

**NI 43-101 Technical Report on Resources  
West High Yield Resources Ltd.  
Record Ridge South  
Rossland, British Columbia**

**Prepared for:**

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Detailed Proposed Drilling Budget

## Summary (Item 3)

### Property Description and Location

The Record Ridge South Property (the Project) is an intermediate-advanced stage magnesium exploration project, currently tested by 51 diamond drillholes. It is located approximately 7.5km air west to southwest of the town of Rossland, B.C., Canada, 8km north of the U.S.-Canada border and approximately 400km east of the Vancouver, B.C. The Project mineralization is centered about 49° 02' 33" N. latitude and 117° 53' 22" W longitude (UTM coordinates 5,432,500 N and 434,500 E).

### Ownership

The West High Yield Resources (WHY) claim block consists of 19 contiguous mineral claims covering 6,134ha plus 8 crown granted and one private ownership claims (9 titles) totaling 212ha. The magnesium mineralization of the Project is located within two mineral claims. The northern part is located within claim # 514607 (Frank SR 3) which covers 317.6ha. This claim was originally located by WHY on June 16, 2007 and is in good standing until February 28, 2019. The southern portion of the mineralization is located on claim #513794 (Hidden Valley 3) which covers 127ha. This claim was originally located by WHY on June 2, 2005 and is in good standing until February 28, 2019.

### Geology and Mineralization

The Record Ridge South area is located within the Quesnel Terrain of the Intermontaine Belt. It is comprised of a highly deformed Jurassic (180ma) age volcanic island arc back arc basin complex intruded by Tertiary volcanic and plutonic rocks. The exploration area is underlain primarily by the Record Ridge Ultramafic Body of Paleozoic(?) Age. This unit is bound on the north by the volcanics of the Tertiary Marron Formation, on the east and southeast by the volcanic rocks of the Jurassic Elise Formation and on the west and southwest by the Tertiary age Coryell intrusive suite. Regional metamorphism has reached greenschist facies in the Record Ridge South area.

The Record Ridge ultramafic body constitutes the mineralization hosting the magnesium resource of this report. The body underlies an area of approximately 6.2km<sup>2</sup>, extending from the southern tip of Record Ridge, south to the foot of Mount Sophia and east to Ivanhoe Ridge. The rock type consists of variably serpentized and locally carbonatized ultramafic cumulates. Lithic types include; dunite, pyroxene-bearing dunite, olivine-bearing wehrlite and wehrlite, each type varying simply as a function of the relative proportion of olivine to pyroxene. On fresh surfaces the unit is very fine grained with a black color. It also contains abundant veinlets of light green to bluish serpentine. The unit weathers to a brown color and stands out as open outcrops with a distinctive lack of vegetation in the nearby soils. (Price 2006)

### Exploration

During the 2007 and 2008 field seasons, WHY conducted surface mapping, surface sampling and diamond drilling on the Project. The surface mapping was conducted at a 1:2,500 Scale focused on the ultramafic rocks. Samples were collected from outcrop and analyzed by ICP-AES for 24 elements. A total of 30 sample were collected and analyzed. The results of this work delineated a high mg portion of the ultramafic body located in the east flank of the Project.

The anomalous zone was then drill tested by 51 diamond core drillholes. These were carefully logged and sampled and then tested with 24 element ICP-AES analysis. The exploration work conducted by WHY meets current industry standards. The exploration drilling program was well planned and carried out in a prudent and careful manner. All drill core logging and sampling has been done by trained and professional personnel. WHY has made a concerted effort to ensure good sample quality and has maintained a careful chain of core custody from the drill rig to the assay laboratory.

## Resource Estimation

The Project resource estimation is based on information from 51 diamond core drillholes totaling 6,340m, with 3,874 assays. The drillhole database was compiled and verified by SRK and is determined to be of high quality. A geologic model was constructed based on three general rock groups. Three-dimensional solids were constructed to limit the outer boundary of mineralization and to delineate two internal waste rocks. These solids were used to assigned rock types to the block model. Each model block was then assigned a unique specific gravity based rock type. The model blocks are 15m x 15m x 5m in the x,y,z directions, respectively. All block grade estimates were made using 2.5m down hole composites. An Ordinary Kriging algorithm was employed using a minimum of 5 and a maximum of 15 composites within a search ellipsoid 150m x 150m x 25m in the x,y,z directions respectively.

The results of the resource estimation provided a CIM classified Measured and Indicated Mineral Resource as reported in Table 1 below. The quality of the Project drilling and data is very good and the Mineral Resource was classified mainly according to the general drillhole spacing.

**Table 1: Record Ridge South Mineral Resource Statement**

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

## Conceptual Mining Plan

The Record Ridge South resource area will essentially be a large open pit quarry area that would supply igneous rocks with significantly elevated magnesium levels to an energy-intensive (electricity and natural gas) processing plant to comminute the mineralized rock, leach, dry, separate through electrolysis methods and package the magnesium metal for shipment to domestic and foreign markets. Investigation to date shows that the Record Ridge South Resource could support an open pit mine and magnesium processing facility, which are contingent on the long-term price of magnesium metal, energy prices and reagent prices and capital costs.

## Conclusions and Recommendations

SRK recommends that WHY conduct a three phase drilling program targeting resource expansion and geotechnical data collection, conduct further metallurgical test work and complete a scoping level economic evaluation. The first phase of the drilling program should focus on the unconfined portions of the higher-grade resource located in the northwestern portion of the current drilling, it should also test the undrilled material located between the two zones of known



mineralization and it should provide more geotechnical data for open pit mine design. The second phase of drilling should include several triple wall core holes located in the conceptual pit walls to obtain enough data to support a preliminary pit slope design. The third phase of drilling should focus on the unconfined mineralization in the Ivanhoe South area. The drilling programs could run sequentially or concurrently depending on financing and time line. Based on the results of the variography and geologic modeling, the drillhole spacing can be expanded to 100m separation and still support an indicated resource. Metallurgical test work should focus on optimization of the processes delineated in the preliminary studies, including bond work index determinations, closed cycle test work and reagent consumption predictions, all resulting in a conceptual mill flow sheet.

The scoping level economic evaluation should be initiated at the conclusion of the drilling and the metallurgical test work. The scoping study should include an updated resource estimate incorporating the results of the new drilling, conceptual mining plans, site layout, metallurgical studies and mill plans. This data will form the basis of a preliminary economic model.

# 1 Introduction (Item 4)

## 1.1 Terms of Reference and Purpose of the Report

SRK Consulting (US), Inc. (SRK) has been commissioned by West High Yield Resources Ltd. (WHY) to prepare a Canadian National Instrument 43-101 (NI 43-101) compliant Technical Report on Resources for the Project (the Project), Rossland Mining District, B.C., Canada located near the town of Rossland, B.C. The Project is an intermediate-advanced stage magnesium exploration project that was mapped, surveyed, and drilled by WHY during 2007 and 2008. This document provides a Technical Report on Resources of the Project, prepared according to NI-43-101 guidelines. Form NI 43-101F1 was used as the format for this report. The intent of this Technical Report is to provide the reader with a comprehensive review of the modern exploration activities conducted at the Project, and a current SRK resource estimate based on 3,874 assays from 51 diamond drillholes.

This report is prepared using the industry accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) “Best Practices and Reporting Guidelines” for disclosing mineral exploration information, the Canadian Securities Administrators revised regulations in NI 43-101 (Standards of Disclosure For Mineral Projects) and Companion Policy 43-101CP, and CIM Definition Standards for Mineral Resources and Mineral Reserves (December 11, 2005).

## 1.2 Reliance on Other Experts (Item 5)

The Qualified Persons (QP), Bart Stryhas, has examined the exploration data for the Project provided by WHY, and has relied upon that basic data to support the statements and opinions presented in this Technical Report. In the opinion of the QP, the data is presented in sufficient detail, is credible and verifiable in the field, and it is an accurate representation of the magnesium mineralization at the Project.

It is the opinion of the QP that there are no material gaps in the drilling and assay information for the project. Sufficient information is available to prepare this report, and any statements related to deficiency of information are directed at information, which, in the opinion of the author, is not material to the scope of the report.

The authors have relied upon the work of others to describe the land tenure and land title in British Columbia, referring specifically to Sections 2.1 – Property Location and 2.2 – Mineral Titles. The information contained in these sections was obtained from the following three sources:

1. Claim Map, WHY internal company map reference to data obtained from: Geological Survey of Canada.
2. An Excel spreadsheet provided by WHY listing 24 mineral claim tenure numbers, map numbers.
3. Area size and expiration date; and the British Columbia Mineral Title Web site <http://www.mtonline.gov.bc.ca/mtov/jsp/searchTenures.jsp> used to verify the claim status.

The authors have relied upon the work of others to describe the Royalties, Agreements and Encumbrances in Section 2.4. The information contained in this section was obtained from; WHY.

### **1.2.1 Sources of Information**

Standard professional review procedures were used in the preparation of this report. The QP has reviewed exploration data provided by WHY, conducted a site visit to confirm the drilling and mineralization; and inspected the project site. Nearly the entire project's exploration data is modern, dating from 2007 through 2008 and this data was generated by WHY. Two previous reports are referenced by SRK include the 2006 NI 43-101 compliant "*Technical Report Midnight, Ok, IXL and Adjacent Gold Properties*" and the 2008 "*Diamond Drilling Assessment Report on the Record Ridge South Property*". The exploration drillhole database was provided to SRK by WHY as electronic copies of individual drill logs, original assay certificates, including duplicate check assays, and a drillhole location map generated by a legal surveyor.

### **1.3 Qualifications of Consultants (SRK)**

#### **Bart Stryhas, PhD, CPG**

Dr. Bart Stryhas is responsible for the onsite review of the property, he constructed the geologic and resource model, the QA/QC analysis of the check assay program and provided the final editing for the report. He is responsible for the drillhole database, resource estimation methodology, the resource statement and for quality assurance on all sections of the report. He has visited the property on November 18 and 19, 2008. Dr. Stryhas is a QP as defined by NI 43-101.

#### **Stuart Collins, P.E.**

Mr. Collins authored the conceptual mining plan used to derive open pit mining depths and cut-off grade. He used the block model developed by SRK to test potential open pit mining scenarios with Whittle Pit optimization software.

The authors and SRK are not insiders, associates, or affiliates of WHY. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between WHY and the authors. SRK will be paid a fee for its work in accordance with normal professional consulting practices.

This report includes technical information, which requires subsequent calculations to derive sub-totals, totals, and weighted averages. Such calculations inherently involve a degree of rounding and consequently can introduce a margin of error. Where these rounding errors occur, SRK does not consider them to be material.

#### **1.3.1 Site Visit**

On November 18 and 19, 2008, Dr. Bart Stryhas conducted a site visit of the Project. The first day was a meeting with Sam Marasco, Project Manager, Hun Kim Chief Geologist and Cory Peck Senior geologist all of WHY. Approximately five hours were spent reviewing the project geology, exploration procedures, data collection procedures, QA/QC studies and data base development.

The following day began with additional office discussions followed by a tour of the project area. Dr Stryhas, Hun Kim and Cory Peck traveled to the site access road via sport utility vehicle (SUV). The vehicle was parked at the public highway and the three walked up the access road approximately 1km to the area of exploration drilling. The day was clear but cool, and there was 3-6cm of snow on the ground. Mineralization is located beneath a moderately sloping

hill facing east-southeast. The area is sparsely forested and Dr. Stryhas observed mineralized rock exposures in road cuts and natural outcroppings. The drill pads are clearly visible, with each completed drill collar marked by a heavy wooden stake painted, or flagged brightly with the drillhole identification labeled by black marker and on an aluminum tag. Dr. Stryhas traversed the Project area from the southeast to the northwest to the extent of the drilling and at least 20 existing drill pads were identified in the field.

After visiting the exploration area, the group drove to the core processing and storage facility where they were met by Sam Marasco, Dave and Irene McKinnon. The facility is located on private property owned by WHY about 5km from the exploration area. This site is a historic gold mine located at the end of a dead end drive behind a locked gate. The facility consists of an office trailer, an open shed with a core saw and core racks, and ten locked cargo containers housing WHY's archived core. Mr. Kim and Mr. Peck demonstrated the procedures employed during the core logging. Dave and Irene McKinnon, who had done all core cutting and sampling, demonstrated these procedures. Several examples of the mineralized core were retrieved from a cargo container and inspected in sunlight. Approximately six hours were spent touring the exploration area and core processing facility.

## **2 Property Description and Location (Item 6)**

### **2.1 Property Location**

The Project is located 7.5km air west to southwest of the town of Rossland, B.C., Canada, 8km north of the U.S.-Canada border and approximately 400km east of the Vancouver, B.C. (Figure 2-1). The drive time from Rossland is approximately 20 minutes, to complete the 10.5km route. The Record Ridge South Mineralization is centered about 49° 02' 33" N. latitude and 117° 53' 22" W longitude (UTM coordinates 5,432,500 N and 434,500 E). The property is located in the Canadian Geological Survey Mapsheet 082F.

### **2.2 Mineral Titles**

The WHY claim block consists of 19 contiguous mineral claims covering 6,133.94ha plus eight Crown-granted claims and one private claim with surface and mineral rights(9 titles) totaling 212ha (Figure 2-2). The magnesium mineralization of the Project is located within two mineral claims. The northern portion of the identified mineralization is located within claim # 514607 (Frank SR 3), which covers 317.6ha. This claim was originally located by WHY on June 16, 2007 and is in good standing until February 28, 2018. The southern portion of the mineralization is located on claim #513794 (Hidden Valley 3) which covers 127ha. This claim was originally located by WHY on June 2, 2005, and is in good standing until February 28, 2019. Table 2.2.1 below lists the pertinent data for the 19 mineral tenures and Table 2.2.2 list the same for the 9 crown granted and private titles. These claims are also shown in Figure 2-2 below. In British Columbia mineral claims are now located only by coordinate descriptions on paper registrations. There are no physical markers in the field to mark the claim locations of the WHY claims. WHY must pay an annual assessment fee ranging between CDN\$3.00 to CDN\$8.00/ha depending on the maturity of the claim and file an annual assessment report to maintain the mineral tenures in good standing. Exploration expenditures can be used for PAC credits in lieu of annual assessment to maintain the claims. WHY has currently applied CDN\$1.6million of exploration expenditures toward the claim assessment fees and has paid fees required to maintain the claims for ten years in advance.

**Table 2.2.1: WHY Mineral Claims**

Tenure Number	Tenure Type	Claim Name	Expiration Date	Area(ha)
513010	Mineral	RAM3	2019/Feb/28	528.872
513018	Mineral	FRANK SR 2	2019/Feb/28	529.112
513757	Mineral	HIDDEN VALLEY	2019/Feb/28	190.626
513788	Mineral	HIDDEN VALLEY 2	2019/Feb/28	211.789
513794	Mineral	HIDDEN VALLEY 3	2019/Feb/28	127.057
514607	Mineral	FRANK SR3	2019/Feb/28	317.575
517620	Mineral		2019/Feb/28	211.698
517622	Mineral	FRANK SR3	2019/Feb/28	232.764
518969	Mineral		2019/Feb/28	359.616
518970	Mineral	RAM	2019/Feb/28	63.488
518971	Mineral	RAMFRAC	2019/Feb/28	105.782
529246	Mineral		2019/Feb/28	21.154
529441	Mineral	WHITE BUFFALO	2019/Feb/28	254.141
574472	Mineral	ROSSLAND 1	2018/Jan/25	528.645
574473	Mineral	ROSSLAND 2	2018/Jan/25	528.576
580083	Mineral	WHY	2018/Apr/01	507.034
580084	Mineral	WHY	2018/Apr/01	528.435
580085	Mineral	WHY	2018/Apr/01	528.265
580087	Mineral	WHY	2018/Apr/01	359.307
<b>Total</b>				<b>6,133.94</b>

**Table 2.2.2: WHY Crown Granted 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	KV 112056	12.85	51%**
IXL	679	68-68	KV112053	7.85	100%
Sub Lot 82 (Midnight)	Plan S82	87-80	KV112055	4.98	51%**
<b>9 titles</b>				<b>85.93</b>	

## 2.3 Location of Mineralization

The magnesium-bearing rocks of the Project are located in the headwaters of Sophia Creek and the West Fork of Sophia Creek along the southeast side of Record Ridge. The ridge forms a northeast to southwest trending divide between Big Sheep Creek to the west and Little Sheep Creek to the east. Mineralization tested to date is confined to a serpentinized, ultramafic unit referred to as the Record Ridge Ultramafic Body. All drill tested mineralization and which constitutes the resource estimation of this report is located within the valid mineral claims held by WHY. The magnesium rich units are exposed on the southeast facing slopes of Record Ridge. (Figure 2-3).

Within the claims specific to the Project, there are no historical mine pits, underground workings, mine waste dumps, ore stockpiles or tailings ponds.

## **2.4 Royalties, Agreements and Encumbrances**

The two claims covering the Project are 100% owned by WHY resources. These claims are subject to the same governances as all mineral claims in B.C., Canada, but have no other outstanding royalties, agreements or encumbrances.

## **2.5 Environmental Liabilities and Permitting**

The two claims underlying the Project have no known environmental liabilities. The property consists of undeveloped, bare land with no previous development, mining or milling history.

### **2.5.1 Required Permits and Status**

The exploration work conducted to date on the Project has been completed under a Mines Act Permit MX-5-460 issued by the Ministry of Energy, Mines and Petroleum Resources, Mining and Minerals Division. This permit applies to all requirements of the Mines Act and Health Safety and Reclamation Code for British Columbia.

### **2.5.2 Compliance Evaluation**

There have been two seasons of exploration drilling conducted on the property. The sites used in 2007 were reclaimed and reseeded in the fall of 2007 and those used in 2008 were partially reclaimed during the fall of 2008. The exploration bond for all of the drill sites is still in place. There have been no complaints of noncompliance reported for the work conducted by WHY. Visual inspection by the Dr. Stryhas during the site visit found that the work was completed with great care for the environment, and all drill sites were clean of debris and in good standing.



**Record Ridge South,  
Rosland, British Columbia**

**Record Ridge South Project  
Location Map**

SRK Job No.: 183201

File Name: Figure 2-1.doc

**Source: WHY, 2008**

Date: 02/06/09

Approved: BaS

**Figure: 2-1**







## **3 Accessibility, Climate, Local Resources, Infrastructure and Physiography (Item 7)**

### **3.1 Topography, Elevation and Vegetation**

The topography of the Project area is characterized by steep hills and broad valleys, with elevations ranging from 1,000m in Rosslund to 2,050m at the mountain summits within the claim group. The hills and ridges are drained by gentle to deeply incised creeks and valleys. The ground surface of the 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 the 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. Fir, Spruce and Tamarack trees occur on north and east facing slopes, whereas Ponderosa and Lodgepole Pine grow in more in the open south and west facing slopes. Various brush species and Poplar Trees are common along streams and riverbanks.

### **3.2 Climate and Length of Operating Season**

The area has a northern continental climate strongly influenced by Pacific oceanic airflow from the west. Its longitudinal position provides a diverse four-season climate. Summer minimum temperatures average 10°C, and maximum temperatures of 22°C occur during June through August. In the winter months of December through February, minimum temperatures average -8°C, and maximum temperatures average -2° C. Annual precipitation averages 900mm, approximately two thirds of the moisture occurs as snow during November through March. The operating exploration season begins in early May and continues through early November. (source: Environment Canada)

### **3.3 Physiography**

The physiography of the Project is moderately steep and controlled by the structure of the underlying geology. The exploration area is located along the southeast face of the northeast trending Record Ridge. The ridge separates Big Sheep Creek to the west and Little Sheep Creek to the east by a maximum relief of 1,200m. The average drillhole collar elevation is 1,470m with a minimum of 1,400m and a maximum of 1,550m. The hill slope of the exploration area is 20% to the southeast.

The Project has sufficient sites suitable to accommodate mining roads and mining waste dumps, but not processing facilities. Private lands could be obtained in the nearby areas of Rosslund or Trail to site a processing facility and tailings disposal area.

### **3.4 Access to Property**

The Project is readily accessible by SUV or truck during the field season months. The property is 7.5km air west to southwest from the town of Rosslund. Access from Rosslund follows Provincial Highway 3B for 1.5km west, and then proceeds along highway 22 west for 0.4km and turns right onto the Old Rosslund-Cascade Highway. Follow this gravel road for 8.5km to where the drill site access road takes off to the north. The drill road climbs a 10% grade for about 200m where the drill sites begin. A network of four-wheel drive drill roads in good condition accesses the exploration area.

### **3.5 Surface Rights**

The Crown retains all surface ownership rights to the property, while permitting WHY to explore and develop the site for eventual mining. WHY must follow all environmental strictures pertaining to land degradation, remediation, and reclamation as specified in Federal and British Columbia Provincial laws.

### **3.6 Local Resources and Infrastructure**

The towns of Rossland (population: 3,646) and nearby (5km) Trail (population: 7,575) have abundant local resources (Canada Census Data). Trail has an airstrip with commercial service provided by Pacific Coastal Airline to Vancouver, B.C. and also host charter, private and air ambulance service. Both towns have numerous hotels and restaurants. Rossland is partially a resort community servicing nearby Red Mountain Ski Area and has a blue-collar work force. Trail is mainly a blue-collar community located along the banks of the Columbia River and hosting the Teck-Cominco smelter. The smelter produces lead and zinc from concentrates received from a wide range of sources.

#### **3.6.1 Access Road and Transportation**

The Project is located central to Vancouver, B.C., Calgary, Alberta and Spokane, WA, USA. It is serviced by the Canadian national highway system and by U.S. highways to the south. Road access is excellent from any of these major cities. Trail is serviced by the Canadian Pacific (CP) Railway. This system routes directly to Calgary, Alberta or Vancouver, B.C. The CP railway also ties southward into the Burlington Northern Santa Fe Rail (BNSF) system near Cranbrook, B.C. approximately 150km to the east. The BNSF rail services the north and northwestern United States.

#### **3.6.2 Power Supply**

Abundant hydro electrical power is available in the area. The smelter at Trail is supplied by British Columbia Hydro and sourced from two locations. The Waneta Plant is located 7km downstream on the Columbia River and the Brilliant hydroelectric plant is located 25km upstream near Castlegar, B.C. The two mineral claims covering the magnesium mineralization are both traversed by electrical transmission lines leading from Rossland westward. These lines would not however need to be moved if mining were to occur.

#### **3.6.3 Water Supply**

The area also has an abundant water supply. The region's high precipitation index, feeds numerous surface and underground water sources. Water rights are governed by the "Water Act", which is administered by the Water Stewardship Division of the Ministry of Environment. Both surface and underground water rights are granted on an equal access, first come first serve basis. When a water license is issued, annual water rentals are assessed based on usage.

#### **3.6.4 Port**

The closest port is the Port Metro Vancouver, B.C. (PMV). PMV is the busiest port in Canada, trading US\$75 billion in goods annually. It comprises 600km of waterfront with 28 major marine cargo terminals and 3, Class 1 railroads. The ports deep-sea terminals offer virtually no draft restrictions, and support Super Post-Panamax capacity with extensive on-dock rail facilities.

### **3.6.5 Buildings and Ancillary Facilities**

The exploration project is currently supported by a small drill core processing and storage facility located on private land owned by WHY. This facility includes an office trailer, an open shed with a core saw, core racks and ten locked cargo containers holding the archived core. At this location, there are also two, old mine support buildings, both in dilapidated condition. One appears to have been a compressor and storage building; the other was a small mill building.

### **3.6.6 Tailings Storage Area**

The private land held by WHY does contain a very small historic tailings pond. The pond is about 1ha in surface area located in the Little Sheep Creek Drainage. Medium-sized fish could be seen swimming in it. A tailings storage area required to support milling of the magnesium resource of this report will need to be acquired outside of the current mineral claims held by WHY. The Big Sheep Creek valley located 3km due west of the mineralization could be a location well suited for this facility. In particular, there is a large flat area located at the top of Coral Creek, a tributary of Big Sheep Creek, which may be a large enough for a tailings disposal area. This area is also has an electrical transmission line located 1km to the south of it.

### **3.6.7 Waste Disposal Area**

There are three potential valley fill mine waste disposal areas located within the vicinity of the magnesium mineralization on the Project. Two are on the east side below the Old Rossland-Cascade Highway. The closest of these potential disposal areas is 0.5km due south of the mineralization in the upper West Fork of Sophia Creek. The other is 1km due east, within upper Sophia Creek drainage basin. The third site is located on the west side of Record Ridge 1.5km northwest of the mineralization within the upper and the upper Cransion Creek drainage basin.

### **3.6.8 Manpower**

The towns of Rossland and Trail both have a history of mining and could supply an adequate number of skilled and unskilled workers.

## **4 History (Item 8)**

### **4.1 Ownership**

The two mineral claims covering the magnesium resource of this report have no previous ownership prior to WHY. Other claims within the larger claim block have had previous ownership. These claims are not pertinent to this report and their history of ownership is purposely excluded here.

### **4.2 Past Exploration and Development**

The following information has been modified slightly from Kim and Peck report dated 2008.

The Project is part of a larger claim block historically explored by three previous owners. In 1973, Mineral Resources International Ltd. of Calgary, AB, owned the “Job” claims, located on Ivanhoe Ridge, 2km northwest of Record Ridge. George G. Addie, who was a P.Eng. & P.Geo., was retained by this company to conduct a magnetometer survey in April 1973. The survey was done using the Cascade Highway and adjacent power lines as controls. The survey found anomalous magnetic zones within the property that were linked to the occurrence of magnetite within the ultramafic serpentinite body that lies within the Ivanhoe Ridge area.

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 on behalf of United Canso Oil and Gas, Calgary, AB. A 460ha 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 x 100m grid and magnetic profiling at 10-meter station intervals. This work delineated eleven soil geochemical anomalies and determined that 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. They performed trenching, soil sampling, a magnetometer survey over 16 km, as well as induced polarization and EM surveys over 1 km. A total of 177 samples were taken.

### **4.3 Historic Mineral Resource and Reserve Estimates**

There have been no historical resource or reserve estimates of the magnesium resource at the Project.

### **4.4 Historic Production**

There has been no historical production of the magnesium resource at the Project.

## **5 Geologic Setting (Item 9)**

### **5.1 Regional Geology**

The regional geologic history of eastern British Columbia has occurred over millions of years and is complex; involving both extensional and compressional plate tectonic forces. The oldest rocks were formed in the late Proterozoic (750Ma) when the Rodina supercontinent was torn apart. This event created the western margin of the ancestral North American Craton along present-day Western Alberta. The passive margin existed until mid Devonian (390Ma) resulting in a thick wedge of miogeosynclinal sediments eroded from the Canadian Shield to the east. During the late Devonian, an oceanic trench is believed to have formed along the axis of the sedimentary wedge due to the combined weight of sediments over the oceanic crust and a change to the convergence plate boundary. This newly formed convergent boundary created a magmatic island arc and associated back arc basin along the western edge of the North American Craton not far from its margin, throughout the Mississippian (355ma). Over the next 150 million years, numerous spreading centers and subduction related island arcs formed further westward off shore until the Jurassic Period (180ma). At this time, the breakup of Pangea caused the North American Craton to begin moving westward. As this occurred, the craton essentially plowed into the various island arc terrains along the way. This episode was accompanied by a significant amount of crustal shortening forming widespread fold and thrust belts. Numerous island arc terrains and bits of oceanic crust were accreted to the western edge of North America, which can today be delineated by unique geological characteristics. During the Cretaceous Period (115Ma), the exotic Insular superterrain collided with North America deforming all the previously accreted terrains and forming a new series of Tertiary (50Ma) igneous rocks. Considerable extensional tectonism then occurred. This event formed large grabens and detachment basins associated with the development of metamorphic core complexes. At the same time, large-scale Tertiary intrusive complexes were emplaced. Eventually, within southeastern British Columbia, movement changed to a strike-slip system with the oceanic plates moving northward relative to the North American Craton. (Siegel 2005)

Today, the regional geology of British Columbia is subdivided into five major tectonic belts characterized by a unique history and timing of deformation. Arranged from the current Alberta Plains westward, these are referred to as; Foreland, Omineca, Intermontaine, Coast and Insular. The Foreland Belt is characterized by deformation during the late Jurassic and Cretaceous as the exotic terrains were accreted onto the North American Craton. The Omineca Belt is composed mainly of the thick sequence of miogeosynclinal sediments deposited on the western margin of North American during the Paleozoic. The Intermontaine Belt is composed of the exotic island arc terrains formed during the Triassic and Jurassic and accreted during the late Jurassic-Cretaceous. The Coast Belt is a suture zone composed of plutonic and metamorphic rocks formed when the Insular superterrain collided with the North American Carton. The Insular Belt is composed of exotic island arcs formed in the Devonian and accreted to the North American Craton in the Cretaceous.

### **5.2 Local Geology**

The Record Ridge South area is located within the Quesnel Terrain of the Intermontaine Belt. It is comprised of a highly deformed Jurassic (180ma) age volcanic island arc-back arc basin complex intruded by Tertiary volcanic and plutonic rocks. The Record South Ridge Property

exploration area is underlain primarily by the Record Ridge Ultramafic Body of Paleozoic(?) Age (Figures 5-1, 5-2 and 5-3). This unit is bound on the north by the volcanics of the Tertiary Marron Formation, on the east and southeast by the volcanic rocks of the Jurassic Elise Formation and on the west and southwest by the Tertiary age Coryell intrusive suite. Regional metamorphism has reached greenschist facies in the Project area.

### 5.2.1 Local Lithology

The Record Ridge ultramafic body underlies an area of approximately 6.2km<sup>2</sup>. It extends from the southern tip of Record Ridge, south to the foot of Mount Sophia and east to Ivanhoe Ridge. The Record Ridge body comprises variably serpentinized and locally carbonatized ultramafic cumulates. Rock types include dunite, pyroxene-bearing dunite, olivine-bearing wehrlite and wehrlite, each type varying simply as a function of the relative proportion of olivine to pyroxene. Disseminated chrome spinel is present in all the ultramafic rocks. On fresh surfaces the unit is very fine grained with a black color. It also contains abundant veinlets of light green to bluish serpentine. The unit weathers to a brown color and stands out as open outcrops with a distinctive lack of vegetation in the nearby soils. Where observed, the contacts of the ultramafic body are sharp and display varied amounts of fault movement. The lobate nature of its western and southwestern margins, combined with the presence of small isolated ultramafic bodies that are possibly xenoliths or rafts within the Coryell batholith several kilometers to the south suggest an intrusive contact with the batholith. Along its eastern margin, the contact is not exposed, but the presence of fish-scaled serpentine with localized carbonate altered shear zones near the margin of this body indicates a faulted contact. (Price 2006)

The Elise Formation is Jurassic age; composed of metamorphosed volcanic conglomerates, flow breccias, crystal and lapilli tuffs with intercalated siltstone and mudstones. The formation is at least 5,000m thick and is primarily andesitic in composition. The unit is interpreted to represent one of the exotic island arc, back arc basin terrains. (McClaghry and Gaylord 2005)

The Marron Formation consists of Tertiary age, porphyritic and amygdaloidal trachyte and andesite flows and tuffs. Phenocrysts are typically plagioclase, augite or biotite. The unit weathers to grey, dark grey to dark green blocky open outcrops. These rocks are believed and have formed within a terrestrial volcanic arc deposited into grabens formed during the intrusion of the Coryell intrusive. They are up to 2km thick. A whole rock potassium argon date give a 52Ma age (Fyles 1984, McClaghry and Gaylord 2005).

The Coryell Batholith is a Tertiary age, medium to coarse-grained syenite, pink in color. The unit is commonly fractured and deeply weathered. The margins of the batholiths have narrow halos of thermal metamorphism indicating a shallow level of emplacement. The unit has a uranium age date of 52Ma. The batholith is one of several with similar characteristics which occupy a north-south trending belt located slightly westward of a similar belt of Cretaceous intrusives (Logan 2002). These are believed to have formed as a result of crustal thinning associated with Tertiary extensional tectonics.



### 5.2.2 Alteration

The principal alteration associated with the ultramafic rock of this study is serpentinization. This is a metasomatic process involving the hydration of magnesium or iron rich olivine. In the case of Mg rich olivine, the general reaction is:

Foresterite + Aqueous Silica → Serpentine

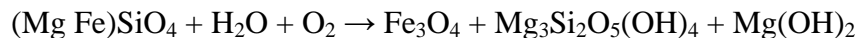


Based on oxygen isotopic studies, Wenner and Taylor (1974) have deduced that serpentinization in Alaska-type ultramafic complexes has occurred from waters of meteoric-hydrothermal origin at relatively shallow levels in the crust. In the this case, the serpentinization of the Record Ridge Ultramafic body may be related to the emplacement of the Coryell Batholith and associated hydrothermal activity. The waters may have been meteoric and the silica would have been readily available in the nearby volcanics or the intrusive itself.

The process of serpentinization has two important characteristics that can affect its level of development. First, the reaction is exothermic, which will help to maintain and prolong the hydrothermal activity. Secondly, the process produces a volume increase of nearly 30% with a resultant decrease in density. This physical condition would require that the host ultramafic must expand by fracturing with minor fault movement. This increases porosity and permeability of the host allowing the alteration to affect a larger percentage of the ultramafic (Mathilde and Sergey 2007).

Depending on the nature of the serpentinization reaction and the scale of the hydrothermal cell, the alteration process can result in a depletion of iron from the original material. In this case the following reaction can occur:

Olivine + Fluid → Magnetite + Serpentine + Brucite



Depending on oxygen fugacity, the magnetite can stay in solution and be transported out of the host ultramafic unit resulting in a relative increase in magnesium (Mg) content (Frost and Beard 2007).

### 5.2.3 Structure

The structural history of the Project area was a result its long history of regional tectonics. The most significant feature has been termed the Rossland Break. This feature is defined by the thrust fault shown in Figure 5-1, located along the eastern boundary of the Record Ridge Ultramafic and extending northeast ward through the historic Rossland Mining Camp (Fyles 1984, Hoy and Dunne 1998). In this general area, the Rossland Break separates two regional, structural fabrics. On the south side of the break, the structural fabrics strike to the northeast. In contrast, on the north side of the break the structural fabrics strike due north. Deformation within the country rocks are reported to intensify in vicinity of the break.

In this study area, only the Elise Formation is located on the southern side of the break. This unit is relatively massive, with abundant primary structures and lacks a pervasive foliation. Bedding strike northeast and dips steeply to the northwest parallel the likely orientation of the nearby thrust fault. Small scale folding has been observed with asymmetrical Z folds plunging southwest. This asymmetry support a tops to the east thrust movement sense.

The units on the north side of the break include the Record Ridge Ultramafic, the Marron volcanics and the Coryell Batholith. The ultramafic has a widely anastomosing fabric defined by zones of serpentinization. The various contacts of this unit with those surrounding, are described as faults of varying degrees. These faults have likely formed as a result of movement along the Rossland Break because of competence contrasts with units of very different structural properties or alternatively, during volume increase associated with serpentinization of the ultramafics. The Marron volcanics are relatively massive, with abundant primary structures and lack a pervasive foliation. Marron volcanics generally strike to the north and dip moderately to the west. The Coryell batholith is massive with no distinctive ductile fabric, but it does have a highly fractured brittle fabric. (Fyles 1984).

The Rossland Break likely represents an original thrust fault formed during the accretion of the exotic terrains and has been reactivated as a normal fault during the extensional tectonics of the tertiary. This condition has been recognized in a number of places throughout the region. This break also forms a noted truncation to the occurrences of Tertiary intrusives and volcanics, as none are found to the east of it.







## 6 Deposit Type (Item 10)

### 6.1 Geological Model

The principal commodity of this report is magnesium hosted within ultramafic rocks. There are three major categories used to classify ultramafic complexes. These include; Alpine, Alaska and Layered Intrusives (Voormeij and Simandl 2004).

Alpine type ultramafic complexes are interpreted to represent obducted ophiolitic suites. These originated as oceanic crust at a spreading center and have distinctively layered characteristics. The basal portion consists of cumulate peridotites, overlain by cumulate gabbros, overlain by plagiogranites, overlain by mafic dike swarms and capped with pillow basalts. As a result of tectonic shortening, they have been emplaced over crystalline basement. The dense nature of the bodies allows relatively intact transport, although complete complexes are rarely found. Serpentinization frequently occurs during deformation and subsequent metamorphism. These bodies commonly have a lens or augen shape bound by ductile fault planes. Due to the compositional layering they also possess distinctive chemical zonation.

Alaska type ultramafic complexes are interpreted to represent mafic-ultramafic intrusives. These are characterized by a crude concentric compositional zonation. Their cores are composed of nearly pure dunite, surrounded by successive wehrlite, clinopyroxenite and hornblende amphibolites. These are believed to have formed as a result of oceanic crustal subduction, resultant melting and magmatic emplacement. Although these complexes are commonly found in highly deformed terrains, they have not necessarily been transported by tectonic processes. The bodies are generally pod shaped and may have been serpentinized to varying degrees during deformation.

Layered Intrusive mafic-ultramafic complexes are typically sill or funnel shaped. These complexes generally form at rift centers within cratons and can be associated with tholeiitic flood basalts. Magmatic crystallization and resultant differentiation forms a distinctive cyclic layering. The basal portion is composed of dunite overlain by harzburgite and topped by orthopyroxene. Generally, these are large bodies with only minor tectonic deformation.

In British Columbia, both Alpine- and Alaska-type ultramafic complexes are found. The generalized geologic setting is depicted in Figure 6-1 below. Well-known examples of Alpine type include the Nahlin, Cache Creek and Shulaps Complexes.

Well known Alaska-type include the; Polaris, Tulameen and Turnagain Complexes. These are all located within Intermontane Belt and specifically within only two terrains, the Stikina and Quesnellia. All have reliable age dates ranging from mid Triassic to early Jurassic and are associated with volcanic island arc rocks of similar age (Nixon et al 1997).

The ultramafic body found at Project is interpreted to represent an Alaska-type ultramafic complex. This ultramafic body is based on the compositional characteristics, general geometry and contact and age relations with surrounding rock types. The primary units of composition of dunite and wehrlite provide good evidence to support this interpretation. The closest, well-documented Alaska-type ultramafic is the Tulameen Complex located 200km to the east. This has been dated as late Triassic-early Jurassic (Nixon et al 1997).



## 7 Mineralization (Item 11)

### 7.1 Type, Character and Distribution of Mineralization

An ultramafic sample collected from the same ultramafic body, but located on Ivanhoe Ridge, 2km northeast of the Project was submitted for an optical mineralogy study. A bulk mineral assemblage and mineral specie study was conducted by SGS Lakefield Research. The sample was examined with an optical microscope and mineral composition was verified with a scanning electron microscopy (SEM) equipped with an energy dispersive X-ray spectrometer (EDS). The sample was composed of various Mg-silicate minerals, sulphides, Fe-Oxides and chromite. The silicate minerals are olivine, serpentine, talc and amphiboles. The sulphides include pentlandite, millerite, and pyrite. A moderate amount of relatively coarse silicate minerals have inclusions of sulphide and/or Fe oxide. The mafic silicate minerals account for ~90% of the sample. The relative abundance is presented in Table 7.1.1. (Kim and Peck 2008)

SGS Lakefield also microprobe tested, freshly preserved olivine without replacement of talc/sericite or serpentine in the ultramafics. Fourteen olivine grains from a polished sections made from a drill core sample at Ivanhoe were analyzed. The modal results are presented in table 7.1.2 (Aparup 2007).

This mineralization is defined in two zones of high magnesium within the ultramafic rocks. The two zones have been intersected by 51 drillholes down to an average depth of 135m below surface and remains open in all directions and at depth. The northwest zone has a tabular shape 280m in diameter with an average thickness of 130m thick. The southeast zone has a tabular shape 325m in diameter with an average thickness of 120m.



**Table 7.1.1: Mineral Assemblage of Mg Ultramafic Sample**

Mineral	% Abundance	Comments
Olivine	50	Olivine is the predominant mineral within this sample forming subhedral to anhedral grains ranging in size from 10-500µm, but the typical grain size is ~200µm. Generally, olivine is variably replaced by serpentine. Particles <200µm are well liberated but the larger gains commonly have inclusions and/or attachments of Fe-Oxides and/or rarer occurrences of sulfides.
Serpentine	50	Serpentine generally occurs as an alteration product of olivine in the coarser particles (>150µm). However finer grains are generally liberated grains.
Talc/Amphiboles	12	Talc and amphibole minerals are strongly associated with each other and the finer particles (<150µm) are commonly occurring as liberated grains. Talc/Amphibole intergrowths are also common in the larger olive/serpentine particles.
Oxides	7	Fe-Oxides (mainly magnetite) and chromite occur as free particles but are also associated with Mg-silicates either as fine (10-50µm) inclusions or attachments.
Carbonates	<1	Carbonates generally occur as liberated grains in a size range of 10-60µm. SEM-EDS revealed that both calcite and dolomite are present within the sample.
Fe-Sulfides	Trace	Fe Sulfides (mainly pyrite) were found in very trace amounts and generally occur as inclusion in the mafic silicates.
Ni Sulfides	Trace	Both pentlandite and millerite were observed in this sample Pentlandite occurs either as 20-50µm inclusions or attachments to the mafic silicates. However liberated grains up to 40µm in size were also observed Millerite was observed as fin inclusions <20µm in mafic, silicates, while larger grains 20-40µm in size are either liberated or locked in mafic silicates. One binary grain of pentlandite and millerite was observed locked within a mafic silicate.

**Table 7.1.2: Modal Microprobe Results of Olivine Grains**

SiO <sub>2</sub> %	TiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	MgO%	CaO%	MnO%	FeO%	NiO%	Total%
41.688	0.002	0.014	0.041	56.276	0.002	0.136	3.009	0.236	99.690

(Detection limit for Cr<sub>2</sub>O<sub>3</sub>: 0.042%)

## **8 Exploration (Item 12)**

### **8.1 Surveys and Investigations**

During the 2007 and 2008 field seasons, WHY conducted surface mapping, surface sampling and diamond drilling on the Project. The surface mapping was conducted at a 1:2,500 Scale focused on the ultramafic rocks. Samples were collected from outcrop and analyzed by ICP-AES for 24 elements. A total of 30 samples were collected and analyzed. The results of this work delineated a high mg portion of the ultramafic body located in the east flank of the Project. The Project resource estimation is based on information from 51 diamond core drillholes totaling 6,340m, with 3,874 assays. These were carefully logged, sampled and tested with 24-or 32-element ICP-AES analysis.

### **8.2 Interpretation**

The exploration work conducted by WHY meets current industry standards. The exploration drilling program is of appropriate type, it was well planned and carried out in a prudent and careful manner. All drill core logging and sampling has been done by trained and professional personnel. WHY has made a concerted effort to ensure good sample quality and has maintained a careful chain of custody and ensured sample security from the drill rig to the assay laboratory.

## 9 Drilling (Item 13)

### 9.1 Type and Extent of Drilling

Drilling at the Project was conducted in two phases. The first was in 2007, the second in 2008. To date, 51 diamond core holes have been completed for a total of 6,340m. The drillholes are arranged on a grid pattern with 50m spacing. They are all oriented vertical and have an average length of 124m

#### 9.1.1 Procedures

A drilling grid was first laid out on by Hango Land Surveyors of Castlegar, B.C. The northing, easting and elevation of each grid point are referenced to the particular site. Once the grid point is chosen for drill testing, it is referenced to back sites and a drill pad is constructed using a tracked excavator. After the pad is completed, the grid point is re-established from the back sites. If the point cannot be re-established at the original location, the amount of offset is recorded. Since all drillholes are oriented vertically, no line up stakes are required.

All drilling was conducted by West Kootenay Drilling a private drilling contractor using a Boyles Brothers Discovery II B20 wire line core drill. Typically, the overburden in the resource area is very thin and only a short section of casing is required. All holes are collared with an NQ diameter bit and generally, they are not reduced. The drilling rig runs 50hrs/week with typical progress of 7m/hour. Down hole survey readings are taken once the hole has been completed. A single reading is typically taken at the bottom of the drillhole using a REFLEX EZ-SHOT™ instrument. Due to the short nature of the drillholes a single deviation reading is adequate. Upon completion of a drillhole, WHY marks the collar with a wooden stake, 1.5m tall and 5cm in diameter. The stake is painted and the hole identification is labeled with a black marker as well as an aluminum tag stapled to the post. There is no hole-abandonment required in British Columbia.

During the drilling operation, the core is retrieved from the core barrel and laid sequentially into wooden core boxes. The core is then washed and interval blocks are placed at all run breaks. Once the box contains approximately 5m of core, the ends and sides are label with drillhole identification, from and to intervals and the sequential box number. The box is then covered with a wooden lid and stacked at the rig to assure that the core is not exposed to any potential contamination or mix-ups. At the end of each drilling shift, the boxes of core are transported by the drilling contractor in a pickup truck to the WHY field office in Rossland. At this point, the core become in custody of WHY.

### 9.2 Results

The drilling has been conducted by a reputable contractor using industry standard techniques and procedures. This work has defined two zones of high magnesium within the ultramafic rocks. The two zones have been intersected by 51 drillholes down to an average depth of 135m below surface and remains open in all directions and at depth. The northwest zone has a tabular shape 280m in diameter with an average thickness of 130m thick. The southeast zone has a tabular shape 325m in diameter with an average thickness of 120m. The drillholes are all oriented vertical and the regional fabric of the ultramafic is interpreted to be about horizontal based on the orientations of the volcanic inclusions. Therefore, the drill intercepts do represent an approximate true thickness of the mineralization.

SRK is of the opinion that the drilling operations were conducted by professionals, the core was handled, logged and sampled in an acceptable manner by professional geologists, and the results are suitable for support of a NI 43-101 compliant resource estimation.

## 10 Sampling Method and Approach (Item 14)

### 10.1 Sample Methods and Chain of Custody

Upon receipt from the drilling contractor, WHY transports the core by pickup truck from their in-town office, to a processing facility located at Midnight Camp, approximately 3km away. The facility is located at the end of dead end road behind a locked gate. Here the core is unloaded and arranged sequentially from top to bottom. It is first logged for lithology and then for geotechnical properties. Geologic and geotechnical logging is done in notebooks with primary emphasis on the lithology of the rocks. The specific gravity of the core samples was measured using a scale and graduated cylinder. Next the rock quality was determined using the Q-system ( $Q = (RQD / J_n) * (J_r / J_a) * (J_w / SRF)$ ), where RQD= Rock quality designation;  $J_n$ = Joint set number;  $J_r$ = Roughness of the most unfavorable joint or discontinuity;  $J_a$ = Degree of alteration or filling along the weakest joint;  $J_w$ = Water inflow; SRF= Stress reduction factor

Sample intervals are then determined and marked on the core and the core boxes. The ultramafic and serpentinite lithologies are sampled at nominal 1.5m intervals, the non-mineralized lithologies are sampled at nominal 2m intervals. The sample intervals are recorded in three places; the logging notebook, the sample booklets and on aluminum tags stapled to each interval on the boxes. After the sample intervals are marked on the core boxes, the core is photographed in natural light, four boxes at a time.

The core is sawed in half by a diamond saw. No cut lines are marked on the core since drilling is generally at a high angle to contacts and lithology is relatively homogenous. Half of the 1.5m cut core is then placed into a pre-labeled plastic bag. The bag also contains a sample identification tag with a blind sample number. Each bag is immediately stapled closed. A master list is maintained which records the drillhole identification and from-to intervals of all sample tags. The remaining half of the core is returned to the box for archive. The archive boxes of half core are then moved to secure, metal freight containers that are located at the facility. The core is sorted by drillhole and sequential box number and a master inventory list is maintained for each storage container.

The individual plastic sample bags containing the core samples are accumulated five at a time, into heavy-duty rice sacks. WHY places the rice bags onto a wooden pallet and then shrink wraps the sides and top of the pallet so that no tampering can occur. A sample transmittal list is compiled at this stage. The pallet and list are then transported by WHY to Westarm Overnight at 1077 Columbia Rd, Castlegar, B.C. Here the samples are secured in a locked garage until Westarm transports them to Assayers Canada in North Vancouver, B.C. by standard transport truck.

### 10.2 Factors Impacting Accuracy of Results

The 2007-2008 drilling program was conducted by professional geologists and drillers who undoubtedly performed to the standards of the mining industry. The core recovery as recorded on the drill logs, shows that nearly all of the mineralized intervals produce 100% core recovery. All of the potentially mineralized material was sampled as well as most of the waste material. Such thorough sampling ensures that both mineralized and un-mineralized material is adequately characterized. With the core recovery and thorough sampling methods, factors impacting accuracy of results are very positive.

### **10.3 Sample Quality**

The core handling, logging and sampling procedures described above combined with perfect core recovery ensure that sample quality of the Record Ridge drilling is excellent. The sample length is appropriate to accurately characterize the mineralization and to distinguish any zones internal to the mineralization, which may have anomalously high or low grades.

### **10.4 Relevant Samples**

The relevant samples are the ultramafic intervals of the diamond core drillholes.

# 11 Sample Preparation, Analyses and Security (Item 15)

## 11.1 Sample Preparation and Assaying Methods

All of the half core samples were delivered to Assayers Canada (AC) for sample preparation and primary analysis. Upon arrival, the samples are unpacked and arranged in order; which are then logged into the system by sample identification number. Each sample bag is emptied into a clean metal sample tray and placed into a drying oven at 60°C for approximately four hours. The samples are then run through a primary jaw crusher and then a secondary cone crusher to produce a product with specifications of 60% less than 10 mesh in size. The sample is then blended and run through a Jones riffle splitter to produce a 250g subsample. The reject material is returned to the original sample bag and archived. The 250g subsample is next run through a ring pulverizer to produce a product with specification of 90% less than 150 mesh. The crushers, splitter and pulverizers are blown clean with an air hose after every sample and the sample preparation room is equipped with a dust collection system. The blind sample tag accompanies the sample at each stage of preparation.

The samples were analyzed by AC using Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES) for a suite of 24 elements. A 0.2g portion of the pulp sample is first placed into a test tube and dissolved using a four acid compound containing nitric-perchloric-hydrofluoric-hydrochloric acids.

A typical atomic absorption spectrometer consists of an appropriate light source (usually a hollow cathode lamp containing the element to be measured), an absorption path (usually a flame, but occasionally an absorption cell), a monochromator (to isolate the light of appropriate wavelength) and a detector. The most common form of atomic absorption spectroscopy is called flame atomic absorption. In this technique, a solution of the element of interest is drawn through a flame in order to generate the element in its atomic form. At the same time, light from a hollow cathode lamp is passed through the flame and atomic absorption occurs. The flame temperature can be varied by using different fuel and oxidant combinations; for example, a hotter flame is required for those elements which resist atomisation by tending to form refractory oxides. (ALS Chemex 2009)

The primary limitation of ICP-AES is that all measurements are made following chemical dissolution of the element of interest. Therefore, the measurement can only be as good as the quality of the sample digestion. A second limitation is that occasionally, interferences from other elements or chemical species can reduce atomisation and depress absorbance, thereby reducing sensitivity. For these reasons, most reputable laboratories (AC included) recommend that ICP-AES not be used for reserve estimations or bankable feasibility studies. There is a contradiction here however with respect to magnesium. Most reputable laboratories also state that ICP-AES is the preferred and most accurate method of analysis for magnesium. At grades in the range of 20 to 25%, the accuracy of a magnesium analysis by ICP-AES is reported to be  $\pm 5\%$ . This accuracy can be improved slightly by a specialty analysis targeting only magnesium at an ore grade concentration (ALS Chemex 2009, personal communication).

In the opinion of the authors, the analytical method used to determine the magnesium content of the Project samples is appropriate to support the current resource estimation.



### 11.1.1 Testing Laboratories

The primarily assay lab was Assayers Canada (AC) located at 8282 Sherbrook St, Vancouver, Canada. AC has received Certificates of Laboratory Proficiency from the Standards Council of Canada for precious and base metal analysis. However, AC is currently not an ISO certified laboratory.

All duplicate check analyses were conducted at ALS Chemex (ALS) located at 212 Brooksbank Ave in North Vancouver Canada. ALS is certified under ISO 90001:2000 for the provision of assay and geochemical services according to QMI Management Systems Registration.

## 11.2 Quality Controls and Quality Assurance

The WHY QA/QC program consisted of two types of duplicate samples, both sent to a referee laboratory for analysis. The first type consists of field duplicates comprised of  $\frac{1}{4}$  core cuts, which were bagged and sent to ALS Chemex for sample preparation and analysis by ICP-AES. WHY submitted 83 intervals of mineralized samples for this type of check analysis. The second type consists of lab duplicates from pulps prepared by Assayer Canada and sent to ALS for check analyses. WHY submitted 37 intervals of mineralized samples for this type of check analysis.

The results of the duplicate check samples showed reasonable correlation between the two laboratories. The  $\frac{1}{4}$  core field duplicates produced an overall positive correlation between the two laboratories with AC reporting magnesium on average, 5.2% higher than ALS (Figure 11-1). The laboratory pulp duplicates produced similar results with a slightly better correlation between the two labs with AC reporting magnesium on average, 3.7% higher than ALS (Figure 11-2). Because WHY did not include any standard reference material with the samples sent to either laboratory it is impossible to determine the precision of the assays. The deviations seen between the two laboratories are at or below the analytical tolerance of the testing equipment and therefore are not material to the resource estimation on this report.

An additional assay check was conducted on a single drillhole completed in 2007 by way of metallurgical test work completed by Met-Solve. In this case, a 5.1m sample was composited from coarse rejects produced by AC. The weight-averaged assay of the composite as reported by AC was 26.1% Mg. Met-Solve blended and milled the sample and then performed head assays on five sample splits for their metallurgical test work. The MetSolve results ranged between 23.2 to 25.0% Mg with an arithmetic average of 24.2% Mg. These results are 7.5% lower than the weight average calculated from the AC data.

Specific gravity QA/QC was also conducted by duplicate checks of core samples. ALS conducted density measurements on 12 samples also tested by WHY. The scatter plot of results shown in Figure 11-3 demonstrates a general trend of agreement between the two determinations.

WHY did not insert any field duplicates, blank samples or standard reference material into the sample stream. Although this has negative impacts on the reliability of the analytical results, it is not considered material to the resource estimation. In all future analysis WHY will need to obtain or generate standard reference material which will need to be inserted at regular intervals of 1 in every 20 samples to provide a referee to the primary analysis and secondary check assays. WHY will also need to obtain coarse blank material which will need to be inserted into the sample stream at a recommended rate of 1 in 20 in all future sample analysis. Additional coarse

duplicate samples should continued to be run and outside check samples should also be continued at a similar frequency of 1 in 20.

### **11.3 Interpretation**

The sampling techniques and analytical procedures employed by WHY are adequate for the current level of study. Core drilling is an excellent method to obtain high quality geologic data and the high core recoveries realized here also produce an excellent sample for analysis. Half core sampling is a standard procedure and WHY has ensured that all samples were tracked by an accountable chain of custody. The ICP-AES analysis is a preferred method of analysis for magnesium producing a  $\pm 5\%$  level of accuracy at the Mg concentrations present. Although Assayer Canada (AC) is not an ISO certified laboratory the check samples run at ALS Chemex produced similar results within the  $\pm 5\%$  level of accuracy expected. The QA/QC procedures employed by WHY are barely adequate for CIM guidelines to resource estimation due to the lack of blank samples and standard reference material being inserted into the sample stream. This aspect of the exploration work will need to be improved in the future.







## **12 Data Verification (Item 16)**

### **12.1 Quality Control Measures and Procedures**

The database used for the resource estimate was constructed by SRK and is considered to be of high quality. The database was constructed in three main divisions; drillhole locations with orientations, lithological characteristics and analytical results. The collar locations and orientations were all copied electronically from the drill logs provided by WHY and entered into an MS Excel<sup>®</sup> spreadsheet. The lithological intervals and types were also copied electronically from MS Word<sup>®</sup> drill logs and pasted into Excel spreadsheets. The descriptive lithologies were all converted to uniform rock names and these were then converted to character rock codes using a script sub-routine. This work resulted in a lithology database with ten rock types. The from-to of all intervals were checked for overlapping intervals and all errors were corrected.

The analytical database was constructed in a two-stage process. First, all of the blind sample numbers and their corresponding drillhole intervals were accumulated from MS Excel<sup>®</sup> files provided by WHY into an Access database table. This was checked for overlapping intervals and any errors were corrected. Next, all of the comma separated variable analytical reports supplied by Canada Assayers were also accumulated into an Access data table. Next a build table query was written to merge each particular drillhole interval with the corresponding analytical results based on each unique sample identification number. This procedure ensures that all sample intervals are reported with the correct analytical results and no typos or mix-ups can occur.

The original signed, .pdf copies of the Assayers Canada certificates were spot verified to the final electronic assay database and no errors were found. Spot verification checks were performed on the final geologic database to compare it to the source information provided by WHY and no errors were found.

### **12.2 Limitations**

The database prepared by SRK relies on the industry professional of information supplied by WHY and from Assayers Canada. SRK has assembled the data with utmost regards to accurate transfer and data entry, but does not take responsibility for the quality of the source data.

## 13 Adjacent Properties (Item 17)

### 13.1 Statement

WHY resources has several exploration areas adjacent to the Project that were drill tested during 2007 and 2008. These are shown below in Figure 13-1. The closest is the West Sophia area located approximately 1km to the southeast. This area was tested by four diamond drillholes in 2007 ranging in length from 44 to 94m. The holes were targeted into the ultramafic rocks however only two of the four intersected the desired unit. One of the two holes within the ultramafic unit encountered a 33m length of magnesium mineralization with an average grade of 24.3%.

The Ivanhoe Ridge area is located 2km northeast of the Project. This area was also drill tested in 2007 with fourteen drillholes ranging in length from 38 to 542m. This drilling also targeted the ultramafic rocks. All six of the drillholes in the southern part of the drilling encountered intervals ranging between 81 to 184m in length that averaged 25.6% Mg. The eight holes drilled in the northern area encountered sporadic intervals ranging between 20 to 190m in length with Mg values in excess of 23%.

The Hidden Valley area is located 2km south of the Project. This area was drill tested in 2007 by six core holes ranging in length from 84 to 313m. Four of these holes encountered intervals ranging from 14 to 94m in length with Mg grades in excess of 23%.

The Midnight Camp area is a historic gold mine located 6km northeast of the Project. This area was drill tested in 2008 by nine NQ core holes totaling 680m. The results of this drilling showed that significant gold mineralization is present within quartz veins and mineralized andesite. Four of the drill holes reported anomalous gold values ranging between 5.4 to 48.4g/t over widths ranging between 0.1 to 1.0m. Six of the holes encountered mine workings and did not reach their intended targets (WHY, 2009). The Midnight Camp area is reported to have produced about 3,315oz of gold from 10,000t of material between 1899 to 1984.





# 14 Mineral Processing and Metallurgical Testing

## (Item 18)

### 14.1 Mineral Processing/Metallurgical Testing Analysis

Mineral processing of magnesium silicate ores typically follows a six-stage treatment program. The raw material is first prepared by crushing and grinding. The fine grind is then subject to leaching by hydrochloric acid to produce magnesium chloride, quartz and water. The magnesium chloride brine is next separated and granulated using potassium chloride to produce an electrolyte slurry called “synthetic carnallite solution”. This is then crystallized, again using potassium chloride, and the resultant crystals of synthetic carnallite hexa hydrate are separated from the mother liquor by thickening and centrifugation. The extracted material is next dehydrated on fluidized bed dryers to produce highly dehydrated carnallite ( $MgCl_2 \cdot KCl$ ). The product is next feed to electrolytic cells where the magnesium chloride is reduced by direct current to magnesium metal and chlorine gas. The magnesium metal is then tapped directly to the casting area for further refinement. (Hatch 2003)

Metallurgical test samples from the Project mineralization consists of two composite both submitted to MetSolve Laboratories Inc. 8515 Eastlake Drive, Burnaby, B.C. The first sample was a 12kg composite derived from coarse reject splits all taken from drillhole RRS07-01. These were located from 24.5m to 29.6m and had a composited assay grade of 26.1% Mg. The second sample was a 200kg composite derived from ¼ core splits taken from various down hole locations within ten drillholes located throughout the southeastern portion of the mineralization. The calculated head grades from two test runs on this composite sample ranged from 25.8 to 27.4% Mg. The metallurgical sample s used for the test work are slightly higher grade than the average deposit grade of 23% Mg.

#### 14.1.1 Procedures

The first composite was subjected to separate sulfuric and hydrochloric acid leaches to determine the magnesium recoveries and corresponding acid consumptions that could be achieved. The sample was ground in a lab-scale rod mill to a nominal size of 56µm at a slurry pulp density of 40 to 50%. The ground samples were subjected to sulfuric acid and hydrochloric acid leach tests at ambient and elevated temperatures. The samples were leached at a pulp density of 10-15 weight% solids for two hours. The sulfuric and hydrochloric acids were added as 95-98% w/w% and 36.5- 38% w/w% respectively, which correspond to typical industrial grades. For these tests, acid was added as required to maintain a pH of 1.0. Subsamples were taken every half hour to monitor the kinetics. Leach tests were also done on the tails from Falcon gravity and float tests. The results of the sulfuric and hydrochloric acids leaches are presented in Tables 14.1.1.1 and 14.1.1.2 respectively. At a pH of 1.0, the response of magnesium leaching was better with sulfuric acid than with hydrochloric acid. Based on the amount of acid used, the sulfuric acid tests had more than double the amount of acid added as compared to the corresponding hydrochloric acid test. Increasing temperature significantly increases magnesium extraction. The highest magnesium recovery occurred from leaching with sulfuric acid at 70°C, test XE109. The leach report shows that the concentration of magnesium rises to 25.6g/L within the first 30 minutes. The acid consumption up to this point was 702kg/t. The slurry was still consuming acid at the end of the test (two hours), so higher magnesium recovery may have been achieved by increasing acid addition and/or increasing leaching time. (Lum 2008a)

**Table 14.1.1.1: Composite 1 Sulfuric Acid Leach Summary**

Date	Test	Feed	Temp (°C)	Solids Wt Loss (%)	Acid used (kg/t)	Leached Mg (%)	Preg [Mg] (g/L)	Leached Ni (%)	Leached Fe (%)
6/12/2008	XE103	Ground head	30-47	19.1%	396	41.8%	16.5	27.8%	32.4%
6/13/2008	XE105	Float tail	24-30	20.2%	397	34.4%	13.4	21.4%	29.6%
6/17/2008	XE107	Falcon tail	24-34	22.5%	458	41.1%	17.0	28.8%	34.8%
6/18/2008	XE109	Ground head	70	46.0%	974	84.5%	44.6	44.2%	62.6%

**Table 14.1.1.2: Composite 1 Hydrochloric Acid Leach Summary**

Date	Test	Feed	Temp (°C)	Solids Wt Loss (%)	Acid used (kg/t)	Leached Mg (%)	Preg [Mg] (g/L)	Leached Ni (%)	Leached Fe (%)
6/12/2008	XE104	Ground head	25-38	9.9%	317	18.5%	6.2	15.9%	13.7%
6/13/2008	XE106	Float tail	19-23	10.8%	389	16.3%	6.6	13.8%	19.1%
6/17/2008	XE108	Falcon tail	22-24	11.7%	367	19.3%	7.4	20.6%	19.4%
6/18/2008	XE110	Ground head	70	21.1%	723	39.4%	17.6	28.4%	26.0%

The second composite was first crushed and blended and then a 10kg split was ground in the rod mill for ten minutes. The particle size distribution of the resultant grind is presented in Table 14.1.1.3 below (Lum 2008b).

**Table 14.1.1.3: Composite 2 Particle Size Distribution of a 10 Minute Rod Grind**

Sieve Size		Weight	
Tyler Mesh	µm	g	%
30	600	164.8	49.34
40	425	26.8	8.02
50	300	23.7	7.10
70	212	17.8	5.33
100	150	15.5	4.64
140	106	13.0	3.89
200	75	9.7	2.90
270	53	10.7	3.20
400	37	7.5	2.25
Undersize	-53	44.5	13.32
<b>Totals</b>		<b>334</b>	<b>100</b>

Representative splits were taken from the grind for acid consumption leach test and kinetics leach test. In this case, only a hydrochloric acid leach was used. A 5% pulp density was tested at 70°C using an initial strength of 37% hydrochloric acid. The leach was allowed to stabilize for 30 minutes at which time the liquor was sampled and hydrochloric acid was added. This procedure was repeated four times to get a profile of Mg leached versus acid added. The results are shown in Table 14.1.1.4 below (Lum 2008b).

**Table 14.1.1.4: Composite 2 Magnesium Recovery versus Hydrochloric Acid Concentration**

HCl Addition (kg)	Mg in Solution (g/L)	Mg Leached (%)
202	2.2	8.7%
600	4.1	16.0%
998	7.0	27.4%
1,396	9.2	35.7%
1,796	16.7	65.2%

For the leaching kinetic tests, 1,814kg/tonne of hydrochloric acid was added in the beginning and samples were drawn from the liquor at various times to calculate recovery as a function of time. The results are shown in Table 14.1.1.5 below (Lum 2008b).

**Table 14.1.1.5: Composite 2 Magnesium Recovery versus Recovery Kinetics**

Time (minutes)	Mg in Solution (g/L)	Mg Leached (%)
-	0.1	0.3%
15	5.2	22.2%
30	8.7	36.9%
60	11.0	46.7%
150	15.4	65.4%
240	18.5	78.6%

## 14.1.2 Results

The metallurgical testing conducted to date on the Project diamond drill composite sample represents the second, and most important, stage of a six stage mineral processing stream. The results of the first phase of test work showed that magnesium recovery in the range of 85% can be achieved from leaching with sulfuric acid at 70°C with a two-hour contact time. The results of the second phase of test work show that magnesium recoveries in the range of 78% can be achieved from leaching with high concentrations of hydrochloric acid at 70°C from a 4-hour contact time. Although the large metallurgical sample used for the second phase of test work was collected from a large sampling of the deposit, it was slightly higher grade than the average deposit grade of 23% Mg. In the future, all metallurgical samples should be aimed at a closer match to the overall deposit grade.

## **15 Mineral Resources Estimates (Item 19)**

### **15.1 Qualified Person of the Mineral Resource Estimate**

Dr. Bart Stryhas constructed the geologic and resource model discussed below. He is responsible for the resource estimation methodology and the resource statement. Dr. Stryhas is independent of the issuer applying all of the tests in Section 1.4 of NI 43-101.

### **15.2 Drillhole Database**

The drillhole database was compiled by SRK and is determined to be of high quality. The database consists of four, Microsoft Excel<sup>®</sup> spreadsheets containing collar locations surveyed in UTM NAD83 coordinates, drillhole orientations with down hole deviation surveys, assay intervals with elemental analyses and geologic intervals with rock types. The appropriate codes for missing samples and no recovery were used during the modeling procedures.

The database contains information from 51 drillholes totaling 6,340m of drilling. There are no obvious gaps in the naming sequence. The maximum drillhole depth is 255m and the average is 124m. All holes were drilled vertically normal to the strike and dip of the mineralization. Down hole deviations surveys were made on most of the holes using a REFLEX EZ-SHOT<sup>™</sup> instrument.

### **15.3 Geology**

The resource estimation is based on a generalized geologic model consisting of three basic rock types; including ultramafics, andesite and syenite. The lithology database contains ten distinguishable rock types based on the core logging. These were first analyzed for relative abundance and Mg mineralization and then combined into just three lithic groups as shown below in table 15.3.1. The main lithology is the ultramafic unit. This is cut by, or has inclusions of nine individual andesite bodies. These have a tabular geometry, 10 to 35m thick and 50 to 250m in diameter. They are oriented semi horizontal with slightly varied strikes and very shallow dips. The syenite forms two individual dikes both located in the northwest zone of mineralization. The dikes strike north-northeast and dip 55 east. They are 6 to 18m thick and 80-200m in diameter. Each of the andesite and syenite bodies were first interpreted in cross section and then triangulated into 3-D wireframe solids. These wireframe solid shapes were used to code the lithic group into the block model. First, all material was flagged as ultramafic, next the blocks whose centroids were enclosed within the andesite solids were flagged and last, the blocks whose centroids were enclosed within the syenite were flagged. Mineralization occurs entirely within the ultramafic material and only these blocks were estimated.

**Table 15.3.1: Lithic Types and Groups**

Lithic Group	Lithic Type	Number of Composites	Mean Mg %
Ultramafics	Serpentinite	299	24.5
	Shear Zone	21	10.7
	Talc	2	13.1
	Calcite	4	17.7
Andesite	Andesite	39	4.0
	Diorite/Gabbro	39	5.2
	Serpentinite/Andesite	35	12.9
	Basaltic Andesite	28	7.0
	Basaltic Andesite/Diorite/Gabbro	27	6.2
Syenite	Monzonite/Syenite	11	2.5

## 15.4 Block Model

The block model was constructed within the UTM NAD83 grid coordinate limits listed in Table 15.4.1. A 15 by 15 by 5m (x, y, z) block size was chosen as an appropriate dimension based on the current drillhole spacing and a potential open pit smallest mining unit. The topographic surface was created from the elevation coordinates of the drill collars and from the digitized contours of the Canadian Geologic Survey topographic map, both supplied by WHY. Soil thickness varies slightly over the deposit and the soil thickness is generally very thin or non-existent. The top of bedrock surface was considered the same as the topographic surface for this resource estimate.

**Table 15.4.1: Block Model Limits**

Orientation	Minimum (m)	Maximum (m)	Block Dimension (m)
Easting	434,300	434,900	15
Northing	5,432,100	5,432,805	15
Elevation	1,160	1,560	5

## 15.5 Compositing

The raw assay data was first plotted on histogram and cumulative distribution graphs to understand its basic statistical distribution. The histogram shows a slight positive skewness but over all a predominantly normal distribution. The cumulative distribution curve illustrates a continuous population set with not distinct break in slope. The original assay lengths range from 0.2 to 5.0m with an average of 1.56m. For the modeling, these were composited into 2.5m bench length with breaks at the major geological contacts described above. This length was chosen mainly so that two composites would comprise each 5m block height. The cumulative distribution plot of the composited data showed no outlier points. During the grade estimation, the composite data was not capped.

## 15.6 Specific Gravity

WHY conducted a specific gravity study on the drill core to be used for the resource estimation. They selected 670 samples from the ten lithic variations. These samples were merged into the three lithologic groups, and average specific gravities were calculated for each group. The

results are presented in Table 15.6.1. Specific gravity was assigned in the block model based on each block's majority lithic group.

**Table 15.6.1: Specific Gravity Determinations**

Lithic Type	Number of Measurements	Specific Gravity (g/cm <sup>3</sup> )
Ultramafics	544	2.68
Andesite	106	2.75
Syenite	20	2.64

## 15.7 Variogram Analysis

Variogram analysis was performed on the composited data filtered to only the ultramafic rock group. Directional semi-variograms were constructed at 30 azimuth intervals and 30 dip increments to generate a total of 48 plots. No preferred orientation was seen in the diagrams. The horizontal variograms all showed a similar range of about 175-200m. As the plunge angle increased the range was reduced to the average drillhole depth of about 140m in the vertical. A final omni-directional semivariogram was constructed for use in the kriging algorithm. The semivariogram parameters are presented in Table 15.7.1 below. The experimental semivariogram data is shown in Figure 15-1 fit with the model semivariogram parameters listed in Table 15.7.1.

**Table 15.7.1: Semivariogram Model Results**

Type	Range (m)	Nugget	C1 Sill Differential
Omni-directional	190	7.5	8.15

## 15.8 Grade Estimation

Geologic hard boundaries were used to confine the grade estimation to the ultramafic unit using only the composites from the same rock type. A confining boundary was first created to define the limits of the grade extrapolation. A vertical surface was created 50m beyond the perimeter drillholes to form the lateral limits of grade projection. This distance represents the average drillhole spacing and is about 25% of the variogram range. Next, a floor was created by generating a surface at the base of all drillholes. These two surfaces were then combined with topography to create a 3-D solid of the ultramafic host unit. The block model was first coded so that all blocks within this solid were flagged as ultramafic and then the andesite and syenite solids were used to code the blocks of internal waste.

The grade estimation was run for magnesium using the 2.5m bench composites. This procedure began by generating grade interpolations using an Ordinary Kriging algorithm and analyzing the results with a point validation technique. This technique removes a drillhole from the database and then estimates grade for all composites within it. It then removes the next drillhole etc until all composites have been estimated. An x-y scatter plot is constructed for the estimated versus actual grades to evaluate the correlation. Numerous point validation runs are made to test the effects of different of min/max composites/block, octant search limitations and minimum number of drillholes required to assign grade. Once an optimal set of estimation parameters are determined, the actual grade interpolation is then conducted.

For this estimate, the Ordinary Kriging estimation was used which required a minimum of five and a maximum of 15 composites to assign grade to each block. A maximum of three composites from a single drillhole were allowed, thus at least two drillholes were used for all blocks. No octant search restriction was applied due to the regular configuration of the drillhole spacing. A search ellipsoid with a range of 150m x 150m in the horizontal and 25m in the vertical was used. These ranges are based on the results of the variography and the point validation runs. The number of composites and drillholes used to estimate each block were stored during the estimation as well as the average distance to the composites used. The results showed that an average of 14.8 composites from five drillholes were used with an average distance of 56m. A representative cross section of the interpolated block model grades is shown in the Figure 15-1 below.

## 15.9 Model Validation

Four techniques were used to evaluate the validity of the block model. All four tests provided excellent confidence in the resource estimation. First, the interpolated block grades were visually checked on sections and bench plans for comparison to the composite assay grades. Second, statistical comparisons were made between the interpolated block grades and composite data within the entire ultramafic unit. These results are presented in Table 15.9.1 below and show block grades slightly less than composite grades as desired. Third, swath plots were generated to compare model blocks and composite grades at regular bench elevations through the deposit. The results are presented in Figure 15-3. These show an acceptable amount of grade smoothing with the majority of the block grades very close to the composite grades. Fourth, a nearest neighbor estimation was run using a single composite to estimate each block within the same parameters used for the final model. The total contained magnesium at a zero cut-off was compared in the final model at the same cut-off. The final model contained 1.4% less metal than the nearest neighbor estimation, indicating that metal is not being manufactured during the modeling process.

**Table 15.9.1: Model Validation Statistical Results**

Rock Type	Data Group	Mean	Variance	Maximum	# Samples
Ultramafics	2.5m Composites Mg%	23.5	25.6	33.9	1,987
	Block Model Mg %	23.0	10.2	29.7	13,283

## 15.10 Resource Classification

The Mineral Resources are classified under the categories of Measured, Indicated and Inferred according to CIM guidelines. Classification of the resources reflects the relative confidence of the grade estimates. This classification is based on several factors including; sample spacing relative to geological and geo-statistical observations regarding the continuity of mineralization, data verification to original sources, specific gravity determinations, accuracy of drill collar locations, accuracy of topographic surface, quality of the assay data and many other factors, which influence the confidence of the mineral estimation. No single factor controls the resource classification rather each factor influences the result. Generally, most of the factors influencing the resource classification in the Project are positive. The resources have been classified as Measured and Indicated based primarily on sample spacing as indicated by drilling density. For the resource classification, a solid shape was constructed around the core of the deposit where

most drillholes are spaced approximately 50m apart. All blocks located within this area were classified as measured resource. All blocks located outside of the core, about the periphery of the drilling were classified as Indicated resource (Figure 15-4).

### 15.11 Mineral Resource Statement

The Record Ridge South mineral resource statement is presented below in table 15.11.1. A 12% Mg cut-off grade was chosen for resource reporting based on the conceptual mine plans described in Section 16. The 12% Mg cut-off is slightly below the optimized, in pit cash flow cut-off grade of 14% Mg. The results reported in the resource statement have been rounded to reflect the approximation of grade and quantity, which can be achieved at this level of resource estimation.

**Table 15.11.1: Record Ridge South Mineral Resource Statement**

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

### 15.12 Mineral Resource Sensitivity

The grade tonnage distributions of the Indicated and Inferred Mineral Resources at the Project are presented in Tables 15.12.1 and 15.12.2 and Figures 15-5 and 15-6.

**Table 15.12.1: Record Ridge South Measured Mineral Resource Sensitivity**

% Mg Cut-off	Total Mt	% Mg Grade	Contained Mg (Mlbs)
8	15.75	23.00	3.62
10	15.73	23.02	3.62
12	15.69	23.05	3.62
14	15.60	23.10	3.60
16	15.40	23.21	3.57
18	14.77	23.47	3.47
20	13.60	23.84	3.24
22	11.36	24.38	2.77

**Table 15.12.2: Record Ridge South Indicated Mineral Resource Sensitivity**

% Mg Cut-off	Total Mt	% Mg Grade	Contained Mg (Mlbs)
8	24.15	22.99	5.55
10	24.09	23.03	5.55
12	23.98	23.09	5.54
14	23.66	23.22	5.49
16	23.09	23.42	5.41
18	21.98	23.74	5.22
20	20.13	24.17	4.86
22	17.15	24.71	4.24



### **15.13 Reserve Estimation**

A prefeasibility study is required to demonstrate the economic merit of mineral resources in order for their conversion to reserve. At this time, no such study has been completed and therefore the Project currently has no reserves.

### **15.14 Material Affects on Mineral Resources**

The mineral resources described in Section 15.11 above, constitute contained metal in the ground and have not been included in any formal plan of exploitation. There are no known material issues related to environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues which may affect the mineral resources.

Additionally, there are no known material issues related to mining, metallurgy, infrastructure and other relevant issues which may affect the mineral resources.













## 16 Other Relevant Data and Information (Item 20)

### 16.1 Conceptual Mining Plan

Conceptual mining operations at the Project resource area would be characterized by a low stripping ratio pit (S.R. at 2:1, waste to mineable resource) comprised of Alaska-type ultramafic complex hosted Magnesium mineralization located on a shallow-sloped ridge in moderate environmental conditions.

The mine plan would be driven by mill production requirements, and the provision of waste rock for tailings dam construction. Mineable resources would not be difficult to mine given the massive nature of the resources. A further economic analysis should be performed to determine the economic viability of selling the waste rock as either building stone, sand and gravel, or some other industrial use such as railroad ballast.

The preliminary resource pit optimization determined dimensions of approximately 1.0km long by 500m wide, 250m deep with a volume of 27.1Mm<sup>3</sup>. The resource pit long axis is oriented in a northwest to southeast direction with two distinct pit bottoms separated by a ridge of waste (Figure 16-1). It appears this ridge of waste is due to the lack of drilling in the central part of the pit. The resource pit optimization was not detailed into scheduling phases, but it is assumed that the pit would have 25m-wide ramps at a maximum in pit grade of 10%.

Open pit mining would be by conventional diesel-powered equipment, a combination of blast hole drills, hydraulic excavators, rubber-tired wheel loaders and off-highway 50 to 100t trucks. Support equipment would include; graders, track dozers, and a water truck to aid in the mining of the Mineral Resource and waste. A typical open pit mining cycle at Record Ridge South would be composed of drilling, blasting, loading and haulage. Haulage generally is the highest cost category of mining. Equipment fleets were not estimated at this time.

The in pit cut-off grade was derived using optimizations run at a series of revenue factors between 0.5 and 1.78 based on a Whittle<sup>®</sup> pit optimization cash flow analysis. The results showed that a 14% Mg cut-off is realized at the input parameter provided below in Section 16.1.3. For example, mining costs should range from US\$2.00 to US\$3.00/t of mined material, while processing costs will be in the order of US\$563/t ore, and Sales, General and Administration costs will be approximately US\$35.00/t ore.

Figure 16-2 presents the general arrangement plan of the Record Ridge South open pit. To note here, is that a large portion of the material in the pit is located outside of the model limits and therefore is classified as “unassigned”. This material defaults to un-mineralized waste rock resulting in a higher strip ratio than will ultimately be realized. This factor does not however have a large consequence on the project economics since the mining cost is very low in respect to the processing costs.

Both Measured and Indicated Mineral Resources were used for this analysis. This conceptual study includes the Mineral Resources that have not had economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the conceptual mining operations will ever be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.



### 16.1.1 Pit Slopes

SRK did not review geotechnical data to determine pit slopes at the Record Ridge South area. Very limited geotechnical pit slope programs have been carried out at the deposit. The existing geotechnical data are based on field estimates of rock properties, no laboratory testing or discontinuity orientation has been performed. Consequentially, SRK's preliminary estimates of pit slope angles are based on the assumption of using a standard pit slope of 45°. Additional geotechnical data collection and analysis will be necessary for further mine planning.

The mineralization is generally hosted within a large ultramafic complex with the primary magnesium hosted within serpentinite. There are three basic rock types that are anticipated to comprise pit slopes for the Record Ridge South deposit; Serpentinite, Mafic and Felsic igneous rocks. Overall, the ultramafic package appears to be oriented in an overall horizontal configuration, although local variations are known to exist. The existing data indicate very similar geotechnical properties between the three rock types. The current conceptual pit is designed to have pit walls ranging from 120 to 250m in height.

### 16.1.2 Pit Optimization

Pit optimization was carried out on the Record Ridge South Resource Area using Whittle® v4.1.3 pit optimization software in conjunction with Maptek's Vulcan 7.5® general-purpose mine planning package. After analysis of pit optimization results, an optimum pit size using US\$5.36/kg Mg price formed the basis of a conceptual pit design.

Pit optimization is based on preliminary economic estimations of mining, processing and selling related costs. These costs are likely to vary from those reported in any future economic analysis, which would be based on the final pit design (roads, berms, etc.) and production schedule.

Dilution and mining recovery were not added to the pit optimization, due to the massive nature of the resources.

### 16.1.3 Whittle® Parameters

Table 16.1.3.1 indicates the parameters used for pit optimization, which are based on the SRK resource block model dated February 4, 2009.

**Table 16.1.3.1: Whittle™ Model and Slope Dimensions**

Whittle™ Parameter	Type	Value
Base Units	Mg	%
Block Model Dimensions	Geological Model	
	X	15m
	Y	15m
	Z	5m
	No. X	74
	No. Y	67
	No. Z	80
Slope	Strike	Slope Angle
	0	45

No slope zones were applied to the geologic block model. The slope used was a default of inter ramp angle was 45° with no allowance for pit walls orientated to any unknown structural conditions.

Table 16.1.3.2 illustrates the economic and operational limits applied to the optimization. Costs are based on two sources. These include; current estimates provided by SRK staff and those found within a feasibility document of the Cogburn Magnesium Plant sited in British Columbia, Canada (Hatch 2003), adjusted for inflation. Transportation after beneficiation has been included as a selling cost. Mining rates assumed an approximate 600,000t/y processing rate, which equates to approximately 1,900t/d mineable resource mining rate (350d/y) before an assumed plant efficiency of 90%. A mining rate for ore and waste would be approximately 7,200t/d (72% efficiency). Daily mining requirements should be accomplished in one production shift per day.

For pit optimization, a 10% discount rate and US\$1.8B initial capital cost was estimated. The capital cost estimate is based on SRK predictions with additional input from the Hatch (2003) report.

**Table 16.1.3.2: Whittle® Economic and Operations Parameters**

Whittle® Parameter	Type	Value
Mining Cost	Reference mining Cost	\$2.00/t
	Mining Recovery Fraction	1.00
	Mining Dilution Factor	1.00
Processing Cost	Process Name	CARN
	Selection Method	Cash Flow
	Processing Cost*	US\$598.00/t -mill
	Mg recovery (serp)	78%
Selling	Mg units	kg
	Mg price	\$5.36/kg
Optimization	Revenue factor range	0.5 to 1.78 @ 0.02 increments
Operational Scenario - Time Costs	Initial Capital Cost	US\$1,800,000,000
	Discount Rate Per period	10%
Operational Scenario - Limits	Processing Method Limits	600,000t/y-mill

\* Includes G&A and Tailings

#### 16.1.4 Pit Optimization Analysis

From various pit optimizations with multiple processing and mining cost sensitivities, the resultant pit dimension is quite robust because of the extent of the mineralization and consistency of the magnesium mineralization.

Pit 25 represents a revenue factor of one, which equates to the resource cash flow possible for the deposit at US\$5.36/kg Mg.

The pit optimization algorithm cashflow for the best-case mining scenario (nested pit) shows gradual increase until Pit 4 when there is a rapid increase through Pit 6. Between Pit 6 and Pit 11 cash flow increases gradually and then levels to a maximum at Pit 11. The area between Pit 11 and Pit 25 indicates incremental stripping is required to liberate additional material for little additional cash flow. Pit 6 would provide the basis for an optimal pit and reduce mining costs, while Pit 25 would generate the maximum economic pounds of resource. Pit 6 was used as the basis of resource pit analysis.

It should be noted that the increase in cash flow before Pit 6, and the leveling affect after, suggest there is an inherent optimal pit where the high grade pods or due to the number and spacing of the exploration drilling.

Table 16.1.4.1 details the base results for each pit discussed above.

**Table 16.1.4.1: Significant Pit Shell Results**

Pit	Mg % Grade	Mg Mill (kt)	Waste (kt)	S.R	InSitu (kt)
2	27	1,213	2,299	1.89	332
4	26	11,476	39,345	3.43	2,979
6	25	23,286	49,582	2.13	5,283
11	24	33,874	52,717	1.56	8,135
25	23	39,152	54,272	1.39	9,083

\*This Conceptual Resource Assessment includes Mineral Resources that have not had economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the preliminary assessment will ever be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Table 16.1.4.2 illustrates the optimum pit results achieved for Whittle<sup>®</sup> Pit 6.

**Table 16.1.4.2: Optimum Pit Results**

Variable	Value
Mill Tonnes	23,286,218
Waste Tonnes	49,582,256
Strip Ratio	2.13
Mg Cut-off Grade (%)	14.37
Mg Average Grade (%)	25
Contained Mg Tonnes	5,283,183

\*This Conceptual Resource Assessment includes Mineral Resources that have not had economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the preliminary assessment will ever be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

## 16.1.5 Production Pit Design

No production designs (i.e. roads and ramps) were done for the Record Ridge South resource area. However, given the results of the Whittle<sup>®</sup> pit optimization, future production pit designs should be simple. The Record Ridge South resource area will essentially be a large quarry area that would supply igneous rocks with significantly elevated magnesium levels to an energy-intensive (electricity and natural gas) processing plant to comminute the mineralized rock, leach, dry, separate through electrolysis methods and package the magnesium metal for shipment to domestic and foreign markets.

To reduce any stripping penalty incurred from ramp placement, the ramp should be located on the footwall of the mineralization, which will result in an overall slope less than the recommend inter ramp slope that would be determined from future geotechnical studies. Berms will be applied every 5m or more from a reference elevation of 1,160masl (model bottom). This bench height will be a control for the start and end of ramp placement for a single bench operation

Ramp widths will be based on the expected mining trucks (CAT 773 or 777-type) to be used at Record Ridge South, which have a width up to 6.49m. A two-way ramp width will be determined using a 3.5 to 1 of the truck width to road width ratio with allowance for a 1.5m drain and 1.5m windrow base. This rule of thumb will give a two-way ramp design width of 25m. One-way traffic haul roads should not be needed near the bottom of the open pit.

The inclusion of haul roads and creation of practical pit design when compared with pit optimization results, indicate an approximate 10% increase in stripping ratio if the quantity of

mineralized resource defined in the pit optimization is to be targeted, but this value may be less with more development drilling of the resource area margins. This variation is attributed to pit optimization results include dilution and mining recovery and the pit design utilized a more conservative slope angle. With further geotechnical evaluation and testing, an optimization of the slope angles should take place.





## **17 Interpretation and Conclusions (Item 21)**

### **17.1 Field Surveys**

During the 2007 and 2008 field seasons, WHY conducted surface mapping, surface sampling and diamond drilling on the Project. The surface mapping was conducted at a 1:2,500 Scale focused on the ultramafic rocks. Samples were collected from outcrop and analyzed by ICP-AES for 24 elements. A total of 30 samples were collected and analyzed. The results of this work delineated a high mg portion of the ultramafic body located in the east flank of the Project. The Project resource estimation is based on information from 51 diamond core drillholes totaling 6,340m, with 3,874 assays. These were carefully logged, sampled and tested with 24-or 32-element ICP-AES analysis. The exploration work conducted by WHY meets current industry standards. The exploration drilling program was well planned and carried out in a prudent and careful manner. All drill core logging and sampling has been done by trained and professional personnel. WHY has made a concerted effort to ensure good sample quality and has maintained a careful chain of custody and ensured sample security from the drill rig to the assay laboratory.

### **17.2 Analytical and Testing Data**

SRK is of the opinion that the analytical work performed by Assayers Canada on the Project mineralization was good, and suitable for use in resource estimation. The ICP-AES method is the industry standard, recommended analytical technique used for magnesium analysis. This analytical technique at the average grades of the mineralization are reported to produce an average accuracy of  $\pm 5\%$ .

WHY has conducted a modern QA/QC analysis of duplicate check assays on drill core from the 2007 and 2008 drilling program. This consisted of  $\frac{1}{4}$  core field duplicates from a wide distributing of the drilling. All these were analyses by a second accredited laboratory. The results of the QA/QC duplicate study verified the original assay analyses.

### **17.3 Exploration Conclusions**

The 2007-2008 diamond drilling program was carried out at 50m drillhole spacing and adequately defines the zone of magnesium mineralization. The deposit remains open in several directions and further drilling will likely expand the known magnesium mineralization. There is also potential for the addition of other magnesium resources within the claims held by WHY, specifically in the Ivanhoe Ridge South area. The author recommends further diamond-drilling program both at Record Ridge South and at Ivanhoe Ridge South.

### **17.4 Resource Estimation**

Based on information from 51 drillholes totaling 6,340m, with 3,874 assays The drillhole database was compiled and verified by SRK and is determined to be of high quality. A geologic model was constructed based on three general rock groups. Three-dimensional solids were constructed to limit the outer boundary of mineralization and to delineate two internal waste rocks. These solids were used to assigned rock types to the block model. Each model block was then assigned a unique specific gravity based rock type. The model blocks are 15m x 15m x 5m in the x,y,z directions, respectively. All block grade estimates were made using 2.5m down hole composites. An Ordinary Kriging algorithm was employed using a minimum of 5 and a

maximum of 15 composites within a search ellipsoid 150m x 150m x 25m in the x,y,z directions respectively.

The results of the resource estimation provided a CIM classified Measured and Indicated Mineral Resource of 39.81Mt of material with 23.02% Mg. The quality of the Project drilling and data is very good and the Mineral Resource was classified mainly according to the general drillhole spacing.

## **17.5 Other Relevant Information**

### **17.5.1 Conceptual Mining Plan**

The Project resource area will essentially be a large open pit quarry area that would supply igneous rocks with significantly elevated magnesium levels to an energy-intensive (electricity and natural gas) processing plant to comminute the mineralized rock, leach, dry, separate through electrolysis methods and package the magnesium metal for shipment to domestic and foreign markets. Investigation to date shows that the Project resource could support an open pit mine and magnesium processing facility, which are contingent on the long-term price of magnesium metal, energy prices and reagent prices and capital costs.



## **18 Recommendations (Item 22)**

### **18.1 Recommended Work Programs**

SRK recommends that WHY conduct a three phase drilling program targeting resource expansion and geotechnical data collection, conduct further metallurgical test work and complete a scoping level economic evaluation. The first phase of the drilling program should focus on the unconfined portions of the higher-grade resource located in the northwestern portion of the current drilling, it should also test the undrilled material located between the two zones of known mineralization and it should provide more geotechnical data for open pit mine design. The second phase of drilling should include several triple wall core holes located in the conceptual pit walls to obtain enough data to support a preliminary pit slope design. The third phase of drilling should focus on the unconfined mineralization in the Ivanhoe South area. The drilling programs could run sequentially or concurrently depending on financing and time line. Based on the results of the variography and geologic modeling, the drillhole spacing can be expanded to 100m separation and still support an indicated resource. Metallurgical test work should focus on optimization of the processes delineated in the preliminary studies, including bond work index determinations, closed cycle test work and reagent consumption predictions, all resulting in a conceptual mill flow sheet.

The scoping level economic evaluation should be initiated at the conclusion of the drilling and the metallurgical test work. The scoping study should include an updated resource estimate incorporating the results of the new drilling, conceptual mining plans, site layout, metallurgical studies and mill plans. This data will form the basis of a preliminary economic model.

#### **18.1.1 Proposed Budget**

The following budget and timeline includes cost for a Phase I, Phase II and Phase III drilling programs, and metallurgical test work to collect the data required for a preliminary economic assessment of the project. Drilling costs listed below include all assaying, labor, logistics, mobilization, site work etc typically associated with a drilling program of this nature. A more detailed breakdown of the exploration drilling costs are provided in Appendix B. The Phase II costs are based on the estimated costs detailed for the Phase I program. All costs are approximated in CDN\$.

**Table 18.1.1.1: Summary of Proposed Activities and Approximate Costs (CDN\$)**

<b>Activity</b>	<b>Duration</b>	<b>Approximate Cost</b>
<b>Phase I Resource Expansion and Infill Drilling Program</b>		
Step-out and infill drilling, 20 holes totaling 2,400m	Six Months	\$1,300,000
Project management and general overhead		\$215,000
<b>Total</b>		<b>\$1,515,000</b>
<b>Phase II Geotechnical Drilling Program</b>		
Pit walls, 6 holes totaling 450m	One month	\$500,000
<b>Total</b>		<b>\$ 500,000</b>
<b>Phase III Exploration Drilling Program</b>		
Step-out drilling, 15 holes totaling 1,800m	Six months	\$1,000,000
Project management and general overhead		\$165,000
<b>Total</b>		<b>\$1,165,000</b>
<b>Metallurgical Study</b>		
Grind Test, Bench Scale Closed Cell Test, Mill Flow Sheet Design	Six Months	\$100,000
<b>Economic Evaluation</b>		
Scoping level study	Six months	\$150,000
<b>Grand Total</b>	<b>Eighteen months</b>	<b>\$3,430,000</b>

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## 20 Glossary

### 20.1 Mineral Resources and Reserves

#### 20.1.1 Mineral Resources

The mineral resources and mineral reserves have been classified according to the “CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines” (December 2005). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

#### 20.1.2 Mineral Reserves

A Mineral Reserve is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

A 'Probable Mineral Reserve' is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

## 20.2 Glossary

**Table 20.2.1: Glossary**

Term	Definition
Assay:	The chemical analysis of mineral samples to determine the metal content.
Composite:	Combining more than one sample result to give an average result over a larger distance.
Crushing:	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG):	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
Dip:	Angle of inclination of a geological feature/rock from the horizontal.
Fault:	The surface of a fracture along which movement has occurred.
Footwall:	The underlying side of an orebody or stope.
Gangue:	Non-valuable components of the ore.
Grade:	The measure of concentration of gold within mineralized rock.
Hangingwall:	The overlying side of an orebody or slope.
Haulage:	A horizontal underground excavation which is used to transport mined ore.
Hydrocyclone:	A process whereby material is graded according to size by exploiting centrifugal forces of particulate materials.
Igneous:	Primary crystalline rock formed by the solidification of magma.
Kriging:	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
Level:	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological:	Geological description pertaining to different rock types.
LoM Plans:	Life-of-Mine plans.
LRP:	Long Range Plan.
Material Properties:	Mine properties.
Mineral/Mining Lease:	A lease area for which mineral rights are held.
Mining Assets:	The Material Properties and Significant Exploration Properties.
Ore Reserve:	See Mineral Reserve.
Pillar:	Rock left behind to help support the excavations in an underground mine.
RoM:	Run-of-Mine.
Sedimentary:	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft:	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill:	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting:	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope:	Underground void created by mining.
Stratigraphy:	The study of stratified rocks in terms of time and space.
Strike:	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide:	A sulfur bearing mineral.
Tailings:	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening:	The process of concentrating solid particles in suspension.
Variogram:	A statistical representation of the characteristics (usually grade).

**Abbreviations**

The metric system has been used throughout this report unless otherwise stated. All currency is in U.S. dollars. Tonnes are metric of 1,000kg, or 2,204.6lbs. The following abbreviations are typical to the mining industry and may be used in this report.

**Table 20.2.2: Abbreviations**

Abbreviation	Unit or Term
A	ampere
AA	atomic absorption
A/m <sup>2</sup>	amperes per square meter
ANFO	ammonium nitrate fuel oil
°C	degrees Centigrade
CCD	counter-current decantation
CIL	carbon-in-leach
CoG	cut-off grade
cm	centimeter
cm <sup>2</sup>	square centimeter
cm <sup>3</sup>	cubic centimeter
cfm	cubic feet per minute
ConfC	confidence code
CRec	core recovery
CSS	closed-side setting
CTW	calculated true width
°	degree (degrees)
dia.	diameter
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
FA	fire assay
ft	foot (feet)
ft <sup>2</sup>	square foot (feet)
ft <sup>3</sup>	cubic foot (feet)
g	gram
gal	gallon
g/L	gram per liter
g-mol	gram-mole
gpm	gallons per minute
g/t	grams per tonne
ha	hectares
hp	horsepower
HTW	horizontal true width
ICP	induced couple plasma
ID2	inverse-distance squared
ID3	inverse-distance cubed
IFC	International Finance Corporation
ILS	Intermediate Leach Solution
kA	kiloamperes
kg	kilograms
km	kilometer
km <sup>2</sup>	square kilometer
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second



L/sec/m	liters per second per meter
lb	pound
LHD	Long-Haul Dump truck
LOI	Loss On Ignition
LoM	Life-of-Mine
m	meter
m <sup>2</sup>	square meter
m <sup>3</sup>	cubic meter
masl	meters above sea level
mg/L	milligrams/liter
mm	millimeter
mm <sup>2</sup>	square millimeter
mm <sup>3</sup>	cubic millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
Mt	million tonnes
MTW	measured true width
MW	million watts
m.y.	million years
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
OSC	Ontario Securities Commission
oz	troy ounce
%	percent
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	probable maximum flood
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
RC	rotary circulation drilling
RoM	Run-of-Mine
RQD	Rock Quality Description
sec	second
SG	specific gravity
SPT	standard penetration testing
st	short ton (2,000 pounds)
t	tonne (metric ton) (2,204.6 pounds)
t/h	tonnes per hour
t/d	tonnes per day
t/y	tonnes per year
TSF	tailings storage facility
TSP	total suspended particulates
µm	micron or microns, micrometer or micrometers
V	volts
VFD	variable frequency drive
W	watt
XRD	x-ray diffraction
y	year

**Appendix A**  
**Certificate of Author**

### CERTIFICATE of AUTHOR

I, Bart A. Stryhas Ph.D. CPG # 11034 do hereby certify that:

1. I am a Principal Resource Geologist of:

SRK Consulting (US), Inc.  
7175 W. Jefferson Ave, Suite 3000  
Denver, CO, USA, 80235

2. I graduated with a Doctorate degree in structural geology from Washington State University in 1988. In addition, I have obtained a Master of Science degree in structural geology from the University of Idaho in 1985 and a Bachelor of Arts degree in geology from the University of Vermont in 1983.
3. I am a current member of the American Institute of Professional Geologists.
4. I have worked as a geologist for a total of 19 years since my graduation from university.
5. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
6. I am responsible for the background description, construction of the geologic and resource model, the QA/QC analysis, data verification and Sections 1 through 17, and 18-20, as well as, provided the final editing for the report titled *Western High Yield Resources Ltd., NI 43-101 Technical Report on Resources West High Yield Resources Ltd. Record Ridge South Rossland, British Columbia, Canada* and dated February 11, 2009 (the “Technical Report”) relating to the Record Ridge South Property. I have visited the Record Ridge South Property on November 18 and 19, 2008.
7. I have not had prior involvement with the property that is the subject of the Technical Report.

8. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
9. I am independent of the issuer applying all of the tests in Section 1.4 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this February 11, 2009.

Dr. Bart A. Stryhas

("Signed")

**Appendix B**  
**Detailed Proposed Drilling Budget**

### Proposed Budget for Completion of 20 HQ Diameter Diamond Core Holes Totaling to 2,400m

<b>Item</b>	<b>Cost in CDN\$</b>
Staff, WCB, Expediting, Engineering	\$295,000
Drilling & Supplies*	\$530,000
Assaying	\$180,000
Fuel	\$50,000
Excavator & Equipment	\$55,000
Truck Rental	\$25,000
Accommodation and Meals	\$40,000
Delivery & Shipping	\$40,000
Materials & Supplies	\$80,000
Warehouse	\$5,000
<i>Subtotal All Drilling Related Costs</i>	<i>\$1,300,000</i>
Travel Costs	\$25,000
Communication & Systems	\$20,000
Surveying	\$10,000
Equipment Maintenance & Rental	\$35,000
Database/GIS	\$10,000
Health, Safety & Environment	\$15,000
Miscellaneous salaries etc.	\$100,000
<i>Subtotal Project management and general overhead</i>	<i>\$215,000</i>
<b>Grand Total</b>	<b>\$1,515,000</b>

Western High Yield Resources Ltd., NI 43-101 Technical Report on Resources West High Yield Resources Ltd. Record Ridge South Rossland, British Columbia 11<sup>th</sup> of February, 2009.

Dated this 11<sup>th</sup> of February, 2009.

Bart Stryhas, PhD, CPG

(“Signed”)