SELWYN RESOURCES LTD.

Update for XY West Deposit Mineral Resource Estimate

Howard's Pass Property, Eastern Yukon

NI 43-101 Technical Report

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1 SUMMARY

This Technical Report summarizes the results of, and methodology used to generate, the most recent mineral resource estimate for the XY West mineral deposit at the Howard's Pass Property owned by Selwyn Resources Ltd. (the Selwyn Project). Selwyn announced this updated mineral resource estimate in a May 15, 2012 press release.

The Selwyn Project is located along the Yukon and Northwest Territories (NWT) border, approximately 350 km northeast of Whitehorse, Yukon and approximately 80 km northwest of Tungsten, NWT. The majority of the mineral claims and mining leases that comprise the Selwyn Project are located in the Yukon; the remaining claims and leases are located in the NWT.

On December 15, 2009, Selwyn Resources Ltd. (Selwyn) announced a proposed $100 million joint venture transaction with Yunnan Chihong Zinc & Germanium Co., Ltd. (Yunnan). The parties agreed to form a joint venture operating company to advance the Selwyn Project by financing a bankable feasibility study and, if possible, bringing it into production. On August 18, 2010, Selwyn finalized the $100 million joint venture transaction with Chihong Canada Mining Ltd. (Chihong), an indirect, wholly-owned subsidiary of Yunnan. Selwyn and Chihong incorporated to form Selwyn Chihong Mining Ltd. (SCML) which is owned equally by both parties. SCML is the operator of the new joint venture. Chihong deposited $100 million into the SCML bank account in Canada, and the funds will be used to finance the joint venture's pre-development programs. Chihong will earn a 1% interest on each $2 million spent.

The Howard's Pass Property includes claims and leases wholly-owned by SCML, along with claims and leases optioned from the Howard's Pass Joint Venture partners Thompson Creek Metals Co. Ltd. (51%) and Cygnus Mines Ltd. (51%). The claims option agreement with the Howard's Pass Joint Venture was entered into on August 18, 2005, with a 7-year term, and continued into 2012.

The optioned ground of the Selwyn Project consists of 420 Yukon Quartz Mineral claims (totalling 7,450 ha) and two mining leases in the NWT (totalling 2,162 ha). In addition, SCML wholly owns 1,055 Quartz Mineral claims (totalling 19,194 ha) in the Yukon, and five mineral claims (totalling 3,373 ha) in the NWT. These totals do not include the most recently staked claims by SCML to cover potential infrastructure requirements: 122 hydro claims and 35 filter plant claims in the Yukon.

The minimum annual assessment or cash-in-lieu holding costs for the property are $105 per mineral claim and $10,824 per year for each mining lease. The optioned claims are in good standing until at least 2023, with some expiring in 2031. The wholly-owned claims expire between 2012 and 2034.

Since signing the Howard's Pass Joint Venture option agreement, Selwyn has continued to explore the property through surface diamond drilling, mapping, and soil geochemistry sampling programs. Surface diamond drilling has tested previously known and discovered additional deposits along the 37.5 km strike length of the mineralized horizon. This work suggests that originally one large, extensively mineralized basin was formed and has since undergone some structural disruption, creating a series of individual deposits.

The Howard's Pass Property is located in the Selwyn Basin; it is a complex sedimentary deep water basin in which predominantly clastic rocks were deposited during most of the Paleozoic. The general outline of the Selwyn Basin, in context to the Northern Cordillera, is shown in Figure 7-1. This deep water basin has been divided into a lower section of mudstones, siltstones, carbonates, and chert with only minor sandstone deposited in the Early Ordovician to Early Devonian times. The upper section consists of mudrocks and siltstones, but with more sandstones and conglomerates. The rocks comprising the Selwyn Basin were weakly deformed and metamorphosed during Mesozoic time through tectonic events resulting from the collision of exotic terranes in North America. These terranes are now present in a series of thrust sheets with varying degrees of deformation and metamorphism.

The western boundary of the Selwyn Basin in the north is the Tintina Fault, and the Yukon Tantana Terrane to the west. To the east of the Selwyn Basin lies the Mackenzie Platform, a shallow water carbonate platform which persisted through the Paleozoic. The Selwyn Basin is unconformably underlain by Hadrynian-Cambrian-age grit rocks, which form part of the North American continental margin.

Base metal (lead and zinc) mineralization at the property is hosted in the Active Member of the Howard's Pass Formation. The Active Member stratigraphic horizon has been identified throughout the 37.5 km of strike length; here the 15 known deposits are separated by interpreted faults or gaps in drilling. The Active Member consists of alternating layers of carbonaceous mudstone, limestone and chert; they are interlayered with stratabound, laminated sulphide rich bands. The sulphide minerals are fine-grained and predominantly sphalerite and galena, with minor pyrite.

The mineralized horizon is generally 20 m to 30 m thick and both texturally and mineralogically consistent throughout the property. Sulphide minerals from five distinct mineral resource deposits (Brodel, Anniv, Don, XY, and OP) were analyzed for lead isotope ratios; the isotopic data indicated that all five mineral resource deposits originated from very similar hydrothermal fluids (Cousens, 2006).

Higher grade mineralized zones have been identified throughout the property, especially within the XY Central, XY West, Don, and Anniv deposits. These newly-defined zones have significantly higher concentrations of lead and zinc minerals, are coarser grained, and commonly exhibit sulphide remobilization and concentration features. These zones are typically at or near the base of the Active Member stratigraphic horizon.

Evidence for remobilization of sulphide minerals has been locally observed and is believed to have occurred during slumping and compaction when low-temperature fluids would have carried the remobilized metals. There is no reported evidence for high temperature metamorphism. Some of the mineralization exhibits distinct structural features such as irregular broken bands and brecciation with distinct fluidal texture.

In 2010, G&T Metallurgical Services Ltd's (G&T) testwork used a 6.6 tonne sample of XY Central deposit's mineralized material. A composite grading 10.1% Zn and 4.02% Pb was extracted from this sample. The program recommended a conventional flowsheet and a primary grind to 40 microns (with 80% passing). Table 13.1 shows that based on the G&T testwork results, it can be projected that under operational conditions, 85% of the zinc is recoverable to a 55% Zn concentrate with low iron content, and 69% of the lead is recoverable to a 60% Pb concentrate grading 60%.

Prior to this report, Selwyn has completed six mineral resource estimates since acquiring the property in 2005. These technical reports are as follows:

- *Technical Evaluation Report for Pacifica Resources,* written by A. A. Burgoyne and filed July 20, 2005 on SEDAR. Burgoyne's evaluation was based on the Placer Dome historical data and produced an NI 43-101 Inferred resource of 115.4 million tonnes grading 5.38% Zn and 2.08% Pb, and a mineral potential of 367.0 million tonnes grading 5.12% Zn and 1.90% Pb.

- *Resource Estimate Update Report for the Howard's Pass Project,* written by John Nilsson (Nilsson Mine Services Ltd.) and filed March 26, 2006 on SEDAR. Nilsson developed a 3-D mineral resource model for the basin and updated the previous resource estimate to include 53 surface drill holes that were completed in the summer of 2005 and previous surface holes drilled by Placer Dome and Copper Ridge which had not been included in previous resource estimates. The 2006 reported results included an Indicated mineral resource of 33.5 million tonnes grading 5.52% Zn and 2.10% Pb, and an Inferred mineral resource of 112.9 million tonnes grading 5.40% Zn and 2.14% Pb.

- *Update Resource Estimate Report for the Howard's Pass Project,* written by Cliff Pearson (Pearson Geological Services) and filed April 30, 2007 on SEDAR, and amended October 12, 2007. This report incorporated the additional 191 surface diamond drill holes completed on the property in 2006. The updated mineral resources included an Indicated mineral resource of 88.6 million tonnes grading 4.93% Zn and 1.73% Pb, and an Inferred resource of 215.46 million tonnes grading 4.71% Zn and 1.48% Pb.

- A subset of the XY Deposit resource was extracted to quantify the higher grade resources available for underground mining. This model yielded an Indicated mineral resource of 7.4 million tonnes grading 9.88% Zn and 4.32% Pb, and an Inferred mineral resource of 1.9 million tonnes grading 10.41% Zn and 3.71% Pb. These higher grade tonnages are included in the overall resources and are not additional resources.

- *Update Resource Estimate Report for the Selwyn Project,* written by Cliff Pearson (Pearson Geological Services) and filed March 14, 2008 on SEDAR. This update was based on an additional 107 surface diamond drill holes completed on the property in 2007 and focused primarily on the Don Valley area. The updated mineral resources included an Indicated mineral resource of 154.35 million tonnes grading 5.35% Zn and 21.86% Pb, and an Inferred mineral resource of 231.54 million tonnes grading 4.54% Zn and 1.42% Pb.

- As in 2007, a higher grade subset resource was calculated as available for underground mining. This subset mineral resource included an Indicated mineral resource of 16.06 million tonnes grading 10.25% Zn and 4.23% Pb, and an Inferred mineral resource of 23.26 million tonnes grading 8.86% Zn and 2.8% Pb.

- *Resource Estimate Update Report for the Selwyn Project,* written by John O'Donnell (Selwyn Resources Ltd) and filed April 9, 2009 on SEDAR. This report updated the 2008 mineral resource estimate by incorporating an additional 13 surface diamond drill holes completed on the property in 2008. Relatively few drill holes were completed that year and the mineral resource calculation methodology remained unchanged; therefore, the 2009 estimates remained relatively unchanged except for the addition of the XY West Deposit discovery. The Indicated mineral resource tonnage and grade remained unchanged at 154.35 million tonnes grading 5.35% Zn and 1.86% Pb, and included an Inferred mineral resource of 234.15 million tonnes grading 4.54% Zn and 1.41% Pb.

- As part of the 2009 mineral resource report filed on SEDAR, the XY West Deposit was the first presented as part of the global mineral inventory due to its discovery in 2008. Drilling activities revealed an Inferred mineral resource of 1.91 million tonnes grading 7.70% Zn and 2.45% Pb. It should be noted that the XY West deposit represents only 0.8% of the Inferred category mineral resources in 2009.

- *XY Central and Don Deposits NI 43-101 Technical Report*, written by Kirkham Geosystems Ltd., Pearson Geological Services Ltd., and Selwyn Resources Ltd and filed September 12, 2011 on SEDAR. This report updated the resources at XY Central and Don Deposits from an Inferred to Indicated mineral resource based on 116 surface diamond drill holes in 2010 and 2011. The mineral resource update focused on the global mineral resource, but the mineral resource inventory for the XY Central and Don Deposits included a higher-grade tonnage that is the foundation of the bankable feasibility study (BFS). The work program associated with this mineral resource update was undertaken by Selwyn Chihong Mining Ltd. (SCML), the joint venture company equally owned by Selwyn Resources Ltd. and Chihong Canada Mining Ltd. Chihong Canada Mining Ltd. is a wholly-owned subsidiary of Yunnan Chihong Zinc & Germanium Co., Ltd. The XY Central Deposit 93, 94, and 95 lenses have an Indicated mineral resource of 29.9 million tonnes grading 6.35% Zn and 2.69% Pb at a base case 2.0% zinc cut-off grade; the Don Deposit has an Indicated mineral resource of 36.9 million tonnes grading 5.63% Zn and 2.11% Pb at a base case 2.0% zinc cut-off grade; and the global Indicated mineral resources increased by 17% after converting the existing Inferred mineral resources; this resulted in an additional 2.1 billion pounds of zinc and one billion pounds of lead in the Indicated category. A 34% increase in mineral resources in the Don Deposit reflects the success of step out drill holes that were part of the definition drilling program. This drilling also identified high mineral potential for significant tonnages of high grade mineralization at depth that is interpreted as connected to the Don East Deposit.

In 2010 and 2011, surface drilling focused on the XY Central and Don Deposits, noting that XY West Deposit was a key component due to its close proximity to the adjacent XY Central Deposit. This updated mineral resource estimate for the XY West Deposit includes results from an extensive drilling program consisting of 195 drill holes in 2010 and 2011, totalling 68,155 m which are distributed between definition, exploration, and condemnation drilling. The work program associated with the mineral resource update was undertaken by SCML.

SCML began exploration drilling at XY West Deposit to test for the expansion of known zinc-lead mineralization in this high priority target area discovered in 2008, noting that XY West Deposit is only 800 m to the northwest of the XY Central Deposit. Their close proximity suggests a strong potential for untested synergies between these two deposits that could have future implications on project development. The drill holes were designed to test favourable strata in the area known to host zinc-lead mineralization in the structural panels hosting the XY West Deposit. A total of 58 drill holes were successfully completed in 2010 and 2011 at XY West Deposit, totalling 22,877.90 m. To date, the XY West Deposit remains open for future expansion; however, the 2012 mineral resource update is the first to fully model the zinc-lead mineralizing system at XY West Deposit. Table 1.1 shows the Inferred mineral resource estimate for the XY West Deposit.

TABLE 1.1: INFERRED MINERAL RESOURCE ESTIMATE FOR XY WEST DEPOSIT

	Tonnes	Zn%	Pb%
XY West	12,754,400	4.42	1.40

This updated mineral resource estimate represents only 5.6% of the Inferred category mineral inventory for Selwyn Project in 2012, which stands at 226,876,900 tonnes grading 4.44% Zn and 1.37% Pb.

2 INTRODUCTION

Selwyn Resources Ltd. (Selwyn) commissioned Mr. Garth Kirkham, P.Geo., of Kirkham Geosystems Ltd., to update an NI 43-101 mineral resource report for Selwyn's XY West Deposit as part of the global mineral inventory located on the Howard's Pass Property in the Yukon, Canada. In this report, the XY West mineral deposit will be referred to as the *Selwyn Project*.

The terms of reference for this report included:

- Site visits by independent Qualified Persons (QP) with non-independent QPs to verify all aspects of data collection and handling with respect to the concurrent surface drilling programs in 2010 and 2011 on the Don, XY Central and XY West Deposits.
- Review all relevant drill program data, including the data from previous programs.
- Review the QA/QC (quality assurance/quality control) protocols and procedures outlined by: Selwyn, regarding program management; ACME Analytical Laboratories Ltd. (ACME), regarding sample analysis; and Golder Associates (Golder), regarding geotechnical testing and verify these results.
- Construct an updated 3-D mineral resource model to calculate a mineral resource estimate for each deposit.

Selwyn provided all the required data and information to Kirkham Geosystems Ltd. As outlined in the terms of reference within this section, all data was reviewed and verified by the authors of this report. It should be noted that previously, independent QP, Mr. C. Pearson, P. Geo. visited the property on November 10-12, 2010 and again on June 22-24, 2011 as required by the NI 43-101 standards for mineral resource estimate updates of the Don and XY Central Deposits filed October 24, 2011 on SEDAR. Mr. Pearson also inspected the ACME facility on July 7, 2011 and the Golder facility on July 8, 2012. Independent QP, Mr. G Kirkham, P.Geo, also visited the property on September 7-9, 2011 as required by the NI 43-101 standards for mineral resource estimate updates of the Don and XY Central Deposits filed October 24, 2011 on SEDAR.

All dollar amounts in this report are stated in Canadian dollars (CAD$) unless otherwise noted.

2.1 LIST OF ABBREVIATIONS AND ACRONYMS

Table 2.1 lists the abbreviations and acronyms used in this Technical Report.

TABLE 2.1: LIST OF ABBREVIATIONS AND ACRONYMS

ACME	ACME Analytical Laboratories Ltd.
ACTM	Active Member
Ag	silver
Al	aluminum
ALS	ALS Minerals
BFS	bankable feasibility study
Blbs	billions of pounds
Ca	calcium
CAD$	Canadian Dollar
CCMS	Calcareous Mudstone
Chihong	Chihong Canada Mining Ltd.
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
Copper Ridge	Copper Ridge Explorations Inc.
CV	coefficient of variation
Cygnus	Cygnus Mines Ltd.
d	day
DGPS	Differential Global Positioning System
DMS	dense media separation
DTM	digital topographic map
Fe	Iron
ft	Foot
G&T	G&T Metallurgical Services Ltd.
g	gram
gpt	grams per tonne
ha	hectare
HLS	heavy liquid separation
in	inch
kg	kilogram
JORC	Joint Ore Reserves Committee (Australasian)
km	kilometre
ktonnes	kilotonnes
LCMS	Lower Cherty Mudstone
LIDAR	Light Detection and Ranging
m	metre
Mg	magnesium
m	millilitre

Mlbs	millions of pounds
Mtonnes	million metric tonnes
NSR	net smelter return
NTGO	Northwest Territories Geoscience Office
NTS	National Topographic System
NWT	Northwest Territories
Pacifica	Pacifica Resources Ltd.
Pb	lead
Placer	Placer Dome (CLA) Ltd.
ppm	parts per million
QA/QC	quality assurance/quality control
QP	qualified person
ROM	run of mine
S	second
SCML	Selwyn Chihong Mining Ltd.
SEDAR	System for Electronic Document Analysis and Retrieval
SEDEX	sedimentary exhalative
Selwyn	Selwyn Resources Ltd.
SG	specific gravity
t/m^3	tonnes per cubic metre
Terrane	Terrane Metals Corp.
Thompson	Thompson Creek Metals Company Inc.
tpd	tonnes per day
US$	United States dollar
USMS	Upper Siliceous Mudstone
UTM	Universal Transverse Mercator
WCM	WCM Minerals
WO3	tungsten oxide
Yunnan	Yunnan Chihong Zinc & Germanium Co., Ltd.
Zn	zinc

3 RELIANCE ON OTHER EXPERTS

This report was prepared using public and private information provided by Selwyn and information from previous technical reports listed in *Section 19* of this report. The current report also relies on the work and opinions of non-QP (qualified person) experts and non-independent QPs. However, the authors believe that the information provided and relied on for preparation of this report was accurate at the time of reporting, and that the interpretations and opinions expressed by these individuals are reasonable and are based on their current understanding of the deposits. The contributing QP has made a reasonable effort to verify the accuracy of the data used to develop this report and takes full responsibility for the information contained in this report.

The results and opinions expressed in this report are conditional on the aforementioned information being current, accurate, and complete as of the date of this report, and with the understanding that no information was withheld that could affect the conclusions made in this report. The authors reserve the right to, but are not obliged to, revise this report and its conclusions if and when additional information becomes available, subsequent to the date of this report.

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4 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Selwyn Project is located along the Yukon and Northwest Territories (NWT) border, approximately 350 km northeast of Whitehorse, Yukon and approximately 80 km northwest of Tungsten, NWT (Figure 4-1). The majority of the project is located in the Yukon, and the entire Yukon portion of the project is in the Watson Lake Mining District. The extreme southeastern end of the property and an area north of the Anniv Deposit are located in the NWT.

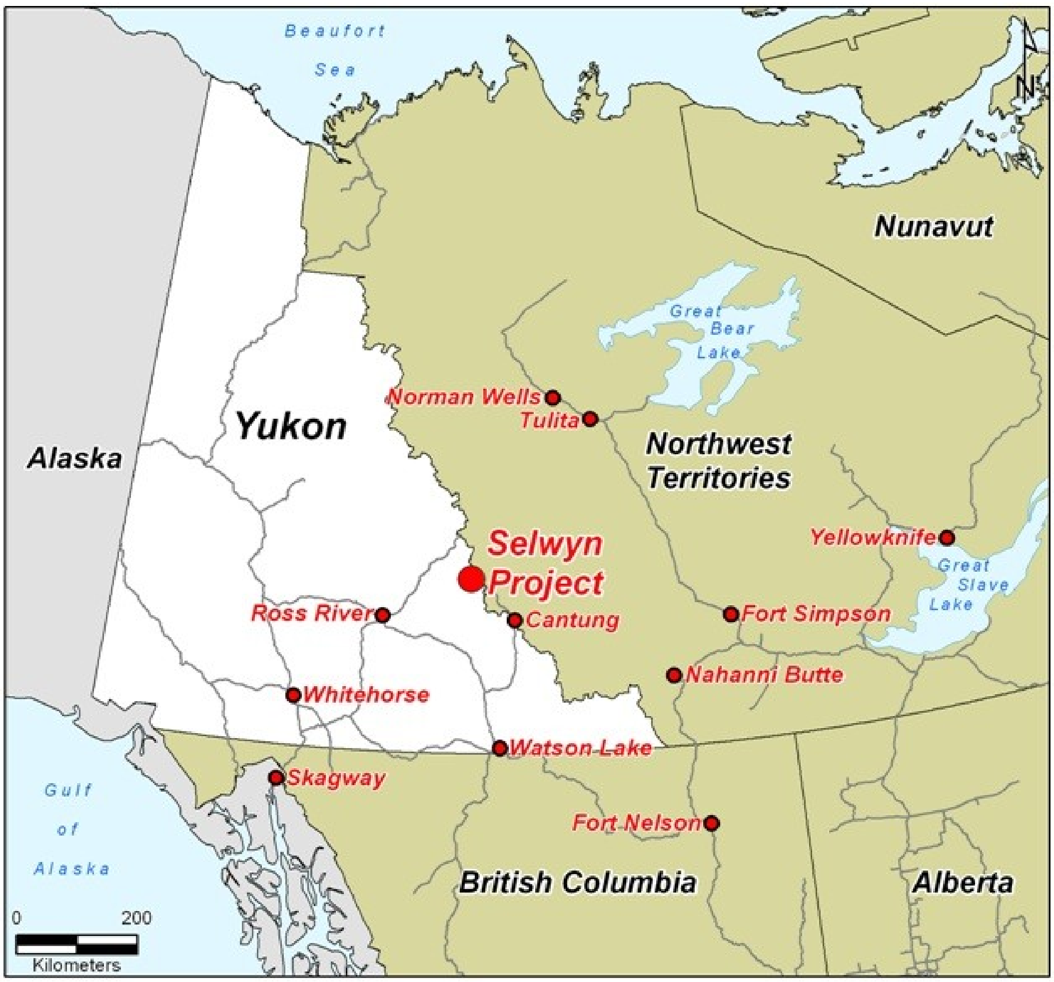

FIGURE 4-1: PROPERTY LOCATION

4.2 LAND TENURE

Property and claim locations are shown in Figures 4-1, 4-2, and 4-3. The mineral claims and mining leases that comprise the property are located between Universal Transverse

Mercator (UTM) coordinates 6955000N/440500E in the northwest and 6923000N/500500E in the southeast in UTM Zone 9, NAD 83. Elevations vary between 1,125 m and 2,035 m above sea level. The property is located on the National Topographic System (NTS) map sheets 105I05, I05I06, I05I11, and I05I12.

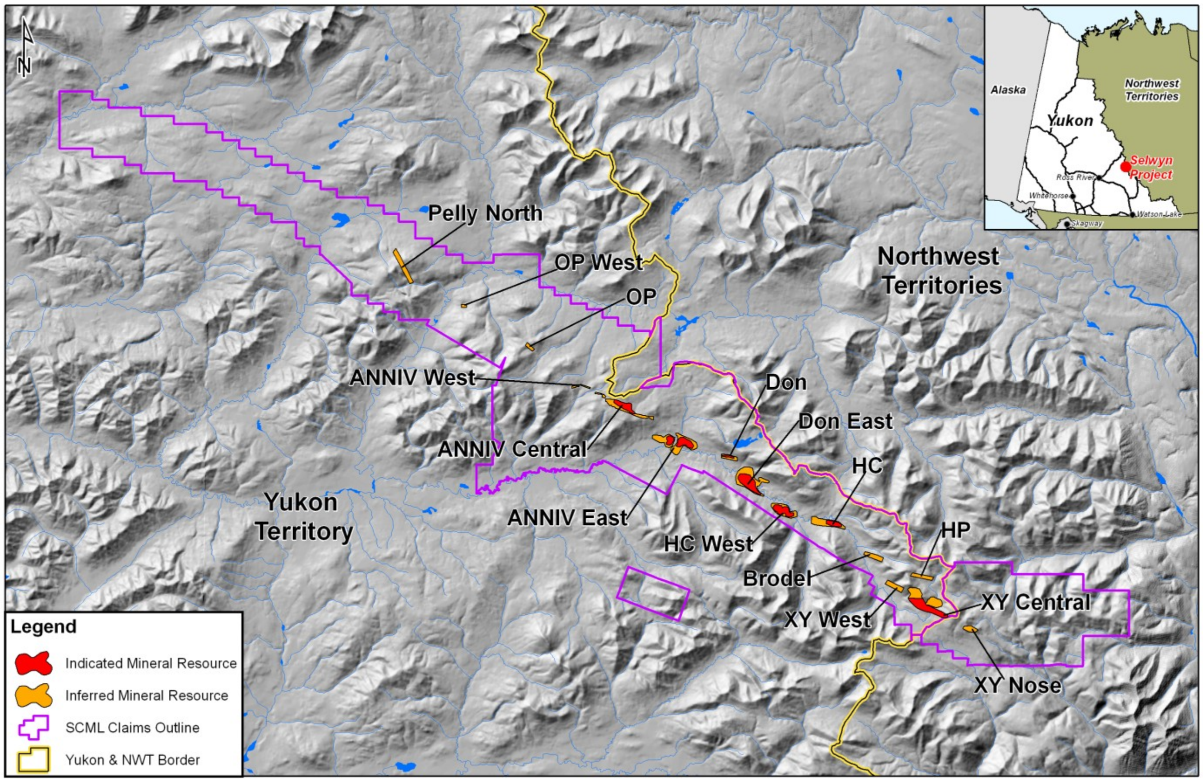

FIGURE 4-2: PROPERTY CLAIM OUTLINE WITH INDICATED AND INFERRED RESOURCE SURFACES

The Yukon portion of the Selwyn Project consists of 1,055 Quartz Mineral claims (19,294 ha) wholly-owned by Selwyn Chihong Mining Ltd. (SCML), and 420 Quartz Mineral claims (7,450 ha) under option from Thompson Creek Metals Company Inc. (Thompson) and Cygnus Mines Ltd. (Cygnus), known as Howard's Pass Joint Venture. Figure 4-3 shows the Quartz Mineral claims.

The NWT portion of the Selwyn Project consists of 5 claims (3,373 ha) wholly-owned by Selwyn Chihong Mining Ltd., and two leases (2,162 ha) under option from Thompson.

The claims are located in NTS 105I05, 105I06, 105I11, and 105I12 and cover 65 km in a northwest-southeast direction. The known zinc-lead (Zn-Pb) mineral occurrences, with respect to property boundaries, are shown in Figure 4-2.

The minimum annual assessment or cash-in-lieu holding costs for the two mining properties are $105 per claim and $10,824 per year. All Howard's Pass Joint Venture claims will expire between 2027 and 2035, and Selwyn's remaining Quartz Mineral claims expire between 2023 and 2038.

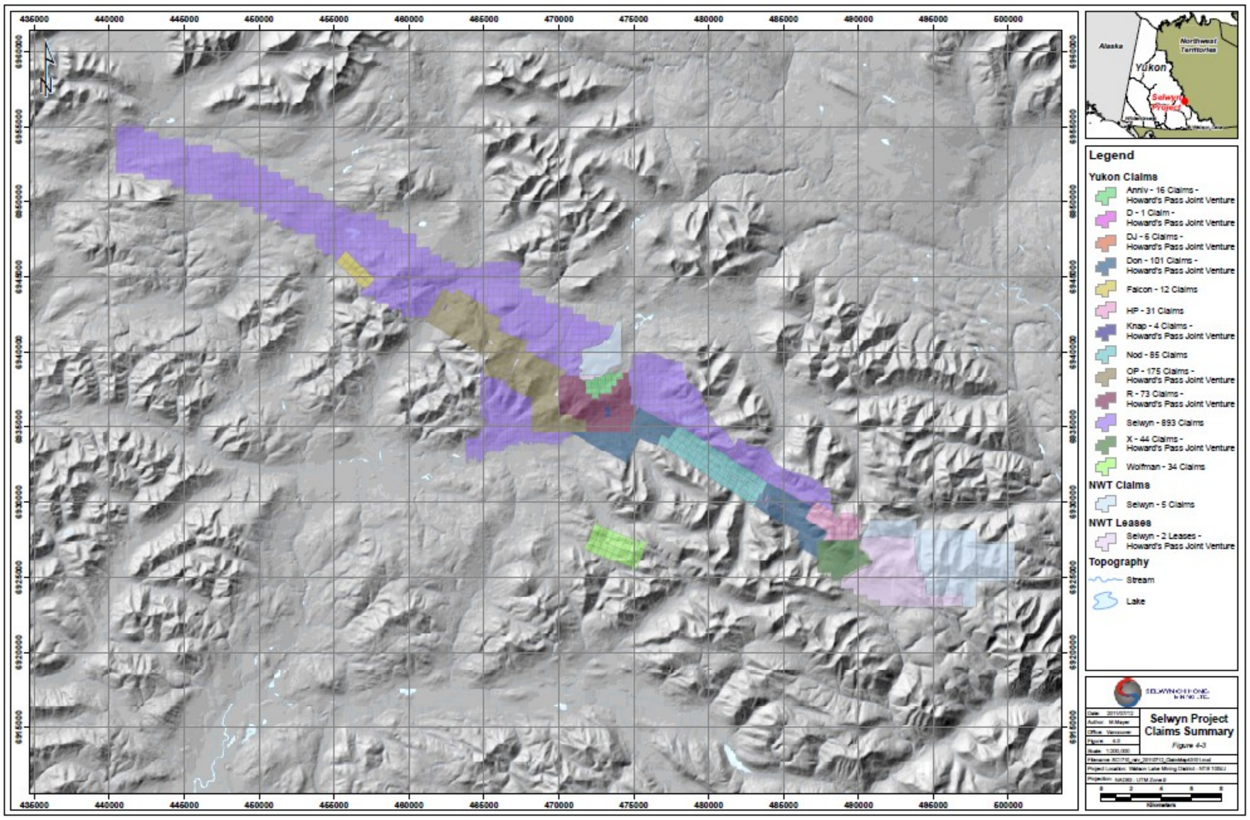

FIGURE 4-3: QUARTZ MINERAL CLAIMS

The mineral claims and mining lease interests in the Selwyn Project are owned by Thompson and Cygnus at 51% and 49% undivided interests, respectively. As stated earlier, these two companies comprise the Howard's Pass Joint Venture.

On April 28, 2005, Pacifica Resources Ltd. (Pacifica) entered into a *letter of intent* for the purchase of 100% interest in the mineral properties of the Howard's Pass Joint Venture.

On August 18, 2005, Pacifica signed an option agreement (Agreement) to acquire 100% of the Howard's Pass Joint Venture property in the Yukon and NWT from Placer Dome (CLA) Ltd. (Placer) and Cygnus, a subsidiary of US Steel Corporation. Note that with the takeover of Placer, their interest was transferred to Terrane Metals Corp. (Terrane) until Terrane was taken over by Thompson on October 20, 2010. This acquisition provided Pacifica 100% ownership, subject to the royalty and net profits interest, with no back-in rights for either Thompson or Cygnus to participate in the Selwyn Project.

The 2005 Agreement allowed Pacifica to purchase 100% of the Howard's Pass Joint Venture's interest for $10 million. The purchase price is payable over seven years: $500,000 on signing the Agreement; $1.0 million on the first, second and third anniversary of the Agreement; $1.5 million on the fourth, fifth, and sixth anniversary of the Agreement; and $2.0 million on the seventh anniversary of the Agreement.

In addition, Pacifica was required to spend a minimum of $3.5 million on exploration at or on the Property before the second anniversary of the Agreement. Howard's Pass Joint Venture will receive a 1% net smelter return (NSR) royalty on production from the Howard's Pass Joint Venture lands and will receive a further payment of $10 million from 20% of the first net proceeds of production; this payment will be indexed to the Consumer Price Index beginning on the seventh anniversary of the Agreement.

On June 7, 2007, Pacifica changed its name to Selwyn Resources Ltd. (Selwyn), and all Pacifica's *non-Selwyn* district, Yukon exploration properties were transferred to a new exploration company called Savant Explorations Ltd.

On December 15, 2009, Selwyn announced a possible $100 million joint venture transaction with Yunnan Chihong Zinc & Germanium Co., Ltd. (Yunnan), a Chinese company. Selwyn executed a binding framework agreement with Yunnan. The parties agreed to form a joint venture operating company to advance the Selwyn Project, finance a bankable feasibility study and, if possible, bringing it into production.

On August 18, 2010, Selwyn closed the $100 million joint venture transaction with Chihong Canada Mining Ltd. (Chihong), an indirect, wholly-owned subsidiary of Yunnan. Following this transaction, Selwyn and Chihong incorporated to form Selwyn Chihong Mining Ltd. (SCML), equally owned by Selwyn and Chihong. SCML is the operator of the new joint venture. Chihong deposited $100 million into the SCML bank account in Canada, and these funds will be used to finance the joint venture's pre-development programs. Chihong will earn a 1% interest on each CAD$2 million spent. Selwyn has transferred all Selwyn Project claims, equipment, permits and licenses to SCML, as a trustee for Selwyn and Chihong in accordance with their interests in the joint venture.

In June 2008, Selwyn received a Land Use Permit (MV2005F0028) and a Type 'B' Water License (MV2006L8-0001) from the Mackenzie Valley Land and Water Board in the NWT. These items allowed Selwyn to undertake the necessary work to improve the existing all-season road, and upgrade existing bridges and culverts to current environmental standards. This will facilitate the year-round transportation of heavy equipment and supplies to the Selwyn Project.

SCML is now in a legal position to use the road as the Mackenzie Valley Land and Water Board approved the following operational plans submitted by Selwyn:

- Wildlife Protection Plan required under the Land Use Permit
- Abandonment and Restoration Plan required under the Type B Water License

On October 14, 2009, Selwyn received a Class 'A' Land Use Permit (S07C-003) from the Sahtu Land and Water Board of the NWT. This permit, valid for five years, allows SCML to carry out diamond drilling (up to 100 drill holes) on its mining claims and leases in the NWT. In July 2010, SCML received an amended mining Land Use Permit (LQ00250b). This permit authorizes the construction of planned infrastructure that is required for the advanced underground exploration program at Selwyn. This amended permit from the Energy, Mines and Resources Department of the Yukon allowed work to begin immediately on the new infrastructure; this included upgrades to drill and access roads; expansion of the Don Camp to accommodate 160 persons (XY Camp can accommodate 60 persons); additional fuel storage; and use of explosives.

On April 20, 2011, the SCML received a Type 'B' Water License (Q210-042) for the Selwyn Project. The license was issued by the Yukon Water Board and allows the use and discharge of water related to the proposed initial underground development activities at the XYC Deposit. The Type 'B' Water License, issued following an assessment of the underground program at the Selwyn Project by the Yukon Environmental and Socio-economic Assessment Board (YESAB), has a 10-year term. Together with Selwyn Chihong's amended Land Use Permit, it allowed for the construction of the portal, maintenance, and waste storage facilities needed for the planned underground program that facilitates access to the XYC Deposit. The license establishes conditions for a rock stockpile storage facility; ponds and facilities for treatment of mine waters; new roads; expansion of camp facilities; additional fuel storage; and the use of explosives.

Currently there are two reclamation bonds required by these SCML licenses. This first bond is for the Type 'B' Water License from the Mackenzie Valley Land and Water Board (MV2006L8-0001) which allows SCML to replace the five existing and non-serviceable bridges on the Howard's Pass access road. If the bridges need to be replaced, a security deposit of $72,000 is required. The second bond is for the project site's advanced exploration activities: SCML holds a mining Land Use Permit from the Government of Yukon's Mineral Resources Branch (LQ00250b) and the security deposit required under this license ($420,500) was paid.

5 ACCESSIBILITY, CLIMATE, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

Historically, the property was accessed by air using a fixed-wing aircraft or helicopter from Whitehorse (360 km trip), Ross River (160 km trip), Faro (200 km trip), or Watson Lake (280 km trip). In 2011, and during previous exploration seasons, most materials and supplies were flown to site by fixed-wing aircraft on Alkan Air Ltd. and Nomad Air Ltd. based out of Whitehorse or the Yukon, and Summit Air based out of Yellowknife, NWT.

From 1976 to 1980, Placer Dome built an all-season 78 km road connecting the Selwyn Project to the town site of Tungsten, NWT where the Cantung Mine is located. This road currently requires a minor upgrade to be fully functional. The Nahanni Range Road, also known as Highway 10, connects Cantung with the Robert Campbell Highway. The highway runs from Watson Lake to Carmacks, serves the communities of Faro and Ross River, and intersects the Canol Road near Ross River. In early fall 2010, the access road was used to bring in six new pieces of heavy equipment and, in February 2011, 82 B-train truck loads of mining equipment were also brought in.

5.2 LOCAL RESOURCES AND INFRASTRUCTURE

Infrastructure on the Selwyn Project is concentrated in three areas: XY Camp, Anniv Camp, and Don Camp. The XY and Anniv Camps were used by Placer in the 1970s and 1980s. Both camps have an existing airstrip; XY's airstrip is 520 m long and Anniv's is 460 m long. Both camps also have some minor infrastructure in place that was left by Placer.

XY Camp was built by Pacifica in 2006 and consists of 20 tents accommodating up to 50 people. It was used during the 2006, 2007, and 2009-2011 exploration programs.

Anniv Camp was built by Pacifica in 2005 and consisted of 20 tents accommodating up to 50 people. It was used during the 2005 and 2006 exploration programs and during two summer months in 2007. The Anniv Camp was moved to the Don Valley and is now known as Don Camp. Don Camp was built by Pacifica in the fall of 2006 and spring of 2007. It consists of 35 tents accommodating up to 60 people. It was used during the 2007, 2008, 2010, and 2011 exploration programs and during the 2009 start-up. It has a large workshop and a 1,025 m long by 30 m wide (3,360 ft x 100 ft) airstrip with turnaround areas at both ends; it can accommodate planes as large as the DHC-5 Buffalo.

Prior to fall 2010, the on-site heavy equipment included a D7H, D7G, D5, D3, 320 excavator, two 420 backhoe loaders, and two Kenworth dump trucks. This equipment was used to construct the one km Don Airstrip and to construct and upgrade the 23 km stretch of dirt road between the XY and Don Camp. In 2007, approximately 4 km of this road was built and the remaining 19 km was upgraded. This road allows company personnel and contractors to drive ATVs, 6x6 Rangers, pickup trucks, and small dump trucks between camps. A 3.5 km trail to the Don deposit was also built in 2007. Most of the drill sites on the property can be accessed using the major roads and the multiple CAT trails in the Anniv Central, Don, Don East, XY Central and XY West Deposits.

In the fall of 2010, six new pieces of heavy equipment were driven to the project site along the all-season, 78 km road connecting the Selwyn Project to the town of Tungsten, NWT. The equipment included one of each of the following:

- CAT 730 rock truck: 6 wheel drive, 30 ton
- CAT 966 front end loader: rubber tires
- CAT D8T bulldozer: 2 blades
- CAT 345 excavator: 40 ton
- CAT 525 skidder: with winch and grappler
- dual axle trailer

During the 2008 exploration season, the existing roads were improved. The road was widened and flattened where required, and several shortcuts were constructed. The newly built Don Bridge was relocated to a better spot, an additional small bridge was built, and more culverts were put in place.

During the 2009 exploration season, a new 3 km dirt trail was built from the XY ore piles to the main road that converged 1.5 km west-northwest of the XY West Deposit. This new section shortened the road between Don Camp and XY Camp by 1.2 km. A new bridge was built on this road, just east of the portal area. Closer to Don Camp, another shortcut was built. Preparations for the portal area began late in the 2009 season.

During the 2010 exploration season, existing roads in the XY Central, XY West and Don areas were upgraded and new drill access trails were created. Steep hills were flattened, where possible, or avoided by rerouting the road. The section of road near the clay hill was decommissioned, the land was reclaimed, and the road was rebuilt on top of eskers, north of the old road.

5.3 CLIMATE

The climate in the area is typical for this part of the Yukon and NWT: cool summers and cold winters. The climate is cold with a mean annual temperature that varies between -5°C and -8°C. The warmest month is July with a mean temperature of 10°C. January is the coldest month with a mean temperature of -20°C. Temperatures of -40°C can persist for one to two week stretches during the winter.

Annual average precipitation is between 600 mm and 700 mm. January to late April is the driest period and July to September is the wettest. Snow levels in mid-spring are generally between 2.0 m and 2.5 m; thawing usually begins in May and by the end of June most of the snow is gone. All of the property's watercourses drain into the Yukon River watershed.

The best weather conditions for exploration are from late May to mid-October, but previous drilling programs have shown that year-round diamond drilling is possible.

5.4 FLORA AND FAUNA

The property is situated in the Selwyn Mountain ecoregion of the Taiga Cordillera ecozone. Howard's Pass is located at the headwaters of Don Creek in the Yukon. The area is characterized by a large undulating alpine plateau dominated by alpine tundra vegetation. Forb-grass meadows are typically found in moist sites, and mosses and lichens are found on gentle-sloping, well-drained sites. Hummocks are a common feature of this area.

The Selwyn Project is located in the Don Creek valley which is surrounded by rugged mountains. Stands of mixed subalpine fir and spruce follow the length of Don Creek along the mountain slopes that have extensive areas of shrub birch, willow and Cladina lichens. Bare and sparsely vegetated slopes with rock outcrops, avalanche tracks, rock glaciers, and talus slopes are common in the area. Extensive carpets of Cladina lichens dominate alpine and subalpine areas.

The upper Don Creek valley is characterized by dense willow thickets mixed with an understory of forbs, grasses, and mosses. This assemblage is typical of the numerous small clearings and meadows in the area. Clusters of subalpine fir trees are found along the valley bottom. Further down the valley, near Don Camp, the lowland is composed of shrub birch, willow, and Cladina lichens on well-drained sites and forb-grass meadows, sedge wetlands and ponds in wetter areas. Open mixed-fir and spruce stands are found along the base of the mountain slopes. An extensive wetland complex is the dominant feature along the valley bottom from mid to lower Don Creek where it enters the Pelly River. The lower Don Creek valley additionally supports extensive shrub birch thickets with fir and spruce interspersed throughout with a Cladina lichen understory. Willows are common along the length of Don Creek, its tributaries, and other wet mineral soils sites. Sedge fens are found in wet shallow depressions throughout.

A number of wildlife species occur in the area, in particular during the spring, summer, and fall months. Wildlife presence is limited during the winter due to high snow packs that are characteristic of the area. Woodland caribou begin to migrate into Howard's Pass in May and are often found at higher elevations on remnant snow patches during the post-calving seasons trying to avoid insects and summer heat. The caribou then migrate to rutting ranges located off-property in the fall. Moose are found below the tree line in wetlands, shrub complexes, and ponds along Don Creek and its tributaries. Grizzly bears are found from the high alpine to valley bottom, emerging from their dens in early June and returning in late October. Wolf, fox, marten, wolverine, and weasel are also present. Marmots and arctic ground squirrels are abundant in subalpine areas near XY Camp at Howard's Pass.

Golden eagles are the most common raptor species in the area and northern hawk owls have been observed in September. Breeding pairs of trumpeter swans nest on the isolated island ponds, lakes, and creeks. Migratory birds have also been documented in the area.

In 1981, fish and fish habitat studies were carried out historically on Don Creek by Archibald and Burns. These studies indicate that Arctic Grayling used the valley bottom reaches of Don Creek seasonally, and that the cascade complex on Don Creek, upstream of the Anniversary Creek confluence, was a barrier to upstream fish migration. Since 2006, subsequent studies carried out under the direction of SCML have identified the presence of Arctic Grayling, Chinook Salmon, Round Whitefish, Burbot and Slimy Sculpin in Don Creek downstream of the cascade barrier, and along the lower reaches of Anniversary Creek. Chinook Salmon were caught for the first time in 2010, and the other species, with the exception of Arctic Grayling, were found in low numbers in Don Creek and Anniversary Creek. Slimy Sculpin have been caught in Bob Lake as well. Substantial efforts have been made to confirm the presence or absence of fish above the cascade complex on Don Creek. No fish have been seen or captured in this area, probably due to a combination of potential barriers (creek cascades complex), poor water quality, and the lack of overwintering habitat. The telemetry studies for Arctic Grayling overwintering has shown that Grayling use deep pool complexes in lower Don Creek, and the Pelly River downstream of the Don Creek confluence, as overwintering habitat. Continuing into 2011, fisheries studies will focus on Don Creek and Anniversary Creek in relation to the proposed mine development.

5.5 PHYSIOGRAPHY AND VEGETATION

The physiography of the area is quite varied from U-shaped glacial valleys to rugged snow-capped peaks. Elevations on the property range from 1,125 m at Pelly River to 2,035 m on Yara Peak, with most of the area above the 1,470 m tree line. Major valleys are densely vegetated with thick grass, brush, and stunted timber. Peaks are barren and alpine in nature. Much of the area consists of gently rolling hills with sparse outcrops.

5.6 LOCAL RESOURCES

5.6.1 Sufficiency of Surface Rights for Mining Operations

The Selwyn Project is situated on mineral claims established under the Quartz Mining Act of the Yukon. These mineral claims are established on Crown Land and there are no other competing land tenures for surface rights or resource rights. Mining operations on mineral claims in the Yukon are allowed, provided the Mining Land Use Permit and Type 'A' Water

Licenses have been granted to the proponent. The SCML has not yet acquired these permits.

5.6.2 Availability and Sources for Power

The Selwyn Project operates on the basis of stand-alone diesel power units. Future phases of the Project will rely on similar technology. Hydro power potential has been identified in the area, but development of a hydro power facility is not currently within the scope of the Project development.

5.6.3 Availability and Sources of Water

The Selwyn Project is situated in the Don Valley drainage in the upper Pelly River watershed. The Don Creek flows at an average rate of 4.51 m^3/s as it merges with the Pelly River. For the current exploration operations, Selwyn is licensed to draw 305 m^3/d from this watershed to support ongoing operation. During the mining phase, Selwyn will also explore the use of a water source generated by underground workings and drawn from tributaries in the Don Valley.

5.6.4 Availability and Sources of Personnel

The Selwyn Project's close proximity to communities in the Yukon and NWT facilitates the use of short range aircraft to shuttle workers to and from nearby communities. Historically, approximately 25% of the workforce at Selwyn came from the following communities: Whitehorse, Watson Lake, Ross River, Norman Wells, and Tulita. Whitehorse supports the year-round operation of a commercial airport that receives regular flights from within the Yukon, and from Vancouver and Edmonton. Flights from Alaska and Europe make use of the airport on a seasonal basis. This transportation network allows the Project to easily access labour sources and technical expertise from major centers in western Canada and across North America.

5.6.5 Potential Tailings Storage Areas

Selwyn has evaluated a number of potential tailings storage locations within the Don Valley drainage. Selwyn is currently designing a wet tailings storage facility in the Anniversary Creek drainage of the Don Valley. The facility will be designed to handle tailings slurry and be expected to reach capacity after approximately ten years, and will be located entirely on mineral claims owned by Selwyn. To allow further expansion, a tailings dam raise can be used to increase the capacity of the facility.

5.6.6 Potential Waste Disposal Areas

Waste disposal at the Selwyn Project is achieved through the process of land filling and the incineration of combustible waste. Facilities currently being designed for the mining phase of the project allow for waste rock to be disposed within the footprint of the tailings storage area, along with temporary waste rock storage pads near mining operations. Depending on the proposed underground mining method, backfill requirements will likely provide a workable option for the disposal of waste rock.

5.6.7 Process Plant Location

Selwyn has evaluated two potential processing plant locations within its mineral claims on the Don Valley Watershed. The Project has decided to proceed with the more detailed facility design that will be located mid-way through the valley and central to the known mineral resources on the existing Selwyn claims.

6 HISTORY

6.1 PRIOR OWNERSHIP

In 1972, Placer Development Limited (Placer Development) discovered Howard's Pass, and up until 1981, the property was aggressively advanced by the Howard's Pass Joint Venture. The advance work included the completion of:

- Two hundred and ten diamond drill holes to define the mineral resources in the XY Central and Anniv Deposits.
- Test mining in a high-grade portion of the XY Central Deposit.
- Extensive metallurgical testwork, including a detailed study of on-site advanced mineral processing.

Placer's interest in the project subsided as it focused on its own growth as a major gold company. Cygnus, a subsidiary of US Steel Corporation, resumed its focus on steel.

In 2000, the Howard's Pass Property was briefly under option to Copper Ridge Explorations Inc. (Copper Ridge). At that time, Copper Ridge completed eight drill holes in the Anniv Deposit.

In 2005, Pacifica Resources Ltd. (Pacifica) signed an option agreement (Agreement) to acquire 100% of the Howard's Pass Joint Venture Property in the Yukon and NWT from Placer Dome (CLA) Ltd. (Placer) and Cygnus. Note that with the takeover of Placer, their interest was transferred to Terrane Metals Corp. (Terrane) until Terrane was taken over by Thompson on 20 October 2010. This acquisition gave Pacifica 100% ownership, subject to the royalty and net profits interest, with no back-in rights for either Thompson or Cygnus to participate in the project. The last payment is scheduled for 2012 when SCML will own 100% of the Howard's Pass Joint Venture.

In 2007, Pacifica changed its name to Selwyn Resources Ltd. (Selwyn) and, at that time, all of Pacifica's non-Selwyn district, Yukon exploration properties were transferred to a new exploration company called Savant Explorations Ltd.

During the summer of 2010, Selwyn closed a $100 million joint venture transaction with a Chinese company called Chihong Canada Mining Ltd. (Chihong); it was an indirect, wholly-owned subsidiary of Yunnan. Following this transaction, Selwyn and Chihong incorporated to form Selwyn Chihong Mining Ltd. (SCML), owned equally by Selwyn and Chihong. SCML is the operator of the new joint venture. Chihong deposited $100 million into the SCML bank account in Canada, and these funds will be used to finance the joint venture's pre-development programs. Chihong will earn a 1% interest on each $2 million spent. Selwyn transferred all Selwyn Project claims, equipment, permits, and licenses to SCML in its role as a trustee for Selwyn and Chihong in accordance with their interests in the joint venture.

6.2 HISTORICAL EXPLORATION AND DEVELOPMENT

Placer Development personnel discovered the Howard's Pass Property during the 1972 field season. Geochemical reconnaissance programs, that used stream silts as sampling media, had begun in this area in 1968, and in 1972 the follow-up anomalies generated by this work led to the discovery of a zinc-lead sulphide mineralization. By the end of the 1972 field season, over 600 claims had been staked.

The major exploration activities on the Howard's Pass Property occurred between 1972 and 1981. A review of each year's activity is summarized here:

1972

Follow-up reconnaissance geochemistry led to the discovery of zinc-lead mineral showings in the XY and Anniv areas. Most of Howard's Pass claims were staked at this time.

1973

Two diamond drill rigs were used to drill 4,840 m (15,489 ft) in the XY area east of Don Creek. Drilling results were disappointing, but the drilling helped define and reveal the local stratigraphy. Based on this drilling, the Flaggy Mudstone Formation was identified as a good property marker horizon. Soil geochemistry was completed over part of the XY, Anniv, and OP areas. Geochemical surveys and prospecting helped discover five zinc-lead massive sulphide showings. During the winter of 1973-1974, an ore microscopy study led to the textural classification used to describe the sulphides that were encountered.

1974

Diamond drilling continued in the XY area and the results improved. Detailed mapping in the XY area led to the sub-basin model, the subdivision of the Howard's Pass Formation into members, and the subdivision of the Active Member into facies as discussed in *Section 7.3.3*. Mapping in the Anniv area suggested at least one other sub-basin in the region. A small soil geochemical survey was completed in the XY northeast deposit.

1975

Cygnus entered into a joint venture with Placer to explore Howard's Pass for zinc and lead. Deep diamond drilling on the XY sub-basin model indicated complexities for the continuity of the mineralized horizon. A small drill was used for 240 m in the Anniv area. These holes indicated excellent potential for the Anniv Deposit. Detailed mapping of the XY and Anniv Deposits continued. A regional exploration joint venture (South Selwyn Joint Venture) between Placer and US Steel was formed. This regional joint venture was subsequently dissolved.

1976

A major diamond drill program was undertaken to explore the XY and Anniv targets. This drilling discovered the XY Central Deposit. Prospecting in the XY area discovered the Brodel Deposit and a subsequent soil geochemical survey indicated a reasonable strike length to that deposit. Drilling on a detailed grid in the Anniv target defined near surface zinc-lead mineralization. Mapping discovered the Anniv East deposit, and initial drilling results indicated the potential for a sizeable deposit. The discovery of two showings in the OP area indicated a strike length of at least 1,560 m. Initial attempts to drill these targets were unsuccessful due to poor down hole ground conditions.

1977

Diamond drilling focused on the XY Central Deposit where 4,643 m of drilling provided sufficient data for a preliminary Indicated resource estimate. This historical resource was calculated prior to NI 43-101. A road between Cantung, a tungsten mine south of Howard's Pass, and the XY airstrip began, but wasn't finished due to soft ground. Initial flotation and hydrometallurgical leaching testwork was completed.

1978

Drilling in the northern part of the XY Central Deposit indicated complex folding and faulting. Drilling in the Anniv East Deposit indicated a large lower grade deposit.

1979

Drilling continued to define the Anniv West Deposit. Over 1,875 m of strike length was demonstrated, but the sample drill core was at depth and low grade. Preparation of the adit and campsite for the XY underground program began in the fall of 1979.

1980-1981

Beginning in 1980, the XY Central Deposit was explored through an underground program that obtained more detailed information on this high-grade deposit. After the initial underground examination of the Active Member, underground drilling was undertaken to help evaluate the deposit's continuity. A geotechnical consultant was retained to complete a preliminary rock mechanics study for the underground program.

1982

Milling testwork was done, followed by an economic evaluation of the underground high-grade, zinc-lead mineralization discovered.

1983

Bench scale and pilot plant testwork was completed. Work was halted on the property due to poor metal prices and the remote property location.

1994

Placer Dome (previously Placer Development) completed an internal compilation and review.

1995

Economic re-evaluation was completed using a similar concentrate-shipping scenario as defined in the 1982 evaluation.

2000

In July and August, before obtaining an option agreement to purchase the property, Copper Ridge completed a due diligence review of the Howard's Pass Property. As part of this, Copper Ridge completed an internal mineral resource estimate. This historical resource was calculated before NI 43-101. Once the due diligence studies were complete, Copper Ridge drilled eight holes (ANS 65-ANS 72) totaling 718.71 m (2,358 ft) on the Anniv Deposit between September 20, 2000 and October 30, 2000. In late 2000, Copper Ridge dropped their option to purchase the Howard's Pass Property.

2002

Placer Dome completed a limited electronic database compilation for the historical drilling that included work done by Copper Ridge. It was reported that Placer spent $20 million on exploration and development at Howard's Pass between 1971 and 1982.

2005 to Present

Pacifica, Selwyn, and SCML have each conducted a drill program on the Selwyn Project. These surface drilling programs have resulted in the discovery of nine additional deposits. Extensive soil sampling programs were conducted between 2005 and 2007, and regional mapping was conducted during the summer months between 2005 and 2011.

6.3 HISTORICAL MINERAL RESOURCE ESTIMATES

6.3.1 Mineral Resource Estimates 1983, 1994, and 2000

Several historical mineral resource estimates were done before Pacifica acquired the Project. The base case historical mineral resource estimate is considered to be the one presented by Morganti (1983); this resource estimate should be considered a global resource estimate for the complete Howard's Pass Property. It is 127.2 million short tons (115.4 Mtonnes) grading 5.38% Zn and 2.08% Pb at a 4% Zn+Pb cut-off in the historical Indicated category; this is shown in Table 6.1. An additional 404.6 million short tons (367.1 Mtonnes) grading 5.12% Zn and 1.90% Pb in the historical Inferred category was also reported.

The historical resource estimates completed by Placer Development and Copper Ridge are reliable and relevant, but they are not reported under NI 43-101.

TABLE 6.1: 1983 HISTORICAL MINERAL RESOURCES (MORGANTI, 1983)

HOWARD'S PASS INDICATED MINERAL INVENTORY 4% Zn + Pb Cut-off						
Location	**Deposit**	**Metric Tonnes x1000**	**Short Tons x1000**	**Zn%**	**Pb%**	**Zn+Pb%**
XY						
I – 1	XY Central deposit	47,645	52,519	5.65	2.39	8.04
I – 4	XY East deposit	8,614	9,495	5.06	2.06	7.12
I – 6	XY Nose Area	3,743	4,126	4.79	2.95	7.74
	Subtotal	**60,002**	**66,140**	**5.46**	**2.36**	**7.82**
ANNIV						
II – 1	Anniv Central deposit	22,245	24,520	5.25	1.83	7.09
II – 3	Anniv East deposit	33,156	36,548	5.32	1.74	7.05
	Subtotal	**55,401**	**61,068**	**5.29**	**1.77**	**7.06**
TOTAL		**115,403**	**127,208**	**5.38**	**2.08**	**7.46**
HOWARD'S PASS INFERRED MINERAL INVENTORY						
Location	**Deposit**	**Metric Tonnes x1000**	**Short Tons x1000**	**Zn%**	**Pb%**	**Zn+Pb%**
XY						
I – 2	NE - XY Central deposit	39,066	43,062	4.39	1.82	6.21
I – 3	NW - XY Central deposit	14,757	16,267	6.28	1.88	8.16
I – 5	XY East deposit	3,460	3,814	6.03	4.7	10.74
I – 7	Nose deposit	42,426	46,766	4.69	3.01	7.7
I – 8	North East deposit	7,379	8,134	4.76	0.74	5.5
	Subtotal	**107,089**	**118,043**	**4.85**	**2.32**	**7.17**
Anniv						
II – 2	Anniv Central deposit	118,698	130,840	5.07	1.73	6.8
II – 4	Anniv East deposit	141,278	155,730	5.37	1.73	7.1
	Subtotal	**259,976**	**286,570**	**5.23**	**1.73**	**6.96**
	Total	**367,065**	**404,613**	**5.12**	**1.9**	**7.02**

The main focus by Ditson (1994) was to emphasize caution and geological constraint with respect to stratigraphy and structure in the estimation of the Howard's Pass 1983 *mineral resource* estimate by Morganti (1983). Ditson reports a *mineral inventory* and refers to the estimations as *resource* in the Indicated and Inferred categories. The resource estimates are essentially identical to Morganti (1983) as shown in Table 6.1. Ditson suggests that further work should emphasize re-logging of drill core, geological modeling, substantial in-fill, and additional drilling.

The study by Makepeace (2000) was meant to be a quick check on the Placer Development historical *resource* grades and tonnages. The resource is similar in the magnitude of tonnage and grade to that of Morganti (1983). In 2000, Copper Ridge held an option on the Howard's Pass Property and completed a small drilling program. Prior to diamond drilling in September and October, 2000, they completed a mineral resource due diligence review that was done by Geospectrum Engineering (Makepeace, 2000). They used a digital drill hole database and respective mineralized intersections that were completed by Placer in the 1990s. This digital data was composited using a cut-off of 1.5% Zn; lead was not used in the composites.

Makepeace believed that both the XY and Anniv Deposits seemed to correlate well with the polygonal Placer estimates, even considering the differences in cut-off grades between the polygonal and geostatistical estimates. Table 6.2 shows six estimates for illustrative purposes only.

TABLE 6.2: 2000 HISTORICAL MINERAL RESOURCES
GEOSPECTRUM ENGINEERING RESOURCE CALCULATIONS
1.55% ZINC CUT-OFF GRADE
(MAKEPEACE 2000)

Deposit	Search Model	Search R1 (m)	Radius R1 (m)	Angle (°)	Grade % Zn	Metric Tonnes (millions)
XY	ID2	76.2	76.2	0	4.18	62
	ID3	76.2	76.2	0	4.08	62
	Kriging	76.2	76.2	0	4.09	61
ANNIV	ID2	76.2	76.2	0	3.73	30
	ID3	76.2	76.2	0	3.73	30
	Kriging	200	100	300	3.73	74

6.3.2 Historical Estimates 2005

The following is adapted from Burgoyne (2005):

> The historical resource estimate of Morganti (1983) as described in Section 6.3.1, completed by Placer Development, is reliable and relevant and can and

should be used under NI 43-101 subject to certain conditions that are noted by the author. Although the historical resource estimates do not meet current CIM resource standards and classifications, the historical "indicated mineral inventory" noted for Morganti (1983) is better considered as an Inferred Mineral Resource under Canadian Institute of Mining and Metallurgy (CIM) standards today and is referred to as such by the writer.

This base case historical mineral resource estimate presented by Morganti (1983) is a global resource estimate for the complete Howard's Pass property. It is 127.2 million short tons (115.4 million metric tonnes) grading 5.38% Zn and 2.08% Pb at a 4% Zn + Pb cut-off in the reclassified Inferred Mineral Resource category as illustrated in Table 6.3.

Also, the historical "inferred mineral inventory" defined by Morganti (1983) does not meet current CIM mineral resource and reserve standards and is more akin to an exploration target that has "mineral potential". These historical "inferred mineral inventory" areas should be defined as exploration target areas, which should be reported as a range of tonnages and grades.

TABLE 6.3: 2005 HISTORICAL MINERAL RESOURCES (BURGOYNE, 2005)

Howard's Pass "Inferred Mineral Resource Category" 4% Zn + Pb Cut-off						
Location	**Deposit**	**Metric Tonnes x1000**	**Short Tons x1000**	**Zn%**	**Pb%**	**Zn+Pb%**
XY						
I – 1	XY Central deposit	47,645	52,519	5.65	2.39	8.04
I – 4	XY East deposit	8,614	9,495	5.06	2.06	7.12
I – 6	XY Nose Area	3,743	4,126	4.79	2.95	7.74
	Subtotal	**60,002**	**66,140**	**5.46**	**2.36**	**7.82**
ANNIV						
II – 1	Anniv Central deposit	22,245	24,520	5.25	1.83	7.09
II – 3	Anniv East deposit	33,156	36,548	5.32	1.74	7.05
	Subtotal	**55,401**	**61,068**	**5.29**	**1.77**	**7.06**
TOTAL		**115,403**	**127,208**	**5.38**	**2.08**	**7.46**

6.3.3 Historical Estimates 2006

The following is adapted from Nilsson and O'Donnell (2006):

The mineral resource evaluation study on Howard's Pass utilized MineSight/MedSystem® (ver. 3.3) 3-D modeling and geostatistical software by

Mintec Inc. An electronic database was provided to Pacifica as part of the Howard's Pass Joint Venture database and Pacifica's 2005 drill results were appended. Mineral resources were estimated for five different deposits on the property using 3-D block models. Databases were verified, assays were composited, classical statistics were evaluated, variography was undertaken, and the blocks were estimated.

The resource summary is presented below in Table 6.4, including contained metal, using a 2.00% Zn grade cut-off. Table 6.5 shows the total resources at various zinc cut-offs.

TABLE 6.4: 2006 GLOBAL MINERAL RESOURCE ESTIMATES
2.0% ZINC CUT-OFF GRADE
(NILSSON & O'DONNELL, 2006)

Deposit	Resource Class	Million tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	20.91	5.9	2.37	2,717	1,090
	Inferred	54.13	6.15	2.77	7,339	3,306
XY NOSE	Indicated					
	Inferred	7.32	4.08	2.2	658	354
BRODEL	Indicated					
	Inferred	12.11	4.31	1.16	1,150	308
ANNIV EAST	Indicated					
	Inferred	18.38	4.46	1.28	1,805	518
ANNIV CENTRAL	Indicated	12.59	4.91	1.66	1,360	460
	Inferred	20.97	5.38	1.79	2,485	827
	TOTAL INDICATED	**33.5**	**5.52**	**2.1**	**4,077**	**1,550**
	TOTAL INFERRED	**112.91**	**5.4**	**2.14**	**13,437**	**5,313**

Note: Mineral Resources have been calculated as of February 9, 2006 in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum. The resources are under NI 43-101. Assumed metal prices were as follows: zinc at US$0.70/lb and lead at US$0.40/lb. Assumed metal recovery to concentrates is 85% for zinc and 78% for lead.

TABLE 6.5: 2006 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (NILSSON & O'DONNELL 2006)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	1	34,284,848	5.44	2.07	2.73
	2	33,501,022	5.53	2.10	2.74
	2.5	32,407,378	5.64	2.14	2.74
	3	30,918,997	5.77	2.20	2.74
	3.5	28,770,658	5.96	2.29	2.75
	4	25,423,875	6.25	2.43	2.76
	4.5	21,597,909	6.61	2.61	2.77
	5	17,220,587	7.08	2.87	2.79
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	1	115,416,587	5.32	2.11	2.73
	2	112,907,937	5.40	2.14	2.73
	2.5	109,989,397	5.48	2.17	2.74
	3	103,467,985	5.65	2.24	2.74
	3.5	93,890,252	5.90	2.36	2.75
	4	82,002,333	6.21	2.51	2.76
	4.5	69,122,564	6.57	2.71	2.77
	5	57,917,616	6.93	2.91	2.79

6.3.4 Historical Estimates 2007

The following is adapted from Pearson and O'Donnell (2007):

> The 2007 updated mineral resource evaluation study on Howard's Pass utilized MineSight®/MedSystem (ver. 3.3) 3-D modeling and geostatistical software by Mintec Inc. An electronic database was provided to Pacifica which represented the 2006 resource estimate and Pacifica's 2006 drill results were appended. Mineral resources were estimated for ten different deposits on the property using 3-D block models. Databases were verified, assays were composited, classical statistics were evaluated, variography was undertaken, and the blocks were estimated.
>
> To better define the opportunity of higher grade production, a resource model was initiated on the XY deposit which modeled the higher grade portion of the Active Member. The higher grade strataform beds (2) are located on the hanging

wall and footwall portion of the overall 20-30 m section of mineralized horizon. Placer recognized the conformity of these mineralized horizons, and calculated an underground resource, see Burgoyne, 2005. The underground resource was completed with the same methodology and procedures as the overall resource. It is noted that the resources associated with the underground resource is included within the overall XY deposit resource shown in Table 6.6, (i.e. the underground resource is not an additional resource of the overall Howard's Pass resource).

A resource summary is presented below in Table 6.6, including contained metal, using a 2.0% zinc grade cutoff, and Table 6.7 showing total resources at various zinc cutoffs. The higher grade "underground" resources are summarized in Tables 6.8 and 6.9."

TABLE 6.6: 2007 GLOBAL MINERAL RESOURCE ESTIMATES
2.0% ZINC CUT-OFF GRADE
(PEARSON & O'DONNELL, 2007)

Deposit	Resource Class	Million tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	36.27	5.77	2.35	4,610	1,874
	Inferred	46.64	5.38	2.08	5,525	2,138
XY NOSE	Indicated					
	Inferred	7.32	4.08	2.20	658	354
BRODEL	Indicated					
	Inferred	12.11	4.31	1.16	1,150	309
HC	Indicated	8.60	4.01	1.04	759	197
	Inferred	33.02	3.85	1.07	2,800	780
HC WEST	Indicated	4.47	4.36	1.16	429	114
	Inferred	13.93	4.98	1.32	1,528	404
DON EAST	Indicated					
	Inferred	24.71	5.54	1.43	3,017	780
DON	Indicated	2.36	5.15	1.15	268	60
	Inferred	14.68	4.70	1.17	1,520	377
ANNIV EAST	Indicated	16.92	4.15	1.20	1,548	447
	Inferred	16.05	4.04	1.08	1,429	381
ANNIV CENTRAL	Indicated	17.98	4.52	1.51	1,791	599
	Inferred	40.12	4.63	1.48	4,093	1,308
ANNIV WEST	Indicated					
	Inferred	6.88	4.56	1.47	652	189
	TOTAL INDICATED	**86.60**	**4.93**	**1.73**	**9,406**	**3,293**
	TOTAL INFERRED	**215.40**	**4.71**	**1.48**	**22,377**	**7,025**

Note: Mineral Resources have been calculated as of March 30, 2007 in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum. The resources are under NI 43-101. Assumed metal prices were as follows: zinc at US$0.70/lb and lead at US$0.40/lb. Assumed metal recovery to concentrates is 85% for zinc and 78% for lead. The Brodel and XY Nose did not have any drilling completed in 2006; therefore, the 2006 resource numbers where carried forward.

TABLE 6.7: 2007 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (PEARSON & O'DONNELL 2007)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	1	89,269,887	4.83	1.69	2.75
	2	86,639,469	4.93	1.73	2.75
	2.5	82,633,506	5.06	1.77	2.75
	3	75,405,117	5.28	1.85	2.76
	3.5	65,539,283	5.58	1.98	2.77
	4	53,970,947	5.97	2.15	2.78
	4.5	42,895,008	6.42	2.37	2.79
	5	33,453,166	6.90	2.61	2.80
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	1	219,376,780	4.66	1.46	2.74
	2	215,491,041	4.71	1.48	2.74
	2.5	200,748,976	5.03	1.56	2.74
	3	190,748,646	5.15	1.60	2.75
	3.5	172,713,557	5.35	1.65	2.75
	4	145,797,119	5.64	1.74	2.76
	4.5	114,233,716	6.03	1.87	2.77
	5	84,159,323	6.49	2.02	2.78

TABLE 6.8: 2007 MINERAL RESOURCE ESTIMATES (XY UNDERGROUND) 2.0% ZINC CUT-OFF GRADE (PEARSON & O'DONNELL 2007)

Deposit	Resource Class	Million tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY HANGING WALL LENS	Indicated	3,305,480	7.94	2.48	578	180
	Inferred	958,010	9.30	2.68	196	56
XY FOOTWALL LENS	Indicated	4,089,380	11.45	11.60	1,032	523
	Inferred	898,490	11.60	4.82	229	95
	TOTAL INDICATED	**7,394,860**	**9.88**	**4.31**	**1,610**	**703**
	TOTAL INFERRED	**1,856,500**	**10.41**	**3.71**	**425**	**151**

TABLE 6.9: 2007 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (XY UNDERGROUND) (PEARSON & O'DONNELL 2007)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	0	7,410,818	9.86	4.31	2.89
	1	7,404,490	9.87	4.31	2.89
	2	7,394,863	9.88	4.31	2.89
	3	7,380,878	9.89	4.32	2.89
	4	7,357,245	9.91	4.33	2.89
	5	7,198,414	10.03	4.39	2.89
	6	6,897,866	10.23	4.50	2.90
	7	6,063,590	10.73	4.81	2.91
	8	5,006,945	11.42	5.28	2.93
	10	3,195,378	12.77	6.35	2.98
	12	1,520,108	14.81	8.16	3.05
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	0	1,857,950	10.40	3.71	2.89
	1	1,857,950	10.40	3.71	2.89
	2	1,856,503	10.41	3.71	2.89
	3	1,856,503	10.41	3.71	2.89
	4	1,856,503	10.41	3.71	2.89
	5	1,841,449	10.46	3.73	2.89
	6	1,769,326	10.67	3.80	2.90
	7	1,751,231	10.71	3.81	2.90
	8	1,580,445	11.04	3.97	2.91
	10	1,206,256	11.64	4.33	2.93
	12	296,017	13.75	3.72	2.95

6.3.5 Historical Estimates 2008

The following is adapted from Pearson and O'Donnell (2008):

The 2008 updated mineral resource evaluation study on Howard's Pass utilized MineSight®/MedSystem® (ver. 3.6) 3-D modeling and geostatistical software by Mintec Inc. In total, resource estimates for fourteen different deposits have been computed with respect to the Selwyn Project since acquiring the property in 2005 (Table 6.10). Ten of the fourteen deposits listed in Table 6.10 have been computed using a 3-D block model method. Databases were verified, assays were deposit coded and composited, classical statistics were evaluated, variography was undertaken, and the blocks were populated with grades and tonnage. The remaining four deposits (Pelly North, OP West, OP, and HP) have too few drill holes to evaluate with a 3-D model methodology and were estimated using polygonal, average widths/grade methods and classified entirely as an inferred resource.

The 2007 geologic database was appended to the 2006 MedSystem database and was used to complete the 2008 mineral resource estimate. A total of four separate block models where initialized for the 2008 resource update, which included new calculations for Don, Don East, HC West, XY Central deposits. The above four deposits contain all of the new drilling completed during the 2007 exploration program, except for one hole in HC deposit. The HC deposit 2008 resource estimate was calculated by redefining ore shells based on the single hole and recalculating resources in the 2007 resource model. The remaining (undrilled) resource values were carried forward from previous years.

Further to the 2007 report, an inferred tonnage was calculated on other known areas which had too few holes for any statistical analysis. These areas, however, are significant in the overall mineral resource of Selwyn Project and the defined deposits (Pelly North, OP West, OP, and HP) are significant and worth quantifying for further exploration on the property. With the limited information available, these areas were evaluated by simple polygonal methods, averaging grades, and true widths to determine volumes and ultimate tonnages summary. A summary of calculated inferred tonnages is part of Table 6.10. The three years exploring for SEDEX mineralization on the Howard's Pass property has made estimating an inferred resource with limited drilling justifiable and further expansion of these areas is expected with ongoing drilling.

The 2008 mineral resource study calculated a subset high-grade "underground" resource for the XY deposit. This resource subset concentrated on the two high-grade "underground" beds defined by drilling in the XY (top and bottom of the Active Member). It was previously recognized by Placer that correlation of these higher grade beds was possible. In 2007, the XY deposit calculation modeled the higher grade portions of the Active Member. These higher grade stratiform beds (2) are located on the hanging wall and footwall portions of the overall 20-30 meter thick section of mineralized horizon. Placer had also recognized the conformity of these mineralized horizons, and calculated a high-grade “underground” resource, (see Burgoyne, 2005). The 2007 drill program on the XY deposit provided requisite data for an update to the 2007 high-grade “underground” resource.

Three other high-grade “underground” areas, similar to XY, were defined during the 2007 drilling program. These include Don, Don East, and HC West deposits, which have enriched grades associated with the basal portion of the Active Member.

Note that the mineral resources associated with the high-grade “underground” resource areas are included within the overall deposit global resource totals shown in Table 6.10. The high-grade “underground” resource is not an additional resource to the overall Howard’s Pass resource. A global resource summary is presented below in Table 6.10, including contained metal, using a 2.00% zinc grade cutoff, and Table 6.11 showing total resources at various zinc cutoffs. The higher grade “underground” resources are summarized in Tables 6.12 and 6.13.”

TABLE 6.10: 2008 GLOBAL MINERAL RESOURCE ESTIMATES
2.0% ZINC CUT-OFF GRADE (PEARSON & O'DONNELL, 2008)

Deposit	Resource Class	Million Tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	44.45	6.17	2.64	6,049	2,582
	Inferred	45.94	4.20	1.32	4,256	1,339
XY Nose	Indicated					
	Inferred	7.32	4.08	2.20	658	355
Brodel	Indicated					
	Inferred	12.10	4.31	1.16	1,150	308
HC	Indicated	8.60	4.01	1.04	759	198
	Inferred	19.37	3.83	1.09	1,634	463
HC West	Indicated	19.68	5.46	1.56	2,368	677
	Inferred	10.22	5.42	1.50	1,222	338
Don East	Indicated	35.49	5.37	1.63	4,198	1,273
	Inferred	41.07	5.23	1.61	4,736	1,455
Don	Indicated	11.23	5.99	2.17	1,482	536
	Inferred	16.29	5.62	1.99	2,017	714
Anniv East	Indicated	16.92	4.15	1.20	1,549	447
	Inferred	16.05	4.04	1.08	1,430	381
Anniv Central	Indicated	17.98	4.52	1.51	1,792	600
	Inferred	40.12	4.63	1.48	4,094	1,309
Anniv West	Indicated					
	Inferred	6.88	4.30	1.25	653	190
HP	Indicated					
	Inferred	6.18	4.55	1.23	620	168
OP	Indicated					
	Inferred	1.77	4.18	1.29	163	50
OP West	Indicated					
	Inferred	1.38	2.67	0.86	81	26
Pelly North	Indicated					
	Inferred	6.85	3.20	0.90	483	136
	Total Indicated	**154.35**	**5.35**	**1.86**	**18,198**	**6,314**
	Total Inferred	**231.54**	**4.54**	**1.42**	**23,199**	**7,233**

Note: Mineral Resources have been calculated as of January 29, 2008 in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum. The resources are under NI 43-101. Assumed metal prices were as follows: zinc at US$0.70/lb and lead at US$0.40/lb. Assumed metal recovery to concentrates is 85% for zinc and 78% for lead. The Brodel and XY Nose did not have any drilling completed in 2008; therefore, the 2007 resource numbers were carried forward. The Anniv East, Anniv Central, and Anniv West did not have any drilling completed in 2007; therefore, the 2007 resource numbers were carried forward.

TABLE 6.11: 2008 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (PEARSON & O'DONNELL 2008)

Indicated Resource	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	1	157,421,446	5.28	1.83	2.76
	2	154,386,171	5.35	1.86	2.76
	2.5	149,933,982	5.44	1.89	2.76
	3	141,239,359	5.60	1.95	2.77
	3.5	128,492,980	5.84	2.04	2.77
	4	112,231,227	6.14	2.16	2.78
	4.5	93,910,702	6.51	2.32	2.79
	5	76,031,790	6.92	2.52	2.80
Inferred Resource	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	1	234,300,794	4.51	1.41	2.73
	2	231,580,681	4.54	1.42	2.74
	2.5	225,962,986	4.60	1.43	2.74
	3	212,287,828	4.73	1.47	2.74
	3.5	190,543,399	4.90	1.52	2.74
	4	158,622,799	5.16	1.59	2.75
	4.5	125,158,183	5.45	1.69	2.76
	5	94,453,623	5.76	1.79	2.77

TABLE 6.12: 2008 MINERAL RESOURCE ESTIMATES (HIGHER-GRADE UNDERGROUND RESOURCE) 2.0% ZINC CUT-OFF GRADE (PEARSON & O'DONNELL 2008)

Deposit	Resource Class	Tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	10,738,000	10.38	4.41	2,458	1,045
	Inferred	2,849,000	10.86	4.41	682	277
DON	Indicated	5,325,000	9.98	3.86	1,172	453
	Inferred	5,335,000	7.94	2.95	934	346
DON EAST	Indicated				0	0
	Inferred	11,976,000	8.59	2.3	2,267	606
HC WEST	Indicated				0	0
	Inferred	2,996,000	9.73	3	643	198
	Total Indicated	16,063,000	10.25	4.23	3,629	1,498
	Total Inferred	23,156,000	8.86	2.8	4,525	1,427

TABLE 6.13: 2008 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (HIGHER-GRADE UNDERGROUND RESOURCE) (PEARSON & O'DONNELL 2008)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	0	16,065,776	10.25	4.23	2.89
	2	16,065,776	10.25	4.23	2.89
	4	16,042,248	10.26	4.23	2.89
	6	15,302,492	10.49	4.35	2.90
	8	11,449,078	11.65	5.02	2.93
	10	7,483,894	13.05	5.90	2.97
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	0	23,154,307	8.86	2.80	2.84
	2	23,158,607	8.86	2.80	2.84
	4	23,148,373	8.87	2.80	2.84
	6	21,325,743	9.16	2.88	2.85
	8	15,410,568	9.96	3.16	2.87
	10	6,057,310	11.39	3.68	2.90

6.3.6 Historical Estimates 2009

The following is adapted from O'Donnell (2009):

> The 2009 updated mineral resource evaluation study on Howard's Pass utilized MineSight®/MedSystem® (ver. 4.0) 3-D modeling and geostatistical software by Mintec Inc. In total, resource estimates for 15 different deposits have been computed with respect to the Selwyn Project since acquiring the property in 2005 (Table 6.14). Eleven of the 14 deposits listed in Table 6.14 have been computed using a 3-D block model method. Databases were verified, assays deposit coded and composited, classical statistics evaluated, variography undertaken, and the blocks populated with grades and tonnage. The remaining four deposits (Pelly North, OP West, OP, and HP) have too few drill holes to evaluate with a 3-D model methodology and were estimated using polygonal, average widths/grade methods and classified entirely as an inferred resource.
>
> The 2008 geologic database (13 holes) was appended to the 2007 MedSystem® database and was used to complete the 2009 mineral resource estimate. Two separate block models where initialized for the 2009 resource update, which included new calculations for Don East, XY West deposits. The above two deposits contain all of the new drilling completed during the 2008 exploration program. The remaining (undrilled) resource values were carried forward from previous years. Due to confidence and drill spacing, all resources added in 2009 where classified as inferred resources, i.e., indicated category remains the same as in 2008.
>
> Since 2007, mineral resource studies on Selwyn have calculated a subset high-grade "underground" resource for the property. The 2008 drill results in Don East and XY West deposits warranted an update to the high-grade resource estimates in the inferred category.
>
> Note that the mineral resources associated with the high-grade "underground" resource areas are included within the overall deposit global resource totals shown in Table 6.14. The high-grade "underground" resource is not an additional resource to the overall Howard's Pass resource. A global resource summary is presented in Table 6.14, including contained metal, using a 2.0% zinc grade cutoff, and Table 6.15 showing total resources at various zinc cutoffs. The higher grade "underground" resources are summarized in Tables 6.16 and 6.17.

TABLE 6.14: 2009 GLOBAL MINERAL RESOURCE ESTIMATES 2.0% ZINC CUT-OFF GRADE (O'DONNELL, 2009)

Deposit	Resource Class	Million Tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	44.45	6.17	2.64	6,049	2,582
	Inferred	45.94	4.20	1.32	4,256	1,339
XY NOSE	Indicated					0
	Inferred	7.32	4.08	2.20	658	355
XY WEST	Indicated					0
	Inferred	1.91	7.70	2.45	324	103
BRODEL	Indicated					
	Inferred	12.10	4.31	1.16	1,150	308
HC	Indicated	8.60	4.01	1.04	759	198
	Inferred	19.37	3.83	1.09	1,634	463
HC WEST	Indicated	19.68	5.46	1.56	2,368	677
	Inferred	10.22	5.42	1.50	1,222	338
DON EAST	Indicated	35.49	5.37	1.63	4,198	1,273
	Inferred	41.77	5.22	1.59	4,803	1,463
DON	Indicated	11.23	5.99	2.17	1,482	536
	Inferred	16.29	5.62	1.99	2,017	714
ANNIV EAST	Indicated	16.92	4.15	1.20	1,549	447
	Inferred	16.05	4.04	1.08	1,430	381
ANNIV CENTRAL	Indicated	17.98	4.52	1.51	1,792	600
	Inferred	40.12	4.63	1.48	4,094	1,309
ANNIV WEST	Indicated					
	Inferred	6.88	4.30	1.25	653	190
HP	Indicated					
	Inferred	6.18	4.55	1.23	620	168
OP	Indicated					
	Inferred	1.77	4.18	1.29	163	50
OP WEST	Indicated					
	Inferred	1.38	2.67	0.86	81	26
PELLY NORTH	Indicated					
	Inferred	6.85	3.20	0.90	483	136
	TOTAL INDICATED	**154.35**	**5.35**	**1.86**	**18,191**	**6,324**
	TOTAL INFERRED	**234.15**	**4.57**	**1.42**	**23,573**	**7,324**

Note: Mineral Resources have been calculated as of February 4, 2009 in accordance with the standards of the Canadian Institute of Mining, Metallurgy and Petroleum. The resources are under NI 43-101. Assumed metal prices were as follows: zinc at US$0.70/lb and lead at US$0.40/lb. Assumed metal recovery to concentrates is 85% for zinc and 78% for lead. The XY, XY Nose, Brodel, HC, HC West, Don, Anniv East, Anniv Central, Anniv West, HP, OP, OP West, Pelly North did not have any drilling completed in 2008 and 2009; therefore, the 2007 resource numbers were carried forward.

TABLE 6.15: 2009 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (O'DONNELL 2009)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	1	157,421,446	5.28	1.83	2.76
	2	154,386,171	5.35	1.86	2.76
	2.5	149,933,982	5.44	1.89	2.76
	3	141,239,359	5.60	1.95	2.77
	3.5	128,492,980	5.84	2.04	2.77
	4	112,231,227	6.14	2.16	2.78
	4.5	93,910,702	6.51	2.32	2.79
	5	76,031,790	6.92	2.52	2.80
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	1	237,178,544	4.53	1.41	2.73
	2	234,197,291	4.57	1.42	2.74
	2.5	228,383,681	4.63	1.44	2.74
	3	212,879,401	4.77	1.48	2.74
	3.5	183,419,226	5.01	1.55	2.75
	4	146,856,937	5.32	1.64	2.75
	4.5	110,112,277	5.68	1.76	2.76
	5	71,604,024	6.20	1.93	2.78

TABLE 6.16: 2009 MINERAL RESOURCE ESTIMATES (HIGHER-GRADE UNDERGROUND RESOURCE) 2.0% ZINC CUT-OFF GRADE (O'DONNELL, 2009)

Deposit	Resource Class	Tonnes	Zn (%)	Pb (%)	Zn (Mlbs)	Pb (Mlbs)
XY	Indicated	10,738,000	10.38	4.41	2,458	1,045
	Inferred	2,849,000	10.86	4.41	682	277
XY West	Indicated					
	Inferred	1,917,000	7.70	2.45	324	103
Don	Indicated	5,325,000	9.98	3.86	1,172	453
	Inferred	5,335,000	7.94	2.95	934	346
Don East	Indicated					
	Inferred	13,607,000	8.48	2.31	2,542	693
HC West	Indicated					
	Inferred	2,996,000	9.73	3.00	643	198
	Total Indicated	**16,063,000**	**10.25**	**4.23**	**3,626**	**1,496**
	Total Inferred	**26,704,000**	**8.71**	**2.75**	**5,124**	**1,618**

TABLE 6.17: 2009 MINERAL RESOURCE ESTIMATES FOR VARIOUS CUT-OFF GRADES (HIGHER-GRADE UNDERGROUND RESOURCE) (O'DONNELL, 2009)

INDICATED RESOURCE	Cut-off (%Zn)	Tonnes	Zn (%)	Pb (%)	SG
	0	16,065,776	10.25	4.23	2.89
	2	16,065,776	10.25	4.23	2.89
	4	16,042,248	10.26	4.23	2.89
	6	15,302,492	10.49	4.35	2.90
	8	11,449,078	11.65	5.02	2.93
	10	7,483,894	13.05	5.90	2.97
INFERRED RESOURCE	**Cut-off (%Zn)**	**Tonnes**	**Zn (%)**	**Pb (%)**	**SG**
	0	26,856,507	8.67	2.74	2.84
	2	26,707,086	8.71	2.75	2.84
	4	26,400,053	8.77	2.77	2.84
	6	24,226,638	9.08	2.86	2.85
	8	16,588,322	9.96	3.17	2.87
	10	6,541,789	11.41	3.70	2.90

6.3.7 Historical Estimates 2011

A new, upgraded mineral resource estimate for the Selwyn Project in the Yukon was completed in 2011 based on definition drilling conducted between 2010 and 2011, within the XY Central and Don Deposits. This drilling achieved its goal of converting Inferred mineral resources into the Indicated mineral resource category. The 2011 updated mineral resource estimate was generated using MineSight®/MedSystem® (ver.7) 3-D modeling and geostatistical software by Mintec Inc.

The mineral resource update focused on the global mineral resource, but the mineral resource inventory for the XY Central and Don Deposits includes a higher-grade tonnage that is the foundation of a bankable feasibility study (BFS).

The updated mineral resource estimate includes the results from an extensive 2010 and 2011 drilling program consisting of 195 drill holes, totaling 68,155 m which are distributed between definition, exploration, and condemnation drilling. The global mineral resources include all 14 deposits and zones and have been updated to provide new global mineral resources.

In total, resource estimates for 14 different deposits have been generated with respect to the Selwyn Project since acquiring the property in 2005 (Table 6.18). Eleven of the 14 deposits listed in Table 6.18 have been generated using a 3-D block model method. Databases were verified, assays were deposit coded and composited, classical statistics were evaluated, variography was completed, and the blocks were populated with grades and tonnage. The remaining four deposits (Pelly North, OP West, OP, and HP) have too few drill holes to evaluate using the 3-D model methodology and were, instead, estimated using polygonal, average widths/grade methods and classified entirely as an Inferred resource.

TABLE 6.18: SELWYN PROJECT 2011 MINERAL RESOURCE ESTIMATE

Deposit or Zone	Resource Class	Tonnes	Zn (%)	Pb (%)	Zn (Blbs)	Pb (Blbs)
XY CENTRAL DEPOSIT	Indicated	45,114,500	5.70	2.40	5.67	2.39
	Inferred	44,112,500	4.10	1.29	3.99	1.25
XY NOSE DEPOSIT	Indicated					
	Inferred	7,320,000	4.08	2.20	0.66	0.35
XY WEST DEPOSIT	Indicated					
	Inferred	1,917,600	7.70	2.45	0.33	0.10
BRODEL DEPOSIT	Indicated					
	Inferred	12,100,000	4.31	1.16	1.15	0.31
HC DEPOSIT	Indicated	8,600,000	4.01	1.04	0.76	0.20
	Inferred	19,370,000	3.83	1.09	1.63	0.46
HC WEST DEPOSIT	Indicated	19,680,000	5.46	1.56	2.37	0.68
	Inferred	10,220,000	5.42	1.50	1.22	0.34
DON EAST DEPOSIT	Indicated	35,490,000	5.37	1.63	4.20	1.27
	Inferred	41,770,000	5.22	1.59	4.81	1.46
DON DEPOSIT	Indicated	36,901,600	5.63	2.11	4.58	1.72
	Inferred					
ANNIV EAST DEPOSIT	Indicated	16,920,000	4.15	1.20	1.55	0.45
	Inferred	16,050,000	4.04	1.08	1.43	0.38
ANNIV CENTRAL DEPOSIT	Indicated	17,980,000	4.52	1.51	1.79	0.60
	Inferred	40,120,000	4.63	1.48	4.09	1.31
WEST EXTENSION	Inferred	6,880,000	4.30	1.25	0.65	0.19
HP ZONE	Indicated					
	Inferred	6,180,000	4.55	1.23	0.62	0.17
OP ZONE	Indicated					
	Inferred	1,770,000	4.18	1.29	0.16	0.05
OP WEST ZONE	Indicated					
	Inferred	1,380,000	2.67	0.86	0.08	0.03
PELLY NORTH ZONE	Indicated					
	Inferred	6,850,000	3.20	0.90	0.48	0.14
TOTAL	**Indicated**	**180,686,100**	**5.25**	**1.83**	**20.91**	**7.33**
	Inferred	**216,040,100**	**4.47**	**1.38**	**21.29**	**6.57**

Two separate block models where initialized for the 2011 resource update; these included new calculations for the Don and XY Central Deposits.

XY Central Deposit

The XY Central deposit is comprised of six lenses: 91, 92, 93, 94, 95, and 96 which in the January 2008 mineral resource to NI 43-101 standards included an Indicated mineral resource of 44,450,000 tonnes grading 6.17% Zn and 2.64% Pb; and an Inferred mineral resource of 45,940,000 tonnes grading 4.20% Zn and 1.32% Pb (see January 29, 2008 news release). This study was completed by independent QP, Mr. Cliff Pearson, P.Geo., and non-independent QP, Mr. John J. O'Donnell, P.Geo.

SCML undertook definition drilling of three lenses at XY Central Deposit that were the focus of mine planning and design engineering. The drilling program was designed to raise the confidence in the zinc-lead mineralization from the Inferred category to the Indicated category; this would allow it to be included in the BFS. A total of 47 drill holes were successfully completed, totaling 13,944.8 m in the 93, 94, and 95 lenses. These drill holes resulted in a conversion of all Inferred mineral resource estimates into Indicated mineral resource estimates. No drilling was completed in the 91, 92, or 96 lenses; this meant that there are substantial mineral resources in those lenses that require additional drilling to better define the contained mineral resources and associated classification. Using a 2% Zn cut-off, there are 29,936,000 tonnes in the Indicated category grading 6.63% Zn and 2.45% Pb. A summary for all cut-off grades of zinc and lead for the XY Central Deposit is presented in Table 6.19.

The current overall global mineral resource for the XY Central Deposit is an Indicated mineral resource of 45,114,500 tonnes grading 5.70% Zn and 2.40% Pb, and an Inferred mineral resource of 44,112,500 tonnes grading 4.10% Zn and 1.29% Pb. Table 6.19shows those mineral resources in the XY Central 93, 94, and 95 lenses only.

TABLE 6.19: UPDATED XY CENTRAL DEPOSIT INDICATED MINERAL RESOURCE ESTIMATE FOR 93, 94, AND 95 LENSES

Cut-off	Tonnes	Zn (%)	Pb (%)	Zn (Blbs)	Pb (Blbs)
0.5	30,190,800	6.31	2.67	4,197	1,775
1	30,179,400	6.31	2.67	4,197	1,775
1.5	30,105,500	6.32	2.67	4,195	1,774
2	**29,936,000**	**6.35**	**2.69**	**4,188**	**1,772**
2.5	29,505,700	6.41	2.71	4,166	1,765
3	28,796,800	6.50	2.76	4,123	1,751
3.5	27,686,600	6.63	2.83	4,044	1,725
4	25,891,800	6.82	2.94	3,895	1,675
4.5	23,287,600	7.11	3.10	3,650	1,594
5	20,325,400	7.45	3.32	3,340	1,487
5.5	17,468,800	7.82	3.56	3,010	1,371
6	14,612,800	8.22	3.86	2,649	1,242
6.5	12,079,300	8.64	4.18	2,300	1,113
7	9,840,800	9.07	4.52	1,967	981
8	6,510,500	9.89	5.15	1,420	739
9	4,135,100	10.71	5.83	976	531
10	2,514,800	11.52	6.54	639	362

Notes: Mineral resources have been calculated as of September 12, 2011 in accordance with the CIM Best Practices and National Instrument 43-101. A 2% Zn grade cut-off was applied to the new mineral resource estimate. The mineral resource estimate uses information from 786 drill holes, totalling 197,968.50 m, completed on the Selwyn Project over three separate periods: 1973 to 1981, 2000, and 2005 to 2011.

Don Deposit

The Don deposit was previously interpreted to be comprised of three lenses: 61, 62, and 63; in the January 2008 mineral resource to NI 43-101 standards, this included an Indicated mineral resource of 11,230,000 tonnes grading 5.99% Zn and 2.17% Pb, and an Inferred mineral resource of 16,290,000 tonnes grading 5.62% Zn and 1.99% Pb (see January 29, 2008 news release). This study was done by independent QP, Mr. Cliff Pearson, P.Geo., and non-independent QP, Mr. John J. O'Donnell, P.Geo.

In 2010 and 2011, SCML began definition drilling to raise the confidence in the zinc-lead mineral resources from the Inferred category to the Indicated category; however, SCML also continued exploration drilling to expand the Don Deposit to confirm details for the ongoing BFS. A total of 69 drill holes were successfully completed totaling 28,712.0 m in the 61, 62, and 63 lenses. All remaining mineral resources in the Inferred category were converted into Indicated mineral resources.

During the 3-D modeling for the mineral resource update, new drilling data showed a direct link between the 61 and 62 lenses; this led to a new interpretation as a single lens, thereby resulting in an increase in tonnage. Another positive development from the drill program at the Don deposit occurs at depth where drilling results suggest that the previously interpreted, near vertical dip of the 63 lens is actually shallowing. The shallow dipping 63 lens is at a similar elevation as similar zinc-lead mineralization in the adjacent Don East deposit. The shallowing of the 63 lens is the result of structural thickening that also results in an increase in tonnage potential in the area that connects the two deposits (see August 15, 2011 news release).

The current overall global mineral resource for the Don Deposit is an Indicated mineral resource of 36,901,600 tonnes grading 5.63% Zn and 2.11% Pb. The mineral resources at Don Deposit increased by 34% compared to those reported February 2009. A summary for all cut-off grades of the Don deposit is presented in Table 6.20.

TABLE 6.20: UPDATED DON DEPOSIT INDICATED MINERAL RESOURCE ESTIMATE

Cut-off	Tonnes	Zn (%)	Pb (%)	Zn (Blbs)	Pb (Blbs)
0.5	37,844,300	5.53	2.07	4,614	1,728
1	37,748,000	5.54	2.08	4,612	1,728
1.5	37,500,700	5.57	2.09	4,605	1,725
2	**36,901,600**	**5.63**	**2.11**	**4,582**	**1,718**
2.5	35,494,500	5.77	2.17	4,512	1,696
3	33,596,500	5.94	2.24	4,397	1,659
3.5	30,818,100	6.18	2.34	4,197	1,592
4	27,455,400	6.47	2.48	3,919	1,498
4.5	23,759,200	6.82	2.63	3,572	1,378
5	19,876,000	7.23	2.81	3,166	1,232
5.5	16,086,600	7.69	3.03	2,728	1,075
6	12,921,800	8.17	3.26	2,328	929
6.5	10,202,500	8.69	3.51	1,954	790
7	7,987,800	9.23	3.79	1,625	668
8	4,932,500	10.32	4.35	1,122	473
9	3,063,600	11.45	4.96	773	335
10	1,862,100	12.73	5.63	522	231

Notes: Mineral Resources have been calculated as of September 12, 2011 in accordance with the CIM Best Practices and National Instrument 43-101. A 2% Zn grade cut-off was applied to the new mineral resource estimate. The mineral resource estimate uses information from 786 drill holes, totalling 197,968.50 m, successfully completed on the Selwyn Project over three separate periods: 1973 to 1981, 2000, and 2005 to 2011

Global Mineral Resource Inventory

Since acquiring the Selwyn Project in 2005, Selwyn has made 9 major deposit discoveries; noting that the Selwyn Project now contains 14 drill defined deposits and zones that include mineralization that are amenable to both open pit and underground mining methods. Table 6.21 summarizes the significant growth in metal content over the last five years. The global Indicated mineral resources for 2011 are 180.69 million tonnes grading 5.25% Zn and 1.83% Pb for a metal content of 20.91 pounds of zinc and 7.33 billion pounds of lead.

The Inferred mineral resources for 2011 are 216.04 million tonnes grading 4.47% Zn and 1.38% Pb for a metal content of 21.29 billion pounds of zinc and 6.57 billion pounds of lead. The Inferred mineral resources are generally adjacent to the main areas of drilling in the deeper part of the mineralizing system. Areas of Inferred mineral resources require more closely spaced drill holes to improve the confidence level for their inclusion as Indicated mineral resources.

It should be noted that the updated global mineral resource inventory does not contain any results from recent drilling in the XY West Deposit area due to assay sample results still pending from the laboratory. The mineral resources from this deposit are not being used in the BFS; however, after future evaluation, may be included at some point. A total of 58 drill holes were completed in the 2010 and 2011 drilling program for a total of 22,791 m. Geological modeling and structural analysis of the XY West deposit is ongoing and SCML anticipates generating a mineral resource update later this year after all assay samples have been received and have passed Selwyn's rigorous quality assurance and quality control procedures.

TABLE 6.21: GLOBAL MINERAL RESOURCES AND CONTAINED METAL GROWTH FROM 2006 TO 2011

YEAR	Resource Class	Million Tonnes	Zn (%)	Pb (%)	Zn (Blbs)	Pb (Blbs)
FEBRUARY 2006	Indicated	33.50	5.52	2.10	4.08	1.55
	Inferred	112.91	5.40	2.14	13.44	5.31
APRIL 2007	Indicated	86.60	4.93	1.97	9.41	3.29
	Inferred	215.40	4.71	1.48	22.38	7.03
JANUARY 2008	Indicated	154.35	5.35	1.86	18.19	6.31
	Inferred	231.54	4.54	1.42	23.19	7.23
FEBRUARY 2009	Indicated	154.35	5.35	1.86	18.19	6.31
	Inferred	234.15	4.54	1.41	23.43	7.28
SEPTEMBER 2011	**INDICATED**	**180.69**	**5.25**	**1.83**	**20.91**	**7.33**
	INFERRED	**216.04**	**4.47**	**1.38**	**21.29**	**6.57**

Notes**:** The 2006 to 2008 global mineral resources were completed by independent Qualified Person, Mr. Cliff Pearson, P.Geo., and non-independent Qualified Person, Mr. John J. O'Donnell. Refer to the following news releases, respectively: February 9, 2006, April 2007, and January 29, 2008. The 2009 global mineral resources were completed by non-independent Qualified Person, Mr. John J. O'Donnell, P.Geo. Refer to February 2009 news release. The 2011 global mineral resources were completed by independent Qualified Person Mr. Garth Kirkham, P.Geo., and Mr. Cliff Pearson, P.Geo.

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7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Howard's Pass Property is located in the Selwyn Basin, a complex sedimentary deep water basin in which predominantly clastic rocks were deposited during most of the Paleozoic. The general outline of the Selwyn Basin in context to the Northern Cordillera is shown in Figure 7-1. This deep water basin was divided into a lower section of mudstones, siltstones, carbonates, and chert with only minor sandstone deposited in the Early Ordovician to Early Devonian times. The upper section consists of mudrocks and siltstones but with more sandstones and conglomerates. The rocks comprising the Selwyn Basin were weakly deformed and metamorphosed during Mesozoic time through tectonic events resulting from the collision of exotic terranes within North America. These terranes are now present in a series of thrust sheets, with varying degrees of deformation and metamorphism.

The western boundary of the Selwyn Basin in the north is the Tintina Fault, with the Yukon Tantana Terrane to the west. To the east of the Selwyn Basin lies the Mackenzie Platform, a shallow water carbonate platform which persisted through the Paleozoic. The Selwyn basin is unconformably underlain by Hadrynian-Cambrian-age grit rocks, which form part of the North American continental margin.

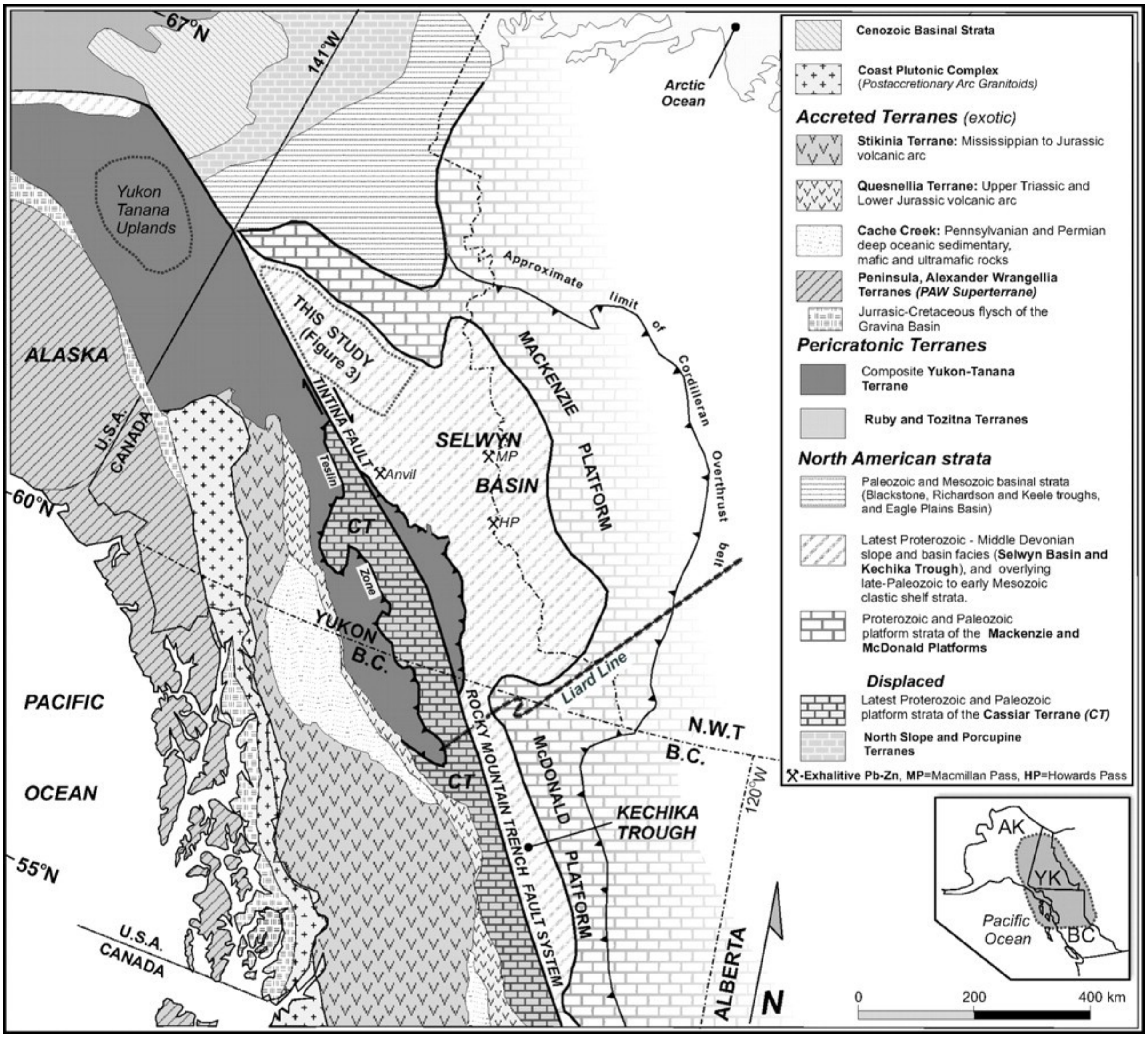

FIGURE 7-1: REGIONAL GEOLOGY OF THE YUKON TERRITORY AND NORTHERN BRITISH COLUMBIA

To date, four main SEDEX (sedimentary exhalative) base metal districts have been discovered within the Selwyn Basin. These include:

- Howard's Pass: XY, Don, and Anniv deposits.
- McMillan Pass: Tom and Jason deposits.
- Anvil District deposits near Faro, Yukon: Faro, Grum, Dy, and Swim deposits.
- Gataga District in northeastern BC: Cirque and South Cirque deposits.

The only deposits exploited to date are in the Anvil District, near Faro, Yukon; these are discussed in *Section 15*. The Howard's Pass zinc-lead deposits, owned by Selwyn, occur within the Lower Silurian rocks in the eastern part of the Selwyn Basin.

7.2 LOCAL GEOLOGY

The geological setting of the Howard's Pass area was described in detail by Morganti (1983) and Goodfellow and Jonasson (1986). The authors have relied heavily on the *Summary Report* by Morganti (1983), Ainsworth (1986) and an *Information Memorandum* prepared by Geographe International MFS Inc., 1999. A composite stratigraphic section outlining the lithological units in the Howard's Pass area is provided in Figure 7-2 and Table 7.1. The Howard's Pass Property was mapped at 1:4800 (1 inch to 400 feet) and the area surrounding Howard's Pass (approximately 560 square kilometres or 350 square miles) was mapped at a scale of 1:31,680.

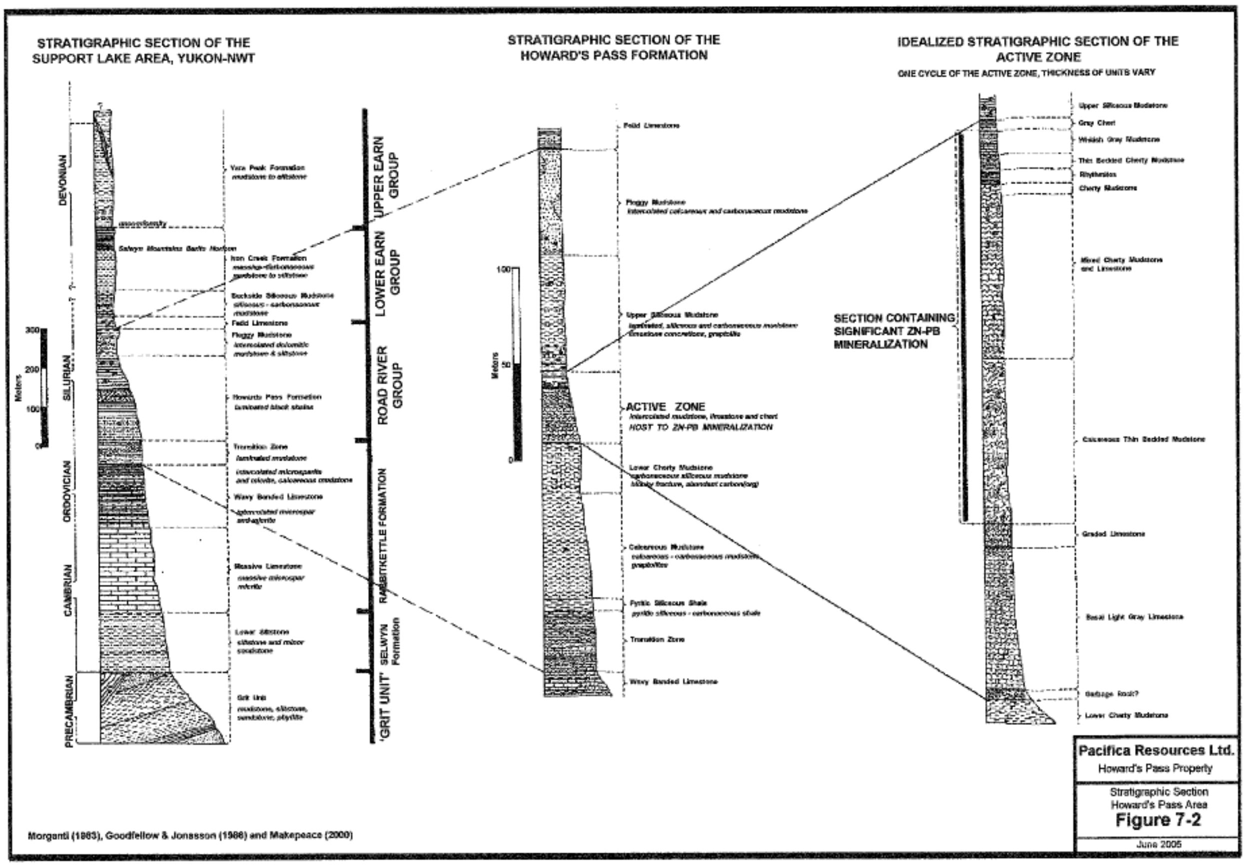

FIGURE 7-2: STRATIGRAPHIC SECTION

TABLE 7.1: STRATIGRAPHY OF THE SELWYN PROJECT
(SUBDIVISIONS AFTER GORDEY & ANDERSON, 1993 AND MORGANTI*, 1979)

Age	Group	Formation	Member
Upper Devonian to Middle Mississippian	Upper Earn	Prevost (Yara Peak)*	
Lower to Upper Devonian	Lower Earn	Portrait Lake (Iron Creek)*	
Upper Silurian	Road River	Steel	Flaggy Mudstone*
Ordovician and Middle Silurian	Road River	Howard's Pass* (Duo Lake)	Upper Siliceous Mudstone*
			Active Member*
			Lower Cherty Mudstone*
			Calcareous Mudstone*
			Pyritic Siliceous Mudstone*
		Transition*	
Cambrian-Ordovician		Rabbitkettle	
Upper Proterozoic and Lower Cambrian		Narchilla	

7.2.1 Grit Unit-Selwyn Formation (Hadrynian to Lower Cambrian)

The oldest rocks in the property area include Hadrynian to Lower Cambrian phyllite and coarser clastics that are exposed southwest of the Howard's Pass area. These rocks are equivalent to the *Grit Unit* as described by Gabrielse et al (1973).

The Grit Unit is unconformably overlain by the Lower Siltstone unit, a dolomitic siltstone, which is lithologically and stratigraphically equivalent to the Selwyn Formation (Ainsworth, 1986). This discontinuous unit is exposed to the southeast of XY Camp.

7.2.2 Rabbitkettle Formation (Late Cambrian-Lower Ordovician)

The lowest member of the Rabbitkettle Formation in the Howard's Pass area is the massive limestone unit consisting of massive grey, micritic, siliceous limestone that outcrops to the northeast of the XY deposit and is 100 m thick. The wavy banded limestone has a gradational contact with the underlying massive limestone unit and consists of an intercalated sequence of limestone and calcareous mudstone ranging up to 305 m thick. The upper part of the unit consists of light grey micrite and calcareous mudstone beds that have a wavy banding due to ductility contrasts of the two rock types during deformation. This unit forms a distinctive marker horizon at the base of the overlying black shale. The *Transition Zone* is a transitional unit between the *platform deposited* limestone below and the *slope deposited* black shale above. The unit consists of thin-bedded siliceous siltstone and carbonaceous siltstone with intercalated mudstone.

7.2.3 Road-River Group: Howard's Pass Formation (Middle Ordovician-Upper Silurian)

The Road-River Group was originally defined as the black shales of Ordovician to Upper Devonian age in the Selwyn Basin. According to Morganti (1983), the unit can be subdivided into three separate formations consisting of: Howard's Pass Formation, Flaggy Mudstone, and Upper Chert Formations. The *Howard's Pass Formation* contains all deposits at Howard's Pass.

The Howard's Pass Formation consists of a sequence of carbonaceous mudstone that can be divided into five members: Pyritic Siliceous Mudstone, Calcareous Mudstone, Lower Cherty Mudstone, Active Member, and Upper Siliceous Mudstone. To date, the Active Member contains the only known significant zinc and lead mineralization in the Howard's Pass Formation. Details of the five members are summarized here:

Pyritic Siliceous Mudstone

The Pyritic Siliceous Mudstone forms the base of the Howard's Pass Formation and is grey-black carbonaceous fissile shale. Disseminated pyrite is abundant and occurs as small lenses up to one cm in length; the unit ranges from 1.5 m to 7.6 m thick.

Calcareous Mudstone

The Calcareous Mudstone overlies the Pyritic Siliceous Shale and is grey-black, carbonaceous, mostly massive unit with 5% to 20% carbonate. Calcite rich beds consisting of 2.5 mm to 1 cm elongate pods of calcite have been rotated into the cleavage plane producing a wispy texture.

Lower Cherty Mudstone

The Lower Cherty Mudstone is a gradational contact ranging from 12 m to 27 m in thickness separating the Lower Cherty Mudstone from the Calcareous Mudstone. This unit is a monotonous sequence of black carbonaceous cherty mudstone 30 m to 76 m thick. Bedding is weak although quartz vein *pseudo-beds* mimic layering.

Active Member

The Active Member contains the most significant zinc-lead sulphide mineralization found to date in the Howard's Pass Property and shows considerable variations in thickness, ranging from zero to greater than 60 m. The Active Member comprises nine subunits consisting of heterogeneous intercalations of one or more of the following: light grey limestone facies, graded limestone facies, dark grey to medium grey calcareous mudstone facies, thin-bedded calcareous mudstone facies, cherty mudstone facies, rhythmite facies, thin-bedded cherty mudstone facies, whitish grey zinc-lead mudstone (sulphidite) facies, and grey chert facies. Within some subunits there are thin framboidal pyrite beds, soft sediment deformation features, and sphalerite and galena mineralization grains; these are generally conformable with bedding and sedimentary textures and in cleavage. The subunits appear to be cyclic in nature.

Upper Siliceous Mudstone

The Upper Siliceous Mudstone overlies the Active Member and has a gradational contact with it over 3 m to 9 m in thickness. The unit is characterized by thin carbonaceous beds with fetid limestone concretions. A distinctive graptolite horizon occurs within the top 15 m of the unit and varies in thickness from 5 m to 91 m.

7.2.4 Flaggy Mudstone

The Flaggy Mudstone forms a distinct marker horizon immediately overlying the Howard's Pass Formation. Contact with the Upper Siliceous Mudstone is sharp. The unit is grey to tan mudstone with irregular carbonaceous clasts. Worm burrows have been noted which cut the cleavage, suggesting that the cleavage developed before lithification.

7.2.5 Lower Earn Group (Upper Silurian to Devonian)

Backside Siliceous Mudstone

The Backside Siliceous Mudstone is a carbonaceous cherty unit overlying the Flaggy Mudstone. Distinct 2.5 cm to 8 m thick chert beds form the base of the unit which grade upward into weakly siliceous mudstone with a similar bedding style. The thickness of the unit varies from 60 m to 180 m.

Iron Creek Formation

The Iron Creek Formation consists of pyritic, carbonaceous clastics ranging from mudstone to greywacke. Load casts, tool marks, and graded bedding indicate turbidity current deposition. A barite horizon occurs within the upper part of the unit, which locally carries zinc-lead-silver mineralization. The Iron Creek Formation is 180 m to 275 m thick in the Howard's Pass area, but has a more variable thickness regionally.

Yara Peak Formation

The Yara Peak Sediments consist of flysch clastics that unconformably overlie the Iron Creek Formation. The unit consists of mudstone, siltstone, and greywacke, with a chert pebble conglomerate horizon located a few tens of metres above the unconformity. These rocks are weakly carbonaceous in comparison to those beneath the unconformity.

7.3 PROPERTY GEOLOGY

The property geological units are embedded in the local stratigraphy as described in *Section 7.2*. A more detailed description of the Active Member is provided in *Section 7.3.2*, describing the stratigraphic unit containing the zinc-lead mineralization, together with its immediate hanging wall and footwall rocks.

7.3.1 Upper Siliceous Mudstone (USMS)

The Upper Siliceous overlies the Active Member. It consists of interlaminated, dark gray to greyish black mudstone with light grey to medium grey chert.

The USMS is divided into 3 units:

- An upper unit consisting of laminated carbonaceous mudstone with a graptolite horizon approximately 15 m from the upper contact.
- A middle unit consisting of laminated carbonaceous mudstone with intercalated light grey cherty mudstone laminae and abundant fetid coarse crystalline carbonate concretions which frequently show a radiating structure. This unit shows abundant microfolds which may be related to the limestone concretions.
- A lower unit consisting of laminated carbonaceous mudstone with intercalated light grey cherty mudstone, abundant fetid coarse crystalline limestone concretions which frequently display a radiating or banded structure, and medium grey, laminated chert and calcilutite clasts. Galena and sphalerite micro-concretions occur locally near the base of the unit.

7.3.2 Active Member (ACTM)

The Active Member (ACTM) consists of a repetitive, possibly rhythmic, sequence of intercalated carbonaceous mudstone, cherty mudstone, chert and limestone and locally contains economically significant zinc and lead sulphides, mainly in the sections with well-developed lamination. Because of its heterogeneity, the member is distinctive and easily identified.

The ACTM has 9 different facies:

- Grey Chert Facies: is a laminated medium light grey to medium dark grey chert. The mineralization consists of 95-99% quartz and up to 5% secondary calcite with trace sulphides.
- Whitish grey zinc-lead Mudstone Facies: is a laminated cherty rock containing up to 70% sulphides. The mineralization consisting of quartz, sphalerite, and galena are the major minerals with only minor amounts of pyrite and, locally, calcite. Sedimentary diagenetic structures are common and well-displayed in the facies; these include lamination, pseudo-beds, calcite and limestone nodules, and abundant water escape structures. The most obvious structures noted are cross-cutting veins containing massive sphalerite and galena with minor pyrite. These range in width from 0.5 mm to 10 mm.
- Thin-Bedded Cherty Mudstone Facies: is a rhythmic, intercalated laminae of chert, carbonaceous mudstone, and minor micrite. This facies contains significant amounts of zinc and lead sulphides.

- Cherty Mudstone Facies: is a greyish black monotonous siliceous, carbonaceous mudstone. It is most typically found overlying the thin bedded calcareous mudstone facies.
- Thin-Bedded Calcareous Mudstone Facies: is a laminated carbonaceous mudstone containing 20-40% calcite, 40-55% quartz, and 10-20% muscovite. Sulphides occur in laminae. In the XY area, it is usually the lowest facies in the section to contain laminated sulphides.
- Calcareous Mudstone Facies: is a grey to greyish black monotonous, calcareous siliceous carbonaceous mudstone. There are no feathery calcite beds or pyrite-calcite blebs in the facies, making it easily distinguishable from the Calcareous Mudstone.
- Graded Limestone Facies: is a laminated argillaceous limestone with intercalated carbonaceous limestone laminae. The main rock type in the facies is laminated limestone with laminae from 0.1 mm to 7 mm thick.
- Light Grey Basal Limestone Facies: is a laminated argillaceous limestone. It often marks the end of the Active Member, but is not always present in the stratigraphy.
- Basal Facies: is a highly contorted and locally foliated carbonaceous mudstone. Unlike the other facies it is not repeated higher in the member. It appears locally to contain the slip zone of a major slump. The facies has only been observed in the XY area. It is 0.1–2 m thick. The facies consists of massive carbonaceous siliceous mudstone with lenses and layers of contorted, slightly carbonaceous chert.

7.3.3 Lower Cherty Mudstone (LCMS) & Calcareous Mudstone (CCMS)

The Lower Cherty Mudstone and the Calcareous Mudstone are the immediate foot wall rocks of the Active Member.

- Lower Cherty Mudstone: is a monotonous, poorly bedded, siliceous carbonaceous mudstone. It has a massive appearance and blocky to conchoidal fracture. Individual laminae are 2-10 mm thick, and vary in quartz, carbonate and pyrite content. Contacts between laminae are uneven, with lateral variation over a few centimetres. Sedimentary structures are sparse: weakly defined lamination, abundant quartz pseudo-beds, and pyrite concretions. The most obvious structure in the member is quartz pseudo-beds. These are similar to those occurring in the CCMS, except for the predominance of quartz over calcite. They are also more abundant in the LCMS. Pseudo-beds are generally parallel to bedding with fibrous quartz elongate perpendicular to the walls, and are 5-20 mm thick, but vary considerably along their length. Pyrite nodules are common throughout the LCMS. About 90% of the concretions are surrounded by fibrous quartz.
- Calcareous Mudstone: is a massive, calcareous, carbonaceous, dark grey mudstone. Calcite occurs as cement and as microscopic concretions. Most of the member is massive, but rare, poorly defined bedding and pyrite-calcite micro-

concretions are present. The most diagnostic features are feathery calcite beds (thin calcite-cemented concretions, many of them containing pyrite cores) and calcite pseudo-beds (calcite vein parallel to bedding, 1-3 cm thick, with fibrous calcite and minor fibrous quartz).

7.4 MINERALIZATION

Base metal (zinc and lead) mineralization at the property is hosted in the Active Member of the Howard's Pass Formation. The Active Member stratigraphic horizon was identified throughout 37.5 km of strike length, along which the fifteen known deposits are separated by interpreted faults or gaps in drilling. The Active Member consists of alternating layers of carbonaceous mudstone, limestone and chert, and interlayered with stratabound, laminated sulphide rich bands. The sulphide minerals are fine-grained and predominantly sphalerite and galena, with minor pyrite.

The mineralized horizon is generally 20 m to 30 m thick and both texturally and mineralogically consistent throughout the property. Sulphide minerals from five distinct mineral resource deposits (Brodel, Anniv, Don, XY, and OP) were analyzed for lead isotope ratios and the isotopic data indicated that all five mineral resource deposits originated from very similar hydrothermal fluids (Cousens, 2006).

Higher grade mineralized zones have been identified throughout the property, especially within the XY Central, XY West, Don, and Anniv deposits. These newly-defined zones have significantly higher concentrations of zinc and lead minerals, are coarser grained and commonly exhibit sulphide remobilization and concentration features and typically these zones are at, or near, the base of the Active Member stratigraphic horizon.

Evidence for remobilization of sulphide minerals has been locally observed, and is believed to have occurred during slumping and compaction when low-temperature fluids could have carried the remobilized metals. There is no reported evidence for high temperature metamorphism. Some of the mineralization exhibits distinct structural features such as irregular broken bands and brecciation with distinct fluidal texture.

For a more detailed discussion of the mineralization refer to Burgoyne (2005).

8 DEPOSIT TYPES

The Howard's Pass zinc-lead deposit is known as a SEDEX (sedimentary exhalative) base metal deposit. This type of deposit has been referred to by a variety of terms, including *sedimentary-hosted stratiform Zn-Pb*, *shale-hosted*, or *sedimentary exhalative* deposits. A working definition of the deposit class is: a sulphide deposit formed in a sedimentary basin by the submarine venting of hydrothermal fluids, whose principal ore minerals are sphalerite and galena. Goodfellow and Jonasson (1986) give a good synopsis for the environment and formation of SEDEX deposits.

The following summary is adapted, in part, from Goodfellow and Jonasson (1986):

> The deposits are believed to have formed separately in anoxic (oxygen deficient) sub-basins along the base of a paleoslope in the eastern Selwyn Basin. The mineralization formed through expulsion of metal rich, interstitial fluid during shale compaction, and mineral deposition took place in brine pool basins. The main sulphide minerals are sphalerite and galena, with minor pyrite. Quartz and calcite are present as veins and nodules.

> The formation of SEDEX deposits requires a sedimentary basin, the generation of metalliferous hydrothermal fluids, and the fixation and preservation of the transported metals as sulphides on the seafloor. The distribution of sedimentary basins and the geological conditions necessary for the generation and focused discharge of metalliferous hydrothermal fluids are primarily controlled by tectonic factors. The deposition and preservation of hydrothermal metals as sulphides on the seafloor are largely controlled by the ambient sedimentary environment. For Phanerozoic SEDEX deposits, it has been suggested that there is close correspondence between periods of mineralization formation and oceanic anoxic events.

Sanger (2001) goes even further than Goodfellow on how the mineral deposition occurred. The following is adapted from Sanger (2001):

> Field observations, supported by simple laboratory experiments suggest an alternative process for characterizing the genesis of vent-distal SEDEX deposits. Cool, saline brines (e.g., ~120 degrees Celsius and > 15 wt% NaCl equiv.) are denser than seawater and, upon discharging into the sea, would flow away from the discharge vent as bottom-hugging fluids, similar to the behavior of turbidity currents. Their high densities and velocities prevent them from mixing with overlying seawater, thereby precluding significant cooling and dissolution of the ore fluid. Upon coming to rest in a seafloor depression, the addition of H_2S and/or dilution of the ore fluids to lower salinities result in the eventual precipitation of a vent-distal SEDEX deposit. Furthermore, the dense ore-forming fluid can sink into permeable sediments beneath the brine pool by

displacing less dense pore water. The ore fluids are thus capable of effectively overprinting and/or replacing pre-existing minerals in the consolidating sediment pile.

9 EXPLORATION

9.1 HISTORIC EXPLORATION 1972-2004

The following is adapted from the technical review by Burgoyne (2005):

> Previous operators, Placer and US Steel, spent approximately $20 million on the Howard's Pass property during the period from 1972 to 1983. During that period, they carried out extensive work programs including stream sediment surveys, prospecting and rock geochemistry, property grids, coverage of a large part of the property by soil grids, limited geophysics, extensive trenching, surface and underground core drilling, surveying, underground drifting and bulk sampling. This work was followed by preliminary metallurgical studies and the limited economic evaluation of selected deposits. The Howard's Pass property contains an extensive database of geological maps, plans and sections; these are developed from surface mapping and trenching, in conjunction with the extensive drill hole database. All drill holes, trenches and many points on the different grids were surveyed by transit to define precise location and to serve for future tie-in points. Underhill & Underhill, registered land surveyors, completed much of the drill hole collar and claims location surveys.
>
> The Howard's Pass deposits were discovered in 1972 by following up very strong lead-zinc anomalies from the 1971 regional reconnaissance stream sampling program. Historically, a total of 9,478 soil samples were collected from the grid areas and the main elements associated with the mineralization were zinc, lead and cadmium. Zinc and cadmium anomalies were often found to be widespread across the grids, whereas lead, being less mobile, was anomalous in much more restricted patterns; it was therefore used as the primary indicator of mineralization. Extensive geochemical sampling around the XY and Anniv deposits suggested that geochemical sampling did indicate the presence of lead-zinc mineralization, but did not define the total extent of the deposits. Geophysical surveying in the Howard's Pass property has proved to be ineffective to date.
>
> A total of 218 drill holes totalling 36,359 m (119,288 ft) were drilled by the Placer/Cygnus Joint Venture on the Howard's Pass property over two separate periods from 1973 to 1981. In addition, 8 holes were drilled in 2000 by Copper Ridge.
>
> An underground exploration program was undertaken on the XY deposit during the period from May 1980 to November 1981. This underground work was successful in providing much more detailed geological information and defining the continuity and possible complexities of the mineralization. The underground drift supplied bulk samples of the mineralized deposits for metallurgical test work.

In summary, Burgoyne (2005) concluded:

> The placement of grids, surveying, collection of the soil samples, the extensive geological mapping, the location of the drill holes, the drill hole orientations, the analyses, and the collection and analyses of core samples appears to be to excellent industry standards.

Copper Ridge completed a small drilling program on the Anniv deposit in 2000, as noted above. For a more detailed summary on historical exploration by previous owners, refer to Burgoyne (2005).

9.2 PACIFICA EXPLORATION 2005

Between July 2005 and October 2005, Pacifica undertook exploration on the property; this included regional mapping, soil geochemical surveys, and diamond drilling.

Regional reconnaissance mapping was carried out in 2005 by Dr. B. Hodder and D. Bain. The objective of the regional mapping was to identify Howard's Pass stratigraphy apart from the mineralized deposits in an effort to locate prospective areas which might add additional mineral resources. Once favourable stratigraphy was identified through mapping, areas were recommended for follow-up geochemical sampling. A total of 1,695 geochemical samples were collected over seven grids. Samples were collected at 50 m spacings along 200 m spaced grid lines. Evaluation of the results revealed several anomalous zones suitable for follow-up work in 2006. The anomalous zones were characterized by overlapping zinc and lead anomalies. Results suggested that the Selwyn Project property remains highly prospective away from the known deposits.

During the summer of 2005, a total of 53 diamond drill holes were completed by Pacifica on the Selwyn Project. Drilling objectives included testing the Placer mineral resource models for the location of respective deposits, and exploring for new mineral resources on the property.

The 2005 Pacifica exploration highlights include:

- The discovery of moderate grade zinc-lead mineralization in the Brodel deposit and the Don deposit suggested that significant mineralization extended between XY and Anniv deposits.
- A similar appearance in the mineralization at various deposits over a distance of 25 km suggested that Howard's Pass mineralization formed as one continuous deposit, truncated by numerous faults.

- Drilling in 2005 tested only a small part of the favourable strata in the district as historic and new drilling defined several areas with potential for large tonnages of near surface mineralization within the district.

- Regional mapping suggested that all of the known deposits and mineralization occurred on the west side of a major fault structure that cuts the favourable strata. Drilling of the favourable strata in the east panel of the district represented a major new exploration opportunity.

9.3 PACIFICA EXPLORATION 2006

In 2006, all exploration activities on the Selwyn Project occurred between May 26, 2006 and December 15, 2006. The first crews mobilized to Anniv Camp in late May and drilling began with Advanced Drilling, No Limit Drilling, and Kluane Drilling. A total of 191 diamond drill holes were completed by Pacifica on the Selwyn Project during summer 2006. Drilling objectives included testing the 2005 mineral resource models for classification upgrade and expansion of the various deposits, and exploring for new mineral resources on the property. Highlights of the 2006 drilling included the discovery of seven new areas of lead-zinc mineralization associated with Active Member stratigraphy (HC, HC West, Don East deposits, and the OP West and Pelly North showings).

Surface work consisted of soil sampling, bedrock geological mapping, and quaternary surface mapping. Soil sampling was conducted by geological staff from Anniv camp throughout the summer with the goal of discovering new areas of mineralization; 4,151 soil samples were taken for analysis. Bedrock geological mapping was done around the Pelly North region, the south bank of the Don Valley, and from the Anniv Central region to the most northwest of the Anniv drill holes. Quaternary mapping and sampling on the property was conducted as part of the research for a M.Sc. project at Simon Fraser University by Derek Turner (2008). His project involved reconstructing the late glacial history of the Selwyn Lobe of the Cordilleran ice sheet, mapping the surficial geology of the Selwyn Project property, and conducting a mobile metal ion geochemistry case study across the SEDEX deposit. From across the project area, till samples were taken to test for, and characterize, the different types of Quaternary deposits in the area. Samples from each of these were split out for use in geochemical analysis.

9.4 SELWYN EXPLORATION 2007

In 2007, all exploration activities on the Selwyn Project occurred between April 20 and December 14, 2007. A total of 107 drill holes were completed for a total of 37,006 m. Drilling objectives were to expand on the new deposits from 2006, and increase the mineral resources with a focus on expansion of areas of high-grade mineralization. The target deposits were Don, Don East, HC West, HC, and XY deposits.

Surface work consisted of soil sampling, stream sampling, rock sampling, bedrock geological mapping, and Quaternary geological mapping.

9.5 SELWYN EXPLORATION 2008

In 2008, all exploration activities on the Selwyn Project occurred between April 13, 2008 and October 29, 2008. A total of 13 drill holes were completed, for a total of 3,857 m. Drilling was focused on expanding the known high-grade resources and testing for an extension of the high-grade mineralization of the XY Central deposit. In addition to the modest drilling program, Selwyn continued environmental baseline and engineering studies.

The step out drilling on the XY Central deposit resulted in the discovery of high-grade mineralization in what is referred to as XY West deposit, approximately 1,300 m along strike to the northwest of XY Central Deposit. A step out drill hole on the Don East deposit also intersected high-grade mineralization indicating significant potential for expanding high-grade mineralization in that area.

Surface work consisted of soil sampling, rock sampling and bedrock geological mapping.

9.6 SELWYN EXPLORATION 2009

In 2009, all exploration activities on the Selwyn Project occurred between May 13, 2009 and November 27, 2009. A total of 4,213 m of drilling was completed in 9 drill holes in the XY West deposit area. The new drill intercepts significantly expanded the known extent of high-grade mineralization. The zinc-lead mineralized Active Member was now defined over a 250 m strike length with an approximate true thickness of 6 m to 24 m. However, the drill hole density was insufficient to adequately define the dip length of the XY West deposit. In addition to the modest drilling program, Selwyn continued environmental baseline and engineering studies and undertook a scoping-level engineering evaluation for the initial development of the Selwyn Project as a series of underground mines focused on the high-grade mineral zones. Preliminary modeling is based on mining the XY Central deposit at 5,000 tpd and the Don Deposit at 3,000 tpd to feed a central concentrator processing of 8,000 tpd. Preliminary engineering studies were done by Selwyn on the feasibility of a pipeline to transport concentrates to the Robert Campbell highway.

In 2009, the surface work consisted solely of bedrock geological mapping. Four representatives from the Northwest Territories Geoscience Office (NTGO) spent approximately two weeks mapping the CMC area. Nineteen fieldwork days were spent mapping surface outcrops in areas of XY Nose, XY Central, XY West, XY South, HP ridge, upper Don Creek, and a small portion of Don Creek.

9.7 SELWYN CHIHONG MINING LTD. (SCML) EXPLORATION 2010

In 2010, the SCML completed $22.2 million of exploration expenditures. Work done included an extensive diamond drilling program in the XY Central (13,945 m) and Don (7,762 m) deposits to upgrade mineral resources. The SCML also undertook exploration drilling in the XY West deposit (5,793 m) to confirm the continuity and extent of its high-grade mineral resources. Additionally, some minor additional condemnation (609 m) and geotechnical (401 m) drilling was done. $7.6 million was spent on environment and engineering studies to support the bankable feasibility study and permitting activities.

9.8 SCML EXPLORATION 2011

In 2011, the SCML completed $16.8 million of exploration expenditures. The definition diamond drilling program (22,657 m) in the Don deposit was completed and resulted in an upgrade of mineral resources. The exploration drilling program (16,988 m) in the XY West deposit confirmed the continuity and extent of its high-grade mineral resources. Also, a PQ drilling program (3,918 m) was completed as part of the metallurgical program. $7.9 million was spent on environmental and engineering studies to support the bankable feasibility study and permitting activities. $5.8 million was spent on the preparations for underground exploration

10 DRILLING

All drilling to date has been wireline diamond drilling. The drill core size is predominantly NQ, but also includes NTW, and a small percentage of BQ and BTW.

In 2010 and 2011, a maximum of six drills operated simultaneously completing 195 holes, for a total of 68,155 m. All drill core is stored on the property. The diamond drilling on the Howard's Pass Property is summarized in Table 10.1.

TABLE 10.1: SUMMARY OF DIAMOND DRILLING

Period	Company	Grid	Type	Holes	Feet	Metres
1973-1981	Placer Development	ANNIV*	Surface	64	37,606.6	11,462.5
		OP	Surface	9	2,798.6	853.0
		XY	Surface	102	73,448.2	22,387.0
		XY	Underground	35	3,061.0	933.0
			SUBTOTAL	**210**	**116,914.4**	**35,635.5**
2000	Copper Ridge Explorations	ANNIV*	Surface	8	2,356.3	718.2
			SUBTOTAL	**8**	**2,356.3**	**718.2**
2005	Pacifica Resources	ANNIV CENTRAL	Surface	12	3,776.6	1,151.1
		ANNIV EAST	Surface	10	4,000.3	1,219.3
		OP	Surface	4	2,192.9	668.4
		XY	Surface	6	2,568.9	783.0
		DON	Surface	8	5,889.1	1,795.0
		BRODEL	Surface	10	6,392.7	1,948.5
		HP	Surface	3	2,367.5	721.6
			SUBTOTAL	**53**	**27,188.0**	**8,286.9**
2006	Pacifica Resources	PN	Surface	7	4,719.5	1,438.5
		OP	Surface	6	3,016.4	919.4
		EP	Surface	1	375.0	114.3
		ANNIV CENTRAL	Surface	53	37,081.0	11,302.3
		ANNIV EAST	Surface	36	21,327.1	6,500.5
		DON	Surface	42	27,903.9	8,505.1

		BRODEL	Surface	1	507.5	154.7
		HP	Surface	1	596.1	181.7
		XY	Surface	44	36,023.6	10,980.0
			SUBTOTAL	**191**	**131,550.2**	**40,096.5**
2007	Selwyn Resources	DON	Surface	20	30,239.8	9,217.1
		DON EAST	Surface	51	50,709.0	15,456.1
		HC WEST	Surface	15	11,449.5	3,489.8
		HC	Surface	1	2,689.0	819.6
		XY CENTRAL	Surface	18	25,214.6	7,685.4
		Exploration	Surface	2	1,110.2	338.4
			SUBTOTAL	**107**	**121,412.1**	**37,006.4**
2008	Selwyn Resources	DON EAST	Surface	4	4,982.0	1,518.5
		XY WEST	Surface	9	7,671.9	2,338.4
			SUBTOTAL	**13**	**12,653.9**	**3,856.9**
2009	Selwyn Resources	XY WEST	Surface	9	13,236.5	4,034.5
		XYC-151D**	Surface	N/A	586.0	178.6
			SUBTOTAL	**9**	**13,822.5**	**4,213.1**
2010	Selwyn Chihong Mining	ANNIV EAST***	Surface	11	2,097.8	639.4
		DON***	Surface	32	26,817.3	8,173.9
		XY WEST	Surface	14	18,998.7	5,790.8
		XY CENTRAL	Surface	47	45,750.3	13,944.7
			SUBTOTAL	**104**	**93,664.0**	**28,548.8**
2011	Selwyn Chihong Mining	DON	Surface	52	79,557.7	24,249.2
		XY WEST	Surface	44	56,060.0	17,087.1
		XY CENTRAL	Surface	9	11,896.7	3,626.1
			SUBTOTAL	**105**	**135,617.8**	**41,336.3**
			TOTAL	**800**	**655,179.1**	**199,698.6**

Notes: [1] Combines Anniv Central and Anniv East. [2] Deepening of an existing hole; therefore, not considered a new hole. [3] DON-143 to DON-149 and ANE-184 to ANE-194 were condemnation drill holes or geotech holes.

Table 10.2 shows the collar information of all drill holes drilled during the 2010-2011 drilling campaign on the XY West deposit (44 drill holes).

TABLE 10.2: COLLAR INFORMATION FOR THE 2010-2011 XY WEST

Hole ID	UTM Easting	UTM Northing	Elev. (m)	Azimuth	Dip	EOH (m)
XYC-214	487285.86	6927265.17	1416.61	40.0	-69.0	248.5
XYC-215	487285.86	6927265.17	1416.61	33.0	-71.0	432.2
XYC-220	487502.60	6927240.23	1486.18	40.0	-72.0	281.5
XYC-223	487394.32	6927161.56	1420.90	28.0	-59.0	648.4
XYC-225	487502.64	6927240.25	1486.18	38.5	-65.0	654.4
XYC-233	487394.32	6927161.56	1420.90	23.0	-63.0	719.0
XYC-237	487502.36	6927241.71	1486.14	137.0	-86.0	404.3
XYC-242	487375.80	6927330.16	1464.33	200.0	-70.0	311.0
XYC-245	487285.86	6927265.17	1416.61	210.0	-87.0	314.5
XYC-246	487248.70	6927314.42	1415.27	125.0	-85.0	338.0
XYC-247	487225.60	6927339.37	1409.88	20.0	-85.0	395.0
XYC-248	487160.23	6927458.68	1401.29	20.0	-87.0	365.0
XYC-249	487160.23	6927458.68	1401.29	21.0	-78.0	374.0
XYC-250	487159.63	6927363.39	1397.36	210.0	-85.5	305.0
XYC-251	487119.19	6927497.02	1401.02	357.0	-75.0	477.0
XYC-252	487119.19	6927497.02	1401.02	197.5	-68.0	317.0
XYC-253	487129.24	6927407.80	1392.62	20.0	-87.0	401.0
XYC-254	487129.24	6927407.80	1392.62	202.7	-70.0	272.0
XYC-255	487227.04	6927428.03	1416.06	30.0	-85.0	476.0
XYC-256	487227.04	6927428.03	1416.06	195.0	-75.0	383.0
XYC-257	487055.12	6927544.4	1388.64	20.0	-85.0	311.0
XYC-258	487055.12	6927544.4	1388.64	200.0	-75.0	185.0
XYC-259	487036.39	6927555.89	1385.73	20.0	-79.0	369.0
XYC-260	487142.13	6927551.31	1399.41	200.0	-74.0	383.0
XYC-261	487131.24	6927597.83	1400.35	205.0	-75.0	356.0
XYC-262	487201.36	6927403.87	1412.75	10.0	-80.0	410.8
XYC-263	487077.23	6927593.42	1390.84	202.0	-75.0	305.0
XYC-264	487201.76	6927534.56	1410.91	203.0	-75.0	440.0
XYC-265	487246.34	6927490.15	1420.22	179.0	-76.0	459.0
XYC-266	487444.11	6927148.79	1430.47	170.0	-79.0	218.0
XYC-267	487337.52	6927207.03	1417.96	22.0	-80.0	425.0
XYC-268	487277.91	6927376.94	1432.61	194.0	-71.0	400.0
XYC-269	487546.16	6927107.79	1452.25	39.0	-80.0	134.0
XYC-270	487512.68	6927170.16	1465.98	20.0	-80.0	308.0
XYC-271	487408.60	6927252.42	1459.29	200.0	-81.0	342.0

Hole ID	UTM Easting	UTM Northing	Elev. (m)	Azimuth	Dip	EOH (m)
XYC-272	487337.38	6927301.76	1442.47	202.0	-75.5	406.0
XYC-273	487036.39	6927555.89	1385.73	335.0	-79.0	341.0
XYC-274	487136.05	6927596.42	1400.95	35.0	-82.0	542.0
XYC-275	487456.98	6927210.26	1461.88	200.0	-80.0	207.3
XYC-276	487146.24	6927553.51	1399.95	50.0	-83.0	455.0
XYC-277	487203.48	6927616.01	1418.42	192.0	-76.0	377.0
XYC-278	487102.49	6927591.58	1395.12	5.0	-76.0	460.0
XYC-279	487210.66	6927535.47	1411.56	35.0	-84.5	386.5
XYC-280	487098.64	6927684.14	1405.69	187.0	-75.0	350.1
XYC-281	487099.19	6927590.79	1395.02	323.0	-76.0	550.0
XYC-282	486950.21	6927633.65	1373.89	178.0	-80.0	356.0
XYC-283	486817.77	6927757.44	1346.51	180.0	-90.0	405.0
XYC-284	486961.29	6927803.81	1400.20	188.0	-85.0	473.2
XYC-285	487466.31	6927267.61	1482.63	176.0	-75.0	326.6
XYC-286	487548.16	6927271.03	1526.93	190.0	-77.0	441.9
XYC-287	486817.77	6927757.44	1346.51	182.0	-70.0	365.0
XYC-288	487548.16	6927271.03	1526.93	45.0	-67.5	601.0
XYC-289	486961.29	6927803.81	1400.20	180.0	-61.0	383.0
XYC-290	486961.29	6927803.81	1400.20	358.0	-75.0	599.3
XYC-291	487405.29	6927364.91	1483.10	337.0	-75.0	398.8
XYC-292	487405.29	6927364.91	1483.10	20.0	-90.0	475.0
XYC-293	487530.88	6927330.05	1544.62	170.0	-70.0	374.1
XYC-294	487363.60	6927461.05	1477.42	195.0	-77.0	441.5

10.1 HOLE LOCATION

In 2006, Pacifica employed a full time surveyor who used a *Differential Global Positioning System* (DGPS) with relative accuracy to 3.0 cm. The differential survey consisted of a base station (Trimble R7) and a rover unit (Trimble R8), Underhill & Underhill of Whitehorse (now known as Underhill Geomatics Ltd.) established a control grid and 12 control points.

During 2006, historical collars were resurveyed (Placer and 2005 Pacifica holes) and all new 2006 holes were recorded. The location accuracy of the historical survey data was reviewed. If the collar was found, the survey was recorded on the hanging wall edge of the hole. If the true collar was not located, the resultant survey was qualified as to the possible radius based on surface clues such as timbers, drill hole cuttings, etc. Overall correlation between the Pacifica survey and Placer's location was acceptable (for example, the average collar correction for XY deposit was 5.2 m); this error is attributable, in part, to the conversion of the Placer imperial grid to UTM coordinates by Pacifica in its 2006 resource study. Due to weather constraints, the survey for the Anniv East deposit was not completed until early 2007.

In 2007, Selwyn's surveyor continued with the surveying program. The Anniv East historical and Pacifica holes previously missed were surveyed and the databases where updated.

In 2008, the holes were located using handheld GPS units, with elevations adjusted to Selwyn's LIDAR Topographic (one metre) contours obtained in 2008. Due to the small drill program, a full time surveyor was not employed on-site. Based on historical work/reviews, this method is accurate to +/-5 m (northing and easting) and +/- one metre in elevation. All resources added in 2008 were classified in the Inferred category. It is recommended that all these resources are checked with the differential GPS unit at a future date.

In the years 2009, 2010, and the first half of 2011, a Selwyn employee surveyed most of the holes drilled between 2008 and 2011, in addition to some of the few historical drill holes that had not yet been surveyed with a differential GPS. All the drill holes used in the current resource calculation for the XY West deposit have been surveyed with a differential GPS. Figure 10-1 - show a drill hole plan map for XY West deposit.

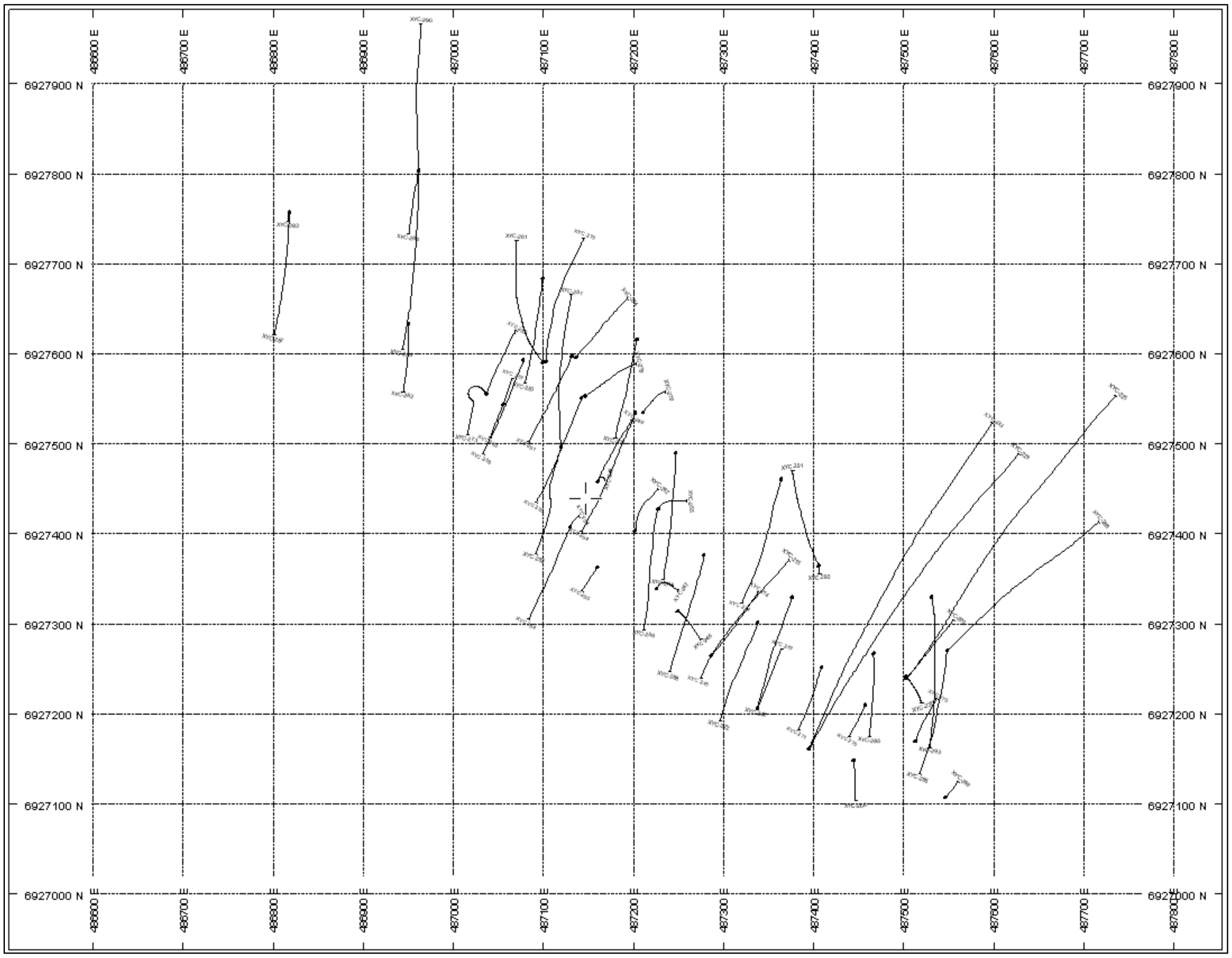

FIGURE 10-1: DRILL HOLE PLAN MAP FOR THE XY WEST DEPOSIT (NORTH TO TOP)
(SCALE: 1 GRID SQUARE IS 100 M X 100 M WITH NORTH TOWARDS TOP OF MAP)

10.2 HOLE SURVEYING

Historically, the Placer drill hole collars were surveyed by transit and certain holes were surveyed systematically for deviation by *Tropari*; this measures hole azimuth by a magnetic compass while dips are measured by hydrofluoric acid etching. Later, the *single shot* survey method was also used.

Drilling by Pacifica/Selwyn/Selwyn Chihong was measured for hole deviation using the Flexit instrument or Reflex instrument, which electronically records hole number, depth, azimuth (magnetic north), inclination, magnetic field strength, and temperature. Magnetic interference associated with lithologies was not a problem and readings were taken below casing (collar) and at every 60 m to 100 m thereafter. Since 2009, readings were taken every 50 m.

During the 2010-2011 drilling campaign, drill hole deviation was recorded by the Flexit instrument or the Reflex instrument. Correction for magnetic north was 23.3° east during the 2010-2011 drilling program.

Since the 2010 definition drilling program at XY Central, Selwyn began using the DeviCore tool. This tool is a core orientation system and a high-accuracy instrument that registers the orientation of the core and inclination of the drill hole. Data obtained from the core orientation helped determine the dip and strike of the bedding, cleavage, joints and shears. About 19% of XY West holes were drilled with the DeviCore tool. Of those drill holes, 55% resulted in reliable orientation data. The remaining orientation data was deemed unreliable.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 HISTORICAL SAMPLE PREPARATION AND ANALYSES

Burgoyne (2005) concluded that techniques used on the historical samples (pre-2005) had high standards and were reliable. Drill core samples obtained between 2006 and 2009, by Pacifica and Selwyn, were data verified by an Independent QP and deemed reliable.

11.2 SELWYN CHIHONG'S SAMPLE PREPARATION AND ANALYSES

A total of 2,870 samples from 2010-2011 from the XY West deposit were shipped to ACME's preparation lab in Whitehorse. In addition, 14.0% of samples assayed by ACME during the 2010-2011 drill program where re-assayed by ALS Minerals (ALS) in Vancouver, BC for standard verification purposes.

At ACME's preparation lab in Whitehorse, the samples were logged into an internal tracking system and the sample weight was recorded. Each sample was then dried and crushed to 80%, passing 10 mesh (1.6 mm). A 250 g split was then pulverized to 85%, passing 200 mesh (74 µm) in a mild-steel, ring-and-puck mill. That split was then sent to ACME's analytical lab. Each core sample was reduced to a 0.5 g light sample that underwent multi-acid (HCl, HF, HNO_3, and $HClO_4$) digestion and was analyzed with an ICP-ES for a suite of 23 elements. Specific gravity analyses were undertaken for each sample. Raw and final data from the ICP-ES underwent a final verification by a British Columbia Certified Assayer who signed the Analytical Report before it releasing it to the client.

11.3 HISTORICAL SECURITY AND CHAIN OF CUSTODY

Site security at the early exploration camps, XY Camp and Anniv Camp, was not documented; this report assumes that a strict standard of security was established, as would be the case at most major mining companies. The chain of custody for samples would have originated with exploration personnel at the camps, then transferred to commercial transport personnel, and concluded with the laboratory personnel in the Placer Development Laboratories of Vancouver, BC. Sample security and chain of custody has been verified by an independent QP for drill core samples obtained by Pacifica and Selwyn from 2006 to 2011.

11.4 SELWYN CHIHONG'S SECURITY AND CHAIN OF CUSTODY

All core samples were shipped from the Don Camp to Whitehorse in secured rice bags; the bags were closed with metal tie straps to prevent tampering. From camp, the samples were delivered to Whitehorse via Alkan Air fixed-wing aircrafts, where the secured rice bags were unloaded in the locked compound and stored for a short time. From Alkan Air, the secured rice bags were picked up by an ACME employee and transported to ACME's preparation lab in Whitehorse for sample preparation. The prepared samples were then flown to Vancouver for analysis in ACME's analytical lab. All samples were tracked throughout this process; both fax and e-mail notifications were sent to Selwyn at each step of the delivery process. A final official notification was sent to Selwyn when the Whitehorse laboratory received the samples; this signalled that sample preparation and analytical work would begin. It should be noted that Selwyn's standing policy states that the laboratory must notify Selwyn immediately if there are any broken straps within the secure rice bag shipment.

11.5 HISTORICAL QUALITY CONTROL AND QUALITY ASSURANCE

Within the historical database, there is no record that a QA/QC (quality control/quality assurance) program was in place with respect to sampling and subsequent assaying and analyses. Initial exploration, drilling, and sampling were done at Howard's Pass well before any formal QA/QC programs were established within the mineral exploration industry. At that time, the current QA/QC program that includes the widespread use of assay duplicates, blanks and internal standards did not exist.

Burgoyne (2005) concluded that there was no reason to doubt the quality or veracity of the data, and that all of the exploration work conducted on the Selwyn Project between 1972 and 1981 was performed by competent and professional employees. QA/QC programs for the 2006-2009 drilling programs were reviewed and verified by an independent QP (Pearson 2006, 2007, and 2008).

11.6 SELWYN CHIHONG'S QUALITY CONTROL AND QUALITY ASSURANCE

Selwyn has a well-established, comprehensive sampling and assay control program that includes the blind insertion of assay duplicates, blanks and standards; these steps are in addition to the detailed QA/QC programs of ACME which were also made available to Selwyn.

All drill core samples were divided into groups of 30 samples for QA/QC purposes. Each group contained one duplicate sample, one blank sample, and one industrial geochemical standard sample. These samples were placed at the 11^{th}, 20^{th} and 30^{th} location, respectively, within the 30 sample sequence; the original sample for the duplicate sample was at the 10^{th} location within the sequence.

In order to obtain a duplicate sample, the original half-core sample was cut into two quarter-core samples. Blank samples consisted of crushed dolomite. Industrial geochemical standard samples were provided by the commercial supplier WCM Minerals (WCM), a division of WCM Sales Ltd. Note that at least one standard, one blank, and one duplicate was inserted for each drill hole submitted for assay analysis. The 2010 and 2011 QA/QC samples are further discussed in *Sections 11.6.1 to 11.6.5.*

11.6.1 Standards

Zinc/lead standards A and B were used in every drill program from 2005 to 2009, and again for a brief period in 2010. Standards C and D are currently being used. There is a Standard E, however, it is not in use, but one alloquot was remitted by accident in 2011. A total of 82 standard samples (44 standards C, 37 standards D, and 1 standards E) were submitted with the drill core samples for analysis.

The standards have the following certified grades:

- Standard C: 6.88% Zn, 6.06% Pb, 0.68% Cu and 70 g/t Ag
- Standard D: 2.87% Zn, 1.43% Pb, 0.48% Cu and 19 g/t Ag
- Standard E: 4.19% Zn, 4.33% Pb, 1.07% Cu and 193 g/t Ag

The majority of analyses from standards C, D, and E fell within the defined limits of +/- 2 standard deviations of the certified values (two standard deviations for the checked elements: Pb, Zn, Cu, and Au is approximately 4-10% of the mean value). A few anomalies fell just outside these limits; these individual cases were evaluated and deemed acceptable.

11.6.2 Blanks

A total of 94 blanks were submitted with the drill core samples for analysis. All blanks passed the QA/QC standards and the majority plotted within +/- 2 standard deviations. Calcium (Ca) and magnesium (Mg) showed normal values. No zinc (Zn) or lead (Pb) was detected in the blanks, except for 10 samples which showed only minor contamination. No major concerns were identified.

11.6.3 Duplicates

A total of 105 duplicate samples were submitted with the drill core samples for analysis. The majority of the duplicates were within a +/- 30% tolerance level. The lead values resulted in slightly more anomalies than Zn, which can be explained by the presence of galena blebs in the core. Correlation plots (X-Y) were constructed for Zn, Pb, Ag (silver), Al (aluminum), Ca and Fe (iron); these included a regression line $f(x) = y$, and two tolerance lines at +/- 30% of the regression line. No major concerns were identified.

11.6.4 Re-assay ACME Laboratories vs. ALS Minerals

The split pulps of 402 samples (14.0% of all samples) were re-analyzed at ALS as part of Selwyn's internal QA/QC validation. The elements used to make the comparison between both labs were Pb, Zn, Ca, and Fe. The majority of the split pulps were within a 15% tolerance for Pb, Zn, Ca, and Fe.

11.6.5 Internal Quality Control at ACME Laboratories

At ACME laboratories, internal QA/QC reports were sent to Selwyn along with the original data from each geochemical submission to the laboratory. These QA/QC reports included data from the analysis of certified and in-house standards, blanks, and duplicates done in order to maintain quality control for the laboratory. Before the data was sent to Selwyn, the Recording Technician and the Chief Technician verified all results.

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12 DATA VERIFICATION

12.1 TECHNICAL REVIEW BY QUALIFIED PERSONS

With respect to the data verification, Selwyn maintains its databases with protocols that are designed to meet or exceed industry standards for best practices in data management. Data verification is conducted in many forms and is continually tested on a regular basis through QA/QC programs, internal reviews, and independent Qualified Person (QP) reviews as normal course during mineral resource estimates to NI 43-101 standards. Most recently, independent QP, Mr. Cliff Pearson, P.Geo., visited the Selwyn Project property in both 2010 and 2011 with the purpose of validating protocols, procedures, and databases for the concurrent drilling programs on the Don, XY Central and XY West Deposits.

The site visits focused on data accuracy, which included examination of core-logging/sampling methodologies, core storage facilities, assay sample preparation/handling, and selected drill sites validation. In addition to site visits, data validation also included selecting drill holes within the database and manually checking data back to original source, ensuring accuracy. Mr. Pearson concluded that the results of the data verification study were accurate and reliable and acceptable for geological resource estimates.

With respect to the 2012 resource estimate update for the XY West Deposit, data validation and QA/QC procedures were performed prior to appending the 2010 and 2011 databases produced concurrently between the Don, XY Central, and XY West Deposit drilling programs. In addition to QA/QC samples, Selwyn has purchased a Niton (XRF) analyzer to aid in estimating zinc and lead contents. All visible lead and zinc sulphides where analyzed in the field with this technique and recorded measurements entered in a spreadsheet. The spreadsheet was compared to assays received for further validation.

Mr. Garth Kirkham, P.Geo., an independent QP, visited Selwyn Project of Selwyn Resources Ltd. from September 7-9, 2011. Mr. Cliff Pearson, P.Geo, an independent QP, visited the Selwyn Project of Selwyn Resources Ltd. from November 10-12, 2010, and again from June 22-24, 2011. These two visits by Mr. Pearson were part of the overall assessment of concurrent drilling programs for Don, XY Central and XY West deposits during 2010 and 2011 with Mr. Pearson's assessment being part of the 24 October 2011, mineral resource estimate update report filed on SEDAR.

Non-independent QPs Messrs. Jason Dunning, P.Geo., and Wolfgang Schleiss, P.Geo., have visited the Selwyn Project property numerous times in the normal course of business operations, as they managed field operations. Mr. Schleiss last visited the property from June 14-20, 2012, and Mr. Dunning last visited the property from February 7-10, 2012.

All site visits by both independent and non-independent QPs focused on the Don Camp and its contained drill core processing and storage facilities. During the 2010 visit, Pearson was able to the view the existing drill sites during active drilling periods. No surface drilling was underway during the 2011 site visit.

During these site visits by independent and non-independent QPs during these concurrent drilling programs for Don, XY Central, and XY West Deposits, the following data verification procedures were carried out in addition to Selwyn's internal data management procedures and protocols:

- The core box storage was reviewed to confirm the amount and condition of stored drill core during the concurrent 2010 and 2011 drill programs.
- Sixteen randomly-chosen, representative drill holes (eight holes from each of the XY Central and Don Deposits) were reviewed with XY West Deposit drill holes concurrently being reviewed by non-independent QPs. The drill holes were chosen to include each lens of each deposit, and to be geographically representative. This review compared the recovered drill core with its recorded data, including drill core recovery and condition; sampling and assay data; geotechnical records; and rock type designation.
- On-site drill hole records were checked and the contained information was recorded so that it could be verified with the corporate office data used to construct the mineral resource models.
- All drill core samples from the 2010-2011 drill programs were assayed by ACME, Vancouver BC. An audit tour of this facility was conducted on July 7, 2011 to review sample handling and internal lab QA/QC procedures as part of the concurrent drilling programs. It should be noted, however, that a pre-drilling program audit tour was conducted by Mr. Dunning on March 31, 2010 to validate sample handling and internal lab QA/QC procedures.
- One out of every five drill core samples was sent to ALS in North Vancouver for an assay check. A total of 1,264 samples were check-assayed at ALS for the Don and XY Central Deposits. An additional 402 samples from XY West Deposit were check-assayed at ALS. No major anomalies in the assayed values were noted between labs.
- An internal report, that examined the assay values reported by ACME for the QA/QC samples placed by Selwyn in the sample stream, was prepared by Selwyn. An individual report was prepared for both the XY Central and Don drilling programs, demonstrating that there were no significant anomalies. These reports are summarized in *Section 12.6*.
- On July 8, 2011, the Golder lab in Burnaby was visited to confirm the sample processing procedures and standards used to test selected samples of Selwyn drill core for geotechnical data. All core samples received at Golder were bar-coded and tested for Point Load strength data. These results were used to compare and

verify the Point Load strength data regularly gathered on-site and used in mine planning exercises. (Golder is professionally operated and all results provided are verified and signed by a professional engineer.) It should be noted, however, that an audit tour was conducted by Mr. Dunning on September 10, 2010 to validate sample handling and internal lab QA/QC procedures pre-commencement of work at Golder.

- The reported Selwyn claims package was cross-checked against the Yukon and NWT databases. A random selection of claims and leases was verified; these included Yukon Quartz Mineral claims owned by SCML (21 of 1,055), Yukon Quartz Mineral claims under option from Howard’s Pass Joint Venture (9 of 420), NWT claims (1 of 5), and NWT leases (1 of 2). In total, 32 units (2% of the total) were verified for claim name and number, expiry date, ownership, and size and no discrepancies were found.

The data verification process did not find any significant errors or irregularities in the drilling programs, assaying procedures, data collection, data transmission, deposit model building, and mineral resource calculation. Verification details are provided for each activity in *Sections 12.2 to 12.7*.

12.2 DIAMOND DRILLING PROCEDURES

Surface diamond drilling has been the main method used to discover mineralized zones on the Selwyn Project; it was used to define the shape and size of the deposit, and to develop mineral resources for those zones.

Selwyn has developed and now maintains an extensive network of drill access roads and drill sites. During the 2010 and 2011 site visits, Mr. Pearson examined five active drilling sites to confirm the location of each and the individual drilling procedures. Drill sites are initially located by a handheld GPS and then later surveyed by a DGPS, and the drill holes are collared under geologist control. The drilling company is responsible for down-the-hole orientation surveys using a Flexit or Reflex survey instrument to measure drill hole deviation, and a DeviCore tool to determine the core orientation. A site geologist checks the drill site each day and records drilling progress and conditions. Upon completion of the hole, the collar location is staked and labelled for future reference.

12.3 ON-SITE CORE HANDLING AND SAMPLE COLLECTION

Drill core is transported by truck from the active drill sites to the core handling facilities on a daily basis. A core technician receives the core boxes then sorts, opens, and labels them. Footage markers are checked for accuracy and converted to metric units before data is recorded. The drill core is logged in detail by a geotechnical technician, and checked for an extensive number of geotechnical parameters before the drill core is physically disturbed by geological logging and sampling procedures.

The following geotechnical parameters are logged:

- Core recovery data, including: total core recovery, rock quality designation, run length, and from-to depths.
- Strength data, including: weathering class and grade of uniaxial compressive strength.
- Discontinuity orientation and count per run length, including: discontinuity type, count, joint alteration number, joint roughness number, and joint set number.
- Rock mass rating, including: spacing of discontinuities, condition of discontinuities, and groundwater.
- Fault description, including: % fault gouge, % fault breccia, graphite, and broken zone or rubble zone.
- General information, including: core diameter and rock type.

All drill core is photographed before sample collection. It was noted that the Senior Geotechnical Technician reviewed all photographed core to ensure consistency and accuracy of the geotechnical observations.

A site geologist examines and logs the drill core in detail, using well-established parameters for rock type, alteration, mineralization, and structural geology. Mineralized intervals are recorded by the geologist and sampling intervals defined by sample tags. The geologist adds QA/QC samples at this point, including blanks, standards, and duplicates. As noted on site visits, sample intervals ranged from 0.2 m (in high-grade sulphides) to 4.3 m (in a fault zone with low core recovery). Most sampled intervals are within the 1.0 m to 1.5 m range.

A geology technician then receives the sample tagged core and, following the core intervals defined by the geologist, cuts it in half with a diamond saw. ACME provided numbered sample books with three piece tags. One piece of the tag is stapled to the core box at the beginning of the sampled interval; one piece goes with the sample in the plastic sample bag; and the third piece remains in the sample book as a permanent record. The collected samples are collated by drill hole and sealed with zapstrap in pre-labelled, colour-coded rice sacks for transport to Whitehorse by Alkan Air.

Processed core is stored on-site, near the core handling facilities. The drill core is cross-piled on pallets, with the sampled intervals on top. The stored core is in good condition, well-labelled, and is generally easy to access.

12.4 SAMPLE TRANSPORT AND SECURITY

Core samples are collated by drill hole and securely packaged and shipped by air to Whitehorse by Alkan Air. Once there, the samples are stored in a secure facility until shipment to the ACME Branch Preparation Facility also in Whitehorse. At that location, the samples are received, prepared, bar-coded, and packaged for shipment by air (usually Air North) to the ACME facility in Vancouver. The author toured this ACME facility in July 2011 to confirm sample receipt, sample handling, and assaying procedures. It was noted that each of the Selwyn core samples arrived with an individual bar-code, in a bar-coded cardboard box, and were efficiently entered into the Lab database for tracking during the assaying procedures.

12.5 ASSAYING PROCEDURES

On July 7, 2011, Mr. Pearson toured the ACME Laboratory to confirm assaying procedures and QA/QC standards for the Selwyn core samples. This facility is run in a professional manner and no concerns were noted.

The ACME sample preparation and analysis package numbers provided by Selwyn were verified at the lab. These are R200-250 (sample preparation), G812 (specific gravity measurement), 7TD2 (multi-element assay), and 7TD.1 (assay for samples with over 10% Pb).

ACME's internal QA/QC assays are reported on each assay certificate in a separate section that describes duplicate assays of core, reject and pulp materials, along with analysis of their internal blank and standard samples.

12.6 QUALITY ASSURANCE AND CONTROL PROCEDURES

On-site Selwyn personnel routinely insert, at regular intervals, blank and standard rock samples as part of the core sampling program. The blank samples are barren dolomite and the standard samples are purchased from WCM to represent specific and reproducible lead and zinc grades. These are not defined to the assay lab and are assayed and reported as a regular core sample. In addition, duplicate samples are provided (two samples from one sample interval) on a regular basis. Selwyn sampling protocol requires that a blank, a standard, and a duplicate sample be located in every 30 samples taken (in other words, 10% of samples are QA/QC). Selwyn personnel report on the assay lab results for the QA/QC samples from each drill program. For XY West Deposit drilling, there were a combined total of 281 QA/QC samples sent to ACME. This total included 94 blanks, 105 duplicates, and 82 standards.

The Selwyn QA/QC reports were examined and are summarized as follows:

- All blank samples passed QA/QC standards.
- All standards samples passed QA/QC standards and the majority were within +/- 2 standard deviations.
- Most of the duplicate samples were within the tolerance limits, while a small number were outside the limits with respect to lead; this is explained by the presence of blebs of galena (lead sulphide) in the drill core.

Core samples from four of every 20 drill holes are sent to ALS for check analysis. A comparison of analytical results for these 402 samples from the XY West Deposit between labs reveals that no major anomalies were recorded, although there are a few samples outside +/- 15% tolerance limits.

12.7 DATA HANDLING AND SECURITY

Computerized core logging programs (Lagger 3-D Exploration® by North Face, and MS Excel®) are used for both geological and geotechnical data collection. These have been in use for a number of years and have proved reliable, while insuring consistency and standardization.

On-site drill hole folders collect all the data relating to each individual hole. Each folder typically contains:

- Handwritten geology logs and sampling records.
- Down hole surveys collected from the drill company.
- Complete geotechnical records, including Point Load tests data and orientated core data.
- A completed, sample requisition sheet from ACME.
- Sample shipment forms indicating number and date of shipment.
- Environmental impact form and photos of the drill site.

On a regular basis, this data folder is sent to the corporate office to be reviewed for accuracy; the information is then entered into the digital master database for the project. Lab assays and QA/QC program summaries are securely transmitted to this database.

The final version of the geological drill hole logs and assays are then printed and added to the drill hole folder.

12.8 CONCLUSIONS OF DATA VERIFICATION

Based on the successive site visits and audit tours by both independent and non-independent QPs during the duration of the concurrent drilling programs for Don, XY

Central, and XY West Deposits, as well as post-drilling program completion, the authors are confident that the data was produced and recorded in a professional manner to best industry practices.

Both ACME labs in Vancouver and Golder labs in Burnaby were toured to confirm sample processing, assaying, and QA/QC procedures. Both labs operate in a professional manner: ACME provides the sample assays and Golder provides the geotechnical data. No concerns were noted.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 HISTORICAL METALLURGY

Placer performed a number of metallurgical studies on the Howard's Pass mineralization, over a 10-year period, to quantify metal recoveries and concentrate grades. Burgoyne (2005) summarizes the metallurgical results of Howard's Pass:

> Overall zinc recoveries to Pb, Zn, and bulk concentrates were between 82.9 to 90.6%. Overall, lead recoveries to the Pb, Zn and bulk concentrates were between 85.3 and 86.8%. Total weight of the Pb, Zn and bulk concentrates represented between 27.36 to 30.98% of the original weight of the bulk samples. Significant carbon is present in the Howard's Pass ore. Placer concluded that, with proper carbon cleaning facilities, and based on the results of the batch tests, it was reasonable to expect that over 80% of the lead and zinc lost in the carbon concentrate (tails) in the bench scale test work could be recoverable. Differential flotation test work on three bench tests at different grind sizes indicated between 62 to 68.1% Zn recovery to a Zn concentrate assaying between 50.1 to 52.7% Zn and 3.1 to 3.8 % Pb. The lead recovery was between 40.2 to 48.2% to a Pb concentrate assaying between 59.2 to 64.4% Pb and 9.36 to 15.8% Zn. The bulk concentrate assayed between 17.2 to 30.3% Pb and 29.5 to 35.0% Zn.

13.2 SELWYN MINERAL PROCESSING AND METALLURGY

13.2.1 2005 Testwork

During the 2005 exploration program, Pacifica collected a series of core samples from the Anniv and Brodel deposits, and a bulk sample from the XY stockpile, in order to evaluate the specific gravity characteristics of the mineralized deposits. The results determined that dense media separation (DMS) technology could be applied at the Selwyn Project to concentrate metals before the material was sent to the mill for further processing. DMS uses cyclones and heavy media to effect the gravity separation of materials based on the contrast of specific gravity of materials.

Mineralization of the Selwyn Project consists of banded zinc-lead mineralization intercalated with barren to weakly mineralized shale beds. Specific gravity of the banded zinc-lead mineralization range from 4.0 t/m^3 to 7.6 t/m^3 compared to the less dense gangue deposits that range from 2.0 t/m^3 to 2.8 t/m^3. The run of mine (ROM) has an overall specific gravity that ranges from 2.8 t/m^3 to 3.0 t/m^3; this reflects a high proportion of waste in the ROM.

The laboratory testwork was completed at SGS Lakefield Research under the supervision of the Selwyn's metallurgical consultant Godfrey McDonald. The laboratory evaluation was done on 15 kg samples using heavy liquid separation (HLS) for the separation at designated specific gravities of 2.6, 2.8, and 3.0 t/m^3.

Gravity separation testwork by the Company demonstrated rejection of 39.4% to 45.87% of the ROM material. This provided an upgrade of mill feed material from 140% to 150% for zinc and 150% to 160% for lead. The positive, preliminary testwork results illustrate the potential for pre-concentration of mineralization from a wide range of ROM grades to the Selwyn Project. The potential successful application of DMS technology reflects the unique character of the mineralization and the strong contrast in specific gravity of mineralization and waste. The pre-concentration of the ROM material has significant benefits to the milling process, with potentially higher metal throughput, and significantly lower operating and capital costs.

13.2.2 2007 Testwork

In January 2007, a similar study was completed by G&T Metallurgical Services Ltd. (G&T) of Kamloops, BC. A scope of work was performed on a sample provided by Selwyn to determine a heavy liquid density that will produce maximum metal recovery while rejecting maximum feed mass into the heavy liquid float product. The results of the test indicated that 54% of the sample was rejected by the 2.7 g/ml heavy float product which resulted in a concentrator feed (ROM) initially grading 0.93% Pb and 3.98% Zn, upgrading to 1.83% Pb and 6.98% Zn while recovering 90% of the contained lead and 80% of the zinc. It was recommended that further testing with heavy liquids, and specific gravities ranging from 2.6 to 2.7, be performed to improve recoveries.

During 2007, G&T also completed a metallurgical test on the zinc-lead samples from the Selwyn Project. The program was supervised by P. Taggart (P.Eng.) of P. Taggart and Associates Ltd., who acted as technical support for Selwyn. Summary of the three samples provided suggests that Selwyn's mineralization is typical of other SEDEX deposits worldwide (for example, Century and McArthur River deposits, Australia). The study suggests a simple and technical viable flotation separation scheme will extract the majority of the zinc and lead minerals associated with the Selwyn Project.

The following protocol was used: a nominal flotation feed size of 65 microns with a reagent regime considered standard for sequential flotation; the regrinding of the zinc and lead concentrates was required ahead of dilution cleaning to result in acceptable recoveries. The simulations, as performed and reported by G&T, "produced lead and zinc concentrates which would be appealing to the majority of lead and zinc smelter operations, other than silica in the zinc concentrate (which can be controlled by further regrind and cleaning studies) no other deleterious element was of concern." G&T recommended that further testwork be conducted to optimize performance and to better understand the distribution of zinc-lead metals throughout the project.

13.2.3 2010 Testwork

In June 2009, Selwyn engaged G&T to assess the metallurgical performance of higher grade mineralization from the XY Central zone and develop a process flowsheet. This work was also done under the direction of Peter Taggart P. Eng., Selwyn's independent QP, for metallurgical and process testwork. The 2010 G&T testwork confirms the 2007 testwork results demonstrated good metal recoveries to high-grade, saleable zinc and lead concentrates.

G&T's 2010 testwork used a 6.6 tonne sample of XY Central mineralized material; a composite was extracted from this sample that grades 10.1% Zn and 4.02% Pb. The program recommended a conventional flowsheet and a primary grind to 40 microns (80% passing). Table 13.1 shows that based on the G&T testwork results, it is projected that, under operational conditions, 85% of the zinc is recoverable to a 55% Zn concentrate with low iron content and that 69% of the lead is recoverable to a 60% Pb concentrate grading 60%.

No secondary metals or minor elements of zinc or lead concentrates are expected to attract smelter penalties, with the possible exception of a modest silica penalty in the zinc concentrates. The silica content in the zinc concentrate varies depending on grade of zinc in the concentrate: higher zinc grade corresponds with lower silica content. The concentrates contain measurable quantities of potentially-valuable minor metals such as gallium, germanium, and cadmium, but the grades are expected to be variable and no smelter payment is anticipated at this point in time.

Table 13.1 compares the metallurgical performance results of the G&T 2007 program with the 2010 programs showing improved zinc and lead recoveries in 2010. The 2007 (KM1948) results are from locked cycle tests of three composite samples (low, medium, and high-grade composites). The 2010 locked cycle test results are taken directly from the most recent G&T report. The predicted metallurgical performance is based on concentrate grade/metal recovery curves, minus a 2% downward adjustment to metal recoveries under lab conditions to allow for the operating conditions of the processing plant.

TABLE 13.1: G&T METALLURGICAL TESTWORK COMPARISON

Report/Test No.	Sample	Primary Grind P_{80} μm	Feed Grade		Lead Concentrate		Zinc Concentrate	
			Pb	Zn	Pb Grade	Pb Rec.	Zn Grade	Zn Rec.
			Pb (%)	Zn (%)	Pb (%)	%	Zn (%)	%
G&T 2007								
KM1948 #87, #89	Low Grade	37	1.55	5.58	62.8	57.5	55.0	80.0
KM1948 #83, #86, #95	Low Grade	66	1.54	5.41	68.2	53.7	56.7	71.4
KM1948 #88, #90	Low Grade	92	1.51	5.73	64.5	58.3	50.8	70.7
KM1948 #92	Medium Grade	65	3.04	7.87	54.1	67.0	55.6	68.6
KM1948 #93	High Grade	77	4.01	9.94	49.5	62.6	54.0	75.5
G&T 2010								
KM2427 #55, #63	HG Composite	39	4.0	10.0	60.8	70.0	55.5	84.0
KM2427 #56, #64	HG Composite	39	4.2	10.2	56.2	84.0	56.2	84.0
KM2427 #67	HG Composite	61	4.1	10.8	64.1	68.0	50.8	91.0
Predicted From Testwork		**40**	**4.0**	**10.0**	**60.0**	**69.0**	**55.0**	**85.0**

The 2010 results demonstrate an improvement in projected zinc and lead metal recoveries while maintaining concentrate grades. As in prior studies, the results demonstrate a recovery curve that is remarkably flat at higher zinc concentrate grades. This is interpreted to be the result of the very low iron content of the mineralization that results in the clean separation of the sulphide minerals through fine grinding in the regrind circuit, which allows the preparation of high-grade products with minimal loss of recovery.

Additional refinement testwork is planned for 2010 to assess the metallurgical characteristics of the Selwyn mineralization at the Don zone, and to determine detailed *grindability* properties for SAG mill sizing purposes. A continuing program of testwork will also evaluate the variability of the metallurgy within the proposed initial mining areas as additional core becomes available. Subject to the G&T-recommended grind size and additional testwork, the process flowsheet is projected to be a three-stage grinding circuit consisting of: SAG, ball and vertimills; differential flotation of concentrates with the standard pre-float and rougher/cleaner flotation stages; and rougher concentrate regrinding. This flowsheet will generate high-grade, saleable zinc and lead concentrates with good metallurgical recoveries.

Although none of the current work for metallurgy focused on DMS, it presents a future opportunity: upgrade lower grade ores before they enter the primary mill circuit by rejecting the lower density fractions of mill feed that contain little zinc-lead mineralization.

US Steel and, more recently, SGS Lakefield and G&T confirmed that the grade of typical Selwyn run-of-mine mineralization can be increased by up to 50% which means greater metal throughput. The grade enhancement is offset by some metal losses to DMS rejects, modest additional operating costs, plus incremental capital costs of the DMS equipment and associated plant modifications. In the design and layout of the mill, Wardrop Engineering will consider including a DMS circuit to accommodate a future process upgrade. This upgrade would focus on managing excessive mining dilution associated with mining lower grade material adjacent to the planned higher grade mining areas.

13.2.4 2011 Testwork

The 2011 flotation test program comprised 59 rougher tests, 47 batch circuit cleaner tests, and 7 locked cycle tests. Despite the primary grind, a 30% mass recovery produced lead recoveries approximating 85% in the lead roughers. The recovery of zinc to the lead roughers increased exponentially at lead recoveries in excess of 60%. To date, experience has indicated that most of this zinc can be rejected to the zinc circuit through the lead first cleaner tail, following lead regrinding. The high reagent consumptions primarily reflect the adverse affects of the organic carbon.

The total recovery of zinc, to the lead and zinc roughers, invariably exceeded 90% despite the feed grade, primary grind, and fluctuations in reagent addition rates

In batch circuit cleaner testing, the lead cleaner circuit performance was highly variable and seemingly dependent on the lead feed grade and/or the galena: organic carbon ratio in the sample. Lead metallurgical performance improves significantly as the ratio of the galena: organic carbon content increases. Thus, given a fixed lead concentrate grade of 60% Pb, the lead recovery could vary within the approximate range 20% to 60%. More work is planned to evaluate lead recovery and manage carbon effects.

The relatively flat grade/recovery curve profile achieved in earlier test programs was also evident in this program. The relatively clean sphalerite and low pyrite contents permitted high zinc concentrate grades to be attained with little drop in recovery up to a 57% Zn concentrate grade. At this concentrate grade, the silica content approximated 5% SiO_2.

In locked cycle flotation testing, the lead metallurgical response was variable, due in large part to the effects of the lead feed grade and the galena: organic carbon content ratio. Control of the Selwyn lead flotation circuit has invariably been a challenge in the laboratory, and will likely be more difficult in a commercial plant.

The challenges can be mitigated, in part by the:

- Use of a competent, well-trained operating and maintenance staff.
- Effective communications between mine and mill personnel, coupled with sound ore control strategies.
- Correct specification of design criteria and selection of process equipment.
- Effective use of on-stream analysis and on-stream particle size analysers.
- Effective support from well-equipped assay and metallurgical laboratories.

The zinc circuit performed satisfactorily in all cases. Some high zinc recoveries were achieved at the expense of concentrate grade. Nevertheless, there is sound reason to believe that, in the laboratory, zinc concentrate grades within the range 55% Zn to 57% Zn at recoveries in the mid-80s could be achieved. When compared to the lead circuit, the zinc flotation is reasonably stable and much less affected by fluctuations in zinc feed grades, within the range of grades anticipated.

In lead reverse floatation testing, the carbon contents of the lead concentrate are variable within the range between 2.4% and 19.5% C_{org}. Contents this high may well attract penalties from smelters and could possibly constrain markets. Further, the carbon dilutes the lead grade of the concentrate, resulting in increases in concentrate freight and smelting charges. While ore blending will mitigate some of these problems, it would be beneficial to provide some means of reducing the carbon content of the lead product in the plant. The results of the very preliminary scoping tests suggest there is potential to improve the lead concentrate grade, but at a cost to recovery.

Through the effective use of ore control, and possibly reverse lead flotation, avenues are available to exercise some control on the carbon contents. It will be advantageous to incorporate the galena: organic carbon ratio in the mine model, and to perform more scoping level lead reverse flotation tests.

The deleterious compound most likely to attract penalties in the sale of zinc concentrates will be silica. However, provided the final zinc concentrate grade exceeds a nominal 56% Zn, the zinc content should not pose a serious problem. On the other hand, the relatively high zinc concentrate grade, and the attendant low iron content, renders this product particularly desirable for most smelters.

Mineralogical examination of locked cycle concentrates revealed the presence of fully liberated contaminants in both the lead and zinc products. Most of this dilution is probably caused by the entrainment of fine particles in the particularly tenacious froths. The use of effective froth washing procedures should be considered mandatory in some cleaners, in conjunction with the adoption of low overall cleaner pulp densities. Flexibility must be provided in the cleaner circuits to advance high grade products through the circuit while the use of stage regrinding may alleviate some of the potential problems. In summary, the detailed design of the flotation circuit will require greater effort than might normally be afforded to a simple Mississippi Valley or Volcanogenic Massive Sulphide processing plant. The effort can be justified based on experience elsewhere and the mineralogical data generated during this test program.

A Dense Media Plant trade-off study was performed by Bateman Engineering during the late summer of 2011 to assess the potential benefits of this circuit. The results of this work, reported October 7, 2011, in conjunction with SCML's recent target analyses, confirm the potential value of a pre-concentration circuit.

14 MINERAL RESOURCE ESTIMATES

14.1 MINERAL RESOURCE ESTIMATE – XY WEST DEPOSIT

14.1.1 Introduction

The following sections detail the methods, processes, and strategies used to calculate the mineral resource estimate for the XY West deposit.

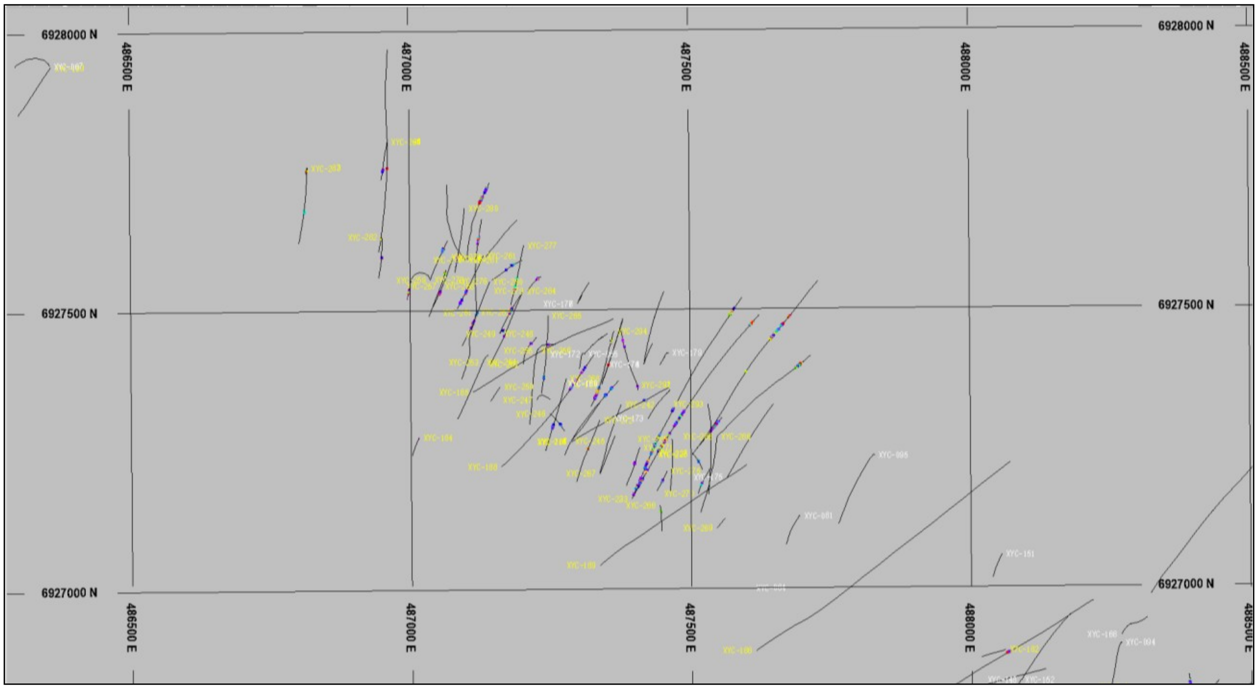
14.1.2 Data Evaluation

A total of 798 drill holes were supplied by SCML; this included 82 drill holes that were within the XY West Deposit area. The database included 50 holes drilled in 2011, 8 holes drilled in 2010, and 9 holes drilled in 2009. The remainder of the holes were drilled before 2008.

The drill hole database was supplied Selwyn Chihong Mining Ltd. (SCML) in an electronic format within a MineSight® project directory. The data included: collars, down hole surveys, lithology data, and assay data with *down hole from* and *down hole to* intervals in metric units. The assay data included 23 element ICP analyses with specific gravity measured for each sample. Fields were calculated for specific gravity (SG) and for combined zinc and lead:

- $SG_{calculated} = SG_{cal} = 0.0183 * (Zn\% + Pb\%) + 2.6296$
- EXT1 = Combined Zn and Pb = Zn% + Pb%

Figure 14-1 shows a plan view for the drill holes used in the XY West mineral resource estimate; the 2011 drill holes are labelled with yellow collars.



Note: 2010-2011 drill holes are shown in yellow.

FIGURE 14-1: PLAN VIEW SHOWING DRILL HOLES USED IN RESOURCE ESTIMATE

14.1.3 Computerized Geologic and Domain Modeling

Solids were created for the mineralized zones and the drill hole database was numerically coded using the mineralized zone solids. The solids were adjusted by moving the nodes of the triangulated domain solid to exactly honour the drill hole intercepts. The numeric codes that denote the zones were then manually adjusted, drill hole by drill hole, to ensure the accuracy of zonal intercepts. No assay values were edited or altered.

The solid model ore zones within the XY West Deposit were created from sections at 25 m intervals. The interpretations are based on lithology, meaning those within the Active Member (ACTM), a zinc cut-off of 1%, and a combined Zn+Pb grade cut-off of 2%.; this results in weakly mineralized ACTMs that are very low grade and excluded from the domain model. These ore zone solids or domains were then used to constrain the interpolation procedure.

Once the domain solids were created, they were used to code the drill hole assays and composites for subsequent geostatistical analysis. For the purpose of the mineral resource model, each solid's zone was used to constrain the block model by matching composites to those within the zones in a process called *geologic matching.* This ensures that only composites that lie within a particular zone are used to interpolate the blocks within that zone.

Figures 14-2 and 14-3 show a long-section and plan view of the solids with drill hole zones. Figure 14-4 shows a portion of the assay database with zinc and lead as percentages (converted from parts per million); combined zinc and lead (EXT1); the measured and calculated specific gravities; the geology; and ZONE1.

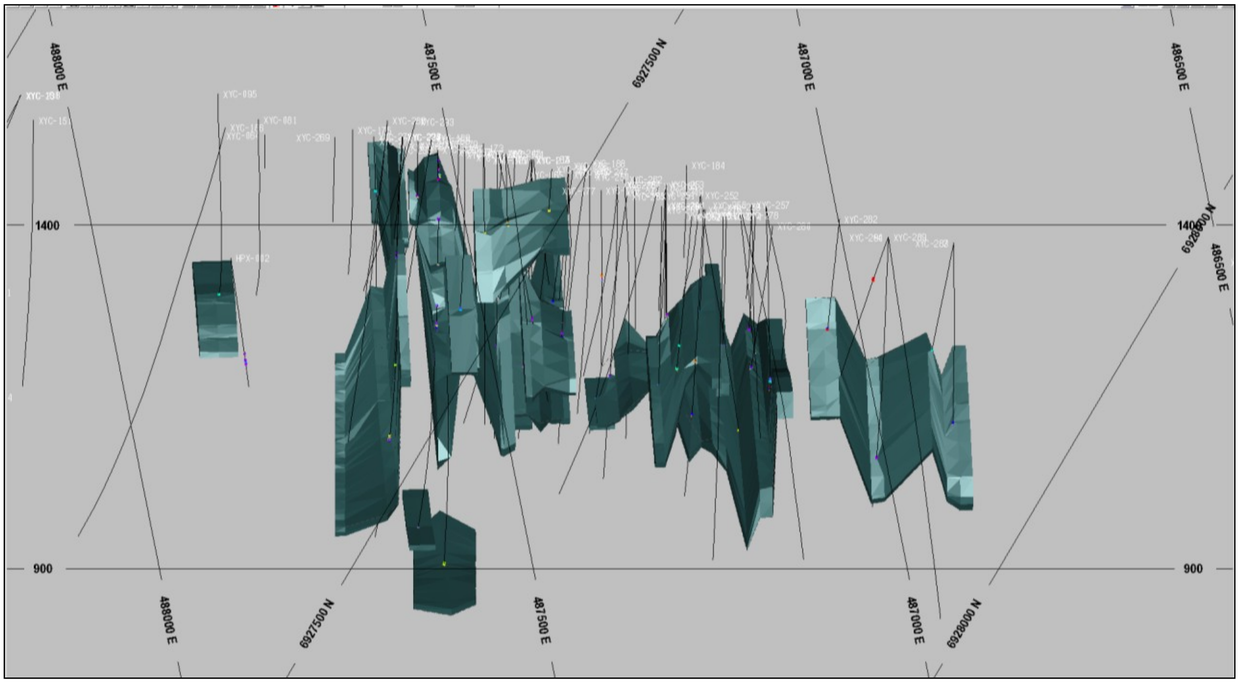


FIGURE 14-2: LONG-SECTION VIEW SHOWING WITH MINERALIZED SOLIDS

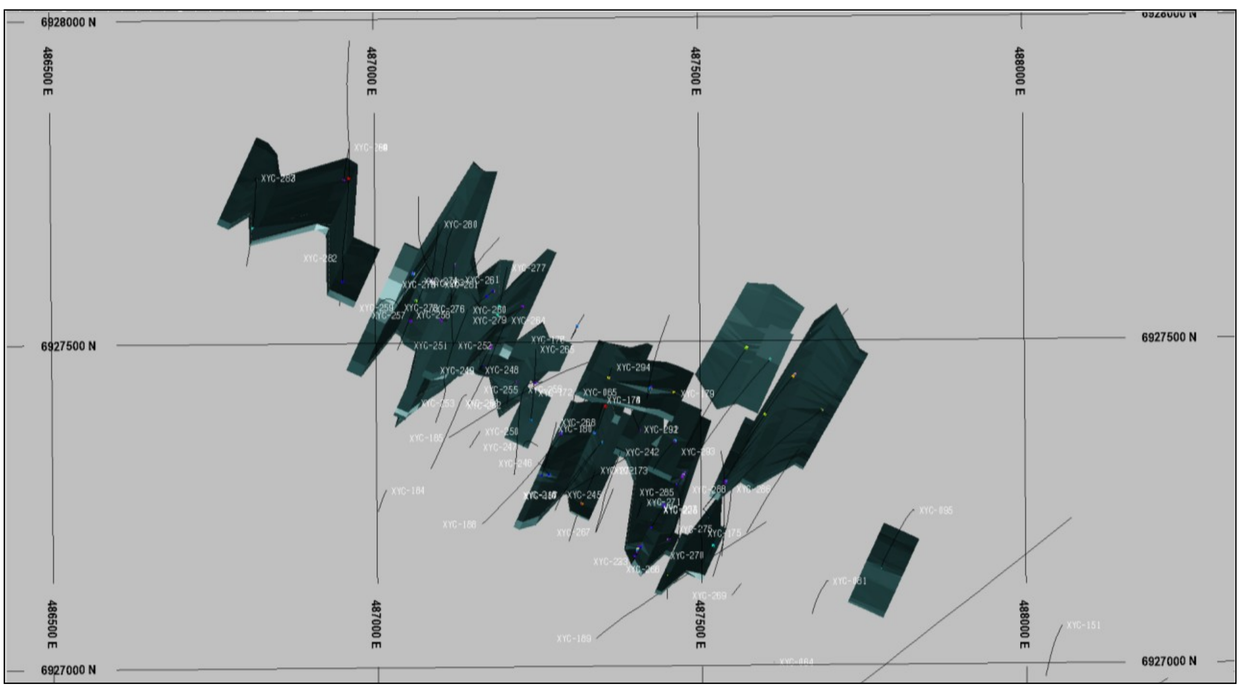


FIGURE 14-3: PLAN VIEW DRILL HOLES WITH MINERALIZED SOLIDS

	FROM	-TO-	-AI-	SG	ZN%	PB%	ZONE1	SGCAL	EXT1	GEOL
5	100.00	126.00	26.00	-	-	-	-	-	-	USMS
6	126.00	152.00	26.00	-	-	-	-	-	-	USMS
7	152.00	188.00	36.00	-	-	-	-	-	-	USMS
8	188.00	189.20	1.20	2.64	0.41	0.01	-	2.64	0.42	USMS
9	189.20	190.60	1.40	2.55	0.52	0.12	-	2.64	0.64	USMS
10	190.60	191.80	1.20	2.60	0.79	0.21	7	2.65	1.00	USMS
11	191.80	192.20	0.40	2.76	4.46	0.73	7	2.72	5.19	ACTM
12	192.20	192.50	0.30	2.81	9.79	2.52	7	2.85	12.31	ACTM
13	192.50	192.90	0.40	2.77	5.67	0.57	7	2.74	6.24	ACTM
14	192.90	193.60	0.70	2.88	9.28	3.04	7	2.86	12.32	ACTM
15	193.60	194.00	0.40	2.90	12.27	3.41	7	2.92	15.68	ACTM
16	194.00	194.20	0.20	2.96	12.47	1.35	7	2.88	13.82	ACTM
17	194.20	194.70	0.50	2.71	1.75	0.66	7	2.67	2.41	ACTM
18	194.70	195.80	1.10	2.75	2.69	0.85	7	2.69	3.54	ACTM
19	195.80	197.00	1.20	2.70	0.23	0.30	7	2.64	0.53	ACTM
20	197.00	197.70	0.70	2.69	1.09	0.81	7	2.66	1.90	ACTM
21	197.70	197.90	0.20	2.68	0.24	0.46	7	2.64	0.70	ACTM
22	197.90	199.40	1.50	3.05	7.60	5.02	7	2.86	12.62	ACTM
23	199.40	200.00	0.60	3.21	12.36	4.02	7	2.93	16.38	ACTM
24	200.00	201.00	1.00	2.99	8.01	1.68	7	2.81	9.69	ACTM
25	201.00	201.60	0.60	2.95	14.65	3.55	7	2.96	18.20	ACTM
26	201.60	202.80	1.20	2.65	0.52	0.27	7	2.64	0.79	ACTM
27	202.80	203.00	0.20	3.33	14.83	3.02	7	2.96	17.85	ACTM
28	203.00	204.30	1.30	2.87	7.47	3.20	7	2.82	10.67	ACTM
29	204.30	204.80	0.50	2.64	2.66	0.21	7	2.68	2.87	ACTM
30	204.80	206.00	1.20	3.01	11.67	2.29	7	2.89	13.96	ACTM
31	206.00	207.40	1.40	2.61	0.06	0.01	7	2.63	0.07	ACTM
32	207.40	208.90	1.50	2.67	0.04	0.01	7	2.63	0.05	ACTM
33	208.90	210.20	1.30	2.73	3.17	0.93	7	2.70	4.10	ACTM
34	210.20	210.40	0.20	2.84	3.10	3.08	7	2.74	6.18	ACTM

FIGURE 14-4: PORTION OF DRILL HOLE DATABASE SHOWING GRADES AND LITHOLOGY CODES

Simple statistics for zinc and lead assays, weighted by assay interval, are shown in Table 14.1.

The assay statistics in Table 14.1 indicate that the zinc and lead data are reasonably distributed. The mean grade for zinc and lead is 4.02% and 1.23%, respectively.

Zinc and lead assays have a relatively low coefficient of variation (CV). The CV for zinc and lead is 1.47 and 1.68, respectively. This indicates a low scatter of the raw data values. The coefficient of variation is defined as CV = σ/m (standard deviation/mean), and represents a measure of variability that is unit-independent. This variability index can be used to compare different and unrelated distributions.

TABLE 14.1: STATISTICS FOR ZINC AND LEAD ASSAYS FOR THE XY CENTRAL DEPOSIT

	#	Length	Max	Mean	SD	CV
Zn%	2,614	2,197.1	39.91	4.018	5.901	1.469
Pb%	2,614	2,197.1	18.73	1.287	2.156	1.675

Figures 14-5 and 14-6 show the histograms for zinc and lead.

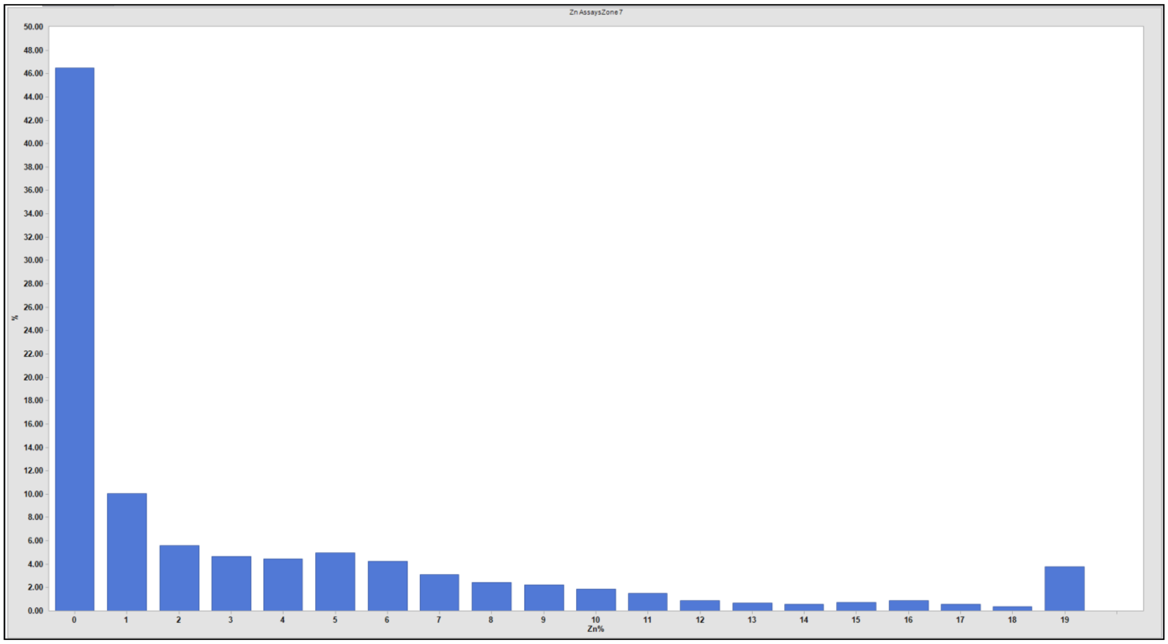


FIGURE 14-5: HISTOGRAM FOR ZINC ASSAYS

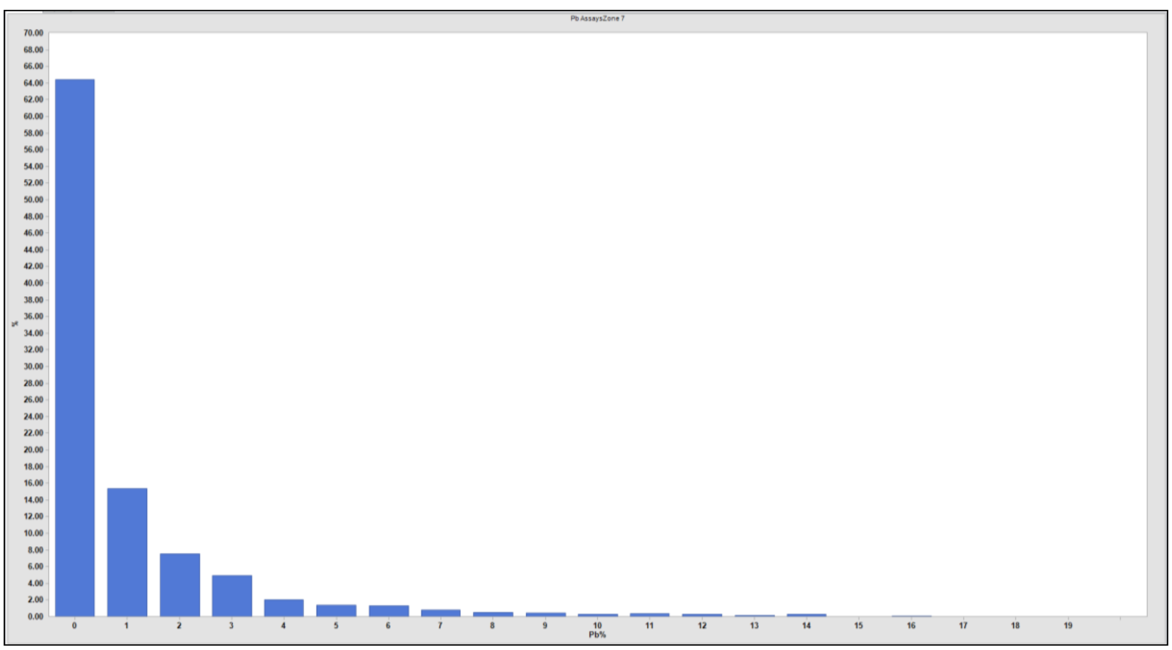


FIGURE 14-6: HISTOGRAM FOR LEAD ASSAYS

14.1.4 Topography

The topography was obtained from files with both contoured and digital solid surfaces. The solids and contours are in good agreement with the drill hole collar data and are sufficiently accurate to be used as the upper bounding surface of the deposit. Figure 14-7 shows the DTM (digital topographic map) solid of the topography.

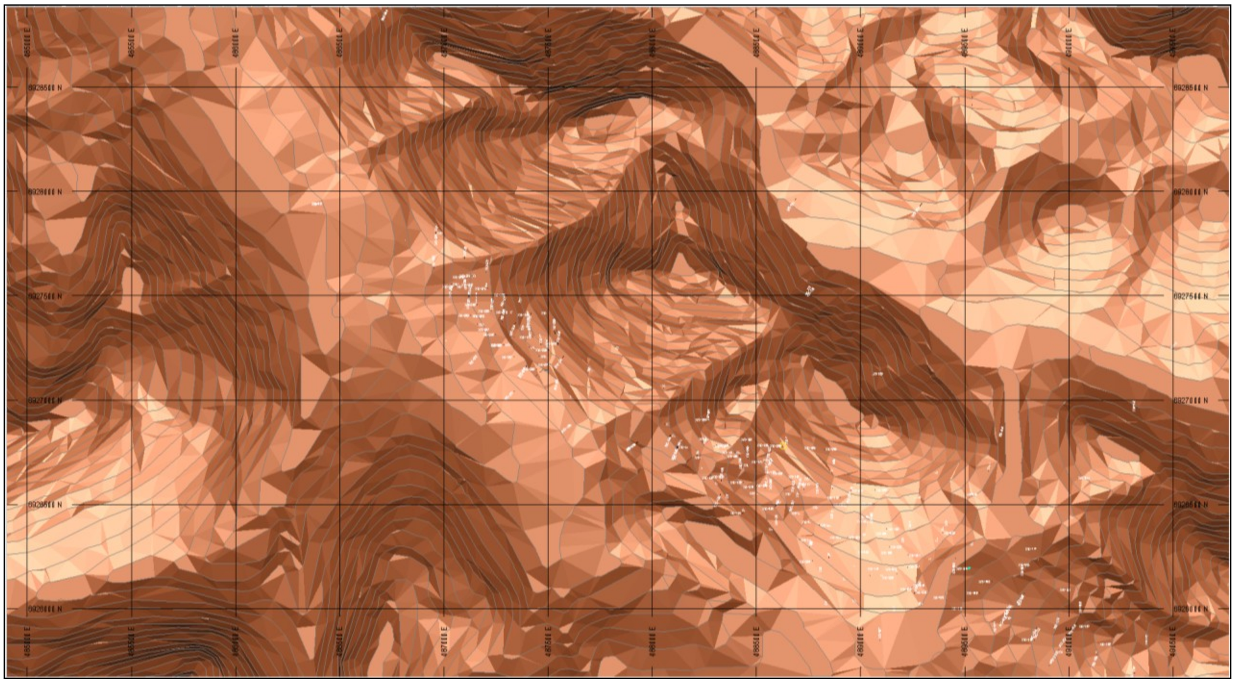


FIGURE 14-7: PLAN VIEW OF TOPOGRAPHIC SOLIDS WITH DRILL HOLES

14.1.5 Composites

The distribution of sample lengths in the assay database is shown in the histogram in Figure 14-8. It was determined that a 1.5 m composite length minimizes the smoothing of the grades and also reduces the influence of typically narrow, very high grade samples. The histogram (Figure 14-8) indicates that, from the standpoint of regularization, 1.5 m appears to be the overall optimal interval length.

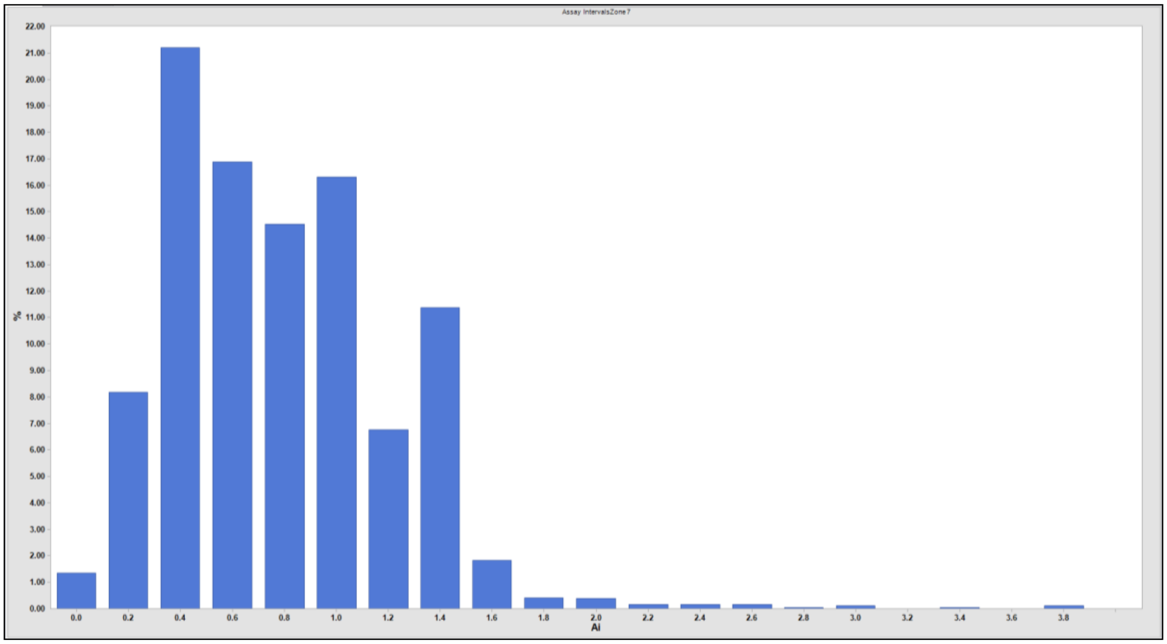


FIGURE 14-8: ANALYSIS OF ASSAY INTERVAL LENGTHS VS. FREQUENCY

Table 14.2 shows the basic statistics for the zinc and lead 1.5 m composites. Histograms for zinc and lead are shown in Figures 14-9 and 14-10, respectively.

The mean grades of the composites are markedly similar to those of the assay data; however, the CVs have improved from 1.47 to 1.27 for zinc, and from 1.68 to 1.43 for lead.

TABLE 14.2: COMPOSITE STATISTICS WEIGHTED BY LENGTH (93, 94, AND 95 ZONE)

	#	Length	Max	Mean	SD	CV
Zn%	1,459	2,197	30.63	4.018	5.108	1.271
Pb%	1,459	2,197	13.59	1.287	1.844	1.432

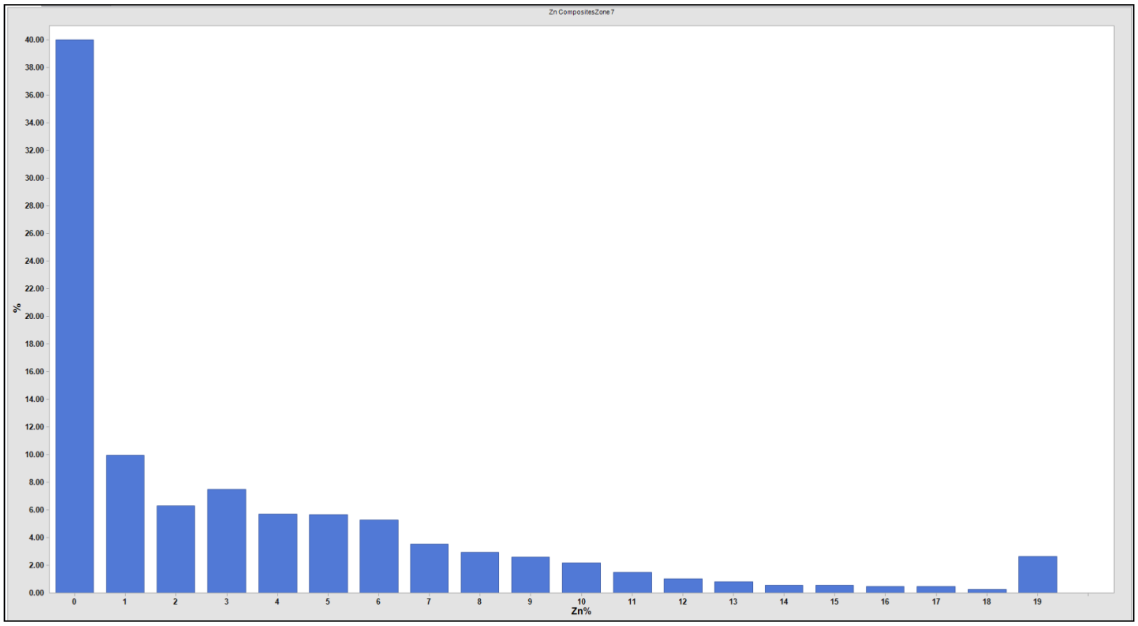


FIGURE 14-9: HISTOGRAM FOR ZINC (1.5 METRE COMPOSITES)

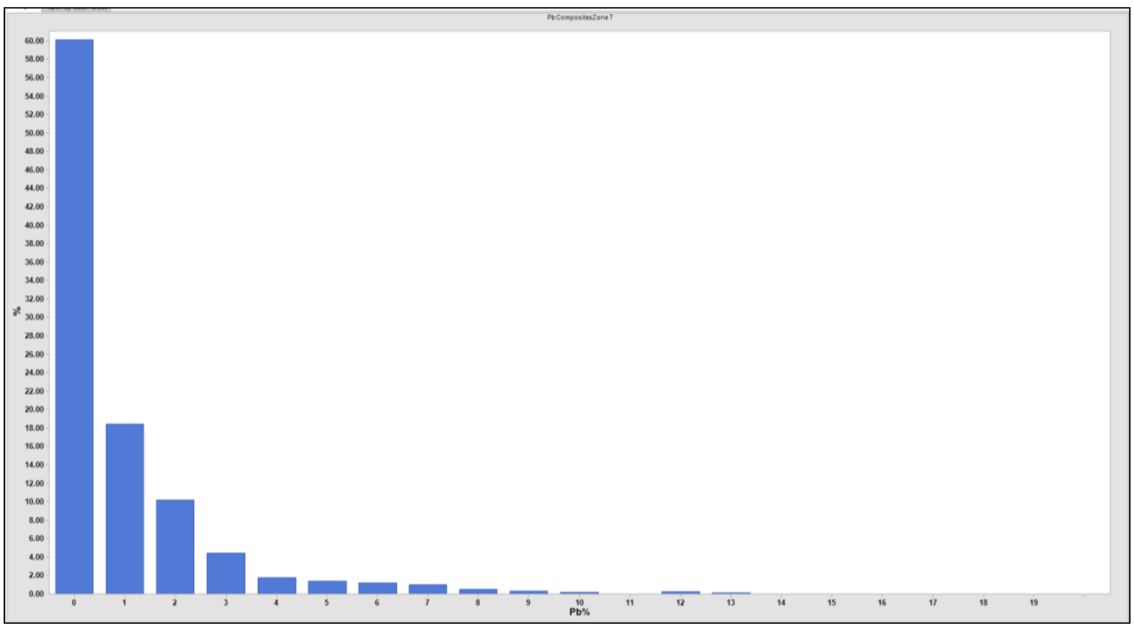


FIGURE 14-10: HISTOGRAM FOR LEAD (1.5 METRE COMPOSITES)

14.1.6 Outliers

To address the outlier values, it is recommended that a method is used to limit their influence instead of capping the zinc and lead composites. Probability plots show *breaks* which indicate multiple populations, as shown in Figures 14-11 and 14-12. The author believes that the determination of values greater than 22% Zn and 8.5% Pb should be restricted. However, it is important to note that the method used for this study does not cut out the high-grade outliers but, instead, limits their influence. It was determined that 25 m is the distance to limit grades greater than the outlier cut-off. In other words, composite grades higher than the threshold amounts were not used to estimate the blocks if those higher-grade composites were outside the respective radius of that block.

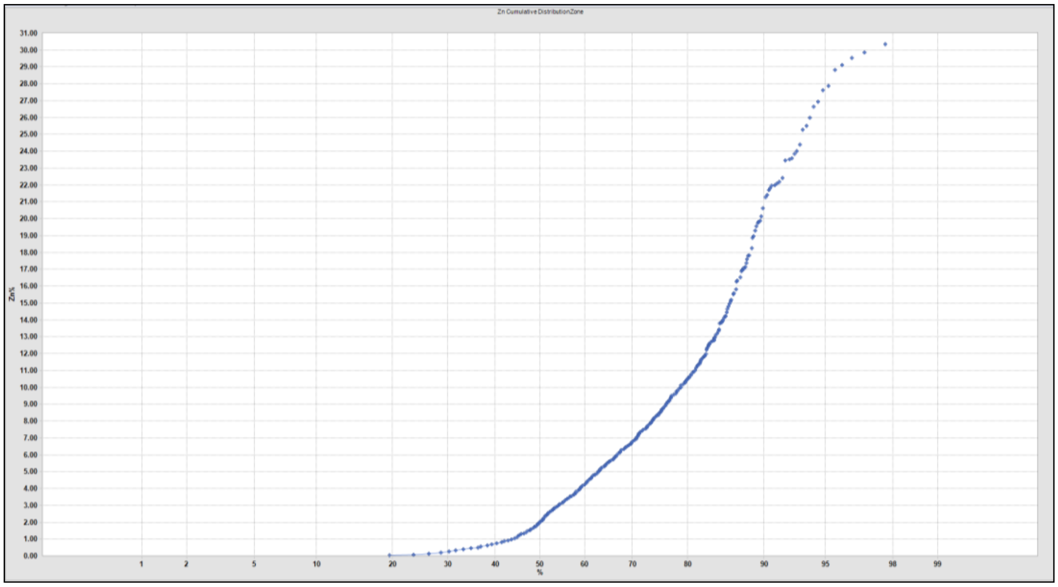


Figure 14-11: Cumulative Frequency Plot for Zinc (1.5 Metre Composites)

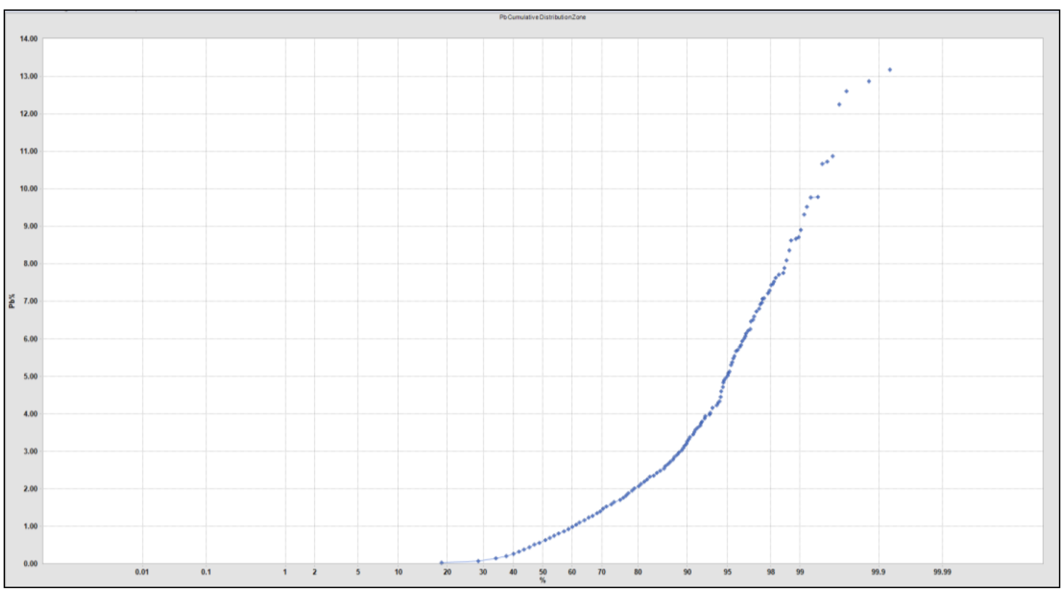


FIGURE 14-12: CUMULATIVE FREQUENCY PLOT FOR LEAD (1.5 METRE COMPOSITES)

14.1.7 Specific Gravity

As determined by previous project operators, the 2005 resource bulk density showed a direct relationship between gravity and combined zinc-lead grades. Placer reportedly measured the specific gravity (SG) of 124 samples: combined zinc-lead grades varied from zero to 35%. The specific gravity was calculated using Placer's specific gravity model.

During the 2006 exploration program, Pacifica collected 2,205 samples from known mineralized sections and measured the specific gravity of each sample. At that time, the specific gravity was determined using the assay lab pulps from the 2006 drill program. Specific gravity ranged from 2.29 to 3.76. Results were plotted, and a regression line *($SG_{measured}$ vs. Pb% + Zn%)* was applied. The formula used for the 2006 resource calculation was introduced into the models by applying it to the kriged block zinc and lead grade values. This calculation is as follows:

$$SG_{calculated} = SG_{cal} = 0.0183 * (Zn\% + Pb\%) + 2.6296$$

14.1.8 Block Model Definition

The block model used to calculate the mineral resources was defined according to the limits shown in Figure 14-13.

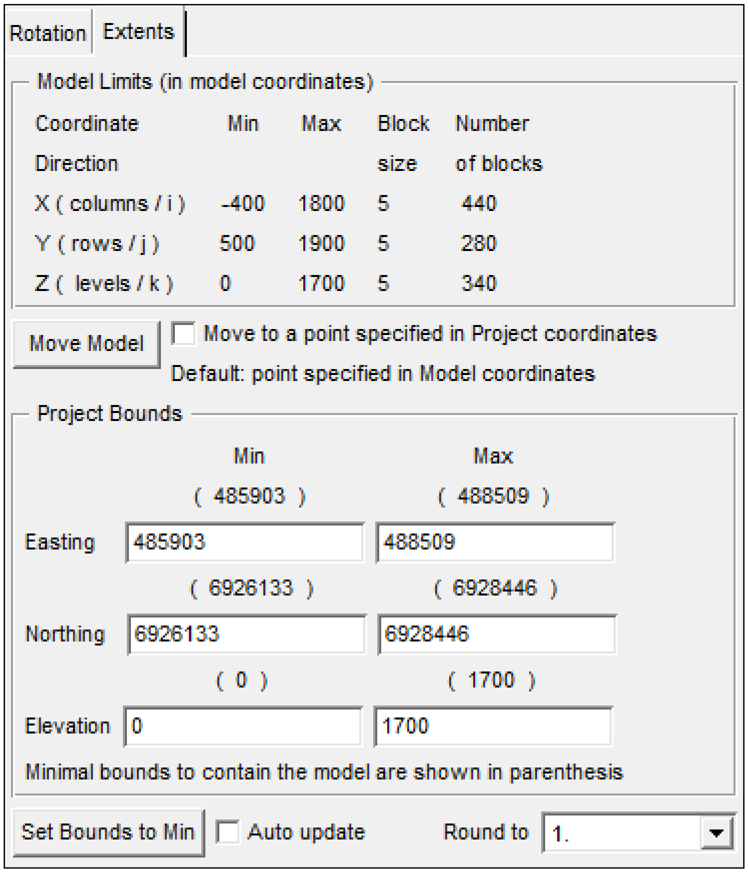


FIGURE 14-13: BLOCK MODEL BOUNDS

The block model is orthogonal, rotated 30°, reflecting the orientation of the deposit. Figure 14-13 shows the dimensions of the block model and Figure 14-14 shows the position and orientation of the block model used for this study. The chosen block size was 5 x 5 x 5 m to roughly reflect the available drill hole spacing and to adequately descretize the deposit.

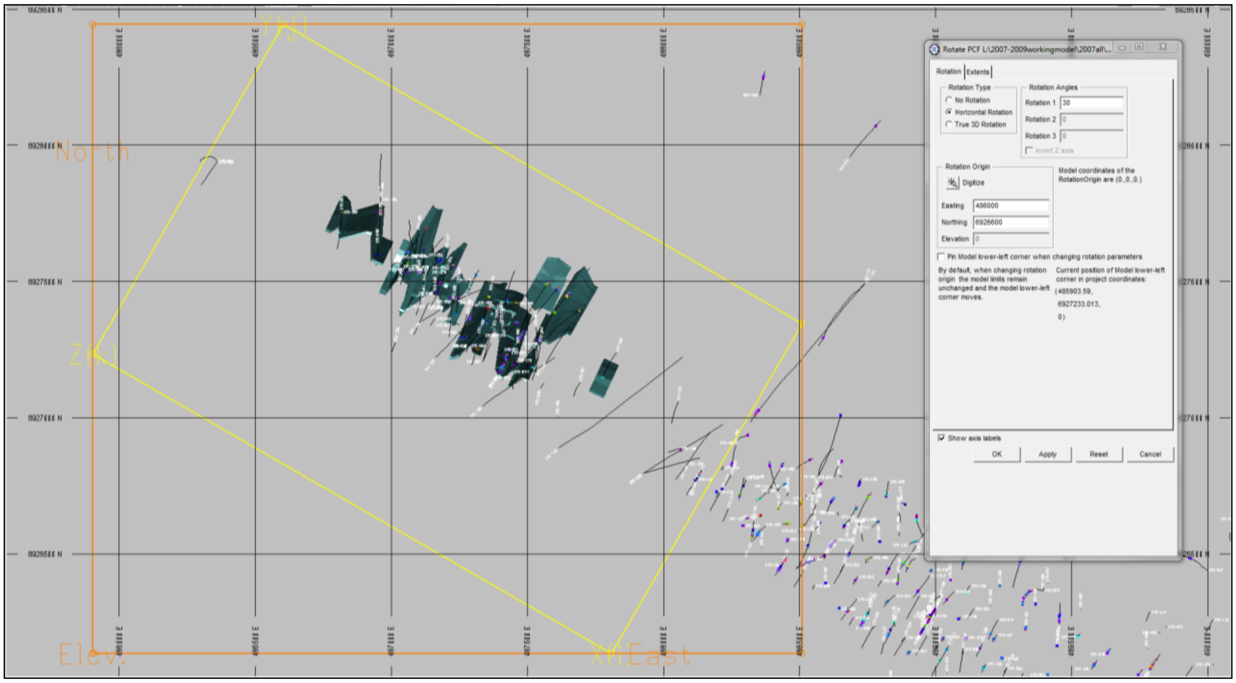


FIGURE 14-14: LOCATION OF ROTATED GRID AND MODEL LIMITS

14.1.9 Grade Modeling and Estimation

Grades in the model were estimated using ordinary kriging. Variograms were created using the composite data and used in the interpolation process. Search ellipses measure 150 x 150 x 50 m and were oriented relative to the main direction of continuity within each domain.

The estimation plan includes the following:

- Store the mineralized zone code and percentage of mineralization.
- Apply the density based on calculated specific gravity.
- Estimate the grades for each of the metals using the ordinary kriging and a single pass.
- Include a minimum of four composites and a maximum of 20, with a maximum of four from a single drill hole.

The resulting block model is shown in long section and plan view in Figures 14-156 to 14-16.

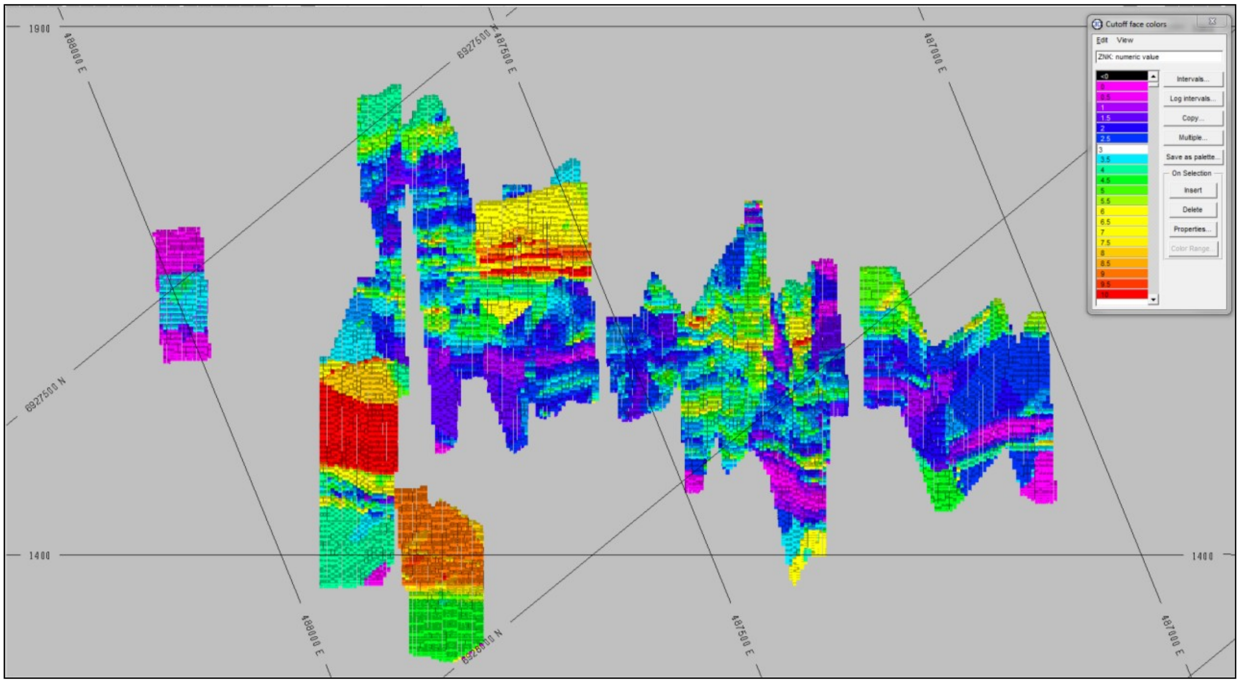


FIGURE 14-15: 3-D LONG SECTION VIEW OF GRADE MODEL – ZN%

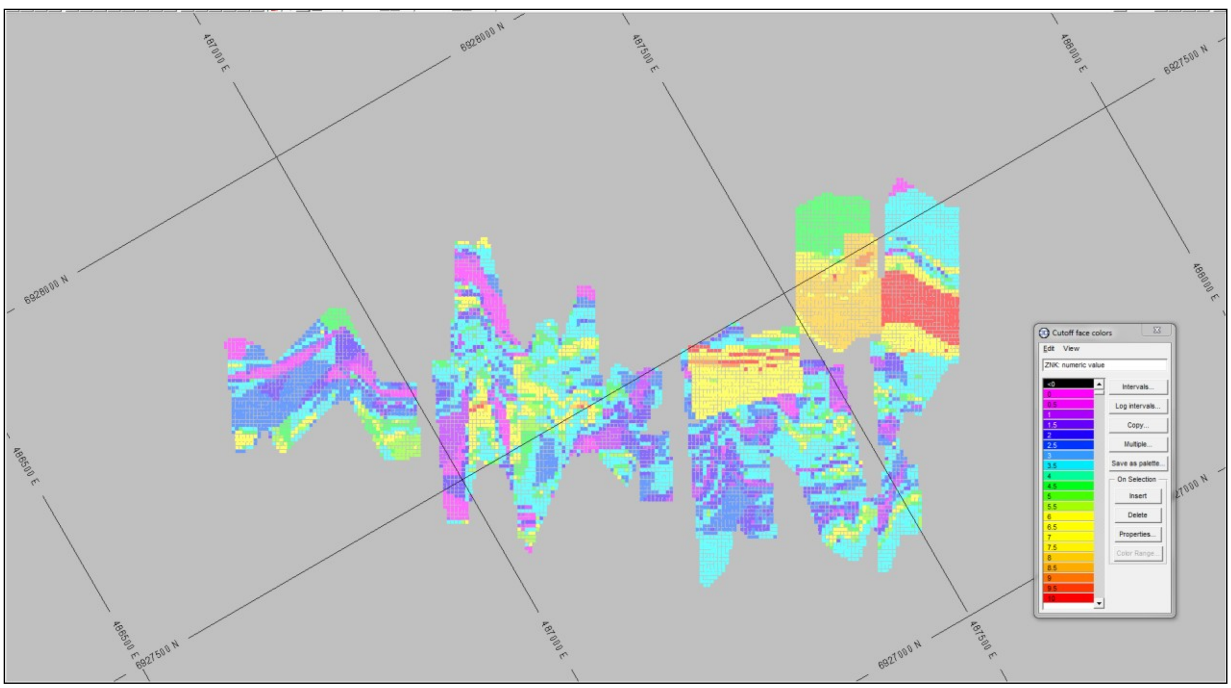


FIGURE 14-16: PLAN VIEW OF GRADE MODEL – ZN%

14.1.10 Mineral Resource Classification

The spatial variation pattern incorporated into the variogram and the drill hole spacing can be used to predict the reliability of zinc or lead metal estimates. The estimated reliability or uncertainty is expressed as the width of a confidence interval, or the confidence limits. Using this estimate, it is possible to calculate the drill hole spacing required to achieve the target level of reliability for a planned production volume. For instance, Indicated mineral resources may be adequate for planning in most Pre-Feasibility studies, but for Feasibility studies, it is not uncommon to require that at least a portion of the mineral resources be defined in the Measured category. These Measured resources represent the *payback* period of the project, and then Indicated mineral resources are sufficient for scheduling beyond this payback period.

Confidence Interval Estimation

Confidence intervals can provide information related to the reliability of the estimate in terms of different volumes and drill hole spacing. A narrower interval implies a more reliable estimate; therefore, attempts should be made to have enough closely spaced holes in the drilling to accurately determine the spatial correlation structure of zinc and lead samples less than 50 m apart.

The study is based on ideas outlined in this section. Using hypothetical, regular drill grids and variograms from the composited drill hole sample data, confidence intervals, or limits, can be estimated for different drill hole spacings and production periods, or equivalent volumes. The confidence limits for 90% relative confidence intervals should be interpreted as follows: if the limit is given as 8%, then there is a 90% probability the actual value (tonnes and grade) of production is within ± 8% of the estimated value for a volume equal to that required to produce enough ore tonnage in the specified period (for example, a quarter or full year). This means it is unlikely the true value will be more than 8% different (high or low) relative to the estimated value over the given production period.

This method of estimating confidence intervals is an approximate method that has been shown to perform well when the volume being predicted from samples is sufficiently large (Davis, B. M., *Some Methods of Producing Interval Estimates for Global and Local Resources*, SME Preprint 97-5, p. 4) In the case of the XY West deposit, the smallest volume where this method would be most appropriate is the production from one year. Using these guidelines, an idealized block configured to approximate the volume produced in one month is estimated by ordinary kriging using the idealized grids of samples.

Relative variograms are used in the estimation of the block. These are used instead of ordinary variograms because the standard deviations from the kriging variances are expressed directly in terms of a relative percentage.

The kriging variances, from the ideal blocks and sample grids, are divided by 12 (assuming approximate independence in the production from month to month) to obtain a variance for yearly ore output. The square root of this kriging variance is then used to construct confidence limits under the assumption of normally distributed errors of estimation. For example, if the kriging variance for a block is σ^2_m, then the kriging variance for a year is $\sigma^2_y = \sigma^2_m/12$. The 90% confidence limits are:

$$\text{Confidence Limits} = \pm\ 1.645 \times \sigma_y.$$

The confidence limits for a given production rate are a function of the spatial variation of the data and the sample or drill hole spacing.

Drill Hole Grid Spacing

For this exercise the drill hole grids tested were 200 x 200 m, 150 x 150 m, 100 x 100 m, and 50 x 50 m.

Further assumptions made for the confidence interval calculations are:

- Variograms are appropriate representations of the spatial variability for presence of mineralization and metal grade.
- Bulk density for the domain is 2.6.
- Most of the uncertainty in metal production within domains is due to the fluctuation of metal grades, and not to the variation in the presence or absence of the unit.
- The possible production rate is 5,000 tpd.

Confidence limits for zinc metal production, the greatest contributor to NSR royalty (net smelter return), are shown in Figure 14-17. The curve shows a graphical representation of how the uncertainty decreases as the drill hole spacing decreases. Based on the current information, it appears that sampling on a 75 m grid will produce an annual uncertainty less than ±15%, and at 100 m the uncertainty is just greater than ±15% at the 5,000 tpd production rate.

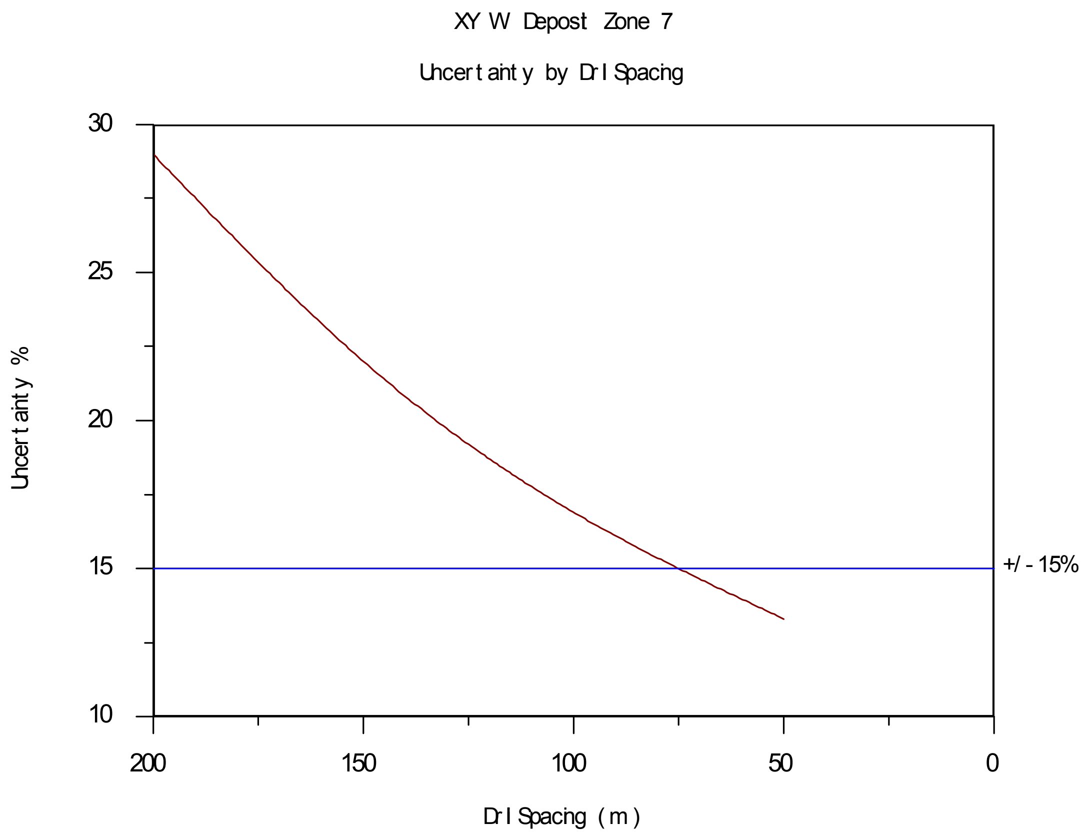


FIGURE 14-17: RELATIVE CONFIDENCE LIMITS FOR THE 5,000 TPD PRODUCTION RATE

Classification of Resources

To classify the mineral resource, the following criteria were used:

- Indicated mineral resources must be estimated so the uncertainty of yearly production is no greater than ±15% with 90% confidence.
- Measured mineral resources must be estimated so the uncertainty of quarterly production is no greater than ±15% with 90% confidence.

The results presented here indicate that the reliability is less than ±15% for the 5,000 tpd production rate for 50 m grid spacing. At a spacing of 50 m, the confidence intervals are sufficiently narrow to reasonably nominate this spacing to delineate Indicated mineral resources. To estimate a higher production rate and, as a result, a larger volume, the grid spacing must increase to achieve a yearly uncertainty of ±15%.

It should be noted that confidence limits consider only the variability of grade within the deposit. There may be other aspects of deposit geology and geometry (such as, geological contacts or the presence of faults or structures) that may impact drill spacing. These factors should not be discounted or ignored when making a final decision concerning the drill grid.

The grid spacing for each mineral resource category is as follows (this assumes a 5,000 tpd production rate):

Measured

Based on the CIM definitions, continuity must be demonstrated in the designation of Measured (and Indicated) mineral resources; therefore, no Measured mineral resources can be declared based on one hole. The uncertainty based on current information suggests that a drill spacing less than 25 m may be required to delineate Measured mineral resources.

Indicated:

Mineral resources in this category would be delineated from multiple drill holes located on a nominal 50 m square grid pattern.

Inferred:

Refers to any material not in the Measured or Indicated category, within a maximum of 150 m of one hole.

The spacing distances define contiguous volumes and allow for some irregularities due to actual drill hole placement. The final classification volume results must typically be smoothed manually to come to a coherent classification scheme.

The study described here indicates that a drill spacing of approximately 150 m may be sufficient to delineate Indicated mineral resources at the lowest production rate. This pattern appears to be a slightly conservative approach. The calculation of uncertainty should be monitored as drilling progresses. An updated study, in conjunction with future results, will allow for a more confident nomination of the spacing for Measured mineral resources.

Estimation of confidence intervals for smaller volumes, such as those for monthly or weekly production, requires the geostatistical procedure of conditional simulation (Davis, B. M., *Some Methods of Producing Interval Estimates for Global and Local Resources*, SME Preprint 97-5, p. 4). The use of conditional simulation can help assess the uncertainty and risk in short term mine planning. Conditional simulation applications are not typically appropriate until additional drilling data is available.

In the final analysis, although there is some support for classifying some of the resource in the Indicated category (based on the criteria listed above relating to distance between composite and block) continuity remains an issue (due to the extreme amount of faulting and displacement) that must be resolved. Therefore, at this time, the resources are classified by the author as Inferred.

14.1.11 XY West Mineral Resources

The Inferred mineral resources are listed in Table 14.3 for Zn% and Pb%. These mineral resources are listed at a base case cut-off grade of 2% Zn. Table 14.4 lists the resources at varying cut-off grades.

TABLE 14.3: MINERAL RESOURCES FOR XY WEST DEPOSIT

	Tonnes	Zn%	Pb%
Total	12,754,416	4.42	1.40

Mineral *resources* are not mineral *reserves* until they have demonstrated economic viability. Mineral resource estimates do not account for the resource's mineability, selectivity, mining loss, or dilution. These estimates include Inferred mineral resources that are normally considered too geologically speculative for the application of economic considerations; therefore, they are not classified as mineral reserves.

Also, there is no certainty that the current Inferred mineral resource estimates will someday be converted into Measured or Indicated resources as a result of future drilling or following the application of economic considerations.

14.1.12 Model Validation

A graphical validation was done on the block model. The purpose of this graphical validation is to:

- Check the reasonableness of the estimated grades, based on the estimation plan and the nearby composites.
- Compare the general drift and the local grade trends of the block model to the drift and local grade trends of the composites.
- Ensure that all required blocks are filled in.
- Check that, within the model blocks, the topography has been properly accounted for.
- Check the manual *ballpark* estimates for tonnage to determine reasonableness.
- Inspect and explain, when necessary, the high-grade blocks created as a result of outliers.

A full set of cross-sections, long sections, and plans were used to visually check the block model, showing the block grades and the composite. There was no evidence that any blocks were wrongly estimated. It appears that every block grade can be explained as a function of: the surrounding composites, the correlogram models used, and the estimation plan applied.

These validation techniques include, but are not limited to:

- Visual inspection done on a section-by-section and plan-by-plan basis.
- Use of grade tonnage curves.
- Histograms showing various cut-off grades that demonstrate a relatively uniform, normal distribution.
- Swath plots that compare the Ordinary Kriged (OK) blocks with the Inverse Distance (ID) and Nearest Neighbour (NN) estimates.
- Inspection of histograms to determine the distance of the first composite to the nearest block and the average distance to blocks for all composites used.
- Analysis of the Relative Variability Index that quantifies variability within the deposit. The Analysis of Relative Variability Index may be used to quantify risk and qualify resources for the purpose of classification in future studies.

TABLE 14.4: MINERAL RESOURCES FOR XY WEST DEPOSIT AT VARYING CUT-OFF GRADES (2% CUT-OFF GRADE IS BASE CASE)

CUT-OFF	TONNES	Zn%	Pb%
0	16,820,233	3.63	1.15
0.5	15,871,924	3.83	1.21
1	15,122,014	3.98	1.26
1.5	14,316,456	4.13	1.30
2	**12,754,416**	**4.42**	**1.40**
2.5	10,991,092	4.77	1.51
3	8,569,880	5.35	1.71
3.5	7,049,776	5.80	1.88
4	5,486,552	6.40	2.10
4.5	4,223,062	7.05	2.19
5	3,269,511	7.71	2.33
5.5	2,731,410	8.20	2.47
6	2,407,154	8.54	2.55
6.5	2,154,568	8.81	2.61
7	1,911,859	9.06	2.66
8	1,485,792	9.54	2.64
9	1,094,258	9.95	2.68
10	523,923	10.79	2.64

15 ADJACENT PROPERTIES

The information provided here is for illustrative purposes only and does not imply that the noted mineralization is related spatially to, or is in continuity with, the Howard's Pass mineral deposits that are owned by Selwyn. This information has not been used in this current mineral resource estimate.

15.1 TOM AND JASON (MACMILLAN PASS)

The MacMillan Pass SEDEX deposits are located in the Selwyn Basin approximately 60 km northwest of Howard's Pass and 400 km east of Whitehorse, Yukon. These deposits (Tom and Jason) are shale-hosted and located in Lower Earn Group stratigraphy (upper Silurian to lower Devonian).

The deposits lie in close proximity to each other, straddle the North Canol Road and share a common airstrip. Both deposits are owned by Hudbay Minerals and were the subject of an NI 43-101 mineral resource estimate released on July 9, 2007 (Rennie, 2007). The full report can be found on SEDAR.

The 2007 mineral resource estimate for the combined deposits reported a total Indicated resource of 6.43 million tonnes grading 6.33% Zn, 5.05% Pb, and 56.55 gpt (grams per tonne) Ag. In addition, a total Inferred resource of 24.55 million tonnes, grading 6.71% Zn, 3.48% Pb, and 33.85 gpt Ag was reported.

15.2 ANDREW

The Andrew Project of Overland Resources, an Australian-based company, is located 140 km northwest of Howard's Pass and also within the Selwyn Basin rocks. The zinc and lead sulphide mineralization present here is hosted by quartz carbonate veins, which suggests secondary mineralization rather than SEDEX-style mineral deposition.

A JORC Mineral Resource was calculated in 2009 (ASX release on May 20, 2009) incorporating historical drilling and Overland Resources drilling results from 2007 and 2008. The resource estimate now stands at 1.61 million tonnes of Measured resources at 5.4% Zn and 1.7% Pb, 4.69 million tonnes of Indicated resources at 6.2% Zn and 1.6% Pb, and 900,000 tonnes of Inferred Resources at 7.0% Zn and 0.7% Pb.

The authors have not verified these mineral resource estimates and cannot confirm whether or not they adhere to NI 43-101 standards.

15.3 CANTUNG

The Cantung Mine (North American Tungsten Corporation Ltd.) is located in the Nahanni area of western Northwest Territories, Canada, approximately 80 km southeast of Howard's Pass. The mine is a primary producer of tungsten concentrate from open pit and underground mines. Mineralization at the Cantung mine comprises scheelite-bearing skarn replacements within the Ore Limestone.

An NI 43-101 mineral resource was released on February 9, 2011 (Fitzpatrick & Bakker, 2011). As of October 2010, the Indicated mineral resources totalled 2,452,809 tonnes at 1.11% WO_3 (tungsten oxide), and the Inferred mineral resources totalled 433,265 tonnes at 0.84% WO_3. The full report can be found on SEDAR.

16 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data or information known to the author at this time.

17 INTERPRETATION AND CONCLUSIONS

Through property-wide exploration programs from 2005 through 2012, Selwyn has demonstrated that the geological model for the mineralized Active Member stratigraphy is valid and can be accurately predicted. This model is based on the premise that the Active Member unit is one large, syn-depositional mineralizing event occurring in shallow water in an anoxic sedimentary environment. Using surface drilling, zinc and lead mineralization is defined within this sedimentary environment over a 37.5 km strike length throughout the property. To date, 803 diamond drill holes have been completed and used to build the geological model used in this mineral resource estimate.

The primary focus of the 2010 and 2011 surface drilling programs was converting Inferred mineral resource estimates to the Indicated resource category, within two of the known 14 mineral deposits: the 93, 94, and 95 lenses of the XY Central deposit, and the 61 and 63 lenses of the Don deposit. During this drill program, a total of 116 drill holes were completed within the targeted areas. However, concurrent with work on Don and XY Central Deposits, significant funds were expended to further delineate the Inferred mineral resources of the XY West Deposit where 58 drill holes were completed in 2010 and 2011. This work was highly successful and provided opportunities to further expand the favourable strata in the XY area.

The XY West drill holes provided the required data to expand the existing Inferred mineral resource estimate and open up exploration targets for future work when required by engineering studies. This drilling program was QA/QC verified by the authors during numerous site visits to the property, assay lab, geotechnical lab, and corporate office. All aspects of the drilling program were verified, including drilling parameters, drill core handling and sampling, data acquisition and security, assaying procedures, and data handling both on site and in the office. No concerns were noted in the data verification process.

Geological modeling of the XY West Deposit, based on the new drill holes, resulted in a new interpretation that demonstrates improved deposit configuration and thickness. This results in an increased Inferred category tonnage and an expanded mineral potential for additional mineral resources.

Currently, the mineral resources in the Inferred category (using a 2% Zn cut-off) are reported as: 12.8 million tonnes for the XY West Deposit at a grade of 4.42% Zn and 1.40% Pb. This updated mineral resource estimate represents only 5.6% of the Inferred category mineral inventory for Selwyn Project in 2012, which stands at 226,876,900 tonnes grading 4.44% Zn and 1.37% Pb.

The 2010 and 2011 drill programs succeeded in expanding the existing Inferred mineral resource estimate for the XY West Deposit. As a result of these drilling programs, a detailed database was created that can be used to target mineral potential in future exploration programs.

18 RECOMMENDATIONS

The Selwyn Project is a large, significant zinc-lead mineralized belt that is comprised of numerous deposits including: from the west, Pelly North, OP West, OP, Anniv West, Anniv Central, Anniv East, Don, Don East, HC West, HC, Brodel, XY West, HP, and XY; and XY Nose, in the east (see Figure 18-1).

The resources reported in this Technical Report are for the XY West Deposit that contains 12.754 million tonnes of Inferred mineral resources grading 4.42% Zn and 1.40% Pb. There is significant potential to expand this deposit as it is not closed off in any direction by drilling and is notably adjacent to the XY Central Deposit.

Another area of opportunity is to the northwest of the XY West Deposit because there are favourable strata between it and the Brodel Deposit. This gap in drilling remains untested; this means that the zinc-lead mineralization could be contiguous except for minor structural dismemberment by faults as mapped on surface. Both of these target areas offer an opportunity to extend mineral resources and connect the Brodel and XY Central Deposits to XY West Deposit.

Based on the current understanding of the XY area, further exploration is warranted. By following up on known zinc-lead mineralized intercepts that remain open, the future at XY West Deposit, the areas between XY West and XY Central Deposits, and the areas between XY West and Brodel Deposits could result in deposit expansion based on the known favourable strata and the detailed 3-D modeling completed to date.

Therefore, further compilation and target generation is recommended in the area of the XY West Deposit to advance the creation of a proposal for additional drilling. This would involve the remodeling of existing mineral resources in 3-D software and linking data with surface mapping, in addition to focused reclogging of drill core from the 2010 to 2011 drill program. It might also involve reviewing the historical record for Brodel and XY Central Deposits. This target generation initiative would provide clarity and help confirm the possible targets generated during the compilation.

To facilitate the target generation of the XY West Deposit area, Selwyn has provided a breakdown of costs (Figure 18-1) to keep the camp open for the rest of 2012. Selwyn also budgeted for other related activities that Selwyn might need to finance during this period.

Table 18.1 shows the budget costs for target generation at Selwyn Project in 2012.

TABLE 18.1: BUDGET FOR TARGET GENERATION

Stage	Surface Drilling	Geotech Data	Assay Geochem	Mineral Resource Update	Staffing Costs (technical, camp, consultants)	Camp Support Costs	Total
July-December 2012	0.000	0.000	0.000	0.000	$1.131 million	$1.214 million	$2.345 million

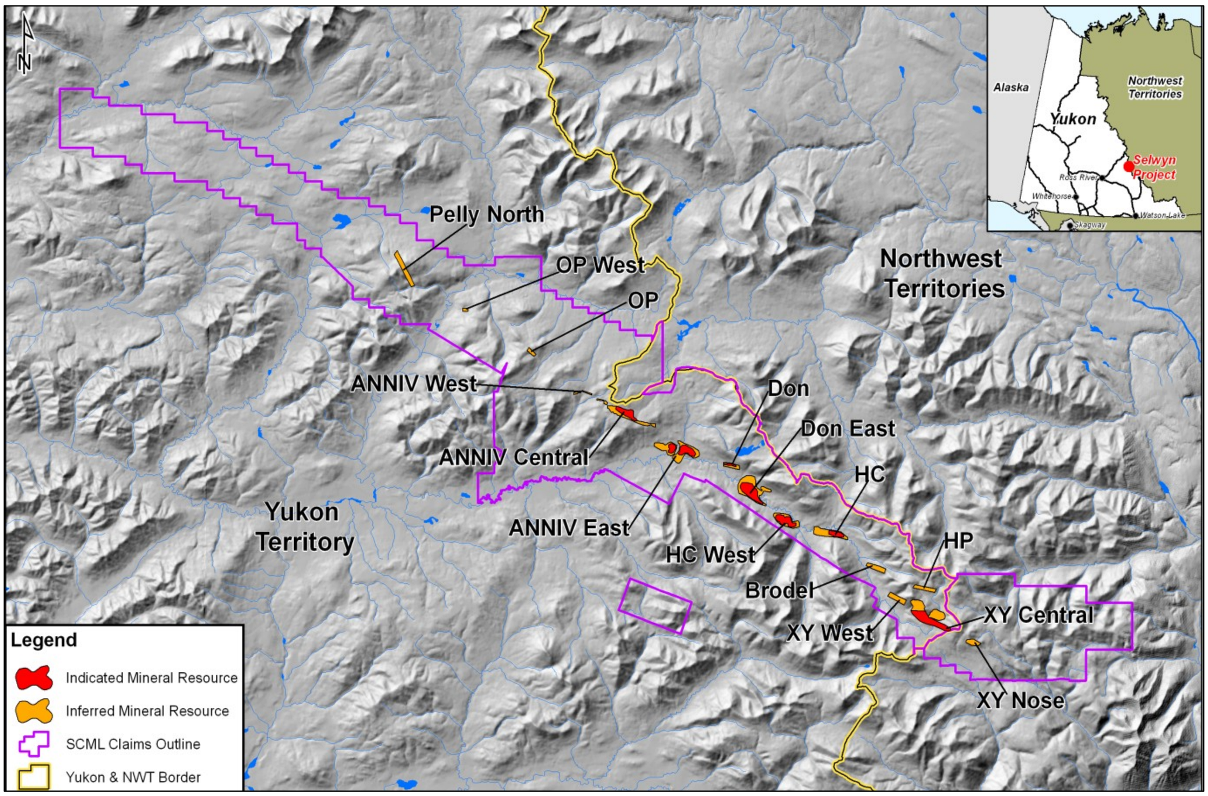


FIGURE 18-1: PROPERTY CLAIM OUTLINE SHOWING MINERAL DEPOSITS

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20 DATE AND SIGNATURES

CERTIFICATE OF AUTHOR

Garth Kirkham

I, Garth David Kirkham, P.Geo., do hereby certify that:

1) I am a consulting geoscientist with an office at 6331 Palace Place, Burnaby, British Columbia.

2) This certificate applies to the technical report entitled "XY West Deposit NI 43-101 Technical Report" dated June 29, 2012 ("Technical Report") prepared for Selwyn Resources Ltd., Vancouver, B.C.

3) I am a graduate of the University of Alberta in 1983 with a B. Sc. in Geophysics.

4) I am a member in good standing of the Association of Professional Geoscientists of Ontario, Association of Professional Engineers and Geoscientists of the Province of Alberta, the Association of Professional Engineers and Geoscientists of BC, and the Northwest Territories and Nunavut Association of Engineers and Geoscientists.

5) I have continuously practiced my profession performing computer modeling since 1988, both as an employee of a geostatistical modelling and mine planning software and consulting company and as an independent consultant.

6) I have visited the property on September 7th – 9th, 2011.

7) In the independent report titled entitled "Update for XY West Deposit Mineral Resource Estimate NI 43-101 Technical Report" dated June 29, 2012, I am responsible for Section 14. I am also responsible for overall study management and compilation.

8) I have not had prior involvement with the property.

9) I am independent of Selwyn Resources Ltd. as defined in Section 1.5 of National Instrument 43-101, other than providing consulting services.

10) I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of education, experience, independence and affiliation with a professional association, I meet the requirements of an Independent Qualified Person as defined in draft National Policy 43-101.

11) I am not aware of any material fact or material change with respect to the subject matter of the technical report that is not reflected in the Technical Report and that this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

12) I have read National Instrument 43-101, Standards for Disclosure of Mineral Properties and Form 43-101F1. This technical report has been prepared in compliance with that instrument and form.

Garth Kirkham, P.Geo.

"Signed and Sealed"

Dated this 29th day of June, 2012 in Burnaby, British Columbia.

Certificate of Co-Author

I, Jason King Dunning, B.Sc., M.Sc., P.Geo., do hereby certify that:

1) I am a Professional Geologist employed by Selwyn Resources Ltd., with an office at Suite 700, 509 Richards Street, Vancouver, British Columbia, V6B 2Z6, Canada.
2) I graduated with a Bachelor of Science degree in Earth Sciences from the Carleton University, Ottawa, Ontario, Canada in 1994 and with a Master of Science degree in Earth Sciences from Laurentian University, Sudbury, Ontario, Canada in 1998.
3) I am a Professional Geologist, registered with the Association of Professional Engineers and Geoscientists of British Columbia (No. 29312), and registered with the Association of Professional Geoscientists of Ontario (No. 0725), and registered with the Association of Professional Geoscientists of Nova Scotia (178). I am a member of the Geological Association of Canada ("GAC"), Canadian Institute of Mining, Metallurgy and Petroleum ("CIM"), Society of Economic Geology ("SEG"), and of the Prospectors and Developers Association of Canada ("PDAC").
4) I have worked as a professional geologist for 18 years since graduating from university. This work has included the management of exploration field programs, estimation of resources, and property valuations; as well as participation in preliminary economic assessment, pre-feasibility and feasibility studies.
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 fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
6) I was a Co-Author of the report titled "Update for XY West Deposit Mineral Resource Estimate NI 43-101 Technical Report," dated June 29, 2012. I directed and reviewed work that was carried out by the other authors, and was responsible for validating the content for sections 1 through 13 and 15 through 19.
7) I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in accordance with that Instrument and Form.
8) I have visited the Selwyn Project large number of times since its acquisition in 2005, lastly between February 7 to10, 2012.
9) Prior to the co-authoring this report, I have had involvement with Selwyn Resources Ltd. on Selwyn Project.
10) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
11) I am non-independent of the issuer, and am employed as the Vice President, Exploration for Selwyn Resources Limited.
12) I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public.
13) As of the date of this 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 report not misleading.

Dated this 29th Day of June, 2012.
Jason King Dunning, B.Sc., M.Sc., P.Geo.
Vice President Exploration
Selwyn Resources Ltd.