clean water around the components of the RRIMM Project, while ensuring capture of contact water throughout the site. This will be accomplished with diversion ditches and one site sedimentation pond.

A local sump will be constructed into the hillside near the toe of the waste rock storage facility. Toe seepage and runoff will be directed to the site sedimentation pond via diversion channels constructed along the toe. Seepage from the ore stockpile will be collected in a local sump and pumped or flow by gravity in a pipe to the site sedimentation pond.

Runoff from the open pit, haul roads, and other developed areas will be collected in channels and directed to the site sedimentation pond where suspended sediment will be removed.

1.2.5.5 Ore and Low-Grade Ore Stockpiles

It will be necessary to create an ore stockpile pad large enough to allow for a run of mine stockpile, a crusher, and a crushed product ore stockpile. Ore from the crushed stockpile will be loaded on to highway trucks for transport off site. All topsoil stripped during the construction of this pad will be stockpiled for future site reclamation.

There will be no low-grade ore stockpile.

1.2.5.6 Overburden and Soil Stockpiles

The open pit, waste rock storage facility, and the footprint of the haul road and pads will be cleared of vegetation and topsoil stripped and stockpiled for future site reclamation activities. The soil stockpile will be located between the crusher pad and the sedimentation pond.

1.2.5.7 Access and Mine Site Roads

An access haul road will be constructed to connect the Old Rossland-Cascade Highway with the main haul road leaving the Project site. The same road will connect to the open pit, crusher pad, waste rock storage facility, and the site office pad. The main haul road is designed with a maximum grade of 10% and a width of 25 m, which includes vehicle running width, a safety berm and drainage ditch that complies with the *Health, Safety and Reclamation Code for Mines in British Columbia* (referred to hereafter as 'the Code') haul road design guidelines (Ministry of Energy and Mines 2022).

1.2.5.8 Power Supply and Distribution

The RRIMM Project area is traversed by electrical transmission lines leading from Rossland westward. These lines are well positioned and do not need to be moved to accommodate the proposed RRIMM Project. Power requirements for this proposed RRIMM Project will be sourced from nearby electrical lines, with generator back up.

1.2.5.9 Ancillary Buildings and Other Infrastructure

Additional on-site infrastructure will include a crusher pad and a number of temporary buildings. A pad will be cleared adjacent to the site entrance, near the office building facilities, which will include mobile office and dry buildings as well as the equipment maintenance pad and equipment parking area. The site entrance will have an access gate and security building.

1.2.6 Mine Development and Operations

The mine design provides two years of Mg-rich product material at a rate no greater than 200,000 tonnes per year. The mine development sequence includes a three-month construction period, which includes construction of site access haul roads, a sedimentation pond, and pads, as well as stockpiling topsoil from the project disturbed areas and mobilization of the required project equipment. The production phase of the project includes two years of mining no greater than 200,000 tonnes per year of mineralized material, which will be delivered to the crusher pad and crushed before being hauled off-site. During the two years of production, operations will be conducted for six to eight months (Apr/May to Oct/Nov); i.e., non-winter months. Throughout operations, water in contact with the mine will be collected in a sump. This water will be transferred to the site sedimentation pond for analysis to ensure it is protective of the environment prior to release to the receiving environment.

All contact water will be collected and diverted to the site sedimentation pond to allow for the settlement of suspended sediments. All discharges of contact water will be within the Sophia Creek drainage and done in accordance with authorizations issued under the BC *Environmental Management Act*.

1.2.7 REGULATORY FRAMEWORK

1.2.7.1 Required Permits / Authorizations

The RRIMM Project is an industrial mineral mine with production capacity no greater than 200,000 tonnes per year; therefore, it does not trigger the provincial and federal environmental assessment process and will not require an Environmental Assessment Certificate. A *Mines Act* (MA) and *Environmental Management Act* (EMA) effluent discharge permit are required for construction and operations of the project. W.H.Y. Resources submits this Joint Permit Application, with supporting documents, for review.

1.2.7.2 Potentially Applicable Statutory Requirements

Regulatory consultation will take place to determine all licenses, permits, and/or authorizations required for the RRIMM Project. Table 1.2.6 outlines provincial statutory requirements that may be applicable to the RRIMM Project development and/or operation and will be updated throughout the consultation process.

Federal legislation and regulations that may apply to the RRIMM Project include:

- *Explosives Act* (1985)
- *Fisheries Act* (1985)
- *Migratory Birds Convention Act* (1994)
- *Species at Risk Act* (2002)

Table 1.2.3: Anticipated Provincial Licenses, Permits, and Authorizations

Regulator Agency	Provincial Legislation	Licenses, Permits, and Authorizations
BC Ministry of Energy, Mines, and Petroleum Services	*Mines Act* (1996)	*Mines Act* Permits to construct, operate, close and decommission, and reclaim a mine.
		Explosives Storage and Use Permit
	Mineral Tenure Act (1996)	Mining Lease
	Mining Right of Way Act (1996)	Mining Right of Way Permit
BC Ministry of Environment & Climate Change Strategy	*Environmental Management Act* (2003)	Liquid Effluent Discharge Permit
		Air Emissions Discharge Permit
		Hazardous Waste Registration
		Fuel Storage Registration
BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development	*Land Act* (1996)	License of Occupation and Statutory Right-of-Way
		Temporary Use / Work Permits
		Investigative Use Permit
	Forest Act (1996) *Forest and Range Practices Act* (2002)	Occupant License to Cut
		Special Use / Road Use Permit
		License of Occupation and Statutory Right-of-Way
	Water Sustainability Act (2014)	Section 11 Notification
		Section 11 Approval or Authorization for Changes in and about a stream
		Section 9 and 10 Approval, Water Use License
	Wildlife Act (1996)	Animal Salvage

Regulator Agency	Provincial Legislation	Licenses, Permits, and Authorizations
	Integrated Pest Management Act (2003)	Noxious Weed Control Permit
	Wildfire Act (2004)	Burning authorization
	Heritage Conservation Act (1996)	Heritage Inspection Permit
BC Ministry of Transportation and Infrastructure	*Industrial Roads Act* (1996)	Industrial Access Permit
	Transportation Act (2004)	Controlled Access Permit
	Transportation Act (2004)	Utility Permit
	Motor Vehicle Act (1996)	Approval for oversized loads or bulk haul
BC Safety Authority	*Safety Standards Act* (2003)–- Electrical Satefy Regulation	Permit to connect a Powerline
BC Ministry of Health	*Drinking Water Protection Act* (2001)	Potable water

1.3 ENGAGEMENT AND CONSULTATION

As part of the Joint Permit Application process, the provincial government must meaningfully consult on any decision that may affect an Indigenous group's treaty rights or asserted or established Aboriginal rights and title and may delegate certain aspects of the consultation procedure to the proponent. W.H.Y. Resources acknowledges the importance of early and continuous engagement and is committed to carrying out the Project in a manner that is socially and environmentally responsible. We aim to develop and maintain good relationships based on trust with neighbouring communities and Indigenous groups whose interest might be affected by the Project.

1.3.1 APPROACH

W.H.Y. Resources adheres to the definition of Indigenous Peoples as outlined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). W.H.Y Resources understands engagement is about sharing information, listening to, and respecting concerns raised, and looking for ways to address them. It is our desire to develop long term mutually beneficial relationships with the communities where we operate through early, open, honest, and regular meaningful engagement with representatives of Indigenous groups whose interests might be affected by our project.

The main purpose of W.H.Y. Resources approach to Indigenous consultation is to provide Indigenous communities with project information and seek input for consideration in the development of the Project.

The approach to consultation aims to deliver the following objectives:

a) Inform Indigenous communities about the project and opportunities to provide input: build Indigenous awareness of the Project by providing timely and relevant information pertaining to the Project, the environmental/regulatory review process, and opportunities for Indigenous communities to provide input.

b) Gather Indigenous input, both within and in addition to the Application: assemble information regarding the interests and concerns of each Indigenous community related to the Project.

c) Report Indigenous Input: report out on the issues raised and how they were considered through consultation.

d) Consider and respond to Indigenous Input: refine elements of the Project or develop proposed mitigation measures to address input where possible, subject to technical and financial constraints.

e) Meet regulator's Indigenous consultation requirements for the Application.

W.H.Y. Resources will use a range of mechanisms to communicate, consult and engage with members of Indigenous groups and neighbouring communities, including:

- formal and informal in person or phone meetings, emails and letters
- event presentations or community meetings
- W.H.Y. Resources website, social media, market and media releases.

Full transparency in all interactions and activities with and between W.H.Y Resources and Indigenous groups is of key importance. This includes the provision of clear, factual, and accurate information in an open manner on an ongoing basis. Interactions must always be based on mutual respect, with sufficient opportunities for communities to raise issues, to make suggestions and to voice their concerns and expectations about the Project activities.

1.3.2 ACTIVITIES

Specific engagement and consultation activities include:

- Ensuring Indigenous communities understand the opportunities for consultation.
- Providing timely and meaningful information to all participating Nations.
- Sharing detailed information with respect to proposed Project activities.
- Provide Indigenous communities with sufficient information to allow for meaningful evaluation of the Project.
- Identifying Treaty Rights and overarching interests that could be affected by the Project.
- Collecting information about how Treaty Rights and interests may be affected by the Project.
- Identifying and developing measures to prevent, mitigate, or otherwise address potential effects on Treaty Rights and overarching interests.
- Meet with Indigenous communities to discuss project-specific concerns and proposed mitigation and management plans.
- Responding to feedback received from Indigenous communities in a timely manner.
- Documenting and reporting to regulators the results of consultation with Indigenous communities.

W.H.Y Resources will maintain a record to respond to Indigenous comments and feedback.

2.0 SUMMARY OF BASELINE INFORMATION

The proposed RRIMM Project is located within the Regional District of Kootenay Boundary and within the western portion of the Kootenay Region and the Arrow Boundary Forest District. The area in, and around, the proposed RRIMM Project has been, and continues to be, used by several First Nation groups, including the Syilx/Okanagan, Sinixt, Osoyoos, and Secwepemc/Shuswap people. These uses entail a range of past and current activities, such as fishing, hunting, trapping, and plant harvesting, important for consumption, construction, and cultural purposes.

The RRIMM Project is located in the Lower Columbia/Old Glory Area B Kootenay Region, BC, west of, and high above, Highway 22 in the Rossland Range of the Monashee Mountains, a subrange of the Columbia Mountains. It is situated mainly within the Sophia Creek drainage, a tributary to Little Sheep Creek approximately 7.5 km southwest of Rossland, and approximately 5.5 km north of the Washington border. Little Sheep Creek flows in a southern direction into the United States, where it joins the Columbia River. Just at the western boundary of the RRIMM Project area is the Big Sheep Creek drainage, which also flows in a southerly direction into the United States, where it joins the Columbia River.

The RRIMM Project is located on Crown land, with a variety of overlapping tenures. There are a dozen diverse types of land tenures and uses that are either overlapping, or proximal to, the RRIMM Project. Two large-scale utility infrastructures intersect the area, including a transmission and pipeline. Proximal to the RRIMM Project, and along the transportation route, are private properties with homes and buildings. The popular Red Mountain Ski Resort is approximately 21.5 km by road northeast of the Project. Several mineral tenures or leases exist around the RRIMM Project with recent, low value technical work, and no current development plans. Active forest management occurs nearby, including recent cut blocks in the area. No parks or protected areas overlap the area, the closest of which is King George VI Provincial Park, located approximately 5 km southeast near the US border.

The RRIMM Project falls within the area covered in the Kootenay-Boundary Land Use Plan (KBLUP; BC MFLNRO 1995). These lands are divided into three categories based on their ability to accommodate industrial activities, of which the RRIMM Project overlaps with one, the Integrated Resource Management Zone; designated as an area with low to moderate sensitivity to resource development (BC MFLNRO 1995). It is also situated in the area included in the Arrow Resource Management Zones (RMZ), in particular, Area N501 which has a low rating for biodiversity emphasis.

Most of the area in, and in the vicinity of, the RRIMM Project is comprised of lower elevation forested land of the Interior Cedar – Hemlock (ICH) biogeoclimatic ecosystem classification (BEC) zone. Upper elevations are primarily drier Engelmann Spruce Subalpine Fir (ESSF) forests with bedrock outcrops. ICH has an interior, continental climate dominated by easterly moving air masses that produce cool wet winters and warm dry summers. This is one of the wettest zones in the BC interior. High snow melt in the ICH contributes to the hydrologic regime, minimizing summer soil moisture deficits. ICH is the most productive forest zone in the BC interior, and second in all of Canada. Upland coniferous forests dominate the landscape and the ICH has the highest diversity of tree species of any zone in BC. Western redcedar and western hemlock dominate mature forests, but several other species are included in the mix.

Majority of the area in the vicinity of the RRIMM Project is comprised of mature conifer forests, with some areas having been previously harvested and are now young regenerating forests. Tree species primarily include western redcedar, Douglas fir, western hemlock, lodgepole pine, grand fir, western white pine, western larch, ponderosa pine, paper birch, and trembling aspen. Subalpine fir and hybrid white spruce are found in the upper elevations, with outcrops of bedrock exposure. Grasslands presumed to be influenced by serpentine geology occurring throughout the Project area, majority of which is in the ESSF moist hot BEC zone.

As part of the development of the Permit Application, detailed baseline data collection programs were initiated in 2016. These programs cover the regional area as well as the specific project area and characterize the biophysical and biological environments of the proposed RRIMM Project (e.g., climate, geology, surface/groundwater quality/quantity, aquatic sediment quality, terrestrial [vegetation, wildlife], fisheries, aquatics etc.). Baseline studies focused on all terrestrial/aquatic aspects (including Heritage Resources) have been completed and sampling locations coordinated amongst surface and groundwater quality, sediment quality, and fisheries and aquatic resources. Baseline information gathered was used to evaluate the RRIMM project interactions with each respective subject matter and assessed for potential effects, mitigation, and residual effects as a result of the project.

3.0 SUMMARY OF RECLAMATION AND CLOSURE

Under the BC *Mines Act* and Health, Safety, and Reclamation Code for Mines in BC, the primary objective of the closure and reclamation plan will be to return areas disturbed by mining operations to acceptable land use and capability.

The reclamation plan incorporates current practices to return the landscape to similar slopes and structure with revegetation practices and prescriptions that facilitate pioneering vegetation communities and establishment of natural successional trajectories. End land use and capability objectives are based on pre-development site conditions and include target eco-sites to support wildlife habitat, recreation, and forest harvesting end land uses and capabilities. The post-closure landscape will reflect current conditions with ecosystems and habitats reflecting a mix of forested land, grassland, and exposed rock.

Given the small scale of this proposed project, it will not produce any large waste dumps, large open pits or tailings management facilities that would typically require landform engineering to meet the closure objectives. The closure activities proposed herein integrate the principals of landform engineering and are all designed to eliminate or limit erosion through the construction of engineered slopes and accepted revegetation practices.

Most areas in the mine site will be returned to their original contours by replacing cut-fill overburden and soil, except for the open pit. The waste rock will be backhauled to the open pit and placed against the pit wall and floor. The floor of the open pit will be sloped so that water does not collect in the bottom. Stockpiled soil will be placed on disturbed areas which will be revegetated to prevent erosion and support the end land use objectives.

Annual reclamation monitoring will be conducted as required by conditions of the *Mines Act* permit, including submission of the Annual Reclamation Report to the BC Ministry of Energy, Mines and Low

Carbon Innovation (EMLI) by March 31 of the following year. Reclamation monitoring completed by a qualified professional will include: quantitative and qualitative assessments of successful seed germination, growth/health of all planted stock, a photo-point monitoring program, and an evaluation of trace element content within restored vegetation. The program will be conducted annually for four years following reclamation to confirm establishment of natural succession and pioneering vegetation communities.

4.0 SUMMARY OF MODELLING, MITIGATION, AND DISCHARGES

Water within the RRIMM Project area will be managed according to established best management practices, including provisions for diverting clean water around the Project area and to capture and manage contact water in appropriately designed channels, sumps, and sedimentation pond. Water management for the Project includes storm water management, assessment of water quality and potential implications for the downstream aquatic environment, as well as proposed water quality mitigation methods, safe discharge practices, and proposed discharge quality limits.

The main water management infrastructure for the RRIMM Project consists of channels for collecting contact water and for diverting clean runoff around the Project site, a sedimentation pond and a discharge system via land application.

Mine contact water is runoff and seepage flowing from:

- Waste rock and soil stockpile area
- Crusher and ore stockpile area
- Open pit
- Access roads and office area.

Seepage and runoff from the waste rock area, crusher/ore stockpile pad and runoff from the open pit are expected to be the primary sources of water quality parameter loadings to the mine contact water. Throughout operations, water in contact with the mine will be collected in a sump. This water will be transferred to the site sedimentation pond for analysis to ensure it is protective of the environment prior to release to the receiving environment. All contact water will be collected and diverted to the site sedimentation pond to allow for the settlement of suspended solids.

A water quality model developed for the RRIMM Project was used to estimate loading sources, evaluate the quality of contact water on the Project site and assess potential effects on the downstream receiving environment. The water quality assessment conducted for the RRIMM Project concluded that the quality of water collected in the sedimentation pond can be released to the environment following treatment for total suspended solids (TSS) and residuals from use of explosives. Treatment of water reporting to the sedimentation pond was designed to mitigate these parameters of potential concern. Suspended solids that consist of particles with diameters less than 10 µm will be removed by adding ferric chloride coagulant and flocculant to the settling pond influent water. This will allow for settling of TSS and also mitigate discharge water quality.

The sedimentation pond was designed in accordance with BC Provincial guidelines for sizing sedimentation ponds (BC MOE 2015). All structures will be designed to withstand a minimum of a 1 in 200-year storm event and will be sized to capture particles with a diameter equal to or less than 10 µm in a 1 in 10-year, 24-hour storm event.

Under a scenario where blasting is required, land application of discharge from the sedimentation pond is another mitigation measure intended to reduce loadings of explosive residuals (ammonia, nitrite and nitrate) that could report to the aquatic environment downstream of the Project. This involves an irrigation system that pumps water collected in the sedimentation pond to a series of sprinklers that will irrigate the uppermost vegetated catchments of the Project area.

5.0 SUMMARY OF ENVIRONMENTAL ASSESSMENT PREDICTIONS

The purpose of completing the environmental assessment is to consider project-environmental interactions and evaluate the potential changes to select environmental and social values that may result from the Project. Key conclusions of predicted effects, including pertinent rationale, are summarized, below, specific to:

- Groundwater quantity/quality,
- surface water quantity/quality, and
- aquatic/fish/terrestrial (vegetation, wildlife) resources.

Groundwater Quantity/Quality

- Effects of the project on local and regional groundwater flows are expected to be minimal, and effects on groundwater quality are expected to be insignificant as discharge water from the sedimentation pond will meet requirements of authorization under the BC *Environmental Management Act*.
- The mine is designed to be free draining at closure and will not act as a groundwater infiltration point. During operation, water will discharge into the open pit but groundwater inflow to the pit will be limited due to the small size of the up-gradient catchment and due to the position of the mine near the top of the ridge. Groundwater discharging to the open pit will be collected in a sump along with any surface runoff within the pit area. The sump will overflow into the contact water collection channels, which will convey it to the lined sedimentation pond. The sedimentation pond liner will prevent infiltration of the contact water into the groundwater system.

Surface Water Quantity/Quality

- Effects on surface water flows (i.e., Sophia Creek) are expected to be minimal or negligible. The developed mine areas that report to the sedimentation pond is approximately 18 ha. This area corresponds to about 8% of the total catchment area for station SOP3 (226 ha), and about 2.5% of the total catchment area for station SOP2 (738 ha), which are the nearest receiving water monitoring stations (Figure 1.2.4). Most of the contact water collected will be returned to the upper catchment of Sofia Creek via the land application discharge system and is therefore not lost from the local catchment. However, during dry conditions it is possible that most of the contact water collected will be used for

dust suppression on site or along the Cascade Highway. Groundwater discharge to the open pit is expected to be the greatest source of contact water during dry conditions. Although some of that groundwater would eventually have reported to Sofia Creek, the overall reduction in streamflow at stations SOP3 and SOP2 is expected to be less than the proportion of catchment area affected (i.e., less than 8% and 2.5% change, respectively).

Aquatic Resources

- Concentrations of ammonia, nitrite and nitrate are predicted to periodically exceed BC long-term average (LTA) guidelines for protection of aquatic life in the aquatic receiving environment (Sophia Creek), based on conservative water quality modeling assumptions. However, effects on fish populations, periphyton and invertebrate communities, and amphibians, are predicted to be negligible given the short-term and intermittent nature of the operation.
- Ammonia, nitrite, and nitrate concentrations are expected to be mitigated in the sedimentation pond during flocculant treatment of TSS prior to any discharge through the diversion channel or via big gun irrigation sprayers (if necessary).

Fisheries Resources

- Predicted changes to Sophia Creek surface flow (water quantity) and stream temperature associated with the filling and discharge of effluent from the sedimentation pond are expected to be negligible, thus are not anticipated to result in any adverse effects to the Rainbow Trout (*Oncorhynchus mykiss*) population that occupy reaches approximately 2.7 kilometers downstream from the point of discharge.

Terrestrial Resources (Vegetation/Wildlife)

Key conclusions of predicted effects on vegetation and wildlife resources are as follows:

- Up to 24.5 ha of vegetated ecological communities (i.e., 2% of vegetated ecological communities in the Regional Study Area; RSA) will be removed during construction and will remain unvegetated until revegetation establishes during closure and post-closure of the Project. The incremental temporary loss of vegetated habitat is anticipated to result in negligible to low magnitude, short-term, and reversible effects to wildlife and wildlife habitat and are not considered substantiative residual effects on wildlife and wildlife habitat.
- One at-risk species, mountain holly fern (*Polystichum scopulinum*), a species that is provincially red-listed and federally listed as Threatened on Schedule 1 of the Species a Risk Act (SARA) and Threated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC; BC CDC 2023), was identified at three locations in the vegetation resources LSA. Protective mitigations as part the vegetation management commitments will avoid where possible or minimize effects to this species.
- One red-listed graminoid grassland (Gg) community, Idaho fescue – bluebunch wheatgrass – silky lupine – junegrass, occurs in up to 5.5 ha of the Surface Footprint (i.e., 10% of its occurrence in the RSA). Post operation reclamation will focus on reclaiming this impacted grassland community.

- No wetland or old forest ecological communities occur in the Local Study Area (LSA); therefore, these ecosystems of management concern are not predicted to be impacted (loss or edge effects) from the Project infrastructure or activities.
- Sensory disturbances and mortality effects for wildlife are anticipated to be negligible to low magnitude, short-term, and reversible effects, as are the potential cumulative effects.

6.0 SUMMARY OF ENVIRONMENTAL MONITORING

The RRIMM Project as proposed will discharge mine contact water to the receiving environment; i.e., Sophia Creek. Mine site and receiving environment monitoring is a key component of the overall environmental management for the Project. Monitoring will include the aquatic receiving environment as well as groundwater. For the former, a comprehensive Aquatic Effects Monitoring Program (AEMP) is proposed that includes surface water chemistry, sediment chemistry, bioassays, and biological monitoring of periphyton, benthic invertebrates and fish.

The discharge system for the RRIMM Project will be dependent on the ore extraction scenario used. The primary scenario will be through mechanical ore extraction where water collected by the sedimentation pond will be discharged to Sophia Creek via a diversion channel. If blasting (scenario 2) is deemed required, an irrigation system will pump water collected in the sedimentation pond to a series of sprinklers that will irrigate the uppermost vegetated catchments of the project area. Flow of mine contact water will be monitored on an ongoing basis by a mechanical flow meter installed on the discharge pipe in proximity to the discharge pump. Mine contact water quality samples for on-site analysis will be collected daily from the settling pond and analyzed for ammonia, nitrite and TSS/turbidity since these parameters are most likely to approach the proposed discharge standards. Water quality samples for off-site laboratory analysis will be collected weekly. In addition to mine contact water sampling and monitoring, groundwater and surface water samples will be collected for off-site laboratory analysis as part of the receiving environment monitoring program.

Receiving environment monitoring will be conducted at surface and groundwater monitoring stations downstream of the land application area. These stations will be monitored weekly. Increasing trends in water quality parameter concentrations at those stations that point to a potential concern for the receiving water quality would trigger implementation of additional water quality mitigations measures.

An Aquatic Effects Monitoring Program (AEMP) will be implemented to enable detection of potential ecologically-relevant effects on aquatic life and other relevant water uses prior to effects occurring. The results of the AEMP will be used as a feedback mechanism to determine the effectiveness of management practices in mitigating potential effects on water uses, and to determine if additional management actions are warranted to prevent or address potential impacts. An annual AEMP report will be produced for each calendar year of construction and operations.

7.0 SUMMARY OF HEALTH AND SAFETY

Employee health and safety on mine sites in BC is regulated under the *Mines Act* through the Health, Safety and Reclamation Code for Mines in BC.

The *Mines Act* requires the manager of a mine to develop and implement a written Health and Safety Program applicable to each department, and to establish a joint management-worker occupational health and safety committee to conduct regular inspections, participate in the investigation of accidents [and dangerous occurrences], address employee health and safety concerns, and review the Health and Safety Program.

The Occupational Health and Safety Plan (OHSP) aims to protect employees and all other persons from undue risks to their health and safety arising out of, or in connection with, activities of the mine. The plan addresses the management objectives, applicable legislation and guidelines, controls, monitoring, and roles and responsibilities that will be implemented as practicable to avoid and minimize the risk of occupational health and safety hazards at the Project's workplace. This is a conceptual plan and will be updated as needed to reflect input from the construction contractor to include additional details relating to occupational health and safety measures, inspections, reporting, documentation, and details of continual improvement initiatives.

8.0 SUMMARY OF MANAGEMENT PLANS

Key mine management plans developed to support construction and operations of the RRIMM Project describe protection measures implemented on-site to avoid or reduce potential adverse effects and address environmental, operational and health and safety issues. The plans reflect site-specific operational management and monitoring requirements. Mine management plans are considered living documents and will be kept up to date, reviewed routinely, and be made available at the mine site at all times.

Mine management plans are developed in accordance with industry best management practices (BMP) and standards, applicable regulations, and include both general and site-specific environmental, operational and health and safety protection measures. Contractors completing work on the RRIMM Project may be required to develop site-specific management or environmental work plans in addition to the plans described here. These mine management plans described in the submitted Permit Application will guide and supplement any required site-specific management plans and apply to all person involved with the development of the RRIMM Project.

Mine management plans developed in support of the Permit Application (as guided by the provincial joint application guidance document) are listed below:

- Mine Emergency Response Plan
- Occupation Health and Safety Plan
- Environmental Management Plan
- Construction Management Plan
- Surface Erosion Prevention and Sediment Control Plan
- Fuel Management and Spill Control Plan
- Waste (Refuse) Management Plan
- Safe Discharge Plan
- ML/ARD Characterization and Management Plan

- Traffic Management Plan
- Chemicals and Materials Storage and Handling Plan
- Vegetation Management Plan
- Wildlife Management Plan
- Archaeological Management and Impact Mitigation Plan
- Fugitive Dust Management Plan
- Noise Abatement Plan
- Asbestos and Fibrous Minerals Management Plan

The list of management plans form the basis of how W.H.Y. Resources intends to implement a range of on-site management and monitoring measures throughout the life of the Project. These measures demonstrate how W.H.Y. Resources will proactively detect issues prior to occurrence as well as avoid or minimize to an acceptable level the potential adverse environmental and social effects during all phases of the Project as described in the Application. Some of these management plans have been generated based on feedback received from the public during community meetings. These include (but are not limited to):

- The **Safe Discharge Plan** aims to control total suspended solids (TSS) in the influent, as it enters the proposed sedimentation pond, to remove TSS prior to discharge. The removal of TSS will prevent ammonia and nitrite from exceeding effluent /provincial water quality guidelines.
- The **Wildlife Management Plan** aims to minimize the risk to wildlife (e.g., wildlife-human interactions, reduce/avoid wildlife mortality risk, minimize/avoid effects on wildlife habitat etc.) with particular emphasis on focal species and species at risk.
- The **Asbestos and Fibrous Mineral Management Plan** aims to meet the conditions of W.H.Y Resources' Mineral and Coal Exploration Activities and Reclamation Permit Number MX-5-460. The purpose of the plan is to detail adequate engineering controls to avoid inhalation of fibrous minerals and manage potential exposure to meet the requirements of the latest revision of "Safe Work Practices for Handling Asbestos" published by Work Safe BC in 2017 and outline an airborne asbestos exposure monitoring program for the workers. The Plan also supports operations of the proposed mine.
- The **Fugitive Dust Management Plan** details mitigation and management measures planned to limit the emission of fugitive dust and other airborne pollutants from all areas of the operation including the mining, crushing, loading, and hauling. Fugitive dust emissions from hauling ore along the unpaved haul road and from materials handling are estimated to be the primary fugitive dust management concern. Strategies for minimizing emissions and fugitive dust that could be considered detrimental to the surrounding region are driven by the application of best management practices (BMPs), designed to accommodate varying site conditions while maintaining appropriate standards for protection of environmentally sensitive areas.
- The **Noise Abatement Plan** details mitigation and management measures for noise-related adverse effects from mining activities. The plan defines mitigation measures to control noise effects from the mine and identify noise criteria that would trigger further potential contingency and adaptive measures, if exceeded. The Noise Abatement Plan focuses on limiting the area of effects from project noise sources to best adhere to the guidance from the Environmental Code of Practice for Metal Mines (Environment Canada 2009), applying to construction and operations phases of the mine.

The management plans will be updated on an as-and-when needed basis given the short duration of the project.

Summary Adaptive Management Approach

W.H.Y. Resources is committed to operating the Project in a safe and environmentally-responsible manner. Change is continual; therefore, an adaptive management approach is essential. As part of a continual improvement process, the management plans herein will be revised periodically to accommodate new and amended legislation, evolving industry standards, emerging community concerns, changes to the Project's design or schedule, or necessary changes to mitigations and management based on monitoring results. By taking an adaptive management approach, rigorous plans can be developed early, based on the best available information, and prior to detailed Project engineering and construction. After the completion of detailed engineering design, these plans can be adjusted, as needed, and monitoring implemented to measure whether the actions in the management plans are working as intended.

Summary of Precautionary Approach

The precautionary approach is the idea that that lack of certainty regarding a threat of environmental harm should not be used as a rationalization for not acting to avoid that threat. This approach also acknowledges that delaying action until there is compelling evidence of harm will often lead to actions that are too costly or impossible to avoid the threat. The use of the precautionary approach promotes action to avoid risks of serious or irreversible harm to the environment.

W.H.Y. Resources will integrate the precautionary approach throughout the design, construction, operation and closure of the Project. This approach forms the basis for Project design criteria, the effects assessment volumes of the Application, consideration of mitigation measures, and the management plans/actions.

9.0 CONCLUDING REMARKS

W.H.Y. Resources is fully committed to acting as a socially-responsible steward of the environment throughout the lifetime of the Project. To this end, the proposed management plans, monitoring requirements, adaptive management, and precautionary approach will be integrated into decision making on all aspects of project implementation.

In gathering data to complete the predictive environmental assessment, W.H.Y. Resources has conducted extensive data collection to establish baseline data and, where data were not available, incorporated examples from other similar, established operations. W.H.Y. Resources incorporated and will continue to incorporate information gathered from community members, stakeholders, and the public to achieve the corporate and project goals of the company.

10.0 REFERENCES

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