TECHNICAL REPORT
ESTIMATED MINERAL RESOURCES

ALTAR PROJECT
SAN JUAN PROVINCE
ARGENTINA

Prepared for

Regulus Resources, Inc
and
Aldebaran Resources, Inc.

Prepared by:

John M. Marek,
RM-SME, QP for Independent Mining Consultants, Inc.

Stanford T. Foy,
RM-SME, Sibanye-Stillwater

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1.0 SUMMARY

This Technical Report presents the estimation of mineral resources for the Altar copper-gold porphyry and the nearby Quebrada de la Mina precious metals project in San Juan Province, Argentina. Independent Mining Consultants, Inc. (IMC) was requested to prepare this statement of mineral resources by Regulus Resources Inc. (Regulus) and Aldebaran Resources Inc. (Aldebaran). Regulus has entered into an arrangement agreement (the "Arrangement Agreement") to spin out its Argentine assets, including the Rio Grande and Aguas Calientes projects, into a newly formed company, Aldebaran Resources Inc. ("Aldebaran").

Under the terms of the Arrangement Agreement, Aldebaran will enter into a joint venture and option agreement (the "JV Agreement") with Stillwater Canada LLC (Stillwater), an indirect subsidiary of Sibanye Gold Limited, trading as Sibanye-Stillwater ("Sibanye-Stillwater"), to acquire up to an 80% interest in Peregrine Metals Ltd. ("Peregrine"), a wholly-owned subsidiary of Sibanye-Stillwater, that owns the Altar Copper-Gold project in San Juan Province, Argentina ("Altar" or the "Altar Project"). Stillwater acquired Peregrine Metals Ltd. which includes the Argentine subsidiary Minera Peregrine Argentina, S.A. in October of 2011. This technical report documents the status of the project as Aldebaran is entering into the agreement to acquire an interest in the project.

This report is written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101Cp, and Form 43-101F1. In addition, the Standards and Guidelines of the Canadian Institute of Mines and Metallurgy (CIMM) have been followed in the development of this estimate of Mineral Resources.

The Altar Project is a copper-gold porphyry deposit located in San Juan Province, Argentina, approximately 10km from the Argentine-Chile border and 180km west of the city of San Juan. In addition to copper and gold, the deposit contains silver and minor molybdenum. The Quebrada de la Mina (QDM) gold and silver deposit is located roughly 3 km west of the Altar porphyry in the same mineral district. Both are supported by a common exploration camp.

The Altar Project is currently accessed via two routes in Argentina. The primary access route is shared with the El Pachon project (owned by Glencore) and leads southwestward from the town of Barreal before swinging northwards toward El Pachon, then continuing an additional 25 km to the Altar Camp. In total there is approximately 170 km of gravel road from Barreal to Altar that is suitable for exploration support. There is no rail or air access to the Project. The closest airports are in the cities of San Juan and Mendoza. The site is remote and has no local infrastructure apart from the gravel road to the property.

In the future, there is an opportunity to develop alternative property access from Illapel, Chile. This route would require the upgrading of 64km of existing unpaved public road and the construction of 23.5km of new roads.

The Altar Project consists of eight mining concessions, two exploration permits and nine mining rights of way (servidumbres). It also includes an option on the five adjacent Rio

Cenicero concessions. The Altar concessions collectively cover an area of about 8,443.7 hectares and the Rio Cenicero concessions cover an additional 3,716.6 hectares.

The Altar porphyry was deposited in an environment that transitions from the basal roots of a high sulfidation epithermal lithocap to a sub-volcanic porphyry copper environment at depth. The deposit is described as telescoped because of the close spatial distance between the porphyry and the high sulfidation alteration systems. The age of the porphyry copper mineralization is estimated to be Miocene, approximately 10 to 12 million years old.

There are adjacent properties under exploration or development in the district surrounding Altar. Los Pelambres (Chile), El Pachon, and Los Azules (Argentina) are within 60 km or less of Altar.

There are two main ore zones within the Altar Main area of the deposit that are called the Altar Central and the Altar East zones. Three kilometers west of the Altar Central zone is a gold deposit called the Quebrada de la Mina (QDM) that is included in this statement of mineral resources. There were 28 drill holes completed at QDM during 2012.

Within the Altar Central and East area there are 221 diamond drill holes of which 219 that were completed prior to 2014 and used in the estimation of mineral resources containing 42,770 assay values for copper, gold, and silver as well as other metals. Figure 1-1 illustrates the drill locations and topography in the Altar district. Drill holes and deposit locations are summarized in Section 10.

QDM contains 28 drill holes and 3,432 assay intervals for gold and silver and other metals. Figure 1-1 also illustrates the drilling and topography at QDM.

There has been additional external exploration drilling within the Altar district that has discovered another deposit called the Radio Porphyry that is just east of and substantially deeper than the QDM deposit. The Radio Porphyry and its intercepting drill holes have not been included in this statement of resources.

The mineral resource estimate for the Altar and QDM deposits have been developed from computer based block models using the drill results available at the end of the 2013 drill season and transferred to IMC in August of 2013. IMC and John Marek (QP) hold the opinion that the drilling since 2013 is not material to the statement of mineral resources. Tests confirming this opinion are presented in Section 14.

At Altar, copper, gold, silver, and arsenic values in the block model have been incorporated into the calculation of economic value in order to establish the mineral resource estimate. Molybdenum has been estimated but does not contribute economically to the mineral resource. It is uncertain whether the molybdenum at Altar has the grade to justify the addition of a molybdenum circuit at current prices.

At QDM, gold and silver values in the block model have been incorporated into the calculation of economic value in order to establish the mineral resource estimate.

The Altar Central and East zones have potential to expand with additional drilling. The deposits are not completely closed off by drilling and additional target areas have been identified within the Altar concessions.

The basis for this statement of mineral resources is that Altar will be a high production rate open pit feeding a sulfide flotation plant with a daily ore production rate in the range of 140,000 tpd. The component of the mineralization that meets the mineral resource requirements for "reasonable prospects of economic extraction" was based on the results of the floating cone pit algorithm. The input parameters for the cone and the block grade estimation parameters are reported in Section 14.
The process plant for the Altar project is currently contemplated as a high production rate flotation mill that will utilize semi-autogenous (SAG) mills. Process testing, as summarized in Section 13, indicates that the arsenic in the deposit will float well and report to concentrate at levels that will likely limit the ability to market the concentrate to smelters.

There are two options currently under consideration for concentrate treatment:

1) Pressure oxidation (POX) plant to treat about 700 to 1,000 tpd of concentrates, followed by solvent extraction and electro-winning (SXEW) of the oxidized concentrate. After extraction of the copper, the concentrate would be neutralized and subjected to Cyanide Vat Leaching (Cn Leach) to remove the gold and silver from the concentrate to produce a precious metal dore by carbon in pulp processing.

2) Copper Concentrate upgrading using regenerated sodium hydroxide to remove the arsenic and antimony. A clean copper concentrate would be transported to a conventional smelter for recovery of copper, gold, and silver.

The mineral resource is based on the assumption that Altar concentrates will be processed on site using POX+SXEW+Cn Leach. There has been limited testing of the POX+SXEW+Cn Leach. That testing is sufficient to confirm the general functionality of the POX+SXEW+Cn Leach concentrate treatment approach. Additional work will be required to establish the preferred method and the details of costs and recoveries. The outcome of that work could have a material impact on mineral resources.

For this resource statement, QDM ores would be sent to the Altar plant on a campaign basis. QDM flotation recoveries differ from those applied to Altar as reported in Section 14.

The mineral resources are developed using the floating cone open pit algorithm to establish the component of mineralization with reasonable prospects of economic extraction.
Table 1-1 summarizes the total mineral resource at the base prices of \$2.75/lb copper, \$1,179/oz gold, and \$22.79/oz silver. Sensitivity to changes on metal prices and production costs are summarized in Section 14. The sensitivity tests have allowed IMC and John Marek (QP) to form the opinion that the Altar Mineral Resources as stated on 31 Jan 2014 have reasonable prospects of economic extraction on a current economic basis.

The cutoff grades are presented in terms of Net Smelter Return (NSR) which reflects the combined benefit of producing copper, gold, and silver.

The qualified person for the estimation of the mineral resource was John Marek of Independent Mining Consultants, Inc. Substantial metal price or production cost changes could materially change the estimated mineral resources in either a positive or a negative direction. Detailed testing and design of the process facility and concentrate handling facilities could have a positive or negative material impact on the resources at Altar.

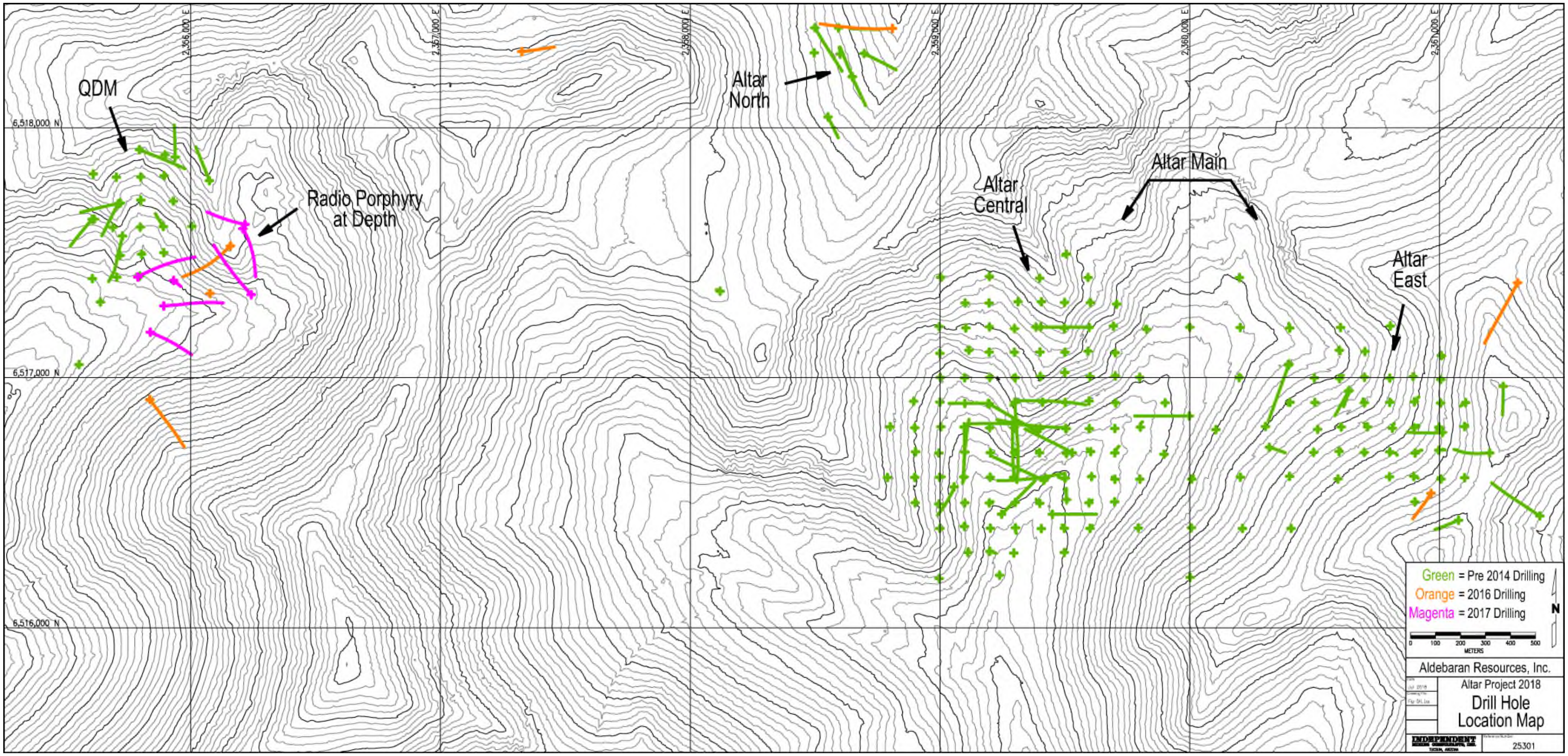

Figure 1-1
Altar District Drill Hole Location Map
Illustrating Deposit Locations
15m Contour Interval
Source, IMC 2018

Table 1-1

Altar Mineral Resources[1]
31 December 2013, Updated to 1 July 2018

Classification	Cutoff Grade NSR $/t	Mineral Resources at 4.67 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$4.67	995,001	$15.90	0.358	0.340	0.083	0.96	0.028	7,458	2,655	30,710
Indicated	$4.67	1,048,899	$14.09	0.312	0.305	0.065	0.90	0.023	7,053	2,192	30,351
Measured + Indicated	$4.67	2,043,900	$14.97	0.334	0.322	0.074	0.93	0.025	14,511	4,847	61,061
Inferred	$4.67	555,951	$12.88	0.283	0.279	0.060	0.87	0.022	3,420	1,072	15,551

Total Material of ore and waste in the Altar Cone: 8,041,551 ktonnes

Quebrada de La Mina, Mineral Resources[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources at 13.17 NSR Cutoff						Contained Metal	
		Ore Ktonnes	NSR $/t		Gold Gm/t	Silver Gm/t		Gold Ozs x 1000	Silver Ozs x 1000
Measured	$13.17	10,911	$27.94		0.930	3.49		326	1,224
Indicated	$13.17	2,623	$21.24		0.720	5.94		61	501
Measured + Indicated	$13.17	13,534	$26.64		0.889	3.96		387	1,725
Inferred	$13.17	603	$23.80		0.730	7.87		14	153

Total Material of ore and waste in the QDM Cone: 39,776 ktonnes

Total Altar and Quebrada de La Mina, Mineral Resources[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	4.67 at	1,005,912	$16.03	0.354	0.336	0.092	0.99	0.028	7,458	2,981	31,935
Indicated	Altar	1,051,522	$14.11	0.311	0.304	0.067	0.91	0.023	7,053	2,253	30,852
Measured + Indicated	13.17 at	2,057,434	$15.05	0.332	0.320	0.079	0.95	0.025	14,511	5,234	62,786
	QDM										
Inferred		556,554	$12.89	0.283	0.279	0.061	0.88	0.022	3,420	1,087	15,703

Notes:
The resource statement is included within a floating cone defined with the following metal prices:
$2.75/lb Copper, $1,179/oz Gold, $22.79/oz Silver
Copper and Arsenic grades are in percent of dry weight.
Gold and Silver grades are in grams per metric tonne.
Sulfide copper reflects the estimated grade of copper that could be processed by sulfide flotation.
There are no mineral reserves at Altar or QDM at this time.
Gold and Silver contained are in Thousands of Troy Ounces.
Weighted average grade calculations may not balance due to rounding.

[1]**Cautionary Notes to U.S. Investors**

This Technical Report uses terminology that is defined under Canadian law by National Instrument 43-101 including "measured, indicated, and inferred", and "mineral resource" that the SEC guidelines strictly prohibit from including in company filings with the SEC.

The estimation of measured resources, indicated resources, and inferred resources involves greater uncertainty as to their existence and economic feasibility than estimation of proven and probable reserves. U.S. investors are cautioned not to assume that mineral resources in these categories will be converted into reserves.

2.0 INTRODUCTION

Independent Mining Consultants, Inc. (IMC) was requested to prepare this statement of mineral resources by Regulus Resouces, Inc. (Regulus) and Aldebaran Resources Inc. (Aldebaran) for the Altar copper-gold porphyry project in San Juan Province, Argentina. Regulus has entered into an arrangement agreement to spin out its Argentine assets into the newly formed company Aldebaran. Aldebaran has entered into an option agreement with Sibanye-Stillwater to advance the development of the Altar project. Stillwater previously acquired Peregrine Metals Ltd. which includes the Argentine subsidiary Minera Peregrine Argentina, S.A. in October of 2011. Peregrine holds the property concessions at Altar.

This report is written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101, Companion Policy 43-101Cp, and Form 53-101F1. In addition, the Standards and Guidelines of the Canadian Institute of Mines and Metallurgy (CIMM) have been followed in the development of this estimate of Mineral Resources.

The qualified persons for this report are:

	Site Visit Date
John Marek, P.E. President of Independent Mining Consultants, Inc. Registered Member of the SME Responsible for all sections except those listed below where S. Foy is the QP.	Feb 1-2, 2013
Stanford T. Foy – CPG Director Corporate Development, Sibanye-Stillwater, Registered Member of the SME. Responsible for sections: 4, 6, 9, and 20	Feb 13-24, 2018

IMC and John Marek are independent of Aldebaran Resources Inc., Stillwater Mining Company, and Mineral Peregrine Argentina S.A. applying the tests in Section 1.5 of National Instrument 43-101and is responsible for all sections of this technical report. Stanford Foy is an employee of Sibanye- Stillwater and is not independent applying the tests in Section 1.5 of National Instrument 43-101.

John Marek visited the Altar Property February 1-2, 2013, to understand site conditions and geologic outcrop as well as review the on-site sample collection, preparation, and security procedures. John Marek also visited the sample preparation and assay facilities that are used for the project on February 4, 2013 to review sample preparation, core handling, and security for shipment to assay laboratories.

A site visit has not been possible since John Marek and IMC have been requested to work on the project by Regulus and Aldebaran during 2018 due to the winter snow pack at the project site. The camp and the road into the camp are closed until the South American summer.

John Marek and IMC has had full access to all drilling, sampling, and site exploration data that has been collected during the site visit. That information has been reviewed by John Marek and has been found to be consistent with the exploration discussion presented in Section 9.

Stan Foy was at site during February of 2018 reviewing and guiding the activities on site.

The sources of information for this report are the drilling, assays, geologic interpretation and process metallurgical testing completed by Stillwater and Peregrine. IMC has reviewed the supporting information provided by Stillwater/Peregrine and has performed check calculations where possible to confirm procedures and assumptions used by Stillwater-Peregrine in their calculations. Where checks and confirmations were not possible, IMC has assumed that all information supplied is complete and reliable within normally accepted limits of error. During the normal course of the review, IMC has not discovered any reason to doubt that assumption.

The metric system is used throughout this report and all currency is in U.S. dollars. References to pounds of copper reflect the convention of marketing copper in Imperial Units. Gold and Silver metal are reflected in Troy ounces. Copper, molybdenum, and arsenic grades are in percent by dry weight. Gold and silver grades are in grams per metric tonne (gm/t = ppm). Ktonnes means 1000 metric tonnes.

3.0 RELIANCE ON OTHER EXPERTS

IMC has relied on the contributions from members of the Peregrine-Stillwater staff. IMC has reviewed that work and finds that it has been performed to normal and acceptable industry and professional standards. IMC is not aware of any reason why the information provided by Peregrine-Stillwater cannot be relied on.

Altar project geologist Roger Rey originally authored sections 7 through 9. Stillwater metallurgist, Dan Turk, authored Section 13. All of which have been reviewed and approved by John Marek of IMC, Inc. Sections 5 and 6 are from the previous Technical Report with updates and amendments where required by Peregrine-Stillwater staff. No changes to the geologic interpretation have occurred since 2014 and no additional process testing has occurred since 2016.

There are two options currently under consideration for concentrate treatment:

1) Pressure oxidation (POX) plant to treat about 700 to 1,000 tpd of concentrates, followed by solvent extraction and electro-winning (SXEW) of the oxidized concentrate. After extraction of the copper, the concentrate would be neutralized and subjected to Cyanide Vat Leaching (Cn Leach) to remove the gold and silver from the concentrate to produce a precious metal dore by carbon in pulp processing.

2) Copper Concentrate upgrading using regenerated sodium hydroxide to remove the arsenic and antimony. A clean copper concentrate would be transported to a conventional smelter for recovery of copper, gold, and silver.

Both options were tested on a preliminary basis and summarized in a report titled: Peregrine Metals Ltd., Altar Project, Trade Off Study for the Treatment of its Altar Concentrate Employing Two Hydrometallurgical Options, Rev 0, 9 May 2014, by Hydromet (Pty) Ltd. Mr. Grenvil Dunn of Hydromet (Pty) Ltd. is an acknowledged expert in this type of concentrate treatment technology. John Marek and IMC have relied on the report by Mr. Dunn as an expert in the field of POX-SXEW and Concentrate Upgrade treatment of concentrates. Mr. Dunn and his report are cited in Section 17 and referenced in Section 27.

Section 4 regarding the Property Description and Location has been updated by S Foy of Sibanye Stillwater during 2018. IMC has not reviewed the mineral tenure nor independently verified the legal status or ownership of the project area or underlying property agreements. IMC has relied on the information provided by Peregrine-Stillwater and Mr. Foy regarding the mineral tenure as presented in Section 4.

Section 20 regarding environmental issues was originally prepared by Richard Leclerc, former President of Peregrine Metals Ltd and has been updated by S. Foy of Sibanye-Stillwater during 2018. IMC and John Marek have not verified this information and have relied on Mr. Foy regarding the environmental situation at the property. Altar is in the advanced exploration stage of the project. Permit activities have been limited to those required to sustain the exploration process at Altar.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Altar property description and location was originally described in the report titled "Preliminary Economic Assessment of the Altar Project, San Juan Province, Argentina, 11 May 2012, by KD Engineering and republished with updates on January 31, 2014 in the report "Estimated Mineral Resources Altar Project, San Juan Province, Argentina , This section is based on information that was published in the aforementioned reports and on revised property tenure information provided by Stillwater and Peregrine personnel. This section was updated by Stanford Foy during 2018. Mr. Foy is not independent of the issuer and John Marek is the qualified person for the section based on thorough review with Mr. Foy and reliance on the expertise of Mr. Foy.

Stanford Foy, and John Marek are not aware of any significant factors or risks that may affect access, title, or the right or ability to perform work on the property.

4.1 Location

The Altar Project is located in Argentina, within the Province of San Juan, about 10 km from the Argentina–Chile border, and approximately 180 km in direct line west of the city of San Juan. The Project is centered on approximate coordinates 6,817,190 mN and 2,359,830 mE with datum set to Campo Inchauspe and projection to Gauss Kruger, Zone 2. Elevations within the Project area range between 3,100 masl and 4,000 masl. The center(s) of the deposit is at an elevation of about 3,400 masl.

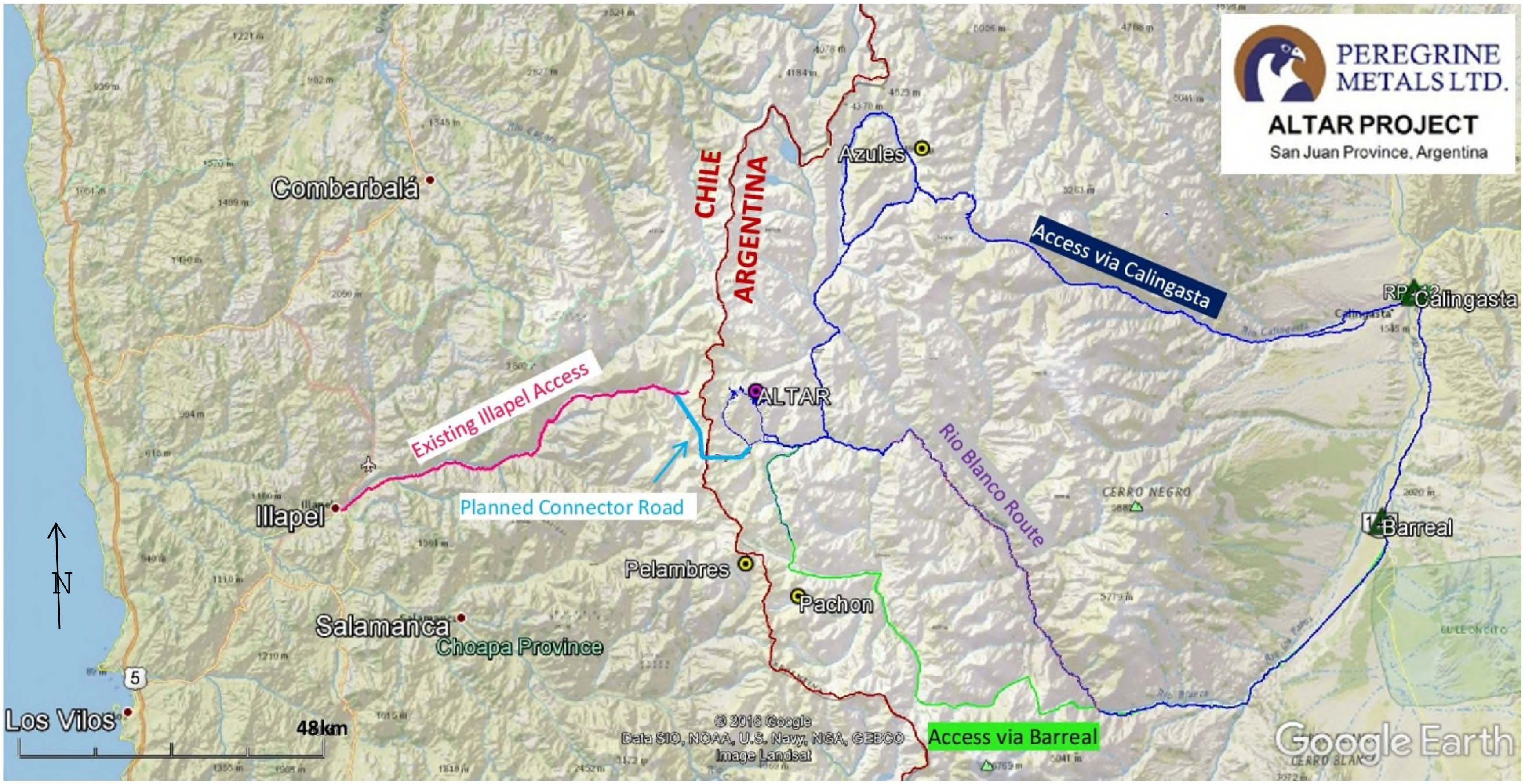

Figure 4-1 - Project Location Map

4.2 Overview of Argentina

The Republic of Argentina is located in the southeastern portion of South America. Argentina is bordered to the south and west by Chile and to the north by Bolivia and Paraguay. The east side of Argentina is bordered by Brazil, Uruguay and the Atlantic Ocean (Figure 4-1).

Argentina is the second largest country in South America after Brazil and the eighth largest in the world. The population of the country is about 44 million; approximately 16 million live in the capital city, Buenos Aires and its suburbs.

4.2.1 Metal Mining in Argentina

Historically metal mining has not played a dominant role in Argentina's economy, but this situation has changed during the last fifteen years. While industrial minerals and building materials accounted in the past for nearly two thirds of the total mining production, Argentina's gold production increased to 1.9 Moz of gold in 2010, becoming the twelfth largest world producer (third in Latin America, with 12 percent of the gold output of the region). Argentina is the fifth silver producer in Latin America.

Argentina is one of three producers of primary aluminum in Latin America, accounting approximately for 16 percent of production. The country is Latin America's third steel producer (after Brazil and Mexico), fifth copper producer (after Chile, Peru, Mexico and Brazil), fifth lead producer (after Peru, Mexico, Brazil and Bolivia) and sixth zinc producer (after Peru, Bolivia, Mexico, Brazil and Honduras).

The important operating mines in Argentina are Minera Aguilar and Pirquitas (Province of Jujuy), Alumbrera (Province of Catamarca), Gualcamayo, Veladero and Casposo (Province of San Juan) and Vanguardia, Mina Santa Cruz and Manantial Espejo (Province of Santa Cruz). Cerro Negro (Province of Santa Cruz) is in construction. The Projects Cerro Morro and Agua Rica are in final phases of Engineering. Pascua-Lama and El Pachon are currently on hold.

4.2.2 Mining Industry and Legislation

The Argentine Mining Code, which dates back to 1886, is the legislation which deals with mining in the country. Special regimes exist for hydrocarbons and nuclear minerals. In the case of most minerals, the Mining Code dictates that the owner of the surface is not the owner of the mineral rights; these are held by the State. The State is also bound by the Code to grant to whoever discovers a new mine the rights to obtain a "mining concession".

Owners must comply with three conditions: payment of an annual fee, investment of a minimum amount of capital, and the carrying out of a reasonable level of exploitation. Failure to do so could lead to forfeiture of the property back to the State.

The administrative organization for mining specific regulation, at the Federal level, is the Federal Ministry of Planning, Public Works and Investment, which has a Mining Department headed by the Secretary of Mines. At the Provincial level, there are mining departments, or mineral courts, depending on the jurisdictions, that deal with the granting of exploration permits, mining concessions and have jurisdiction on mining permitting, in general. The Argentine Mining Code is a federally drafted law implemented by all Provincial governments under the National Constitution of Argentina. Argentine Provinces retain sole jurisdiction on matters of procedural regulations, but cannot change the Mining Code.

In 1980, an amendment recognized the need for modernizing the production and classification of minerals, size of individual mining areas (to encourage development of low-grade deposits) and elimination of miners' rights to encourage foreign companies to engage in mining operations through public tenders.

Between 1993 and 1995, Argentina implemented a new Mining Investment Law, a Mining Reorganization Law, a Mining Modernization Law, a Mining Federal Agreement, and Financing and Refund of IVA. Decree 456/97 implemented a unified text of the Mining Code with all amendments made by the aforementioned legislation. These amendments offered attractive incentives for exploration and mining to foreigners, and include both financial and tax guarantees, such as import duty exemptions, unrestricted repatriation of capital and profits and a 3 percent cap on Provincial royalties. This group of laws also creates the basis for federal-provincial harmonization of the procedural regulations.

In 2001, Law 25.429 "Update of the Mining Investment Law" was passed, and in March 2004 approval was reached for a key provision of the Law allowing refund of the IVA (or value added tax) for exploration related expenses incurred by companies registered under the Mining Investment Law.

In 1995, Law No 24.585 Environmental Protection (Mining Code) was passed and provides regulation for operations and environmental reporting at the exploration and exploitation levels. During February of 2016, Argentine President Macri made a number of changes including the elimination of the export tax on concentrates and final products (dore).

In summary, the major changes to the Mining Code encompass:

- Exploration areas have been increased to a maximum of 200,000 ha per company and per Province.
- Exclusive aerial prospecting areas of 20,000 km^2 (that can be extended to 40,000 km^2 in Provinces whose territory is more than 200,000 km^2), are also permitted.
- A guarantee of tax stability for 30 years has been granted.
- Expenditures made in prospecting, exploring and construction of mining installations are tax deductible and value added taxes are recoverable.
- Imports of capital goods, equipment and certain raw materials are exempt from import duties.
- Provincial royalties will not exceed 3 percent of the ex-mine value of the extracted mineral.

- Environmental funds to correct damage are required and are deductible from income taxes; a National system of permanent mining environmental monitoring is set up. Implementation at the provincial level has been variable and in 2004-2005 San Juan Province began to increase staffing for monitoring purposes.
- Municipalities are encouraged to eliminate taxes on mining.
- Systemization and digital conversion of mining property registers has been implemented to varying degrees of success in each Province and the definition by geographic coordinates now establishes mining rights.

A number of changes were made during February of 2016 with the election of President Macri. The Department of Energy and Mining was formed which has a Secretary of Mines. At that same time, the export tax on concentrates and final products (dore) were eliminated, plus increased freedom of capital inflows/outflows and simplified import of capital goods has been put into place.

A provincial Secretary of Mines has been in place in San Juan Province in early 2004. The Secretariats are also commissioned to foster mining investment, participate in cooperation between international and inter-jurisdictional departments, and to oversee environmental, labor and hygiene issues related to mining. They respond to and govern initiatives of the National Mining Commission (which supervises the country's mining policy) and oversee the National Geological Service Board (SEGEMAR, which functions as a national Geological Survey). In the Province of San Juan the Mining Ministry was created at the end of 2010 and a Mine Minister is appointed to lead this Ministry.

4.2.3 Mineral Property Title

Among other functions, the Mining Code constitutes the system to obtain exploration rights or concessions. Characteristics of an exploration concession, referred to as a *cateo*, include:

- Exclusivity - the holder of the cateo has rights to any mineral discoveries, including those made by a third party within the boundaries of the cateo.
- Extent - cateos are measured in 500 ha units, or fractions thereof. No single cateo may exceed 10,000 ha (20 units), and no person may hold more than 200,000 ha (20 cateos) in a single Province.
- Time - the holder of a cateo must assess the mineral potential within its exploration boundary within a time period based on the size of the cateo. The exploration term is 150 days for the first 500 ha (1 unit) or fraction thereof, and an additional 50 days for each additional unit (or fraction thereof) within the cateo. As an example, a cateo with the maximum size (20,000 ha) has a 1,100 day term. After 300 days, 50 percent of the exploration area over 2,000 ha (4 units) within the cateo must be relinquished. At 700 days, 50 percent of the remaining area over 2,000 ha (4 units) must be dropped. Time extensions may be granted to allow for inclement weather, difficult access, etc.
- Work - the holder of a cateo must present to the mining authority a minimum exploration work program and schedule. The cateo may be revoked if the requirements of the work program and schedule are not met.

A one-time fee of ARS $400 (400 Argentine Pesos) per 500 ha (one unit) must be paid upon application for a cateo.

The Mining Code also regulates exploitation rights (mining concessions). Priority for receiving a mining concession is given to the registered discoverer of the mine, i.e. the holder of the cateo. A mining concession unit area, or pertenencia, is 6 ha for some types of minerals (mainly, gold, silver, copper, and, generally, hard rock minerals), in common deposits, and 100 ha for the mentioned type of minerals if found in disseminated mineral bodies; each mining concession may consist of one or more units. The application to the mining authority must include official cartographic coordinates of the mine location and of the reconnaissance area, and a sample of the mineral discovered. The reconnaissance area, which may be as much as twice the surface area projection of the mine, is intended to allow for the geological extent of the ore body and for site layout and development. Excess area is released once the survey plans are approved by the mining authority.

Once the application for a mine has been submitted and the Environmental Impact Assessment has been approved, the applicant may commence works on the reconnaissance area of the application. Any person, or company, opposed to the application for title to the new mine, whether a holder of an overlapping cateo, a mining title holder with conflicting claims, a partner in the discovery that claims to have been neglected, among others, may submit his opposition, following publication of the application in the Boletin Oficial or official publication of the Provincial jurisdiction. The person, or company, opposed to the mining concession application must present evidence of his claim to the Provincial mining authority. The Provincial mining authority resolves on the opposition, and such a resolution can be appealed to the Provincial mining law courts.

Within 30 days after the term to file certain statutory exploration works on the reconnaissance area of the mining concession application, the applicant must submit a legal survey of the units (pertenencias) requested for the new mine, within the maximum property limits allowed by the Mining Code. The request is published in the Boletin Oficial and may also be subject to opposition by third parties, (on different grounds than the disputes mentioned above), to be resolved under similar rules as mentioned with regard to opposition to the application for mining concessions. Approval and registration of the legal survey request by the Provincial mining authority constitutes formal title to the mining property.

4.2.4 Royalties

On October 1, 2014, Rio Tinto sold its 1 percent NSR royalty on the Altar Concession to Vaaldiam Mining Inc. a wholly owned subsidiary of Orion Resource Partners LP. Osisko Gold Royalties subsequently acquired the Altar Concession one percent NSR royalty when it acquired Orion. Osisko Gold Royalties currently holds the one percent NSR royalty on the Altar Concession.

The original underlying concession owners Juan Carlos Robledo and Otto Wilko Simon ("Robledo and Simon") also hold the Robledo Royalty, being an NSR royalty of 1 percent on all mineral products from the mining concessions known as Loba, Santa Rita, RCA II and RCA VII. The Corporation has the right to purchase the Robledo Royalty at any time for a payment of US$ 1,000,000. As stipulated in the contract, as there was no mine in production by April 21, 2010 payments of US$ 80,000 per annum until commercial production is achieved started to apply and payments were made to Robledo and Simon. On the date of commencement of commercial production, the annual payments cease and the Robledo Royalty becomes due. The annual payments are in addition to, and not an advance on, the Robledo Royalty.

According to the Mining Investment Law, mining royalties imposed by the Provinces cannot be more than 3 percent of the mineral's mouth-of-mine value.

Mining royalties are paid to the provincial government in the territory of which the exploitation concession is registered, and are paid in equal installments twice yearly. A mining operation that has not paid its royalty within two months of the due date will be served a notice by the mining authority.

In the Province of San Juan, the law stipulates that the Provincial Royalty is 3 percent of the mineral mouth-of-mine value, defined as the value obtained in the first instance of commercialization minus all direct costs necessary to bring the mineral to commercialization at the exception of the extraction costs.

Canon and Other Conditions to Keep Title in Good Standing

Apart from payments indicated above, a mining concession is subject to pay certain special type of charges that are called, in Spanish, "Canon". Canon is set by Mining Code according to the special class or category of the minerals found in a deposit. In general, Canon due per year is ARS $80 per 6 ha of pertenencia for common ore bodies held by the exploitation concession, or ARS $800 per 100 ha of pertenencia for disseminated ore bodies. The discoverer of the mine is exempt from paying Canon for 3 years from the date on which application of title to the mine is registered.

In addition, the holder of the exploitation concession must also commit to investing in the property fixed assets of at least three hundred times the value of the annual Canon, over a period of five years. In the first two years, 20 percent of the total required investment value must be made each year. For the final three years, the remaining 60 percent of the total required investment may be distributed in another manner. The exploitation concession can be terminated if the minimum required investment schedule is not met.

Finally, the mining company has to keep a sustainable mining program in the mining concession. If a mining concession remains abandoned for more than 4 years, the mining authority will give notice to the title holder to direct it to file a plan to reactivate mining works over a five year term. Failure of the title holder to file the plan or, if filed to comply with its terms and conditions will cause the mining concession to terminate and title goes back to the provincial authorities.

A new mining operation is entitled to national, provincial, and municipal tax exemptions for five years. The exemptions commence with the registration of application of the mining concession.

4.2.5 Surface and Private Property Rights

Access over surface property rights, mainly in the forms of rights of way and occupancy rights ("Land Easements"), in Argentina, is obtained through the provincial mining authorities which will require title holders to give a guarantee to cover damages, if any, that may be inflicted on the surface land owner. Usually, surface owners and mining companies negotiate the terms of an adequate settlement on payments due to the surface owners for Land Easements, which are filed with the Mining Department in the Province concerned for approval. In the absence of such a settlement, the provincial mining authorities resolve under the principle that mining activities are of public interest.

Private property rights are secure rights in Argentina, and the likelihood of expropriation is considered low. The Argentine legal and constitutional system grants mining properties all the guarantees conferred on property rights, which are absolute, exclusive and perpetual. Mining property may be freely transferred and acquired by foreign companies.

4.2.6 Environmental Regulations

The Environmental Protection Act (EPA) of Argentina, enacted in 1996, establishes the guidelines for preparing environmental impact assessment studies for mining projects. The federal nature of the Argentine government leaves the application of the EPA to each Province. Initially the Provinces adhered to the mining law, and established the provincial mining secretary as the application authority. However, starting in 2002 several of the Provinces have re-evaluated their approach to mining and have shifted the environmental criteria and authority to the environmental secretary.

A party wishing to commence or modify any mining-related activity as defined by the EPA, including prospecting, exploration, exploitation, development, preparation, extraction, and storage of mineral substances, as well as property abandonment or mine closure activity, must prepare and submit to the Provincial Mining and Environmental Authorities an Informe de Impacto Ambiental or Environmental Impact Assessment (EIA) prior to commencing the work. Each EIA must describe the nature of the proposed work, its potential risk to the environment, and the measures that will be taken to mitigate that risk. The provincial authorities have a sixty-day period to review and either approve or reject the EIA; however, the EIA is not considered to be automatically approved if the provincial authorities have not responded within that period. Normally, provincial authorities have questions, comments or require additional information or studies granting a thirty-day period to the applicant in which to answer the questions or file additional information or documents.

If accepted by the provincial authorities, the EIA is used as the basis to issue a Declaración de Impacto Ambiental or Declaration of Environmental Impact (DEI) to which the applicant must agree to uphold during the mining-related activity in question. The DEI must be updated at least once every two years. Sanctions and penalties for non-compliance to the DEI are outlined in the EPA, and may include warnings, fines, suspension of Environmental permits, restoration of the environment, temporary or permanent closure of activities, and removal of authorization to conduct mining-related activities.

In 2010, the Federal Government approved a law to establish the minimum standards for the protection of glaciers and peri-glacial environment. A regulation was successively approved in 2011. Law 26.639 establishes minimum budgets for the protection of glaciers and the periglacial environment in order to preserve them as strategic reserves of water resources for human consumption; for agriculture and as water suppliers for the recharge of watersheds; for the protection of biodiversity; as a source of scientific information and as a tourist attraction. According to this Law, glaciers constitute public assets

San Juan Province Environmental Regulations

Under Argentine Mining Law, the State Mining Ministry (SMM) of the San Juan Province manages the environmental approval system for new mining projects. The applicable evaluation process of the EIA is handled by the Secretary of Environmental Management and Mining Control.

The new Decree of the Provincial Law 1679 SMM, dated October 2006, states that for small and medium mining projects in San Juan Province, the EIA must be presented together with a feasibility study. This allows the SMM to determine the size of the deposit in order to select the members of the Evaluation Commission, as well as defining the corresponding terms of reference.

After obtaining an EIA, the applicant must apply and obtain various permits and authorizations from the Province of San Juan to proceed with Project development. The permits and authorizations demonstrate compliance with current legislation for the construction and operation of mining operations.

The Province of San Juan passed in 2011, a law aiming at the protection of the Glaciers and approved the regulations of such law in 2011 and 2012. The Government of the Province of San Juan presented a claim to the Supreme Court of Argentina stating that the Glaciers Protection was of Provincial jurisdiction. The Supreme Court had not rendered a decision at the moment of writing this report. Provincial Law N ° 8144, unlike the national law, involves the protection of glaciers discovered and covered within the glacial environment, and within the periglacial environment, including rock glaciers. The national law includes the entire periglacial environment including permafrost where the provincial law excludes permafrost.

4.3 Property Description - Argentina

4.3.1 General

The Altar Concession consists of eight mining concessions, two exploration permits and nine land easements comprising rights of way or occupancy as shown on Table 4-1 and Figure 4-2. It also includes an option on the five Rio Cenicero mining concessions, four of which are adjacent to the Altar property and one of which is located to the southwest of the Altar property. The Altar mining concessions and exploration permits collectively cover an area of approximately 8,443.7 ha and the Rio Cenicero mining concessions cover an additional 3,716.6 ha.

Exploration permit 1124-444-M-08 (the "Leon Norte Permit") was acquired from MIM Argentina Exploraciones S.A. (now Xstrata) (Pachon Project). A Mine was staked by Peregrine Argentina in the Leon Norte Permit area on September 5th, 2016 and a request was sent to the mining authorities to include this concession within the Altar Concession Package.

The Altar deposit is situated mainly on the RCA VII tenement as illustrated in Figure 4-2. The exploration camp is located seven kilometers south of the Altar deposit in the Pampa mining concession.

Table 4-1
Tenure Details

Concession Number	Concession Name	Concession Type	Area (ha)
Mining Tenure			
Altar			
1597-C-95	Leona	Mine	200.0
1598-C-95	Loba	Mine	300.0
1042-F28-C-96	Santa Rita	Mine	3.9
1118-F28-R-96	Pampa	Mine	2,740.0
338.641-I-92	RCA II	Mine	549.0
338.646-I-92	RCA VII	Mine	809.3
1124-168-M-13	Romina I	Mine	1,373.3
1124-169-M-13	Romina II	Mine	1,475.9
1124-444-M-08	Leon Norte	Exploration	900.0
1124-548-M-08	No name	Exploration	92.3
Subtotal Area Altar			**8,443.7**
Rio Cenicero Concession			
338.644-I-92	RCA V	Mine	965.7
338-649-I-92	RCA X	Mine	709.1
338-651-I92	RCA XII	Mine	942.1
338-654-I-92	RCA XV	Mine	464.6
338-637-I-92	RCB I	Mine	635.1
Sub-total Area Rio Cenicero			**3,716.6**
Rights of Way			
0116-F-28-C-96	Rio Tinto	Occupancy Easement	30Ha
98-B-96	No name	Access Road Easement	22.6 km
1124-75-M-2010	No name	Access Road Easement	13.6 km
1124-76-M-2010	No name	Access Road Easement	6.1 km
124-77-M-2010	No name	Access Road Easement	4.0. km
124-78-M-2010	No name	Access Road Easement	9.2. km
1124.106-M-2010	La Pampa	Occupancy Easement	1,990 Ha
1124.107-M-2010	Ore Body	Occupancy Easement	2,740 Ha
1124-161-M-2010[1]	No name	Access Road Easement	6.8.km

[1] Overlaps with Access Road easement 98-B-96.

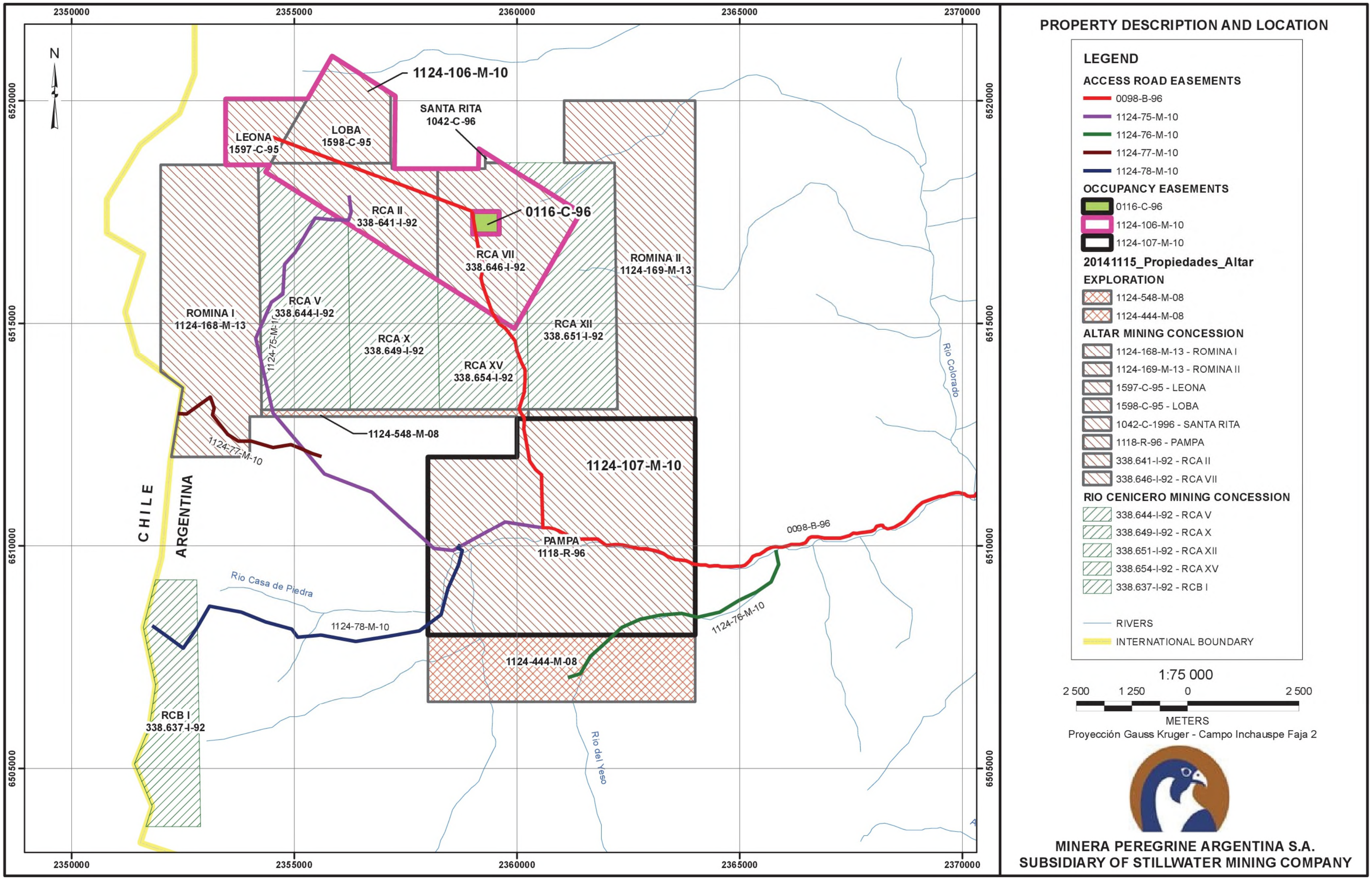

Figure 4-2, Surface Rights Map

<u>Rio Cenicero Option</u>

The five mining concessions cover a total of approximately 3,716 ha. These concessions are collectively referred to as the "Rio Cenicero concessions".

The option agreement was signed on 14 August 2008 between Minera Peregrine Argentina S.A. (Minera Peregrine) and the Exploration and Mining Institute of the Province of San Juan (IPEEM). The conditions are presented below:

<u>Stage 1 - Exploration (August 2008 through 14 August 2013)</u>

Initially a 5 year exploration period is granted to Minera Peregrine and the following conditions are included in the contract:

- The total exploration expenditures for the 5 year period have to total US$ 1.7 million. The time frame for expenditures is as follows:
  - Minimum US$ 100,000 on or before first anniversary date of signing of option agreement
  - Minimum additional US$ 100,000 on or before second anniversary date of signing of option agreement
  - Minimum additional US$ 500,000 on or before third anniversary date of signing of option agreement
  - Minimum additional US$ 1,000,000 on or before fifth anniversary date of signing of option agreement

The contract stipulates that Minera Peregrine must pay to IPEEM US$ 2,500 option payment each month to maintain the Option payment and pay the mining rights corresponding to the Rio Cenicero concessions. Minera Peregrine is also responsible to obtain all permits related to the execution of the different activities realized on the Rio Cenicero concessions. The contract also contains clauses related to provisions to extend the exploration period, force majeure and transferability of the contract, subject to IPEEM approval. At the end of Year 4, Peregrine Metals reported expenses registered in Argentina on the Rio Cenicero Concessions of US$ 3,127,005, excluding Value Added Tax.

Additional 2-year exploration period extensions were requested by Peregrine and approved by IPEEM resolution. The previous exploration extension was for the period from August 2015 to August 2017 and includes a minimum spending/investment of US$ 912,000 for year 1 and US$ 608,000 for year 2 and commits to a minimum of 2,000 meter of drilling. The current exploration extension was granted from August 2017 to August 2019 and includes minimum spending/investment of US$ 750,000 for year 1 and US$ 850,000 for year 2, with a commitment to a minimum of 2,000 meters of drilling.

Stage 2 - Exploitation

At the end of the Exploration Period, Minera Peregrine can exercise the Exploitation option by signing an exploitation agreement under the following conditions:

- Fulfillment of the conditions stipulated in the Exploration Contract.
- Presentation of a detailed Technical/Economical Feasibility Study at the latest 60 days after completion of the exploration period.
- Option payments to IPEEM of US$ 7,500 each month up until commencement of commercial production.
- If the exploration period is extended, as allowed in the agreement, the above conditions will be renegotiated.
- Upon commencement of commercial production payment of a fee calculated as 1 percent of all product sales invoiced by Peregrine (option payments cease).

4.3.2 Tenure History

CRA and Rio Tinto

From 1988 to 2003 the original underlying "Altar" mineral exploration concession (cateo) was the subject of litigation between its owner Robledo, and IPEEM. On 21 April 2003, the conflict was resolved by resolution in favor of the Robledo and the property passed to CRA, who held rights under an option agreement signed with the owners in 1995. The Altar cateo has subsequently expired.

Rio Tinto is the successor company to CRA. In 1995, Rio Tinto staked the "Leona" and "Loba" concessions and, in 1996, the "Santa Rita" concession.

Rio Tinto also staked the "Pampa" concession in 1996 to cover a potential exotic copper target and to protect the broad valley area for possible future plant and tailings disposal sites.

On August 1, 2003, CRA Exploration Argentina SA ("CRA") assigned its rights in an option agreement with the Altar exploration permit (cateo) owner Juan Carlos Robledo ("Robledo") to Rio Tinto.

Rio Tinto and Peregrine Metals

Under the terms of an option agreement signed April 20, 2005 between Peregrine Diamonds and Rio Tinto, Peregrine Diamonds had the right to acquire a 100 percent interest in the Altar Property from Rio Tinto subject to, among other things, taking over the Robledo Royalty. The agreement was amended on October 18, 2006, to transfer Peregrine Diamond's rights to Peregrine Metals, Ltd.

To exercise the option, Peregrine Diamonds agreed to assume all of Rio Tinto's obligations to Robledo, and to undertake a series of option payments on a prescribed schedule.

Peregrine Metals and Peregrine Diamonds

In January, 2006 Peregrine Diamonds transferred its metals assets, including its interest in the Altar Property option, to a new private company, Peregrine Metals Ltd. subsequent to an Option Agreement signed in September 2005 between the two companies.

The Altar Option Agreement has been subsequently assigned to the Peregrine Metals Ltd. subsidiary company Minera Peregrine Argentina SA under Argentine law.

Robledo - Rio Tinto Agreement

The obligations to the original owner, Robledo, comprised:

- A payment of US$ 70,000 on or before 21 July 2005.
- A payment of US$ 800,000 on or before 21 April 2007.
- The Robledo Royalty, a net smelter return of 1 percent on all mineral products from the Altar Property is payable to Robledo. If the mine is not in production by April, 21, 2010, then payments of US$ 80,000 per annum in lieu of the Robledo Royalty must be made until commercial production is achieved. On the date of commencement of commercial production, the annual payments cease, and the Robledo Royalty becomes fully due. The annual payments are in addition to, and not an advance on, the Robledo Royalty.

Under the terms of the agreement between Rio Tinto and Robledo, Rio Tinto had the right to purchase the Robledo Royalty at any time, for a payment of US$ 1 million. On exercise of the option between Peregrine Diamonds and Rio Tinto, Peregrine Diamonds acquired the Robledo Royalty.

On May 23, 2006 Robledo transferred 50 percent of his rights to the Robledo Royalty (inclusive of the US$ 80,000 annual payments commencing in April 2010) to Mr. Otto Wilko Simon.

Peregrine has confirmed that the original owner obligation payments of US$ 70,000 due 21 July 2005, and US$ 800,000 due 21 April 2007, were made by Rio Tinto on behalf of Peregrine Diamonds. In addition, Peregrine Argentina started to pay the annual payments of US$ 55,890 (partial year starting on April 22, 2010) and paid the US$ 80,000/year for the years 2011 to year 2016.

Rio Tinto Agreement

The obligations to Rio Tinto under the Altar Option Agreement prior to the amendment on October 18, 2006 were:

- Payment of US$ 50,000 on completion of a due diligence period.
- Payment of US$ 50,000 on or before three months following 20 April 2005.
- Payment of US$ 50,000 on or before the first anniversary of the 20 April 2005 date.
- Expenditures of not less than US$ 350,000 on or before the first anniversary of the 20 April 2005 date.
- Payment of US$ 825,000 on or before the second anniversary of the 20 April 2005 date.
- Issue of a number of common shares of Peregrine Diamonds on or before the second anniversary of the 20 April 2005 date. The number of shares is fixed by a formula relating to division of US$ 825,000 by the market price per common share of Peregrine Diamonds, discounted by 10 percent.

- A net smelter return, the Rio Tinto Royalty, of 1 percent on all mineral products from the Altar Property.

Peregrine completed the US$ 50,000 due diligence, US$ 50,000 20 April 2005, and US$ 50,000 20 April 2006 payments as per the schedule above. Peregrine also completed the US$ 350,000 expenditure requirement for the first anniversary period.

Unlike the Robledo Royalty, there is no agreement to purchase the 1 percent Rio Tinto Royalty.

Amendments to Rio Tinto Agreement

On October 18, 2006, Peregrine amended the agreement with Rio Tinto as follows:

- To exercise the option, Peregrine was required to complete a cash payment to Rio Tinto of US$ 1,650,000 due on or before 20 July 2008.
- Notification of assignment of Peregrine Diamonds' interest in the option to Peregrine Metals Ltd.

The US$ 1.65 million payment due 20 July 2008 replaced two clauses in the original agreement, the requirement to pay US$ 825,000 on or before the second anniversary of the 20 April 2005 signing date and requirement to issue common shares in Peregrine Diamonds on or before the second anniversary of the 20 April 2005 signing date.

Peregrine confirmed that the original owner obligation payment of US$ 800,000 due 21 April 2007 was made by Rio Tinto on behalf of Peregrine Metals.

On 9 July 2008 Peregrine Metals completed the final US$ 1,650,000 payment that was due to Rio Tinto by 20 July 2008, thereby exercising the option to acquire a 100 percent interest in the Altar Property.

On 25 November 2008 Peregrine Metals amended the 20 April 2005 agreement with Rio Tinto assigning Peregrine Metals' interests, rights and obligations with respect to the Altar Property to its Argentinean subsidiary Minera Peregrine Argentina S.A. This amendment also established that Rio Tinto Mining and Exploration Ltd. Mendoza Branch ("Rio Tinto Exploration Argentina") was the Argentinean Branch of Rio Tinto and was bound by the terms and conditions of the 20 April 2005 agreement between Peregrine Diamonds and Rio Tinto.

On 6 March 2009, Minera Peregrine Argentina S.A. signed a title transfer agreement with Rio Tinto Exploration Argentina, in accordance with Argentinean law, that transferred the rights and obligations with respect to the Altar Property from Rio Tinto Exploration Argentina to Minera Peregrine Argentina S.A. This agreement also established that the price of the transfer was US$ 2,670,000 and that this amount was received by Rio Tinto Exploration Argentina previous to the execution of the title transfer agreement.

Stillwater Mining Company acquires Peregrine Metals Ltd.

On October 4, 2011, Stillwater Mining Company acquired the Canadian public company, Peregrine Metals LTD that included subsidiaries Peregrine Argentina SA and Peregrine Chile SCM. Stillwater paid Peregrine Metals Ltd. US$ 166.4 million (net of cash acquired) in cash and issued 12.03 million SWC shares for the acquisition on October 4th 2011 closing price (approximate total cost of US$ 262.9 million).

From 2011 through 2013 Stillwater completed drilling 80 core holes and four hole extensions for 38,379m of drilling and generated a NI 43-101 compliant resource update dated January 31, 2014. Drilling at Altar greatly increased the copper and gold resource at Altar East and provided the initial gold resource for the shallow portion of Quebrada de La Mina to the West. This report was made public on the US based Stillwater Mining Co. website, but was never filed on SEDAR since the company was prohibited from reporting resources under SEC Industry Guide 7.

Following completion of the 2014 technical report, Stillwater performed a more regional grass-roots exploration approach instead of offsetting known mineralization. No drilling occurred in years 2014 and 2015 where prospecting, geophysics and geochemical surveys were performed that outlined a number of drill-ready targets not associated with the existing resource base.

From 2016 through 2017 Stillwater completed 15 core holes and one hole extension for 10,562m of drilling, which resulted in discovery of a new copper-gold porphyry East of QDM named Radio Porphyry. Drilling is currently too sparse to perform any type of resource update in this new discovery.

Sibanye Gold Acquires Stillwater Mining Company.

On December 9, 2016 Sibanye announced a proposed acquisition of Stillwater Mining Co. as an all cash transaction valued at US$ 18 per share of SWC stock (US$ 2.2 billion transaction). Following various shareholder and regulatory approvals, the deal was finalized on May 4, 2017. In addition, on August 30, 2017 Sibanye Gold changed its name to Sibanye-Stillwater. However, the structure of the Altar Project subsidiaries (Peregrine Argentina SA and Peregrine Chile SCM) remained unchanged following this transaction.

Following acquisition of Stillwater Mining by Sibanye, exploration has continued, and a modest drilling program is planned for the 2018 season.

4.3.3 Surface Rights

The Figure 4-3 presents the Occupancy and Road Easements.

Camp Easement 0116-F-28-C-96

CRA (presently Rio Tinto) applied on 2 February 1996 (# 0116-F-28-C-96) for an area of about 30 ha that could be used as an exploration camp and equipment storage area. On 8 October 2004, Rio Tinto requested the publication of a notice of the easement claim against the corresponding landowner (M.L. Correa G. de Errázuriz), holding surface rights on the area.

The Camp Easement has been granted on an interim basis by the Mining Department of the Province of San Juan and permanent constitution of the Camp Easement will call for payment of indemnification to the landowners to cover damages to areas covered with surface rights.

Access Road Easement 98-B-96

A 123 km access road easement was applied for by CRA (currently Rio Tinto) on February 9, 1996 (98-B-96). Statutory notices were made and the permit is currently pending grant.

Pachon SA Minera (Pachon) objected to the application, and a later objection was filed by IPEEM.

The Pachon objection was a formal objection, but as a copy of an agreement between Pachon and Rio Tinto to share easement rights was filed, it is not considered a material objection. The IPEEM objection has to be resolved; however there is a report from the Legal Department within the Mining Directorate that is favorable to Rio Tinto.

Certain landowners have been identified as being affected by the right of way application. The San Juan mining authority informed that only the last 22.6 km of the original request would be considered because the first part of the easement was already awarded to Pachon SA Minera. The easement corresponds to the access road from the intersection of the rivers Pantanosa and Colorado to the Altar Mining Rights.

The Access Road Easement has been granted on an interim basis by the Mining Department of the Province of San Juan and permanent granting of the Access Road Easement will call for payment of indemnification to the landowners to cover damages to areas covered with surface rights.

New Easements

In 2010 Peregrine applied for an additional six rights of way, two of which are occupancy Easement and five of which are access road Easements. The easements 1124-75-M-10 and 1124-76-M-10 have been granted on an interim basis by the Mining Department of the Province of San Juan and permanent granting of the Road Easements will call for payments of indemnification to the landowners to cover damages to areas covered by the road easements.

The additional four rights of way are under review by the Provincial Mining Department of San Juan. It is expected that these will be approved by the authorities in due course and time.

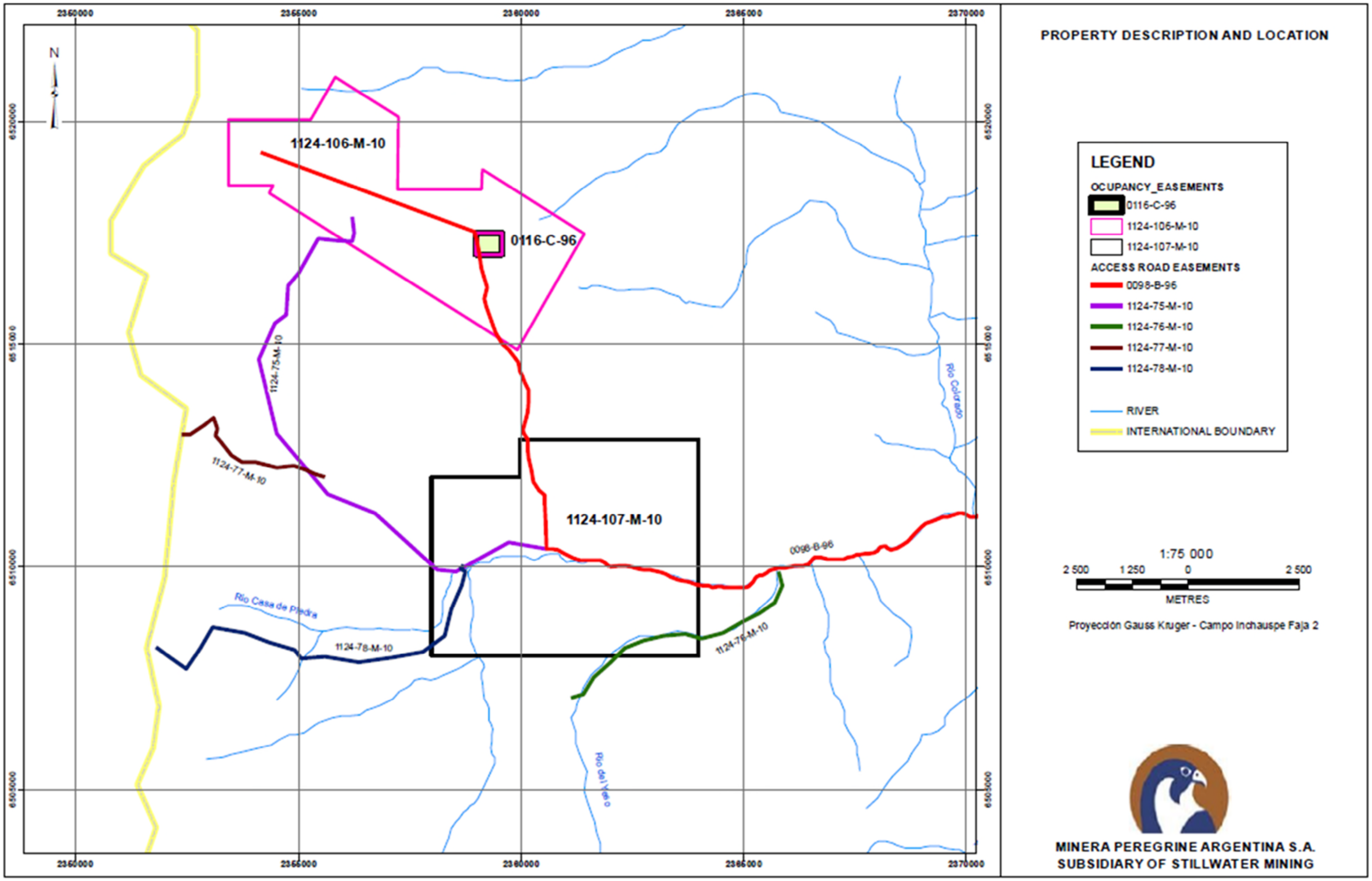

Figure 4-3 – Access Road Easement 98-B-96

4.4 Property Description – Chile

Minera Peregrine Chile S.C.M., (Peregrine Chile) subsidiary of Peregrine Metals Ltd, acquired at the end of 2011 a Rights of Way Easement (ROW) for the access road from the National Road D-801 to the Border of Chile and Argentina.

The Easement was granted by the Society of Parceleros de la Hacienda Illapel (Parceleros Illapel), allowing Peregrine Argentina and Peregrine Chile the use of all roads located on the land owned by the Parceleros Illapel and for the specific ROW for a distance of approximately 50 km which covers the actual exploration road and the proposed access road presented in the Conceptual Study prepared by BGC Engineering.

The negotiations with the representatives of the Parceleros Illapel were conducted on the base that the ROW would be used during the exploration period. Peregrine Chile in exchange for the ROW agreed to an initial payment, annual payments, construction of some infrastructure and re-opening of the old exploration road.

At the end of 2012 a correspondence from the Farming Community indicated their desire to renegotiate the ROW agreement.

The Peregrine Chile lawyers confirmed that the agreement signed previously was valid however it was recommended to maintain the good relation with the Parceleros Illapel and to see how Peregrine Chile could accommodate their request, as Parceleros Illapel could request the termination of the ROW for legal or commercial reasons (e.g. the non-use of the ROW).

During year 2016, Peregrine Chile lawyers held negotiations with Parceleros Illapel resulting in a new right-of-way authorization agreement during November 2016 ("ROW authorization"). The Agreement will remain valid by paying an annual fee of approximately $3,100 US/year at the start of each year.

Peregrine Chile has also covered the area of the ROW available with 2 staked mining concessions and 5 mining concessions in process of being approved, as shown in Figure 4-4. All 7 concessions do have priority rights.

List of 7 Pertenencias:

NACHO 1A, 1 AL 40
NACHO 2A, 1 AL 40
NACHO 3A, 1 AL 40
NACHO 4A, 1 AL 60
NACHO 5A, 1 AL 48
TOTO 1, 1 AL 20
TOTO 2, 1 AL 20

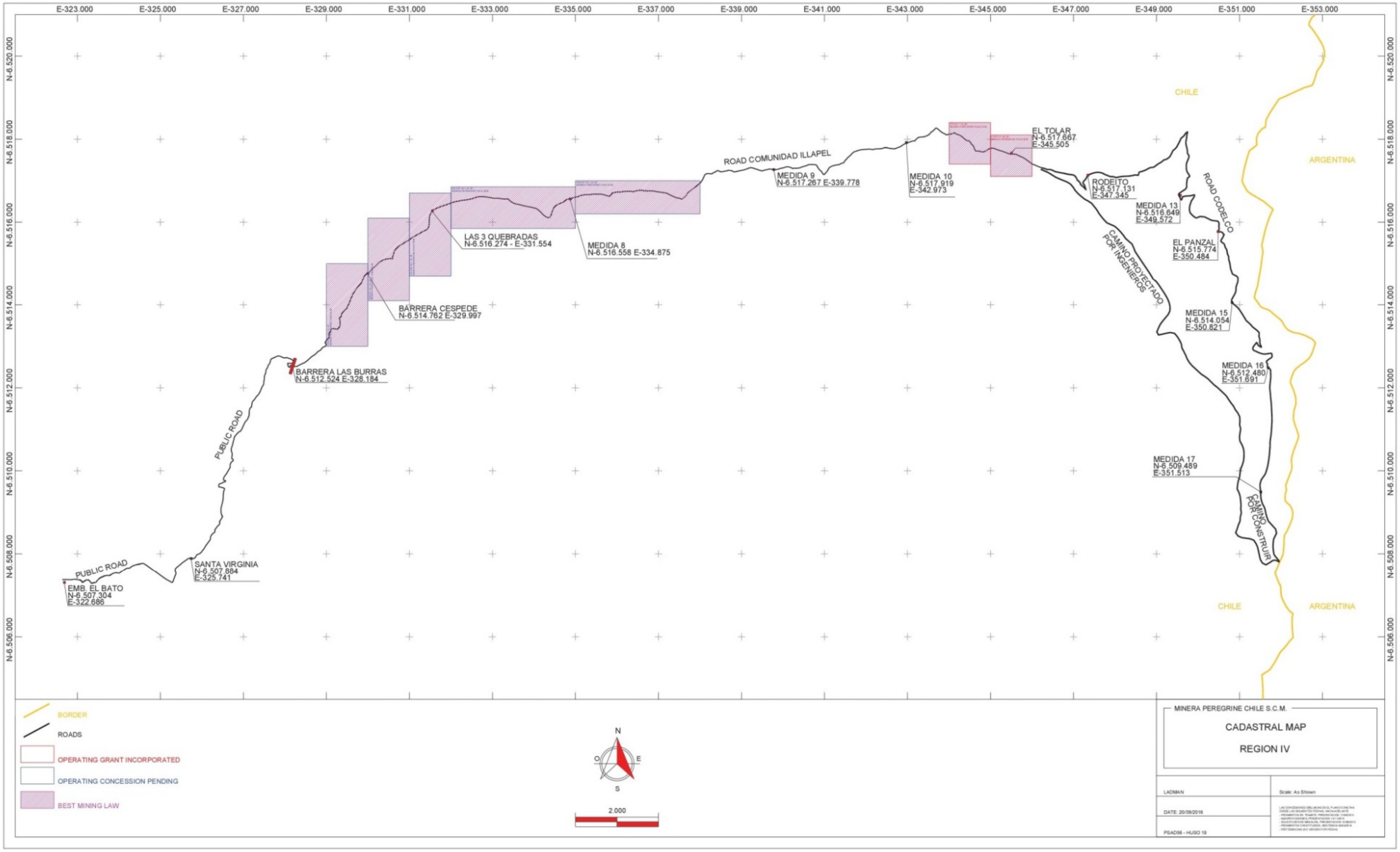

Figure 4-4 Access Road Alignment Chile

4.5 Permits - Argentina

Rio Tinto provided an initial exploration-stage Environmental Impact Assessment (EIA) report on 23 April 2003 and an updated exploration-stage EIA in 2005. The 2005 assessment was completed by Vector Argentina S.A. The report covers all claims and concessions that were held by Rio Tinto in the Altar area, and incorporate the easement claims in process at that time.

Rio Tinto continued to administer the environmental permitting aspects for the project until 2007 year end. As the Altar Option Agreement has been fully exercised as of July 2008, Minera Peregrine Argentina took the responsibility for any future updates.

In May, 2009, Vector Argentina S.A. completed the first phase of the baseline environmental study on the Altar Project that was begun during the field season of 2008. This report was submitted to the environmental authorities of the Province of San Juan in November, 2009.

Further studies of flora, fauna, limnology, archaeology, and water quality were carried out on the Rio Cenicero concessions in 2009.

The baseline environmental study has continued through 2010 to 2016 on both the Altar and Rio Cenicero properties. Comprehensive ongoing environmental work includes water quality, air quality, fauna, flora, geomorphology, glaciology, geological hazard, seismicity, hydrology, hydrogeology, limnology, ichthyology, scenic landscape, traffic, noise and vibration, acid rock drainage, archaeology, and community relations studies. An extensive team of individual environmental consultants have been contracted to carry out this work and provide reports and interpretation of the results.

The Altar Project currently has an approved exploration-stage EIA in place (Approved 26/08/2008). An EIA update has to be presented every 2 years. The first EIA update was filed in March 2010 and was approved in December 2011. The second Altar EIA update was presented to the Authorities in October 2012 and was approved in April 2014. The third Altar EIA update was presented in August 2014 and approved May 2017. The fourth Altar EIA update was submitted August 2016 but not yet approved.

An exploration EIA for Rio Cenicero was filed in October 2011 and was approved in February 2012. The first Rio Cenicero EIA update was presented in October 2013 and was approved by corresponding Authorities in November 2015. The second Rio Cenicero EIA update was presented in October 2015. The third update of the Rio Cenicero EIA was presented in October 2017. At the moment of preparing the documents, authorities were still reviewing the second and third Rio Cenicero EIA update

The water permits for the exploration work (drilling and camp) will be requested on an annually basis before each field season and are associated to a payment of 10 Argentine Pesos/ m3 of water. The last payment and request was made in December 2016 for a drilling campaign of 6,000 m. The same permits were also obtained for the previous campaigns. The last permit was established in February 2018 for a 6000 m campaign.

Minera Peregrine also obtained all specific permits required for the execution of the drilling campaigns and other related work. The last permit was established in February 2018 for a 6000 m campaign.

In order to provide the primary access to the Altar project, Peregrine enters on an annual basis into an agreement with Glencore to share the use and maintenance of the access road leading from the town of Barreal to the El Pachon project.

Peregrine can also use, subject to authorisation granted by Los Azules Project Management, the secondary and emergency access road from the town of Calingasta to the project via Los Azules and others exploration projects in the area.

A Bailey Bridge was installed at La Junta by the Argentine Army January of 2017 to provide access to Altar via the Glencore right of way. An agreement is made at the end of each year with the Army to maintain the bridge. Glencore originally controlled the bridge, but had it removed in 2015. Access via Los Azules is not preferred due to it being a more primitive route and propensity of the access being snowed-in during early April each year

4.6 Mining Integration and Complementary Treaty

The Alter Project is located within the Application Zone of The Mining Integration and Complementary Treaty between Argentina and Chile (The Treaty) the Treaty has been the result of a long historical process of collaboration between the two countries.

In 1991, Argentina and Chile signed an Economical Complementary Agreement (ACE –16) within the Latin American Integration Association structure (ALADI). They also adopted an additional protocol (Protocolo # 3) on the cooperation and integration of mining activities.

In 1997, both countries subscribed an additional protocol (Protocolo # 19) under ACE – 16 to facilitate the execution of the El Pachon Project and in 1998 an additional protocol (Protocolo # 20) was signed to regulate Protocol # 19.

Both countries signed the Treaty in 1997 and a Complementary Protocol was signed in 1999 leading to the publication of the Treaty and the Complementary Protocol in the official gazettes of Argentina and Chile in 2001, the Treaty and Complementary Protocol had been previously approved by the National Congresses of Chile and Argentina.

4.6.1 Treaty Aspects

The Treaty and the Complementary Protocol covers the following aspects, which have been summarized below:

- Scope and battery limits of the Treaty
- Definitions of the terms used in the Treaty
- Corridor along the borderline covered by the Treaty

- Definition of the principle that investors will be subject at least, in the respective countries, to the conditions prevailing in the country where the activity takes place
- Need to establish Additional Specific Protocol for specific projects
- Border Facilitation
- Taxes and Customs issues
- Definition of the application of the Promotion Programs that might be offered in Argentina and Chile
- Social Security for the employees involved in trans-border projects and operations
- Labor aspects
- Investment and operating costs required for the application of the Treaty
- Environmental aspects
- Health of workers involved in trans-border projects and operations
- Shared water resources
- Respect of the Territory Limits and Borders Monuments
- Provisions for termination or suspension of mining activities
- General exceptions that stipulate that the Article 50 of the 1980 Montevideo Treaty and the General Agreement on Import Duties and Commerce of 1994 will always prevail
- Management and evaluation of the Treaty
- Solution of divergence between the Parties
- Solution of divergence between an investor and the other country
- Incorporation of existing Protocols
- Effective date and indefinite duration
- After thirty years of application of the Treaty, both countries will have the faculty of requesting, by diplomatic procedures, the termination of the Treaty. Termination will only apply three years after such notification
- The Complementary Protocol to the Treaty clarifies the following aspects of the Treaty:
    - Mining rights acquisition in the other country.
    - Definition of the solution to solve divergence between one investor and the other country.
    - Possibility of using resources that are not shared from one country to the other one.
    - Clarification of the trans-border rights of way.
    - Application of the Treaty at the national, provincial and regional organizations.

The Treaty brings the general rules and specific Protocols which were established by the authorities of the two countries, with regard to each mining project that is eligible, in order to establish the special rules and regulations that will be applicable to such eligible projects.

Pascua-Lama has obtained a specific Protocol to govern the project and it appears that the Pachon Project will consider using the Treaty to support the activities taking place in the two countries.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

This Section was originally presented in a previous Technical Report "Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", by Independent Mining Consultants, Inc., 31 January 2014. That text was based upon information provided in the "Technical Report, Altar Project, San Juan Province, Argentina" by Ronald Simpson P.Geo, John Nilsson P.Eng., W.Joseph Schlitt, P.Eng amended March 21, 2011.

5.1 Accessibility

The Altar Project is currently accessed via two routes in Argentina. The primary access route is shared with the El Pachon project and leads southwestward from the town of Barreal before swinging northwards toward El Pachon and continuing an additional 25 km to the Altar Camp. It is a gravel road approximately 170 km in length that is suitable for exploration support.

Secondary access is provided by 180 km of exploration gravel road leading westward from the town of Calingasta along the Rio Calingasta. The route crosses the Cordillera de La Totora at the headwaters of the Rio Calingasta, turns southward along the upper tributaries of the Rio Blanco and then westward again along the Rio Pantanosa to the Property.

Both routes take about six hours by 4x4 pick-ups and involve crossing several rivers and high mountain passes. Figure 4-1 in the previous section illustrates the current routes to the Altar property. Access to the site from Illapel, Chile would require the upgrading of 64 km of existing unpaved public road and the construction of 23.5 km of new road.

5.2 Climate

The climate is continental semi-arid, characteristic of elevations above 2,500 masl in the Central Andes. Temperatures are low during the entire year ranging from -3°C to 15ºC in summer and from -25°C to 7°C in winter. Precipitation ranges from 600 mm/year to 1,000 mm/year with frequent storms bringing rain and snowfall, along with strong winds, mainly in the winter (May through August). In contrast, the summers are generally dry. Net evaporation rates are high, and exceed annual rainfall by a significant margin.

The Pacific Ocean has a strong effect on the climate of the region. Low pressure centers forming in the eastern Andes cause the movement of air masses from the Pacific eastward through the mountain passes. Storm fronts coming from the west may bring snowfall as early as mid-March. Snowstorms in the region can last for several days.

The exploration field season is normally restricted to the six-month period from November through April. Because of lighter winter snowfalls in more recent years it has been possible to mobilize in October and work in the field well into May. The plan is for year round mining operations.

In 2008, Peregrine installed a remote solar-powered weather station at the camp site. Prior to that time, there was no site-specific weather data collected. The National Meteorological Service has in the past recorded data in the Rio de Los Patos valley, and some weather data has been recorded at the El Pachon exploration camp in the Rio Pachon valley, 25 km due southwest of the Project.

In May 2011, Peregrine commissioned two new Campbell solar-powered weather stations, one at the Altar Camp and one along the high ridge to the north of the Altar deposit. The data from these weather stations have been collected since they have been put in service.

5.3 Local Resources

The nearest centers of population to the Project are Barreal and Calingasta, both located on the Provincial highway connecting Uspallata and San Juan. These towns offer basic supplies and simple accommodation. Barreal is 170 km and Calingasta is 180 km by road to the Project.

The closest major population center to the Project is the city of San Juan (population about 450,000) in San Juan Province, some 180 km to the east. The city is a major center providing full hospital services and educational facilities to university level. The Universidad Nacional de San Juan has a century old mining engineering and geology facility, as well as diverse science and humanities programs and a medical school.

5.4 Infrastructure

5.4.1 Regional Infrastructure

The closest international airports in Argentina are in the cities of San Juan and Mendoza, located 180 km due east, and 220 km southeast of the Project respectively. In Chile, the closest international airport is in Santiago, about 250 km to the southwest.

There is no rail or air access to the Project. The closest ports are on the Chilean coast, at Los Vilos (120 km due west) and Coquimbo (170 km to the northwest). Los Vilos is the deep water port currently used by the Los Pelambres mine located 25 km south of the Altar Project, which pumps concentrate via a slurry pipeline from the mine to the coast. On the Argentinean coast, the closest port is at Bahia Blanca, about 700 km south–southeast of the project.

The Project falls within the Treaty area designated by the Chilean and Argentinean governments (Section 4.6) for facilitation of cross-border mining activities. Peregrine has investigated but not pursued the potential for a border crossing if a road to Chile is required. Altar is an advanced exploration project and is not at the stage where final access requirements have been established.

There is no existing power infrastructure at the site.

5.4.2 Local Infrastructure

The site is very remote, and has no local infrastructure apart from the gravel roads constructed into the Project, which provide access to drill sites and ridge tops. There are no settlements closer than Barreal and Calingasta.

There is sufficient area within the Altar Project boundaries for future construction of a plant, related infrastructure, tailings disposal and waste disposal.

5.5 Physiography

The Altar and Rio Cenicero areas are located in the western fringe of Argentina occupied by the Cordillera de Los Andes. The Cordillera in this area is characterized by the presence of two major mountain ranges respectively named from East to West as Cordillera Frontal and Main Cordillera. The exploration area is included within the Main Cordillera where the border with Chile is also located.

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The relief in the project area is characterized by long mountain ranges generally oriented North to South, which are cut by narrow valleys that generally drain the water from West to East. In this area, dominated by glacial and periglacial landforms the glaciers movement have shaped the important flat areas at the bottom of the valleys.

The University of San Juan compiled the seismic information available in Argentina and Chile. The report estimates that the area of the project is exposed to important seismic events of magnitude between 7.0 to 7.5 Mw.

The subsidence of the Nazca plate originating in the Pacific Ocean is considered the main potential source of seismic activities, although some active cortical regional structures at the West and East of the Main Cordillera can also induce seismic events of an estimated maximum magnitude of 7.0 Mw.

Flora and Fauna

The project area is characterized by a High-Andean ecosystem dominated by subshrubs of the genus Adesmia and the presence of poposas, llaretas and plants generally associated with steppes and wetlands. The area is also characterized by the long time tradition for the Chilean herdsmen and their livestock to cross the border and graze their animals in Argentine territory during the summer time. The border crossing is informal and almost impossible for the Authorities to control.

The three campaigns conducted in the field have identified important vegetation diversity between the different patches of vegetation located in the steppe areas. Effects on the vegetation in particular to the isolated vegetation patches and also to the wetlands due to animal grazing have been observed on the lower part of the Project area. It is also interesting to note that by diverting or blocking some creeks the herdsmen have been able to create or extend some wetland areas to feed their animals. The Project Area is considered rich in animal biodiversity in particular in the wetland sectors.

6.0 HISTORY

The Altar deposit was discovered in the mid-1990s by CRA. CRA completed access road construction, surface sampling (rock chip, talus fines and stream sediment), and geological mapping in the period 1995 to 1996. Geophysical data from a helicopter borne aeromagnetic and radiometric survey over the property was acquired and interpreted.

In 1999, Rio Tinto completed geological mapping of the greater Altar area including Quebrada de la Mina (QDM), and did alteration studies, a ground magnetic survey, and completed seven diamond drill holes totaling 2,841 m.

Peregrine Metals optioned the property in 2005, and carried out a 23.4 line-km induced polarization (IP) survey followed by eight DDH totalling 3,302 m during the 2005-2006 summer field season. In the first quarter of 2007, Peregrine carried out a second drilling campaign comprising 25 drill holes (10,408 m).

Peregrine carried out a third drilling campaign in the first quarter of 2008 comprising 24 core holes and deepening of one pre-existing hole (12,741 m). Peregrine continued drilling during 2010 adding about 25,000 m of core.

In October 2011, Stillwater Mining Company (SMC) completed the acquisition of all outstanding shares of Peregrine Metals Inc. Since the acquisition, Peregrine Metals has been maintained as a subsidiary as have Peregrine's operating companies Minera Peregrine Argentina S.A. and Minera Peregrine Chile S.C.M. SMC has been actively engaged in the 2012 through 2017 Altar project activities subject to this Technical Report update as well as related Altar project developments since the time of the acquisition.

In May 2017, Sibanye Gold of South Africa acquired all shares of Stillwater Mining Company, the owner of the Altar Project. However, the structure of the Altar Project subsidiaries (Peregrine Argentina S.A. and Peregrine Chile SCM) remain unchanged.

In August 2017, Sibanye changed its name from Sibanye Gold to Sibanye-Stillwater. The company names and structure for Peregrine remained unchanged.

Following the Sibanye-Stillwater acquisition, exploration has continued at Altar and a modest drilling program is planned for the 2018 field season.

A discussion of the Stillwater exploration progress is summarized in Section 9.0

7.0 GEOLOGIC SETTING AND MINERALIZATION

The following text reports information published in the previous Technical Report "Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", by Independent Mining Consultants, Inc. 31 January 2014. Roger Rey of Peregrine-Stillwater mining has authored this section which has been reviewed by John Marek who has acted as the qualified person for this section.

7.1 Geology

7.1.1 Regional Geology

The Andean Cordillera extends for about 5,000 km along the western coast of South America, attaining a maximum width of about 700 km in the Central Andes of Bolivia. Tectonism in the Cordillera varies both along strike and across the range; along-strike variations reflect changing plate geometry along the Pacific margin, whereas across-strike variations generally assigned to four sub-domains reflect the generally eastward migration of Andean arc magmatism and deformation through time. In general terms, there are three units within each sub-domain, from west to east: a fore-arc zone, a magmatic arc, and a back-arc region.

In the southern flat-slab sub-domain of the Central Andes (from 28°S to 33°30'S), the fore-arc zone is a steady rise to the crest of the Andes, which is formed by an inactive magmatic arc and thrust belt (Frontal Cordillera and Cordillera Principal). The Triassic magmatic (rift) arc has a general northwest–southeast trend. The foreland consists of an active, thin-skinned fold-thrust belt (Pre-cordillera) and zone of basement uplifts (Sierras Pampeanas, with altitudes ranging from 2,000 to 6,000 m). The Altar Project is located in the Cordillera Principal.

Basement rocks in the Altar region have been assigned to the Choiyoi Group, of Permo-Triassic age; the Choiyoi Group covers about 500,000 km^2 in Argentina. It comprises an upper and lower volcanic sequence, intruded by shallow-level plutons, stocks, and dyke-like bodies. The lower volcanic sequence comprises calc-alkaline andesite-dacites that represent the products of a subduction-related magmatic arc, which is overlain by an upper sequence of peraluminous rhyolites, related to a period of post-orogenic extensional collapse. Composition of the volcanics trends from mafic to acidic through time. Both sequences are propylitically-altered and contain fracture-controlled epidote, chlorite, albite, and calcite veining. The volcanic sequence was intruded by peraluminous A-type and S-type granites that are considered coeval with the rhyolitic volcanics and likewise typically exhibit low-grade propylitic alteration.

Generally, Jurassic marine sediments that consist of red-bed sandstones and claystones infill the Triassic rift, and unconformably overlie the Choiyoi Group; however Jurassic sediments are not known in the immediate surroundings of the Altar Project. Within the Project area, rhyolitic ignimbrites and andesitic volcanics of the Pachon Formation overlie the Choiyoi basement sequence with age dates of 20 to 22 Ma (Miocene).

The wider area of what comprises the Altar and Río Cenicero concessions is flanked by two significant regional north-south striking faults, referred to as the Pelambres Fault to the west, and the Río Teatinos Fault to the east of the concession area. The Pelambres fault limits the rocks of the Pachón formation against the paleogene Pelambres formation to the west. The Río Teatinos fault juxtaposes the Pachón formation against paleozoic to lower mesozoic metasedimentary and intrusive basement rocks to the east.

7.2 Property Geology

The Altar porphyry Cu-(Au) deposit is associated with Middle-Late Miocene intermediate composition subvolcanic porphyries that intrude Early Miocene rhyolitic ignimbrites and fine-grained andesite flows of the Pachon Formation. Elevated gold, silver and molybdenum values are associated with the copper mineralization.

The QDM deposit is located approximately 2 km to the northwest of the Altar porphyry system. QDM is hosted by the same andesite volcanic sequence that forms the country rock sequence at Altar. The QDM deposit is primarily gold and silver mineralization that is hosted in the Pachon Andesite and the Dacite Porphyry.

7.2.1 Early Miocene Pachon Formation – Andesites, Andesite Breccia and Rhyolites

Uncomfortably overlying the Choiyoi basement sequence is an assemblage of andesites and rhyolites of Early Miocene age, (20 to 22 Ma) which is interpreted to be part of the Pachon Formation. This formation was previously believed to be Cretaceous in age. Recent regional mapping and age dating studies have established an Early Miocene age for the Pachon Formation volcanics and time-stratigraphic equivalents in Chile, which form the country rocks to the subvolcanic porphyries responsible for the porphyry copper mineralization at Altar, El Pachon and Los Pelambres.

At Altar, the Pachon Formation comprises a volcanic-volcaniclastic sequence made up of intercalated aphanitic basaltic andesite and porphyritic andesite-dacite lava flows, andesitic-dacitic lapilli tuff and pyroclastic breccia grading upwards into an upper unit of compacted and thick rhyolitic tuffs. The most extensive outcrops of andesitic units occur on the ridges fringing the western side of the Altar mineralizing system. Outcrops of the rhyolitic unit are more widespread and rhyolites constitute the most abundant country rocks to the intrusive porphyries related to the alteration and mineralization. The contacts between andesitic and rhyolitic units of the Pachon Formation are concordant and mostly transitional. The unconformity that separates the Pachon Formation from the underlying Choiyoi basement sequence is not exposed on the Altar Project and has not been intersected in drilling.

<u>Pachon Andesite and Pachon Andesite Breccia</u>

The basaltic andesite is very dark in color with fine grained phenocrysts of plagioclase, ferromagnesian silicates and magnetite in an aphanitic groundmass dominantly comprised of plagioclase and ferromagnesian minerals.

The porphyritic andesite-dacite flows have phenocrysts of plagioclase, ferromagnesian silicates and opaque minerals in a pilotaxitic groundmass of fine-grained plagioclase and disseminated opaque minerals. The pyroclastic units are green lapilli tuffs and clast- to matrix-supported polymictic breccias. The clasts are angular and comprised of aphanitic to porphyritic andesite and fragments of crystals set in a devitrified matrix.

Pachon Rhyolite

The rhyolitic unit of the Pachon Formation is dominated by compact tuffs most of which can be grouped into two lithofacies: massive and eutaxitic tuffs. Massive tuff crops out abundantly at Altar Central. It has tabular fragments of plagioclase and rounded fragments of quartz in a silicified microgranular matrix. Pyroclastic features such as glass shards, fiamme and pumice fragments are obliterated by hydrothermal alteration in the vicinity of the Altar deposit.

Eutaxitic tuff crops out in the ridges that surround the deposit and it comprises an ignimbrite with crystals and crystal fragments, fiamme and glass shards, and lithic fragments in a partially devitrified matrix. Crystals are generally euhedral and consist of plagioclase, quartz, biotite and opaque minerals. Lithic fragments are rounded and andesitic in composition with plagioclase phenocrysts in a pilotaxitic groundmass.

On the ridges to the north of the deposit there are small outcrops of rheomorphic and parallel-laminated tuffs. These are highly welded tuffs characterized by flow foliations and containing crystals and crystal fragments of plagioclase, ferromagnesian silicates and quartz, and fiamme in a partially devitrified groundmass.

Samples of Pachon Formation rhyolitic tuff from Altar have returned U-Pb dates of 21.2 Ma, 21.9 Ma, and 20.0 Ma.

7.2.2 Middle-Late Miocene Subvolcanic Porphyry Suite

A suite of subvolcanic porphyritic stocks and dykes, and associated magmatic and hydrothermal breccias intruded the Pachon Formation volcanic complex during the Middle-Late Miocene (12 to 10 Ma). The subvolcanic stocks that produced the porphyry Cu-(Au) mineralization at Altar crop out in the central and eastern portions of the Altar cirque and the alteration and mineralization surrounding these porphyry outcrops was given the field names Altar Central and Altar East (or Central Zone and East Zone respectively) during the earliest stages of exploration drilling. Based on interpretation of recent in-fill drilling, along with petrographic analyses and geophysical IP- and CSAMT data, it is believed that a single composite stock underlies the Central and East Zones and is the source of the alteration and mineralization at Altar.

The modal composition of less altered samples of the subvolcanic porphyries ranges from dacite to andesite, comprising phenocrysts of plagioclase, amphibole, biotite and quartz, along with accessory rutile, ilmenite, magnetite and apatite, in an aphanitic groundmass.

Quartz Diorite Porphyry

Porphyry stocks cropping out at Altar Central and Altar East show well developed quartz vein stockworks along with intense sericitic alteration and associated strong mineralization. These have been given the field name Early Quartz Diorite Porphyry. Though the areas where these porphyries crop out are widely separated they are petrographically indistinguishable and are believed to be derived from a single stock at depth.

A sample of hydrothermal sericite from mineralized porphyry from the Central Zone gave an Ar-Ar date of 10.38 Ma, which is close to a K-Ar date of 9.8 Ma obtained from hydrothermal biotite at Los Pelambres. More recently obtained ages for the Early Quartz Diorite Porphyry from the Central and East Zones include two U-Pb dates of 9.9 Ma and 10.35 Ma from Early Quartz Diorite Porphyry from Altar Central and a U-Pb date of 10.68 Ma from the Early Quartz Diorite Porphyry stock from Altar East (Maydagan et al. in press). A Re-Os date of 10.18 Ma was obtained from molybdenite from Altar Central.

A second phase of Quartz Diorite Porphyry exposed in the northern part of the Central Zone and at depth at Altar East has been given the field name Inter-mineral Quartz Diorite Porphyry. It contains less abundant quartz vein stockworks, is moderately mineralized, and is less intensely altered in comparison to the slightly older Early Quartz Diorite Porphyry. The two porphyry phases are often difficult to distinguish and clear cross-cutting relationships are scarcely seen in outcrop or drill core. Inter-mineral Quartz Diorite Porphyry was found to host medium to coarse grained, Carlsbad-twinned feldspar phenocrysts. The complex twinned phenocrysts appear to be diagnostic, as they are always present within Inter-mineral Quartz Diorite Porphyry, but less common within Early Quartz Diorite Porphyry. When this distinction is unclear the general field name Quartz Diorite Porphyry has been applied.

The andesitic-dacitic subvolcanic porphyry stocks with strong hydrothermal alteration in the Central and East Zones are cut by quartz-tourmaline veins that locally form monomictic hydrothermal breccias, which are matrix-supported with clasts of subvolcanic porphyry within a quartz-tourmaline matrix.

As no sharp lithological contacts and grade boundaries between the different Quartz Diorite Porphyry stocks could be determined, the different quartz diorite porphyry stocks were summarized in the 3D lithologic model under Quartz Diorite Porphyry.

Plagioclase Hornblende Porphyry

On the eastern most ridges of the Altar cirque, a distinctly different subvolcanic porphyry stock is outcropping over a large area. It is characterized by conspicuous plagioclase and hornblende phenocrysts and has been giving the field name Plagioclase Hornblende Porphyry. It hosts silica ledges related to a high-sulfidation epithermal Au-Ag system and is affected by propyllitic and advanced argillic alteration. This porphyry has a heterogeneous texture with plagioclase phenocrysts of variable size along with amphibole phenocrysts in a green submicroscopic groundmass. It can be distinguished from the other subvolcanic porphyries by the variable size of its plagioclase phenocrysts and its finer-grained groundmass that also contains a higher proportion of plagioclase. A U-Pb date of 11.75 Ma has been obtained for this porphyry.

Altar North Porphyry

During the 2011 field season, float of a new porphyry stock was discovered about 1,200 meters north of the Altar Central porphyries. The distinct subvolcanic intrusion has been given the field name Porphyry Altar North. The lithology is characterized by an equi-granular crowded texture with over all smaller plagioclase and amphibole crystals than found in the Quartz Diorite Porphyry stocks. Chemistry of the Altar North Porphyry seems to be similar to the Quartz Diorite Porphyry stocks. This porphyry was first drill-tested during the 2012 drilling campaign.

QDM

The Quebrada de la Mina ("QDM") Au-Cu prospect is located on the Altar property approximately 2 kilometers to the west of the Altar Central porphyry Cu system. QDM is underlain by the same andesitic volcanic sequence that forms the country rock sequence at Altar. The volcanics are intruded by a circular and funnel shaped Dacite Porphyry stock, approximately 700m in diameter.

The Dacite Porphyry belongs to the Middle-Late Miocene Subvolcanic Porphyry Suite and is characterized by is matrix-supported porphyric texture with placioglase, biotite-books, minor amphibols and the characteristic and abundant quartz phenocrysts. Texture and chemistry of the Dacite Porphyry clearly differs from all the other intrusions described at Altar Central, Altar East and Altar North

7.2.3 Colluvium and Alluvium

The Altar area was subjected to regional alpine glaciations which resulted in several moraines and significant glacial sediments that cover most low-lying areas. There is little outcrop within the altered and mineralized area due to scree and talus cover on steep slopes and glacial sediments in the valley bottoms (Figure 7-1). Glacial sediments in the Arroyo Altar area can reach up to 30 m in thickness, as demonstrated from core drilling in ALD 05.

Figure 7-1 - Surface Exposure, Altar Project, Looking East

7.3 Alteration

All of the lithological units described in Section 7.2 have undergone varying degrees of hydrothermal alteration. The strongest alteration is found within Early Quartz Diorite Porphyry which underwent early potassic alteration (K-feldspar–secondary biotite–quartz) overprinted by intense pervasive sericitic alteration (quartz–sericite–pyrite–tourmaline).

Using the vein terminology for porphyry deposits of Gustafson and Hunt (1975) at least three generations of A-veins and locally B-veins, related to potassic alteration are seen in drill core. These veins constitute typically between 10 and 30 volume% of the rock mass, but can locally reach > 50 volume%.

The Inter-mineral Quartz Diorite Porphyry locally underwent potassic alteration within the core of the altered area, and is also found to have undergone weak to moderate propyllitic alteration (chlorite–specularite–quartz–hematite) peripheral to the center of the system.

A-type quartz veining and K-feldspar replacement within Inter-mineral Quartz Diorite Porphyry is weak to moderate, with quartz veins generally constituting less than 20 percent of the resulting rock mass. Potassic alteration of the Quartz Diorite Porphyry phases is only preserved at depth in several of the deeper drill holes, and except in the deepest intersections has at least a weak sericitic alteration overprint.

The Plagioclase Hornblende Porphyry underwent weak to moderate propyllitic alteration where outcropping and moderate to strong silic and potassic alteration at depth with a weak phyllic overprint. Phyllic alteration is not as pervasive as found in the Quartz Diorite Porphyries, and is typically related with late sulfide-rich veins.

Pachon Rhyolite and Pachon Andesite also underwent potassic alteration where these units occur in proximity to Quartz Diorite Porphyry intrusions, but in all cases the resulting A-vein density was substantially less than that found in the nearby intrusions. This potassic alteration has been strongly overprinted by sericitic alteration in the shallower parts of the deposit. Drill holes of depths >500m drilled at Altar Central intercepted Pachon Rhyolite and Pachon Andesite affected by moderate to strong potassic alteration with its characteristic brown alteration color due to is abundant fine-grained hydrothermal biotite in the matrix.

The sericitic alteration passes outwards into little-altered rhyolitic or chloritized andesitic volcanics, both of which were subjected to varied degrees of supergene kaolinization as a result of acid attack during pyrite oxidation. The outer limit of jarositic limonite after pyrite was mapped and defines the Altar hydrothermal system to be at least 3.5 km by 3 km in outcropping surface area.

Although specular hematite is ubiquitous as a late, fracture-controlled mineral in the Altar system, it is particularly abundant in the peripheral chloritized rocks and appears to constitute a halo to the sericitic core. Epidote is apparently absent from the peripheral alteration zone, except in the northern aphanitic andesites.

Intense pervasive silicic alteration is observed in drill holes at Altar East. This silicification does not appear to be related to D-vein density, and is likely associated at shallow depths with the advanced argillic alteration that affected the lithocap. Strong silicification found at Altar East at depth is associated with intense quartz veining and porphyry-style copper and gold mineralization (area of drill hole ALD 148). Pervasive sericitic alteration as found at Altar Central is not present in this part of the deposit.

Stockworks

Stockwork quartz veining was initially identified in surface mapping. It comprises grey to pinkish-grey, translucent A-type quartz veins as well as a lesser number of more laterally extensive B-type quartz veinlets characterized by central sutures. The A-type veinlets attain 3 cm in width. The stockwork zones are cut by generally minor D-type veinlets with prominent sericitic haloes; the most extensive observed examples from surface exposures in the western stockwork zone strike north–northeasterly, parallel to the zone itself.

Silica Ledges

The 3 km long arcuate ridge along the eastern side of the Altar cirque is characterized by the basal part of an advanced argillic lithocap. The lithocap remnant is defined by numerous structurally-controlled silica ledges separated by chloritized Plagioclase Hornblende Porphyry. In 2008 approximately 50 principal ledges were mapped to define a broadly radial pattern centered on the eastern stockwork zone. Mapping by Peregrine in 2009 defined over

200 ledges. Ledges are confined to the ridge top, at elevations above 3,600 m and do not continue far down the talus-covered slopes.

Most ledges are steep and contain main zones, ranging in width from 10 cm to 2 m, of quartz–alunite alteration flanked outwards by quartz–kaolinite. Locally, pyrophyllite is observed as a transitional zone. A few ledges contain pods of vuggy residual quartz along their center(s) lines in which enargite and, less commonly, barite and native sulphur occur. Stringers of massive enargite are also present in places in quartz-rich quartz–alunite ledges lacking vuggy quartz. The hypogene quartz–kaolinite haloes to the ledges are transitional outwards to supergene kaolinization developed at the expense of chlorite–smectite alteration. The most extensive ledge, 500 m long, terminates in a small hydrothermal breccia pipe displaying intense quartz–alunite alteration.

7.4 Structure

Outcrop mapping in the northern part of the Altar cirque has identified an inferred north-northeast-striking fault projected to cut through the center(s) of the mineralized system between Altar Central and Altar East. Grey fault gouge exposed in a road cut at Gauss Kruger coordinates 2,359,750E/6,516,830N provides further evidence for the continuity and importance of this fault zone. This may also be reflected by zones of intense fracturing intersected in drill holes ALD 01, ALD-03, ALD 08 and ALD 09. The CSAMT geophysical survey done in 2011 possibly indicates a structure between Altar Central and Altar East. Geostatistical studies done for the resource calculation support the assumption of the north-northeast-striking fault.

The silica ledges which define the basal part of the advanced argillic lithocap are much more numerous on the ridge crests on the east side of the inferred fault than on the west side, where only a few silica ledges occur at the highest elevations. This suggests west side up displacement across the fault system. Deeper levels of the stratigraphic succession are exposed on the west side of the fault, again implying west-side up displacement.

7.5 Lithology Codes

The geological model was updated in 2013 based upon the drilling to the end of the 2013 field season. The current interpretation of the lithology distribution is illustrated in the plan view in Figure 7-2 and cross section in Figure 7-3. Primary lithologic codes are shown in Table 7-1 (Tdap and Tpan described under Section 9).

Table 7-1 Lithology Codes

Code	**Symbol**	**Lithology**
1	Ovbn	Overburden
2	Tpr	Tertiary Pachon Rhyolite
3	Tpa	Tertiary Pachon Andesite
4	Tdp	Tertiary Diorite Porphyry
5	Tpvb	Tertiary Pachon Volcanic Breccia
6	Tphp	Tertiary Plagioclase Hornblende Porphyry
7	Tdap	Tertiary Dacite Porphyry (QDM)
8	Tpan	Tertiary Porphyry Altar North
9	Tinbx	Tertiary Intrusive Breccia

The few drill holes completed since the 2013 drill program were checked by IMC during 2018 to confirm that the interpreted geology described above would not be altered within the resource volume by the recent drilling.

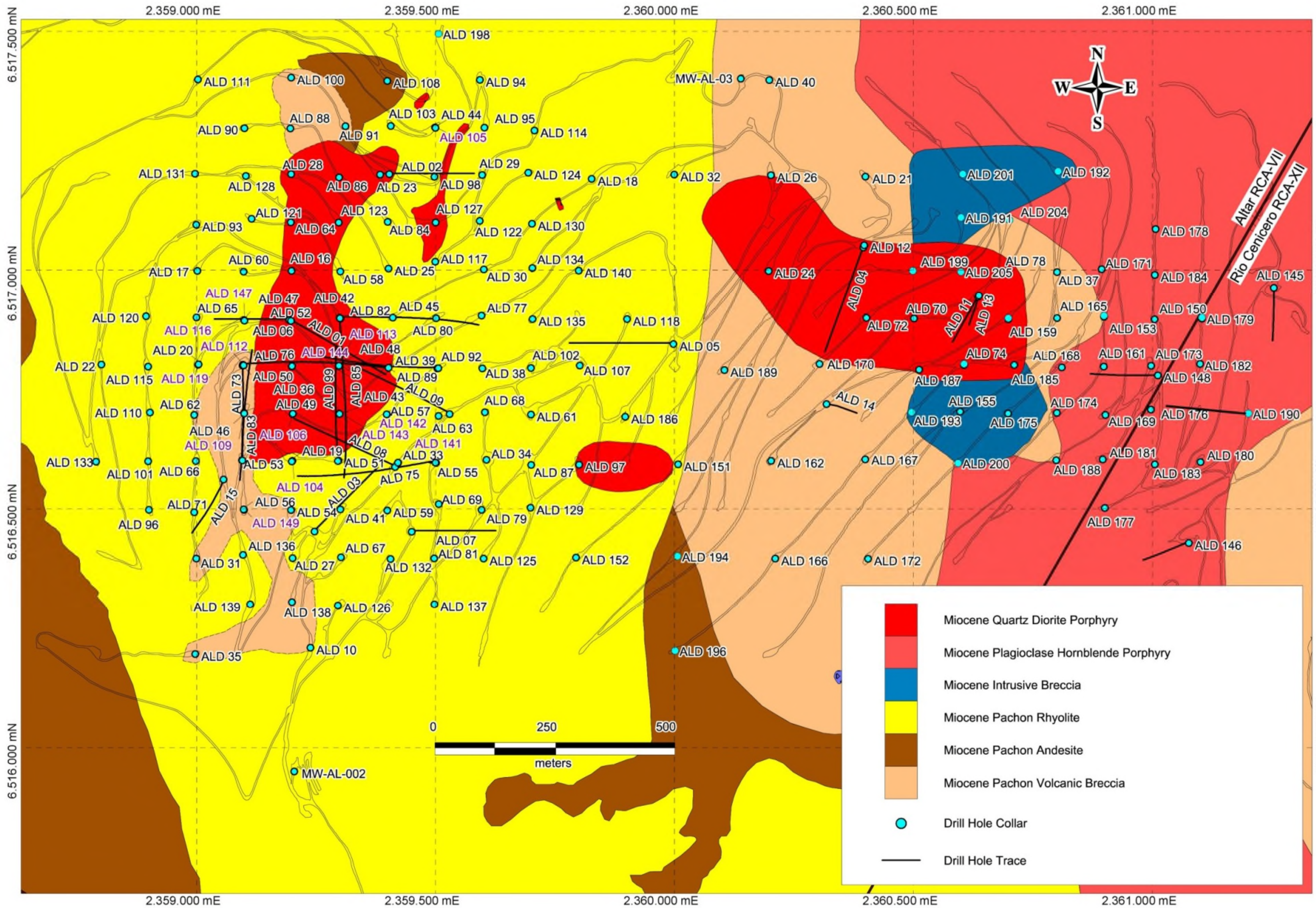


Figure 7-2 - Lithology Plan
Source: Peregrine Metals Ltd.

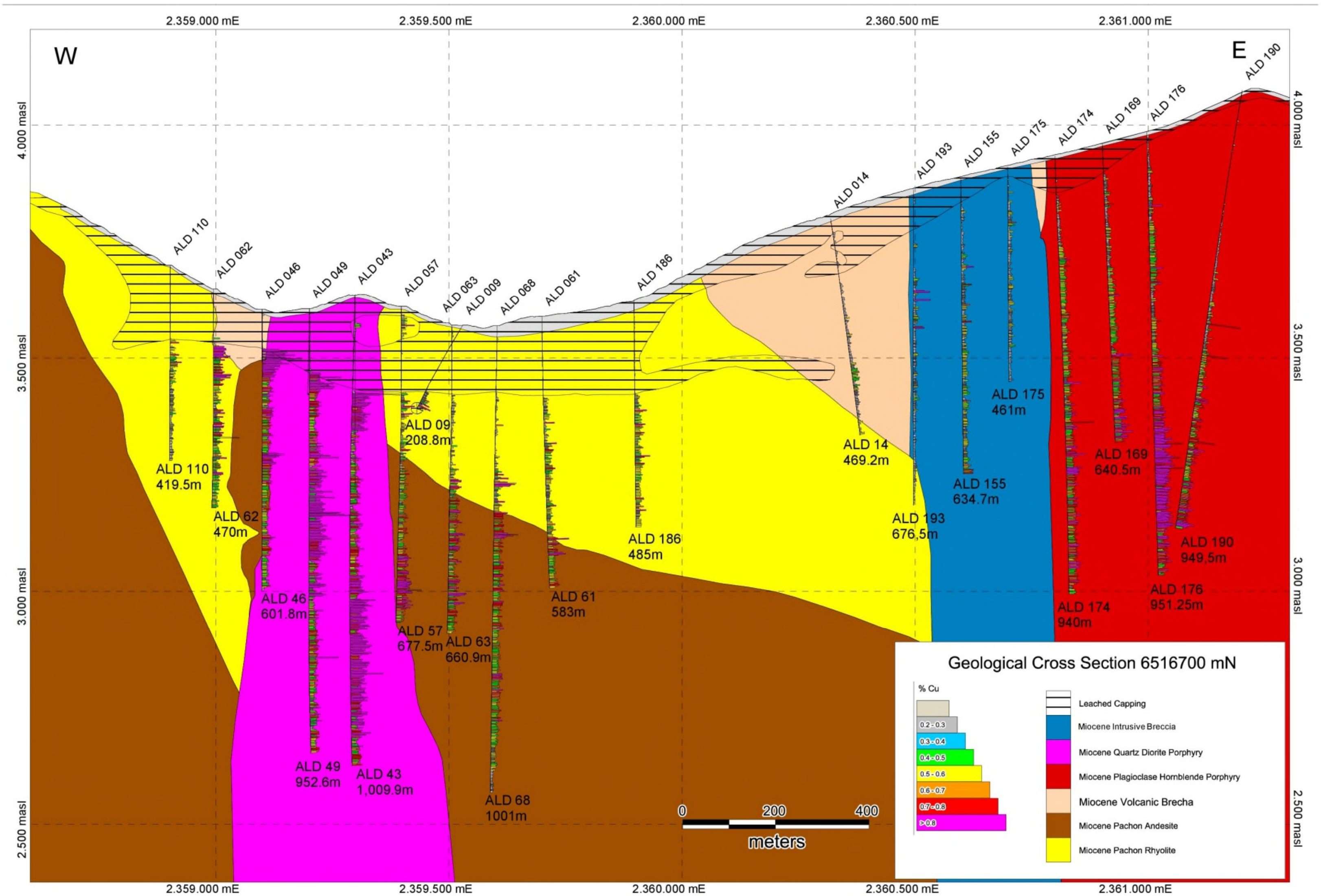


Figure 7-3 - Geological Section 6,516,700 mN, Looking North
Source: Peregrine Metals Ltd.

7.6 Mineralization

7.6.1 General

Surface geological and alteration mapping, IP geophysical surveys and drilling have identified porphyry-and high-sulfidation-related alteration and sulfide mineralization at Altar, extending over an area of 2.9 km by 1.7 km within a 3.5 km by 3 km zone of hydrothermal alteration.

Mineralization at the Altar deposits is closely associated with the different porphyry stocks and related hyrothermal breccias, but is also found in Pachon Rhyolite, Pachon Andesite and Pachon Volcanic Breccia. The well-developed copper mineralization shows a strong relationship to the distribution and intensity of sericitic and potassic alteration.

Peregrine geologists have interpreted the mineralization paragenesis as follows.

- Stage 1: Potassic alteration, accompanied by deposition of pyrite-chalcopyrite-bornite and pyrite-molybdenite mineralization.
- Stage 2: Sericitic alteration overprint, accompanied by reconstitution of the Stage 1 mineralization as assemblages of pyrite, chalcocite, and bornite.
- Stage 3: Deposition of pyrite–enargite vein systems.
- Stage 4: Supergene digenite and covellite overprinting hypogene pyrite, chalcopyrite, and bornite and chalcocite mineralization.

Acidic high sulfidation conditions prevalent in an advanced argillic lithocap were superimposed on an underlying potassic alteration zone as a result of telescoping. Hypogene sulphides generally exhibit a consistent vertical zonation pattern: pyrite–enargite at the higher levels; pyrite–chalcocite–bornite assemblages at intermediate levels; and pyrite–chalcopyrite–bornite and pyrite–molybdenite assemblages at deeper levels. Recent petrographic work has also identified tennantite-tetrahedrite from intermediate level samples. Supergene covellite and digenite occur as an overprint on hypogene sulphides within sericitic alteration, descending from the base of oxidation beneath the leached capping at high levels to intermediate depths.

The copper mineralization associated with the potassic alteration, mainly porphyry style chalcopyrite–bornite mineralization, was reconstituted as hypogene assemblages of pyrite, chalcocite and bornite within the sericitic alteration zone. Magnetite originally present in the potassic alteration zone was pyritized during the high sulfidation overprint. Sulfide minerals found within sericitic alteration include hypogene pyrite, chalcopyrite, chalcocite, enargite, bornite, and molybdenite along with supergene covellite and digenite. Latest stage pyrite enargite veins related to a high sulfidation epithermal system cut through the Stage 1 and 2 mineralization, but contribute a minor proportion of the copper mineralization.

Pyrite is ubiquitous with contents ranging from 2 to 15 percent but generally falling between 3 percent and 6 percent. It occurs as disseminations in wall rock, as quartz–pyrite veins, in late pyrite–enargite veins and occasionally as massive pyrite veins up to 2 cm thick.

The main style of hydrothermal alteration observed at the arcuate ridge at Altar East on the Rio Cenicero property corresponds to a potential high sulfidation epithermal gold system that is located in the northern half of the RCA XII concession. Advanced argillic alteration is associated with the epithermal mineralization and is accompanied by widespread silicification in the form of silica ledges, which are steeply dipping structures filled with epithermal quartz.

Peregrine mapped a large number of silica ledges within the zone of advanced argillic alteration in the RCA XII concession. The silica ledges are characterized by vuggy silica, multi-stage episodic hydrothermal breccias (crackle breccias and rotational breccias, and breccias with well-rounded clasts that indicate forceful expulsion of high-pressure fluids), colloform and crustiform banded quartz, deposition of native sulphur, alunite, barite, enargite and tennantite, limonite and boxworks after sulfides. These are indicators of the high level acid sulfate environment that overlies high sulfidation epithermal gold deposits.

In 2011 Peregrine discovered with drill hole ALD 148 at Altar East a new zone of primary chalcopyrite-bornite mineralization associated with a strong quartz vein stockwork. Millimeter thick sheeted dark quartz veinlets, the radial orientation of the previously mapped and sampled silica ledges and a Cu-Mo-Au surface geochemistry anomaly were the only surface evidences for potential Cu-Au mineralization at depth. The 2012 and 2013 follow-up exploration drilling confirmed an extensive zone of quartz vein stockwork and associated chalcopyrite and bornite mineralization at depth. Best mineralized intercepts correspond to a strong quartz vein stockwork with distinctively fragmented quartz veins in strongly silicified Plagioclase Hornblende Porphyry. Higher copper and gold grades correlate with the bornite/chalcopyrite ratio – the more bornite observed, the higher are copper and gold grades.

QDM

The Quebrada del la Mina (QDM) deposit is primarily a gold deposit with minor associated copper. The Pachon Andesite volcanics were intruded by a circular dacite porphyry stock approximately 700 m in diameter and host a large alteration footprint centered on the porphyry stock. Surface rock exposures at QDM are characterized by pervasive quartz-sericite-tourmaline alteration with disseminations and veinlet stockworks of jarosite after pyrite and less-abundant fine quartz veinlets. The area affected by the alteration is coincident with the center of an induced polarization ("IP") geophysical anomaly that measures 300 meters by 900 meters, as defined by the 20 millivolt per volt chargeability contour on the 3,500 meter elevation level plan.

Visible oxide copper mineralization occurs in the alteration zone at QDM and includes malachite, chalcanthite, neotosite and azurite impregnating fractures. Sphalerite mineralization of up to a few percent in volume was observed in several surface exposures in the northern and eastern part of the alteration footprint.

Well-defined hydrothermal breccias occur at the eastern contact between the dacite intrusion and the andesitic host rocks. Three campaigns of geochemical rock chip sampling have consistently returned gold grades ≥0.5 g/t along with low copper grades reflecting the fact that the rocks at surface are leached of more mobile copper while leaving behind the immobile gold. The 2011 and 2012 exploration drilling at QDM confirmed significant Au mineralization in the leached capping and the underlying sulfide zone, where Au mineralization is associated with abundant pyrite dissemination.

Figures 7-4, 7-5, and 7-6 illustrate the QDM mineralization on plan, EW section and NS section. Gold grades above 0.20 gm/t are shown on the figures.

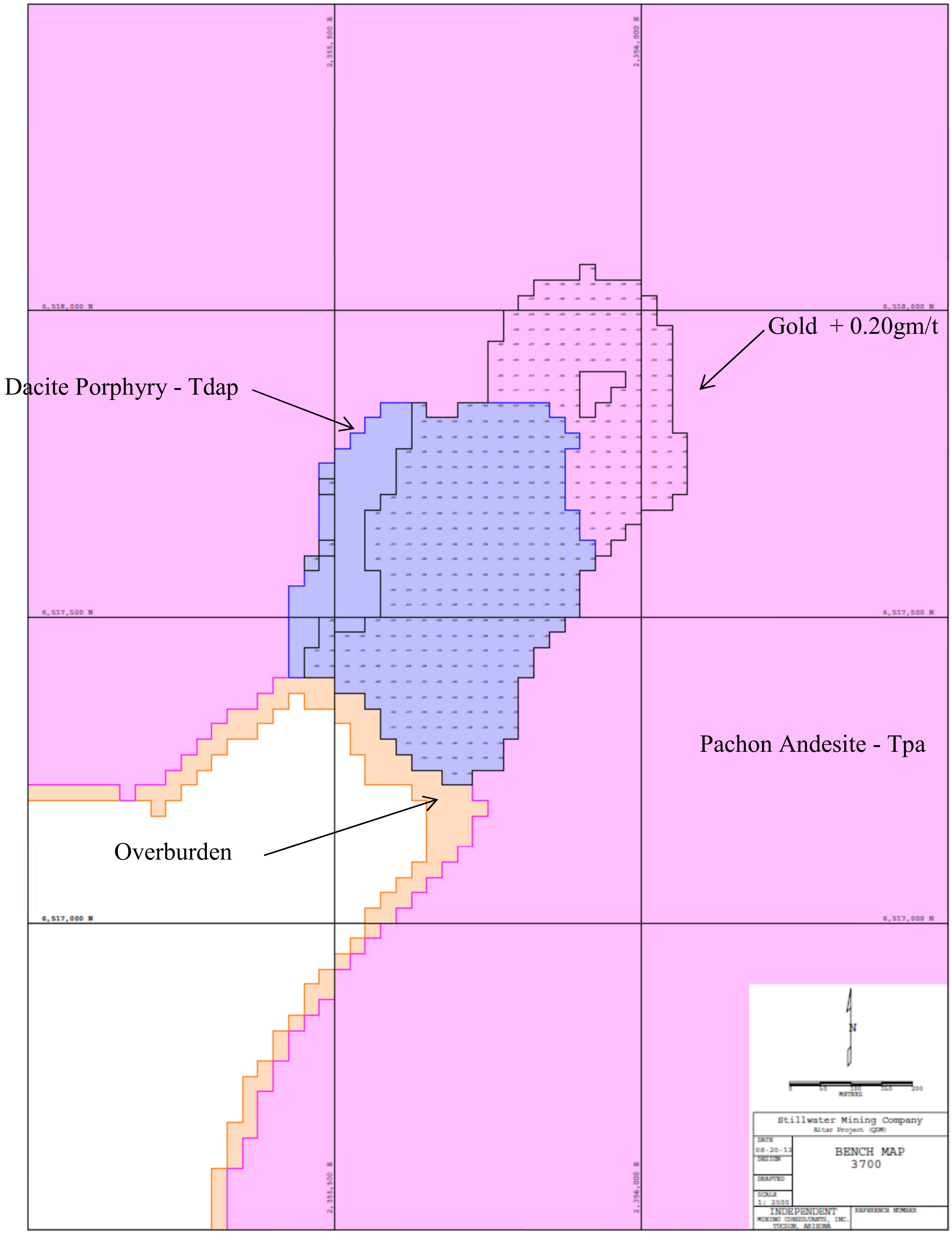


Figure 7-4, QDM Lithology and Mineralization on the 3700 Bench, Source: IMC 2014

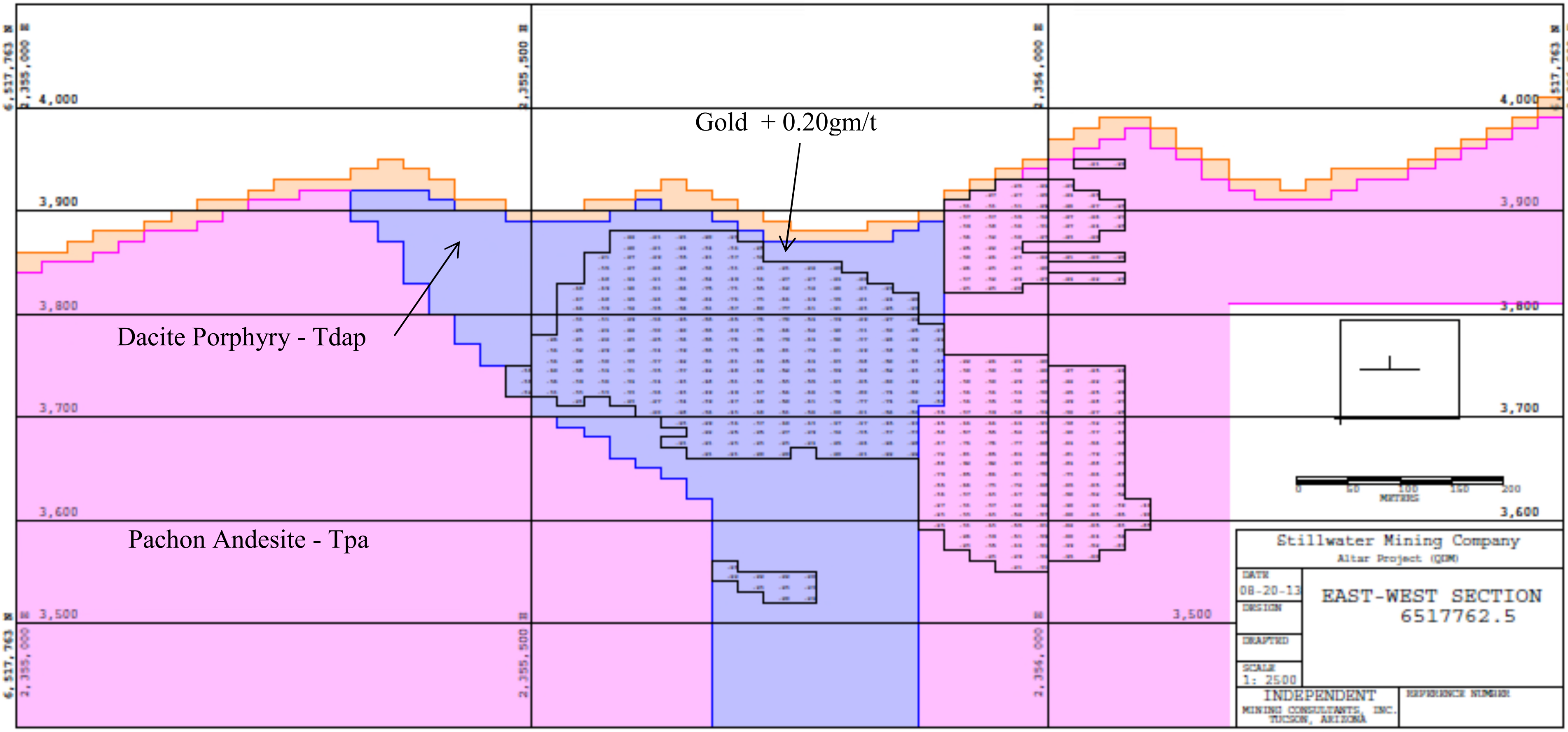


Figure 7-5
East – West Cross Section
Showing QDM Lithology and Mineralization
Source: IMC 2014

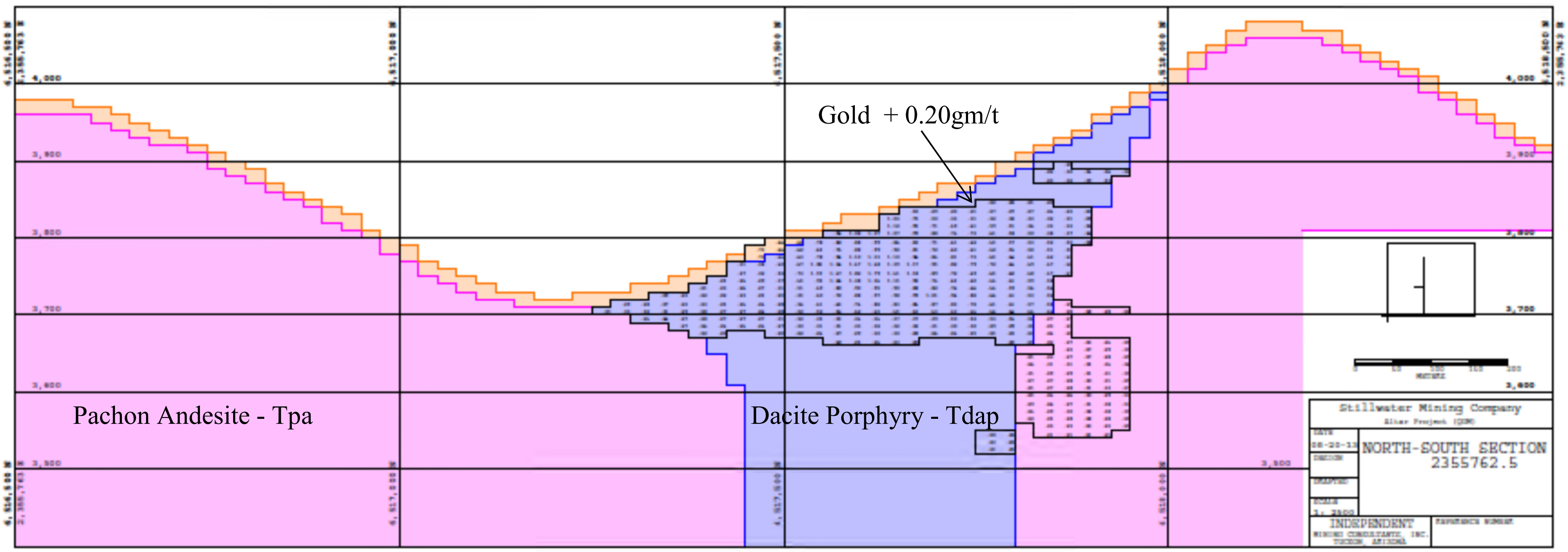


Figure 7-6
North - South Cross Section
Showing QDM Lithology and Mineralization
Source: IMC 2014

7.6.2 Mineralization Thickness

At Altar, a leached cap zone has been intersected by drilling at depths ranging from zero to 258 m. Below the leached capping is a zone of primarily sulfide mineralization that is variably affected by weathering, mainly in the form of oxidation developed along narrow joints and fractures. This transitional zone, usually referred to as mixed zone, ranges from 4 to a maximum of 86 m and has an average thickness of about 11 m. In most drill holes at Altar Central the transition between the leached cap zone to the sulfide zone is a well-defined boundary. Leached capping at Altar East in the area of ALD 148 is very shallow and typically does not exceed 30 meters depth.

Sulfide mineralization at Altar has been logged at depths ranging from 9 to 1166 m. Drilled thicknesses range from about 110 m in drill hole ALD 09, to 1140 m in ALD 179. All but 4 holes completed to date that have reached target depth have ended in sulphide mineralization, and the mineralization remains open at depth, including the deepest hole to date ALD 179.

QDM

Mineralization thickness at QDM is approximately 220m for mineralization with grade above 0.20 gm/t.

8.0 DEPOSIT TYPES

The following text reports information published in the previous Technical Report "Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", by Independent Mining Consultants, Inc. 31 January 2014. Roger Rey of Peregrine-Stillwater mining originally authored this section which has been reviewed by John Marek who has acted as the qualified person for this section.

The Altar Project contains copper ± gold ± molybdenum sulfide mineralization that was deposited in an environment that transitions from the basal roots of a high sulfidation epithermal lithocap to a sub-volcanic porphyry copper environment at depth. The Altar Project is described as telescoped because of the close spatial distance between the porphyry and high sulfidation alteration systems. High sulfidation epithermal characteristics of the Altar porphyry system have been preserved locally at higher topographic elevations and are most notable along the arcuate ridge at the eastern margins of Altar East. The age of the porphyry copper mineralization is now constrained by recently obtained geochronological results to approximately 12 to10 Ma, however there are as yet no reliable published dates for the epithermal mineralization that overlies it and the direct temporal genetic link between the two types of mineralization remains conjectural.

8.1 High-Sulfidation Epithermal Deposits

These deposits typically form in subaerial volcanic complexes or composite island arc volcanoes above degassing magma chambers. The deposits are also genetically related to high level intrusions. Multiple stages of mineralization are common, presumably related to periodic tectonism with associated intrusive activity and magmatic hydrothermal fluid generation. High sulfidation deposits can also be developed in second order structures adjacent to crustal-scale fault zones, both normal and strike slip, as well as local structures associated with sub-volcanic intrusions. The deposits tend to overlie and flank porphyry copper-gold deposits and underlie acid leached siliceous, clay and alunite-bearing lithocaps.

Host rocks are typically volcanic pyroclastic and lavas, most commonly subaerial andesite to dacite and rhyodacite, and their sub-volcanic intrusive equivalents. The deposits range in age from Tertiary to Quaternary; less commonly, Mesozoic and rarely Palaeozoic volcanic belts may be hosts. The rare preservation of older deposits reflects rapid rates of erosion before burial of subaerial volcanoes in tectonically active arcs.

Mineralization is developed in multiple, cross cutting veins and massive sulfide replacement pods and lenses, stockworks and breccias. Deposits may have irregular shapes, as deposit geometry is determined by host rock permeability and the orientation of deposition controlling structures. Principal minerals comprise pyrite, enargite/luzonite, chalcocite, covellite, bornite, gold, and electrum; lesser minerals can include chalcopyrite, sphalerite, tetrahedrite/tennantite, galena, marcasite, arsenopyrite, silver sulphosalts, and tellurides including goldfieldite. Two types of ore are commonly present: massive enargite-pyrite and/or quartz-alunite-gold.

Typically, alteration consists of quartz, kaolinite/dickite, alunite, barite, hematite; sericite/illite, amorphous clays and silica, pyrophyllite, andalusite, diaspore, corundum, tourmaline, dumortierite, topaz, zunyite, jarosite, Al-P sulfates (such as hinsdalite, woodhouseite, crandalite) and native sulfur. Advanced argillic alteration is characteristic, and can be a really extensive and visually prominent. Quartz occurs as fine-grained replacements and, more characteristically, as vuggy residual silica in acid-leached rocks.

8.2 Porphyry Copper Deposits

Porphyry copper deposits tend to form in orogenic belts at convergent plate boundaries, and are commonly linked to subduction related magmatism and subvolcanic intrusions. They may also form in association with emplacement of high level stocks during extensional tectonism related to strike slip faulting and back-arc spreading following continent margin accretion. Virtually any type of country rock can be mineralized, but commonly the high level stocks and related dykes intrude their coeval and cogenetic volcanic piles. Porphyry deposits in the Andes are generally Tertiary in age; globally, deposits can range in age from Archaean to Quaternary.

Intrusions range from coarse grained phaneritic to porphyritic stocks, batholiths and dike swarms, but are rarely pegmatitic. Compositions range from calc-alkaline quartz diorite to granodiorite and quartz monzonite. Commonly, there are multiple emplacements of successive intrusive phases and a wide variety of breccias. Deposits generally comprise large zones of hydrothermally altered rock that contain quartz veins and stockworks, sulfide-bearing veinlets, fractures and lesser disseminations in areas up to 10 km^2 in size. Deposits can be wholly or in part coincident with hydrothermal or intrusion breccias and dike swarms. Deposit boundaries are determined by economic factors that outline ore zones within larger areas of low grade, concentrically zoned mineralization.

Pyrite is the predominant sulfide mineral; in some deposits the iron oxide minerals magnetite, and rarely hematite, are abundant. Economically important minerals are chalcopyrite; molybdenite, lesser bornite and rare (primary) chalcocite. Subordinate minerals are tetrahedrite/tennantite, enargite and minor gold, electrum and arsenopyrite. In many deposits, late veins commonly contain galena and sphalerite in a gangue of quartz, calcite and barite.

Early formed alteration can be overprinted by younger assemblages. Central and early formed potassic zones (K-feldspar and biotite) commonly coincide with ore. This alteration can be flanked in volcanic host rocks by biotite rich rocks that grade outward into propylitic rocks. The biotite is a fine-grained secondary mineral that is commonly referred to as an early-developed biotite or a biotite hornfels. These older alteration assemblages in cupriferous zones can be partially to completely over printed by later biotite and K-feldspar and then phyllic (quartz–sericite–pyrite) alteration, less commonly argillic, and rarely, in the uppermost parts of some ore deposits, advanced argillic alteration (kaolinite–pyrophyllite).

Alternatively, a porphyry system may exhibit hypogene enrichment. The process of hypogene enrichment may relate to the introduction of late hydrothermal copper enriched fluids along structurally prepared pathways, or the leaching and redeposition of hypogene copper, or a combination of the two. The enriched copper mineralogy comprises, for example, covellite and chalcocite. Such enrichment processes result in elevated hypogene grades.

Supergene enrichment of porphyry deposits may occur during tectonic uplift and coevel erosion processes and episodes of favorable semi-arid climate, when meteoric water percolates through the topmost parts of the deposit, thereby oxidizing primary sulfides. This process leads to the formation of sulfuric acid. Acidic meteoric waters leach metals and carry them downward to react with primary sulfides at the redox boundary, e.g. the paleo water table. This reaction produces secondary sulfide mineralization such as chalcocite, covellite and digenite. For supergene enrichment to take place a balance between uplift, climate, rock composition and structure is required.

The Altar deposit exhibits moderate supergene enrichment as observed in logs and measured by the sequential copper assays in the data base.

9.0 EXPLORATION

This section was originally written and published in 2014. It has been updated and summarizes the exploration work at Altar from 2005 through 2017. Refer to Section 10 for drill results. The company is exploring a gold deposit located two kilometers west of the Altar porphyry system on property they control called Quebrada de la Mina (QDM). Substantial exploration effort has been applied to QDM over the last few years which is also summarized in this section.

The following text reports information published in the previous Technical Report "Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", by Independent Mining Consultants, Inc. 31 January 2014. Roger Rey of Peregrine-Stillwater mining originally authored this section which has been updated during 2018 by S. Foy and reviewed by John Marek who has acted as the qualified person for this section.

2005 - 2008

Peregrine optioned the Altar property from Rio Tinto in 2005, and completed a 23.4 line-km induced polarization (IP) survey followed by eight core holes totalling 3,302 m during the 2005-2006 summer field seasons. In the first quarter of 2007, Peregrine carried out a second diamond drilling campaign comprising 25 core holes totalling 10,408 m.

Peregrine completed a third drilling campaign in the first quarter of 2008 comprised of 24 additional core holes and the deepening of one pre-existing hole for a total of 12,741 m.

2009 Field Season

During January and February 2009, a follow up geologic and geochemical program was completed to refine understanding of the copper and gold mineralization and alteration zoning at Altar East. The previously identified silica ledges of the high sulfidation epithermal system at Altar East were mapped and sampled in detail. A total of 441 grab-style rock chip samples were collected in the area.

Further reconnaissance-scale geologic mapping and geochemical sampling was conducted at the QDM prospect where an additional 27 rock chip samples were collected from outcrops in the area. Results of the 2009 reconnaissance work established QDM as a potentially significant porphyry-style gold target which warranted continued evaluation.

Also during 2009, a stream sediment survey was conducted which included the collection of 15 stream sediment samples and 15 panned concentrate samples from principal streams and drainage courses in the area.

<u>2010 Field Season</u>

Between January and May 2010, Peregrine completed an additional 76 core holes and deepened 2 prior core holes for a total of 26,348.55 m. The 2010 drilling also included 8 twinned holes to provide metallurgical samples. The company also conducted additional surface geochemical sampling and completed a total of 22.9 line-km of induced polarization (IP) geophysical surveys over the Altar project and the QDM target areas.

The company constructed 24 km of additional access and exploration roads on the Altar and Rio Cenicero properties to facilitate planned drilling, trenching, geochemical sampling, and geophysical surveys. A new road was constructed to establish vehicle and drill rig access to the QDM target area. A 6.4 km road providing an alternative access route was also constructed to connect the Altar Camp with the network of existing well maintained roads serving Xstrata's neighbouring El Pachon project.

Peregrine's 2010 exploration activities included a total of 4,360 meters of excavator trenching in the epithermal Au-Ag target at Altar East. Continuous 2-meter rock chip samples were collected from these trenches totalling 2,679 samples.

At the QDM target area, the company collected a 169 additional grab-style rock chip samples.

<u>2011 Field Season</u>

The December 2010 to April 2011 field campaign consisted of drilling 6 large diameter PQ-size Metallurgical drill holes in the central part of the Altar deposit (2,056 m), three exploration drill holes at Altar East and 4 initial exploration drill holes in the QDM area. A preliminary groundwater survey was also conducted at four select sites each with an array including a test well and monitoring hole for determining local ground water characteristics, aquifer depths, basic water chemistry and recharge characteristics. A total of 3,962 m of core drilling and 1,133.0 m of rotary drilling were completed.

During January, three step-out exploration drill holes provided further insights regarding the Altar East epithermal Au-Ag target and porphyry mineralization. A total of 900 m were drilled in the 3 angle holes. Significant porphyry-style Cu-Au mineralization was intercepted in drill hole ALD 148.

A down-hole geophysical survey applying "Mise a la Masse" technology was conducted in April 2011 to estimate the potential extent of sulfide mineralization encountered at depth in ALD 148 (from a patterned 3.6 line-km surface array). An additional 3 pole-dipole IP geophysical survey lines were completed over the Altar East target totalling 1.7 line-km.

Four initial reconnaissance diamond drill holes were collared in the QDM Porphyry Au-Cu target. A total of 1,005.5 metres were drilled in 2 angle and 2 vertical holes. Significant drill intervals of Au mineralization was intercepted in 3 of the 4 drill holes. The QDM drilling confirmed the discovery of anomalous Au mineralization in the oxidized leached cap and also associated with deeper disseminated pyrite mineralization in the non-oxidized hypogene portions of a Dacite Porphyry stock. In March and April of 2011, two additional pole-dipole IP lines were completed across the northern part of the QDM target area to better define the northern extent of the IP anomaly identified by a prior 2010 geophysical survey.

An 11.9 line-km Controlled Source Audio-frequency Magnetotelluric (CSAMT) survey was conducted in the Altar Central and Altar East areas in combination with resistivity measurements on existing drill core intervals from the deeper holes at Altar Central.

Further rock chip sampling was conducted in the QDM target area collecting a total of 460 rock chip samples. Forty-three trench and road cut samples were collected on 2 meter intervals at the Altar North prospect and 438 trench samples were collected from new road cuts and drill platforms at Altar East. A total of 272 talus fines samples were collected in the QDM and Altar North areas.

Stillwater Mining and Peregrine Business Combination

In November 2011, Stillwater Mining Company (SMC) completed the acquisition of all outstanding shares of Peregrine Metals Inc. Since the acquisition, Peregrine Metals has been maintained as a subsidiary as have Peregrine's operating companies Minera Peregrine Argentina S.A. and Minera Peregrine Chile S.C.M. SMC has been actively engaged in the 2012 and 2013 Altar project activities subject to this Technical Report update as well as related Altar project developments since the time of the acquisition.

2012 Field Season Exploration

QDM

Exploration work continued both at QDM and the Altar Central deposits. Twenty four exploration holes totaling 6080.6 m were drilled at QDM. The company collected 111 grab samples for rock chips. A 15m deep water monitoring well was installed adjacent to drill hole QDM 19.

Altar North, Central, and East

Seven exploration holes were drilled in the Altar North Porphyry target located north of the Altar main zone. Additional exploration roads and platforms were excavated allowing for the collection of 36 rock chip grab samples at Altar North. In total, there were 36 holes drilled at Altar North, Central, and East during 2012 as summarized in Section 10.

Eleven rock chip grab samples were collected along the eastern extensions of Altar East and a water monitoring well was drilled in the central-northern part of the project to a depth of 21 meters.

2013 Field Season Exploration

Exploration work continued at Altar East and Altar North between December 2012 and April 2013. Two diamond drill holes were drilled at the Altar North Porphyry target and 18 holes were drilled at Altar East (including 4 drill hole extensions).

Between December 2012 and February 2013, the company collected 263 rock chip samples in road cuts and platform outcrops for better delineation of the geochem anomalies at Altar North and Altar East. A total of 60 rock chip samples were collected during first prospection work on the two peripheral concessions 414.1458-R-05 and 414.1487-R-05. A tested color anomaly in the south-western sector of concession 414.1487-R-05 revealed anomalous Au and highly anomalous As grades.

2014 Field Season Exploration

Exploration work continued at Altar East, Altar North, La Esquina and QDM between January and March 2014. No diamond drilling was carried out during the 2014 field season. Between January and March 2014, 38 rock chip samples were collected and a 13-line talus fines sampling program was carried out collecting a total of 136 talus fines at the before mentioned targets.

2015 Field Season Exploration

Exploration work continued at Altar East, Altar North, La Esquina, QDM and new a new target called Chinchimoye between January and April 2015. No diamond drilling was carried out during the 2015 field season. Chinchimoye is 1.5 km north of QDM.

Between January and March 2015 a total of 110 rock chip samples were collected. Native Cu nuggets of >40% Cu and grab samples of >1 % Ag were collected at the Chinchimoye prospect. A 3-line talus fines sampling program was carried out at the Chinchimoye prospect located 1.5 km north of the QDM project. A total of 51 talus fines samples were collected.

In addition to the prospecting, mapping and sampling work, a Titan 24 magneto-teluric (MT) survey was carried out by Quantec Geosciences. A total of 3 lines each with a minimum length of 4.8 km were surveyed, 2 crossing lines at Altar East and 1 W-E running line from QDM to Altar North. This sophisticated survey provided a deep IP response down to >1,000 m depth. The magneto-teluric (MT) component of the survey provided resistivity to depths greater than 2,000 m. Several high quality low resistivity – high chargeability targets were identified.

<u>2016 Field Season Exploration</u>

Exploration work continued at Altar East, Altar North, La Esquina, QDM and the Chinchimoye target between January and April 2016. Between January and March 2016, a total of 52 rock chip samples were collected.

A diamond drilling program was carried out with a total of 4,931 m drilled in 8 drill holes and drill hole extensions. Two drill holes were collared at Altar East, 1 drill hole was extended at Altar North, 1 drill hole was collared at La Esquina, 2 drill holes at Chinchimoye, and 2 drill holes were collared at QDM. Drilling work started on January 30th and was terminated on April 16th due to adverse weather conditions. New drill roads and drill platforms were constructed at Altar East, La Esquina, Chinchimoye and QDM.

A new discovery was made and first economic Cu mineralization at QDM was found by drilling QDM-029. The discovery hole intercepted a new Cu-Au porphyry stock named Radio Porphyry consisting of multiple porphyry pulses. QDM-029 intercepted 311 m of mineralization averaging 0.36 % Cu and 0.16 gm/t Au including higher grade intervals of: 32 m of 0.50 % Cu and 0.13 gm/t Au, and 46 meters of 0.50 % Cu and 0.31 gm/t Au. The Radio Porphyry target area coincides with multiple surface geochemistry anomalies and a former Rio Tinto airborne mag anomaly. The Radio Porphyry is considered as high priority target to be further drill-tested.

<u>2017 Field Season Exploration</u>

Exploration work continued at the QDM Radio Porphyry discovery between January and April 2017 that included a ground magnetic survey, drilling program, and collection of 12 rock chip samples.

The QDM Radio Porphyry discovery hole QDM-029 displayed an abundance of magnetite alteration, which has not been associated with the previously known mineralization. Therefore, a small 11-line ground magnetic survey was completed by Quantec Geosciences prior to commencement of drilling. It is noted the previous magnetic survey performed by Rio Tinto did not contain sufficient resolution for detailed drill target definition. The magnetic reduced-to-pole and vertical derivative maps from the Quantec were utilized in targeting the diamond drilling since the new discovery is predominately covered by Quaternary landslide material.

A total of seven diamond drill holes were completed at QDM Radio Porphyry, all with HQ diameter core, between January to April 2017. Total meters drilled was 5630.5m. The drilling focused on the QDM Radio Porphyry discovery made in 2016 to further define and understand this new and important discovery. In general, the drilling defined an approximate area of 300m by 600m of quartz stockwork with associated sericite/potassic alteration within multiple pulses of porphyry intrusive that is currently open at depth and in all directions.

Diamond drill hole QDM-034 intercepted 372m of mineralization averaging 0.59% Cu and 0.46 ppm Au from 634m, which includes the following higher grade intervals:

> 100m of 1.07% Cu and 0.96 ppm Au from 840m
> 66m of 1.32% Cu and 1.22 ppm Au from 852m
> 36m of 1.72% Cu and 1.62ppm Au from 882m

It is noted that drill spacing for QDM Radio Porphyry is currently not sufficient to complete a resource estimate, where future additional drilling is required. In addition, no drilling occurred in the area defined by the shallow QDM gold mineralization currently in the resource category due West of QDM Radio Porphyry.

10.0 DRILLING

This section summarizes the drilling completed to date at the Altar project. Previous technical reports presented much of this same information. Peregrine or Rio have drilled a combined total of 248 holes totally 108,543 meters of drilling through 2017. Drilling that occurred between 2016 and 2017 was geared towards regional exploration of isolated targets and the results display no material impact on the previous grade estimates in the 2014 resource block models.

10.1 Introduction

Ten phases of diamond drilling have been completed to date on the Altar Project:

1) Rio Tinto, in 2003,
2) Peregrine during 2005–2006,
3) Peregrine during 2006-2007
4) Peregrine during 2007-2008
5) Peregrine during 2009-2010
6) Peregrine during 2010-2011
7) Peregrine/SWC during 2011-2012,
8) Peregrine/SWC December 2012 and April 2013
9) Peregrine/SWC, 8 holes in 2016.
10) Peregrine/SWC, 7 Holes 2017, further define Radio Porphyry discovery

Table 10-1
Altar Drill Program Summary

Year	Company	Deposit	Holes Drilled	Total Meters	Comments
2003	Rio Tinto		7	2,841.13	
2006	Peregrine		8	3,302.20	
2007	Peregrine		25	10,408.15	
2008	Peregrine		24	12,740.60	+ 1 Holes Extended
2010	Peregrine		76	26,348.55	+ 2 Holes Extended
2011	Peregrine		13	3,961.50	Includes 4 Water Monitor Holes
2012	Peregrine / SMC		64	27,277.70	+ 6 Holes Extended
2012 Drilling was divided beween QDM and Altar Main as follows:					
		Altar	36	20,191.60	
		QDM	28	7,086.10	
2013	Peregrine / SMC	Altar	16	11,101.40	+ 4 Holes Extended
2016	Peregrine / SMC	Altar	8	4,931.00	2 Altar, 3 QDM, 3 Outside Expl.
2017	Peregrine / SMC	Radio Prophyry	7	5,630.50	Define Radio Porphyry
Total			248	108,542.73	

The 2016 program added 2 holes on the east side of the Altar East deposit which were intended to test geophysical targets adjacent Altar East. Neither drill hole was successful in finding the targeted offset mineralization or the geophysical target. These two holes ALD-206 and ALD-207 do intercept the open pit geometry that defines the mineral resource. Their impact on the estimated mineral resource is less than 1% and as a result they are not material. Details of the impact check are provided in Section 14.

Additional holes in 2016 were drilled in Altar North (not in the resource).
The remaining 2016 and the new 2017 drill holes were primarily targeting a deep porphyry deposit that is immediately east of the QDM deposit and called the Radio Porphyry. The Radio porphyry mineralization is described elsewhere in text and is not sufficiently well understood to define a mineral resource at this time. None of the 2017 drill holes intercept the QDM resource pit or the Altar resource pits and so have no impact on the stated mineral resource in this document.

All Drill hole locations including metallurgical twin holes and drilling are illustrated on Figure 10-1.

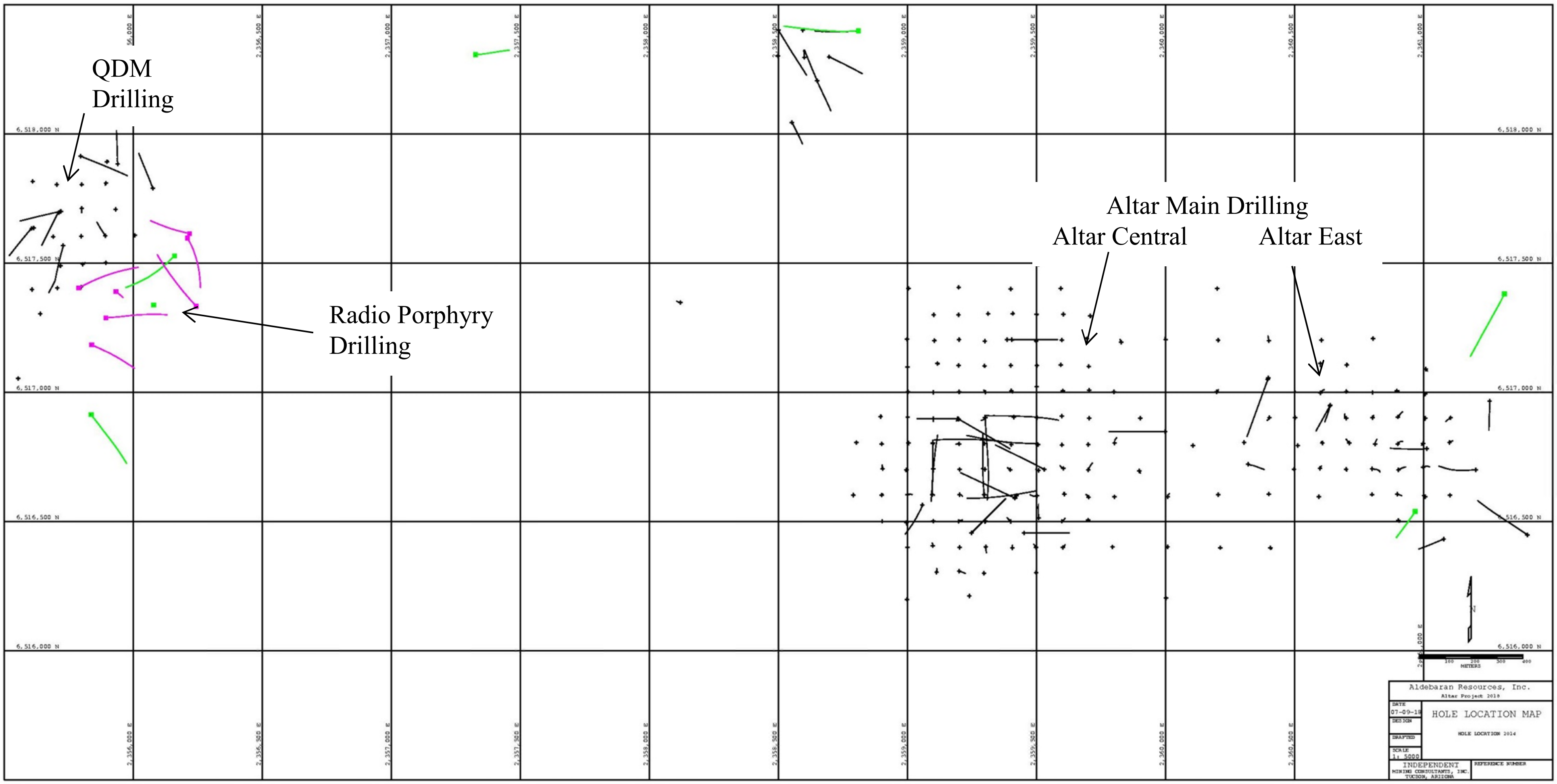


Figure 10-1
Drill Hole Locations, All Deposit Areas, 2003-2014 = Black, 2016 = Green, 2017 = Magenta
500m Grid

10.2 2011 Drill Program

Mendoza-based Boart Longyear Argentina S.A. was contracted to provide drilling services during the 2010-2011 field season. They provided one wheel skid mounted LF-90 diamond drill rig and one wheel skid mounted LF-230 diamond drill rig, both with hydrostatic drives. The drilling commenced on November 30, 2010 with drill hole ALD-141 and finished with drill hole QDM-04 on January 24, 2011. A total of 3,961.50 m were drilled. Eight vertical holes were collared with depths up to 434 meters. Five angle holes were drilled with dips ranging from -50° to -70° and depths up to 450 m. Six holes were metallurgical twins of pre-existing core holes completed in prior years. These were collared and completed with PQ diameter. They are shown on Figure 10-2 as blue triangles.

All of the remaining holes were exploration holes collared and completed with HQ equipment.

Between February and May 2011 Boart Longyear Argentina S.A. was contracted to drill within the Pampa concession a total of 4 water monitoring wells and 4 corresponding observation drill holes totalling 1,133.0 meters (Figure 10-2). A Drilltech D40KX truck mounted rotary drill rig was used for drilling the monitoring holes and installing the corresponding equipment and PVC filter piping.

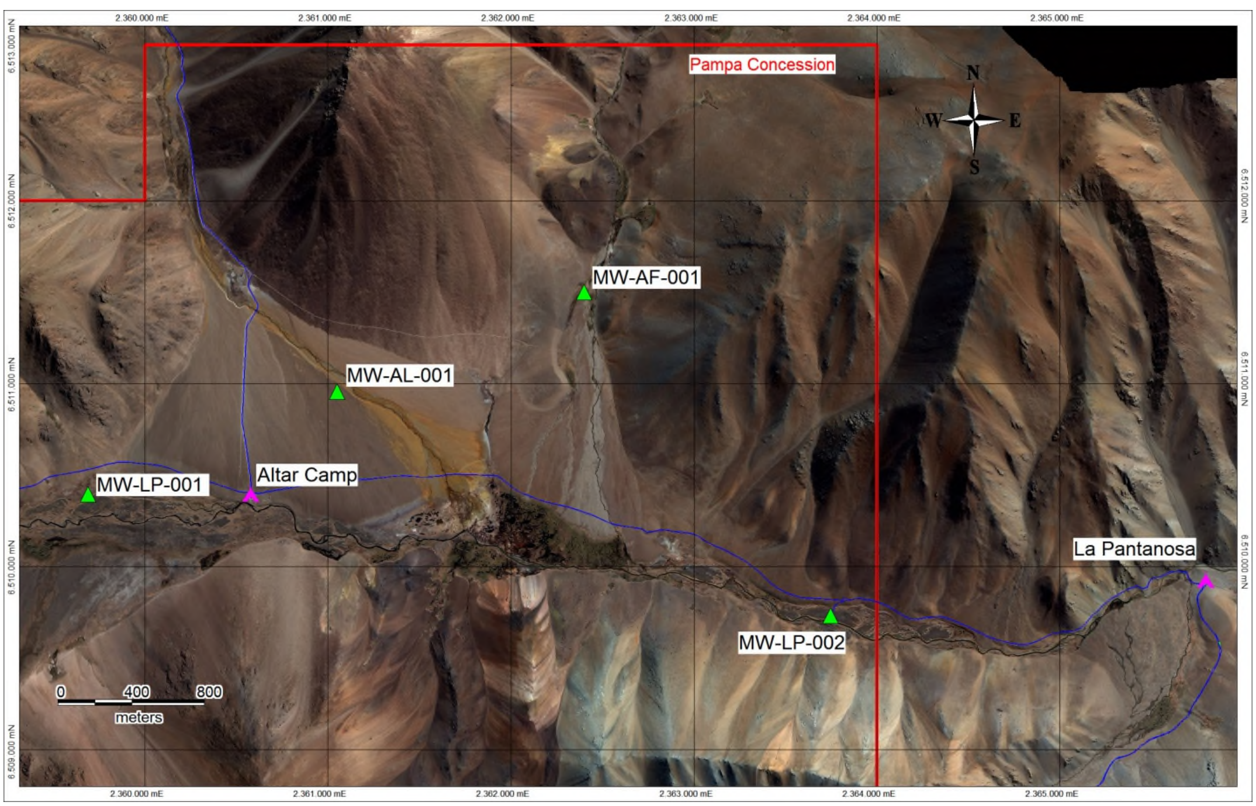


Figure 10-2, Water Monitoring Holes, Drilled in 2011

10.3 2012 Drill Program

Mendoza-based Boart Longyear Argentina S.A. was contracted to provide drilling services during the 2011-2012 field season. They provided four wheel-skid mounted Boyles BBS37A or BBS56A class wireline-equipped core rigs modified to reliably perform at high elevations and capable of drilling with HQ and NQ rods to depths in excess of the Company's planned targeted drill depths.

All drill holes are initially collared with HQ diameter rods (96.1 mm dia. hole & 63.5 mm dia. core) and depending on hole conditions, are extended as deep as prudent, typically around 550 meters, before reducing to NQ size core (75.7 mm dia. hole & 45.1 mm dia. core).

The drilling commenced on December 12, 2011 with drill hole QDM-05 and finished with drill hole ALD-189 on April 13, 2012. A total of 27,277.70 meters were drilled in 64 drill holes and 6 drill hole extensions in the four exploration areas: 1) Altar Central Deep, 2) Altar East, 3) Altar North and 4) Quebrada de la Mina.

10.4 2013 Drilling Season

Mendoza-based Boart Longyear Argentina S.A. was contracted to provide drilling services during both the 2011-2012 and 2012-2013 field seasons. They provided two wheel-skid mounted Boyles BBS37A or BBS56A class wireline-equipped core rigs modified to reliably perform at high elevations and capable of drilling with HQ and NQ rods to depths in excess of the Company's planned targeted drill depths.

All drill holes are initially collared with HQ diameter rods (96.1 mm dia. hole & 63.5 mm dia. core) and depending on hole conditions, are extended as deep as prudent, before reducing to NQ size core (75.7 mm dia. hole & 45.1 mm dia. core).

The drilling commenced on January 5, 2013 with drill hole ALD-190 and finished with drill hole ALD-205 on March 31, 2013. A total of 11,101.40 meters were drilled in 16 drill holes and 4 drill hole extensions. 16 vertical holes and drill hole extensions were drilled with depths up to 1,166.5 meters. Four angle holes were collared with dips ranging from -70° to -86° and depths up to 949.5 m.

10.5 2014 and 2015 Field Seasons

During the 2014 and 2015 field seasons no drilling occurred, but Peregrine opened the Altar exploration camp both seasons and performed regional mapping, prospecting, rock-chip and talus-fine geochemical sampling to better assess under-explored portions of the land package. In 2014 the company also completed three Titan 4.8km long DCIP and MT geophysical lines and completed ground magnetic surveys both years. Several isolated drill targets were identified mostly away from existing resource areas and these targets were prioritized for the next season.

10.6 2016 and 2017 Drilling Season

The 2016 program tested nine isolated targets generated from the 2014-2015 field seasons and resulted in discovery of the QDM Radio Porphyry in hole QDM-029 with additional mineralization discovered in Altar North in hole ALD-195 (extension). The 2017 program focused entirely on further definition of the discovery at QDM Radio Porphyry.

10.7 Collar and Down Hole Surveys

Collar locations for Peregrine's drilling were surveyed by a professional topographer, using a Trimble R6 GPS system with real time and static differential correction providing accuracy to within +/- 5 mm.

Prior to 2016, the following methods were used for down hole survey. Downhole surveys to establish deviations in azimuth and dip angles are carried out by a third party company using a Reflex EZ-TRAC multi-shot magnetic borehole surveying system. The instrument is highly accurate in all directions including vertical holes and has magnetic and gravimetric sensors that allow for surveys free of cumulative azimuth and dip errors. The survey data are stored electronically and transferred directly to a computer without the need to record or transfer written data. Downhole measurements are routinely taken at 6 meter intervals.

The 2016 and 2017 drill holes were surveyed by a third party company using a North-Seeking Gyroscope.

10.8 Drill Hole Monuments

After determining that a drill hole will not be re-entered and extended to a greater depth, any remaining steel casing is extracted and replaced with a length of standard PVC pipe to preserve physical evidence of the drill hole's general dip and azimuth. A concrete slab is prepared at each completed drill hole collar to preserve its location and identification. The concrete is inscribed with the drill hole ID, azimuth, dip, total depth and the drill hole's completion date.

For drill holes being considered as potential candidates for subsequent re-entry, the HWT metal casing is left in the hole to both mark its location and temporarily preserve the physical collar conditions of the drill hole. A cement slab is prepared at the drill hole collar to preserve its location and identification. The slab is engraved with the drill hole ID, azimuth, dip, total depth and the drill hole's completion date.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

This section was originally prepared by Roger Rey, a previous Altar project geologist, and John Marek, of IMC acting as the qualified person for this section. This section describes the procedures utilized up to 2014 and also describes the changes that occurred during the drill program in 2016 and 2017. John Marek holds the opinion that sample preparation, analyses and security are adequate and appropriate for estimation of mineral rsources. Section 10 indicates that the drilling completed in 2016 and 2017 do not have a material impact on the open pit statement of mineral reserves. However, the methods that were applied to those programs are summarized here.

11.1 Drill Core Preparation

At the drill rig on site, drill cores are placed inside 1-meter wooden core boxes. Each drill run is marked at the end with a wooden block labeling the drill depth in permanent waterproof marker. Drill site core boxes are checked routinely for errors and if there are inconsistencies, they are resolved by the drill crew's supervisor and the geologist assigned to the core rig. Finished boxes are sealed with tight fitting wooden slide lids and placed a safe location at the drill site. Geologists and/or their assistants routinely transport the core from the drill site to the Altar exploration camp with 4-wheel drive utility pickup trucks. The camp is located about 7km south of the Altar Main area.

At camp, the trucks unload at the outdoor core staging area. The boxes are placed on tables and their lids are removed for preliminary geological, geotechnical, and drill core logging, checking, and labeling. The preliminary geologic logging is a simplified geologic description that is later amended when the split drill core is logged in detail at the sample preparation facility in Mendoza during the winter months.

Geotechnical logging is completed at the camp including core recovery, RQD, fracture count, fracture fill characteristics, intact rock strength, etc. The data is recorded on Panasonic Toughbook portable computers. During initial logging, drill core intervals are rotated to appropriate uniform core axis configuration and a "cut line" is scribed by the geologist on the core segments to minimize any sample bias that might be introduced by misrepresentation of host rock layering, vein or fracture orientation, mineralization clusters, etc. when the core is sawed. The geologists are also responsible for laying out, measuring and marking the core sample intervals and for designating the positions for reference standards, blanks and core duplicates to be inserted into the sample stream in the core splitting facility in Mendoza.

Prior to transport, the tops of the wooden core boxes are re-secured and labeled with aluminum Dymo-tape strips imprinted with the Drill Hole ID, the box number and the end depth of that box. Core boxes are then stacked on pallets, each containing 40 core boxes, and secured with strapping and plastic "shrink-wrap" prior to being loaded for transport to Peregrine's core splitting and storage facility in Mendoza. Pallets are prepared so that one pallet contains only core boxes of one drill hole.

Up to 2014, Peregrine contracted a full-time to transport to move the Altar drill core from the core logging facility at the exploration camp to the core splitting facility in Mendoza. During

2016, the transport vehicle was used for core transport and other tasks. The truck is fitted with a specially constructed sealed steel box into which the palletized core boxes are placed and carefully packed to avoid shifting. The tight fitting doors are securely closed and locked with padlocks following inspection and final inventory by a geologist. Numbered and tamper-proof strap locks are also attached to the doors alongside each padlock and the corresponding strap lock numbers are included in the core shipment transmittal form signed by the Project Manager that accompanies each core shipment. Keys for the padlocks sealing the door to the core transportation truck are only held by the Project Manager at the exploration site and by the Company's supervisor at the core splitting facility in Mendoza. The trip from Altar to Mendoza is approximately 430 km taking an average of 17 continuous hours.

Upon arrival of a core shipment at the Peregrine core splitting facility in Mendoza, the supervisor first examines the physical condition and numbers on each of the strap locks on the truck's cargo door. The supervisor confirms the serial number of each strap lock against those recorded on the core shipment Transmittal Form accompanying the shipment by signing the original shipment Transmittal Form. After opening the locks, the core boxes are inspected and inventoried against the shipment transmittal list. Any damaged or missing boxes or numbering discrepancies are immediately communicated to and reconciled with the Project Manager at Altar.

11.2 Core Handling and Splitting by Altar Personnel

At the core facility, the pallets containing boxed cores are first checked and inventoried by the core facility supervisor against the shipment transmittal form. The Project Manager at Altar is immediately notified if the shipment has numbering discrepancies or damaged or missing boxes. Otherwise, the core boxes are unloaded and opened for core photographs.

Prior to sawing, boxes containing the whole core are photographed at the Company's core facility under natural light condition. Up to 2014 a Canon digital single-lens reflex camera with a 10.1 megapixel imaging sensor was used. For the 2017 drill core a Nikkon D5300 with a 24.2 megapixel imaging sensor was used. Each photograph includes 3 core boxes laid out in sequential order in a specially-constructed stationary photographic stage. The photographs are stored on a company computer and external hard drives and are further backed up digitally on the company's server.

The core splitting staff at the core splitting facility is well-trained and experienced. Cores are split with industry standard circular rotary rock saws using diamond saw blades. Drill core samples are routinely taken at 2.00-meter intervals supervised by core facility geologists and assistants. Only cores determined at site to be containing material below overburden are split and sampled. Overburden cores remain the in the boxes. Cores previously marked with cutting lines by exploration camp geologists are split down the line.

One half of the drill core is designated for core sampling and the other half is placed back into the core boxes for storage and future reference and analysis. The insides of each core box are stapled with water proof labels of sample numbers indicating the start of sampling interval.

Prepared high strength, clean, and clear plastic bags are marked on the outside in permanent marker with a unique sample number and also with a water-proof paper printed label displaying the same sample number for the corresponding sample interval. The core sample halves are placed in corresponding sample bags and top-tied with 2 sets of plastic straps. The first set is strapped-tied as low as possible above the core samples. After the first strap set, another waterproof label of the sample number is placed in the neck of the bag. The second set is specially-made with the sample number imprinted on the strap and is tied so the neck of the bag is also pierced.

The double sealed sample bags are stacked sequentially in new rice bags. The rice bags are then strap sealed and clearly labeled with Peregrine's company name, contained sample bags, and sample batch number. Awaiting shipment, large, top-open wooden boxes are loaded with the rice bags. Up through 2014, samples were transported to the nearby ACME analytical laboratory. During 2016 samples were transported via pick-up truck to the ALS Analytical Laboratories preparation lab located nearby. For each box of batch sample rice bags, a Sample Dispatch Transmittal Form is prepared and signed by the core facility supervisor. When received, the ACME or ALS prep laboratory representative signs the form when all samples have been inventoried and all seals and bags in the process of unpacking were checked for intact seals and good condition.

For security purposes, the top sample labeled strap must be removed first in order to remove the preceding strap and due to the way the first strap pierces the neck the sample bag will remain intact if the straps were removed. The sample preparation lab is to report to Peregrine if any core sample bag does not come in good condition and with both straps intact. A separate assay sample ticket booklet is kept with records of sample numbers and corresponding core intervals the sample was taken from on top of an electronic database.

11.3 Sample Preparation

The previous Technical Report published on 31 January 2014 described the sample preparation and assay procedures at the ACME lab. Until 2014, ACME Analytical Laboratories was used for the primary assays. Since 2016, ALS Patagonia S.A. is the primary laboratory for sample preparation and assay of Altar samples. This section describes the 2016-2017 methods applied by ALS. The pre-2014 procedures are similar and were previously documented.

ALS Minerals Division operates a sample preparation laboratory in Mendoza. The Mendoza prep lab is located a short distance away from the core facility. Mendoza ALS Patagonia S.A. is accredited under ISO 9001. The ALS laboratory in Lima, Peru is the primary lab for assay analysis for the Altar Project since 2016. Lima ALS laboratory is accredited under ISO 9001:2008 and ISO 17025. Until 2015, Acme Analytical Laboratories in Santiago, Chile was used for the assay analysis. The Acme Labs became Bureau Veritas in 2015 and are arms length contractors. Their certifications prior to 2015 are not known by the author.

Check samples for the secondary analytical laboratory are also prepared at the Mendoza prep lab. Altar has had two different historical secondary laboratories. From 2007-2011, Alex Stewart (Assayers) Argentina S.A. accredited under ISO 9001, 14001, and 17025 served as the secondary laboratory. From 2010-2013, ALS Chemex, La Serena, Chile, accredited under ISO 17025:2005 and ISO 9001:2008. For the 2016 and 2017 field season Alex Stewart (Assayers) Argentina S.A. was used again as secondary laboratory.

ALS Preparation Laboratory, Mendoza, SA

Split core samples are logged into the LIMS ALS tracking system and a bar code label is attached to each sample bag on arrival from the Peregrine core storage and splitting facility. Security checks for intact seals and bags are completed, and the waterproof label that was inserted in the neck of each sample bag is removed and placed underneath a drying sheet. The core sample remaining in the bag is emptied onto the drying sheet, and drying is done for 7-8 hours at 110 degrees Celsius.

After weighing and drying the sample preparation procedures are as follows:

1) Crushing the samples to 70% passing a Tylor 9 mesh (2 mm) screen.

2) The crusher is cleaned with compressed air between each sample and with an inert rock at the beginning and at the end of each batch. Cleaning may occur more often as considered necessary.

3) A quality control sieve check at 9-mesh (2 mm) is tested as indicated by the LIMS. The sieve is cleaned with compressed air before samples are checked for mesh size.

4) The first stage crush product is homogenized and then placed into a Jones style riffle splitter to obtain a 1,000 gm sample.

5) The 1,000 gm sample is placed in a plastic bag, and the coarse reject is stored in plastic bags for return to the Peregrine core storage facility.

6) The 1,000 gm sample is pulverized to a nominal 85% passing 200 mesh (75 microns) using an LM-2 pulverizer.

7) The pulverizer is cleaned at the beginning of every sample with compressed air and with inert rock at the beginning and at the end of each batch. Cleaning with inert rock may occur more often as considered necessary.

8) The quality control sieve checks at 200-mesh are indicated by the LIMS. The sieve is cleaned with air before samples are checked for mesh size.

9) Preparation duplicates (field duplicates) of randomly predetermined samples by Peregrine geologists are also inserted in the sample stream. The preparation duplicates enter the sample stream like any other sample with an assigned sample number.

Roughly 100 to 150 grams of the 1,000gm pulp sample is placed in a sample packet for shipment to Lima for analysis.

11.4 Analytical Procedures

From the ALS prep lab in Mendoza, Argentina, core pulp samples are sent to the ALS Analytical Lab in Lima, Peru in batches of 35 ~100gm packet samples including samples for QA/QC. In previous years, the dispatch to ACME were 34 sample groupings.

Sample batches of 35 samples contain:
- 30 pulps for assay
- Plus inserted QAQC samples
  - 2 certified standards
  - 2 field duplicates from split core and
  - 1 blank

Sample batches are regularly submitted to the primary laboratory in Lima, Peru by air freight and regularly schedule air lines. ALS maintains the chain of custody evidence as when sample pulps are logged into the Lima facility.

Peregrine's analytical instructions for Altar drill core samples routinely include the following Geochemical or Assay analyses:

1. 41-element ICP-ES using an Aqua Regia digestion

2. Au by Fire Assay using a 30 gram sample with an AAS finish

3. For all ICP analyses for Cu that exceed 5,000 ppm, the sample is repeat-assayed for Cu by AAS using an Aqua Regia digestion (wet assay).

4. For all Fire Assay analyses for Au that exceed 10 ppm, the sample is repeat-assayed for Au using a gravimetric finish.

5. For all ICP analyses for Ag that exceed 100 ppm, the sample is repeat-assayed for Ag using a gravimetric finish.

The results for all ICP analyses are reported on the Assay Certificates in units of either ppb or ppm as appropriate or percent (%) to a 3 decimal place accuracy. Results for all Au and Cu assays are reported to one decimal place of uncertainty. Precision Au values are reported in gpt to 3 decimal place accuracy and precision Cu values are reported in percent (%) to a 3 decimal place accuracy.

ALS Analytical Quality Control – Reference Materials, Blanks & Duplicates
The LIMS inserts quality control samples (reference materials, blanks and duplicates) on each analytical run, based on the rack sizes associated with the method. The rack size is the number of sample including QC samples included in a batch. The blank is inserted at the beginning, standards are inserted at random intervals, and duplicates are analysed at the end of the batch. Quality control samples are inserted based on the following rack sizes specific to the method:

Rack Size	Methods	Quality Control Sample Allocation
20	Specialty methods including specific gravity, bulk density, and acid insolubility	2 standards, 1 duplicate, 1 blank
28	Specialty fire assay, assay-grade, umpire and concentrate methods	1 standard, 1 duplicate, 1 blank
39	XRF methods	2 standards, 1 duplicate, 1 blank
40	Regular AAS, ICP-AES and ICP-MS methods	2 standards, 1 duplicate, 1 blank
84	Regular fire assay methods	2 standards, 3 duplicates, 1 blank

Laboratory staff analyse quality control samples at least at the frequency specified above. If necessary, they may include additional quality control samples above the minimum specifications. All data gathered for quality control samples – blanks, duplicates and reference materials – are automatically captured, sorted and retained in the QC Database. Results of these QC measures are reported on a separate QC page with each Work Order.

The blanks are accepted within 2 times the detection limit of the corresponding analytical method. The pulp duplicates are accepted within a 10 percent variation. The geological standards are International Certified Reference Materials which have established means. They are accepted within error limits of 2 standard deviations of the mean.

After completion of the 2010 drill program, core intervals with anomalous molybdenum content from current and past drill programs were re-analyzed using ACME's Group 8TD method involving 4-acid digestion which resulted in significantly higher grades over the ICP method. Approximately 4,600 intervals have been analyzed as of December 2012.

Acme also carried out sequential Cu analyses on 7,213 unique samples from the upper portion of the mineralized zone at the request of Peregrine. Results yielded grades for cyanide-soluble (CuCN), acid soluble (CuAS) and residual (CuR) copper.

11.5 QAQC Samples

Section 12 presents a statistical analysis of the QAQC data completed by IMC. Peregrine staff review of QAQC results during the drill program have resulted in re-submission of occasional sample batches which are summarized below.

<u>Standards</u>

A total of 14 standards have been prepared and inserted in the sample stream over the course of Altar's drilling programs from 2005 to 2016. New standards have been blended as a result of the depletion of previously prepared standard samples consumed in QA/QC. The standards are specially blended to correspond with the typical host rock lithology, sulfide mineralogy, and metal grades of core samples sent for assay analysis. Based on core logging observations, geologists at the exploration site select 2 standards that best suit each batch of core samples for QA/QC.

The standards are certified by Round Robin Assays where six to seven assay laboratories are selected to establish the grade means for copper, gold, silver, arsenic, and molybdenum. The procedures for certification are well documented and the statistical analysis of the certification process is completed by a third party.

Standards Failures

Altar staff monitors the standards results on a routine basis. Up to 2014, there were a total number of 25 standard failures in copper and 25 standard failures in gold requiring re-assays. Excluding the 25 standard failures in gold, there were also a number of failures that did not require action because Peregrine deemed the assay intervals affected were not in areas of significant gold mineralization. In addition, there have been several failures where sample numbers and standards were mixed-up resulting in many standard failures with no action beyond repositioning sample numbers to the correct sequence.

There were no standards failures in the 2016 drilling.

<u>Blanks</u>

Blank material was acquired by Peregrine in 2007 from a decorative stone quarry near Mendoza. The material was found in large quantity of homogeneous granite in the form of slabs. Alex Stewart (Assayers) Argentina S.A. in Mendoza assayed 21 samples of the material for the homogenous absence of significant detectable quantities of copper, gold, molybdenum, silver, and arsenic. Granite blank material is sent to the core splitting facility to be washed and broken into convenient sized pieces for the submittal of a coarse blank with each blank.

Blank Failures

Re-assay for blank failures due to copper failures happened 7 times and failures due to gold happened 2 times. Several other blank failures were due to sample mix-ups, occurred in drill intervals of no significant mineralization, believed to be minor laboratory contamination, and attributed to rare minor copper content in the blank coarse granite material. Overall, blank failures did not happen often throughout the 2008-2016 drilling campaigns.

12.0 DATA VERIFICATION

The Qualified Person for the data verification is John Marek, of Independent Mining Consultants Inc. Data verification was originally completed in late 2013 and reported in the previous Technical Report dated 31 January 2014. Since that time, Peregrine/Stillwater drilled an additional 8 holes during 2016, 2 in Altar East, 3 near QDM, and 3 outside exploration holes. Seven more drill holes were completed during 2017 containing 2,773 assay intervals. IMC and the qualified person have confirmed that the 2017 holes are outside of the resource pit areas for QDM and Altar.

With each sub-section of this chapter, work completed in 2013 will be presented followed by a discussion of the QAQC results for the 2016 drilling. The 2017 drilling will not be addressed because IMC and the QP have confirmed that it has no impact on the stated mineral resource.

The majority of the Altar data base is based on diamond drilling information that has been collected by Peregrine or Peregrine/Stillwater since 2006. Prior to 2006, there were 7 holes drilled by Rio Tinto that are contained in the data base. This section summarizes the statistical verification the Altar data base that been completed by IMC based on the QAQC data and procedures that area applied by Peregrine.

The verification procedures applied by IMC and summarized in the section are:

1) A check of 5% of the electronic data base against certificates of assay.
2) Statistical analysis of inserted standard samples.
3) Statistical analysis of inserted blank samples.
4) Statistical analysis of Field Duplicates (Split core duplicates)
5) Statistical analysis of third party check assays.

Each of the above topics will be addressed in the following sub-sections.

As outlined in Section 11, the primary laboratory for Peregrine assays up to 2014 was Acme Analytical Laboratories. During 2016, the primary lab is ALS.

Submissions to the Acme or ALS lab consist of batches of 34 or 35 samples that contain the following QAQC insertions:

1) 29 (Acme) core samples, 30 (ALS) core samples
2) 2 Certified Pulp Standards
3) 1 Coarse Blank
4) 2 Field Duplicates

12.1 Assay Database Checks

A selection of the assay data base that was provided by Stillwater in August 2013 was manually checked against the assay certificates by IMC to verify the data entry process. More than 5% of the information in the electronic data base was compared to certificates of assay from the laboratory. In summary, there were no errors identified that would indicate a data entry errors.

Down-hole surveys were inspected by record and visually on sections for improbable trends and errors in down-hole deviations. Drill holes generally developed the typical slight clockwise cork-screw geometry.

A spot check of assay information completed in the three holes at Altar during 2016 did not indicate any issues with data entry.

12.2 Standards

Standards are inserted into the sample stream by Stillwater/Peregrine personnel before submission to the labs. Batches of 34 samples contain 29 routine core samples and 5 reference samples. The 5 reference samples include 2 pulp standards. The lab certainly recognizes that the pulps are reference material, however, the lab does not know if the inserted sample is a blank, or a standard or which standards it could be.

During 2007, Peregrine prepared considerable volumes of 5 different standards by blending drill core sample rejects from prior campaigns at Altar. Those were named STD 3 through STD 7. Standards 1 and 2 were used in earlier programs. During 2011 and 2012, Peregrine added STD8 through STD 11 which were also blended from drill core coarse rejects. Grade ranges of the standards range from 0.20 to 0.75% copper. Standards 10 and 11 were blended from material at Quebrada de la Mina (QDM) with grades of approximately 1 gm/t and 0.25 gm/t for inclusion into the QDM sample stream. Standards STD13 and STD14 were added for the 2013 program with grades typical of the Altar deposits.

All of the certified standards have been prepared by CDN Resource Laboratories, LTD. in Vancouver, Canada and assayed at 6 internationally certified labs in a round robin process. Smee and Associates evaluated the assay results from the 6 labs and reported the certified mean values and standard deviations to Peregrine.

Figure 12-1 displays graphs of standard performance versus the certified means for the data up through 2014. Graphs shown are only for the metals of interest with certified means: copper, gold, and arsenic. Silver values of the standards do not have a certified mean but rather a provisional mean. Silver standards results are therefore not shown.

Acme results for copper check well with the certified standard value up through 0.5% copper. The high value standard at 0.68% copper is reported about 5.5% high by Acme. Acme results for gold check well against the standards for all tested standards.

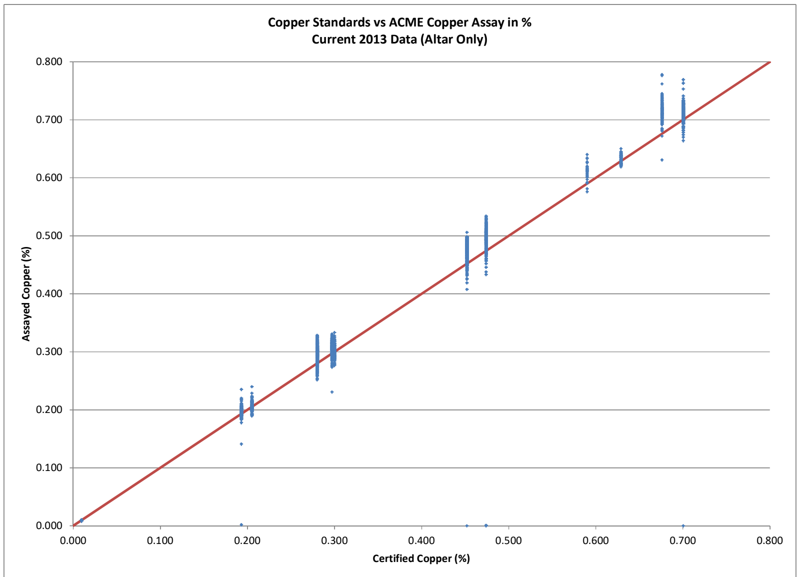
Arsenic results from Acme report slightly higher than the certified value for arsenic values above about 425 ppm. Arsenic standards results indicate that there may have been a few standards swaps that have been mislabeled in the submission process. Additional diligence has been applied during 2013 to catch sample swaps as part of the out of range samples. Any potential overestimation of Arsenic would not overstate the value of the project but could conservatively understate the value.

The potential high bias from Acme at the higher copper and arsenic standards are not observed in the outside check assays reported later in text. The check assays tend to closely agree with ACME original assays in the grade ranges shown here for copper and arsenic. A review of the round robin assay values for the copper certification values do indicate there was a consistent low lab that was contained within the 0.68% standard certification. It might be prudent to reissue this standard for another round of reassay or prepare another high copper value standard for certification.

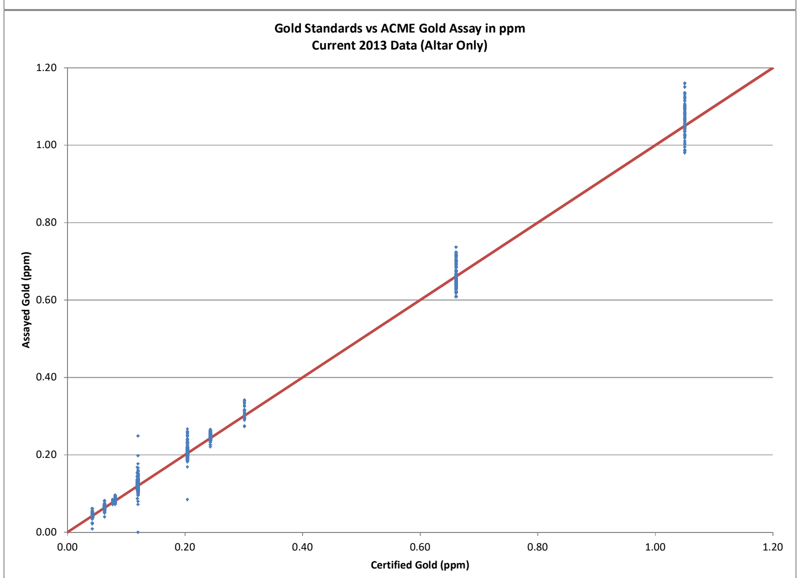
The evaluation of the 2016 standards is summarized on Figure 12-2. Of the 1,453 assay intervals within the 3 holes in Altar, there were 97 standards inserted amounting to one in 15.

Figure 12-1

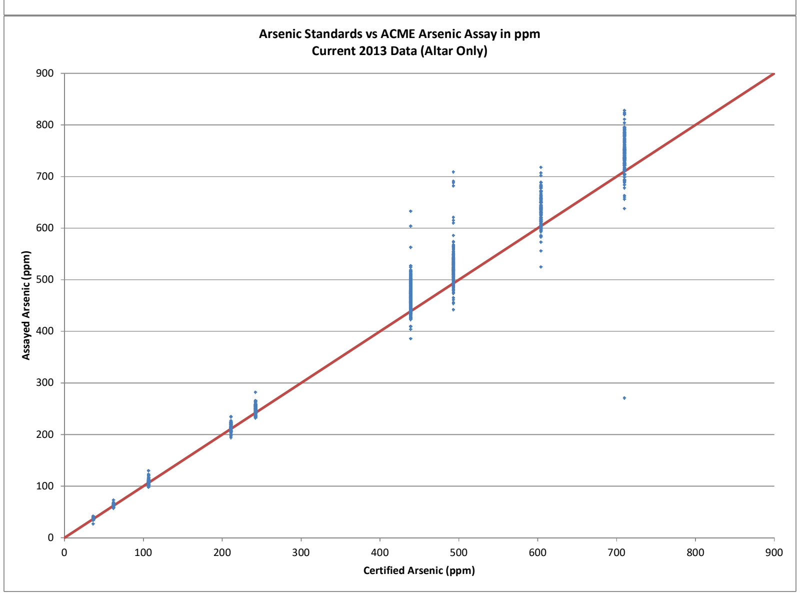
Results for Inserted Standards
Data Through 2013
QDM Drilling is Included



Copper Standards



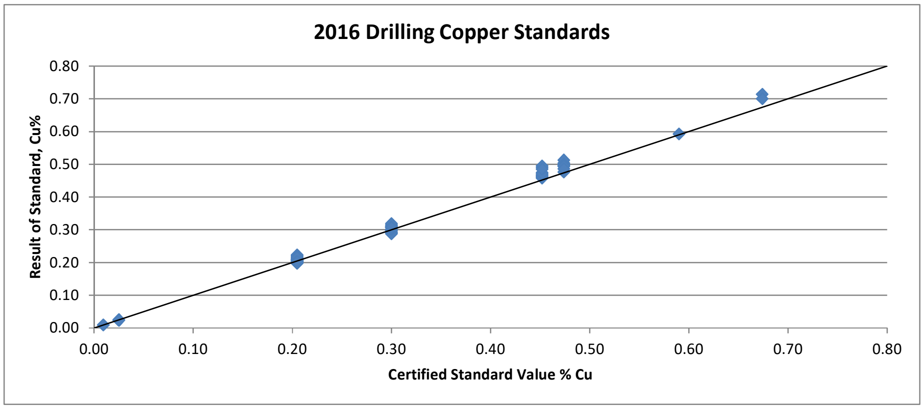
Gold Standards

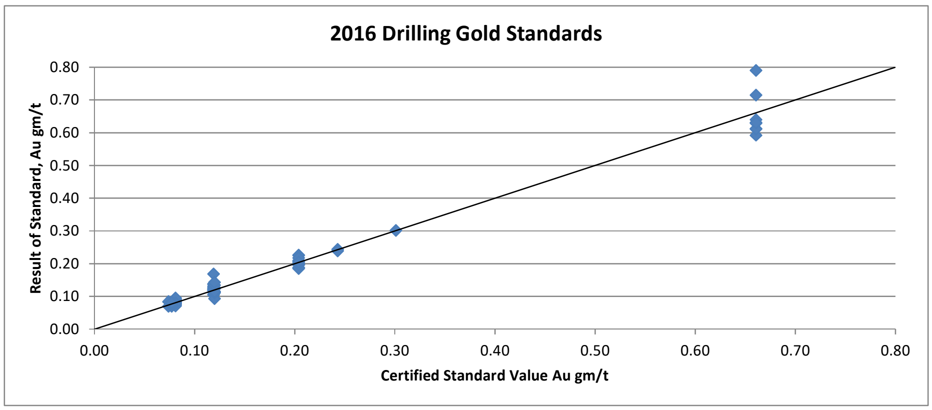


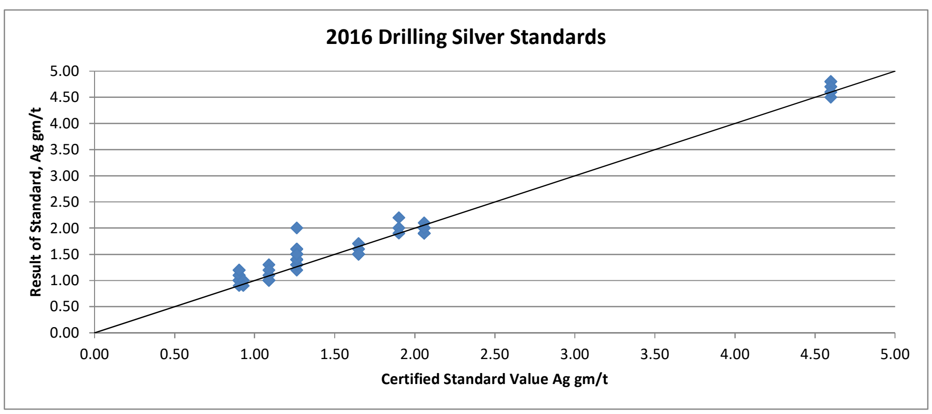
Arsenic Standards

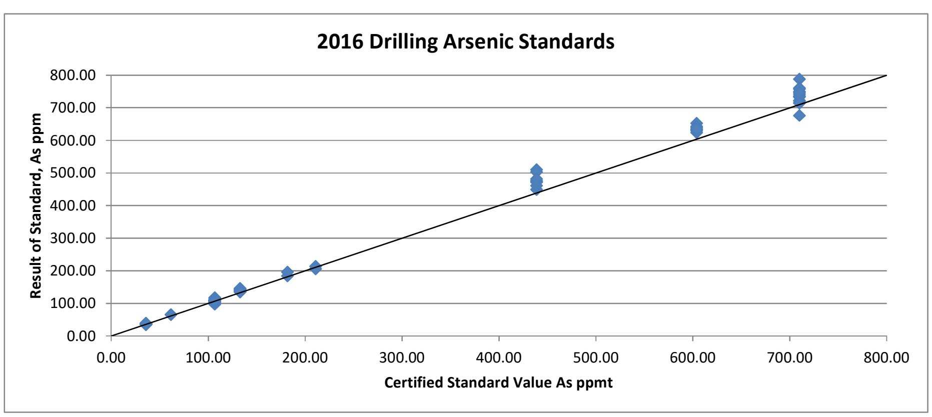
Figure 12-2

Results for Inserted Standards
2016 Data
Altar Only









12.3 Blanks

Peregrine prepared blanks from a large quantity of homogeneous granite slabs from a decorative stone quarry in Cordova province. A total of 21 samples of this material were submitted to Alex Stewart Assayers, in Mendoza to confirm the material is indeed blank. In addition, a set of commercial pulp blanks were also purchased from Alex Stewart. These commercial blanks are submitted with the outside check assays.

In total there were 1,489 blanks in the 2013 data base that span the drill hole program. This averages to an insertion rate of 31 samples which is consistent with the company protocol to insert a coarse blank for every 29 assayed samples.

Out of 1,489 submitted blanks through 2013, there are:

- 1 Copper Value above 0.10% Copper that ran 0.373% copper
- 0 Gold Values of 0.10 gm/ton
- 5 Silver Values above 0.50 gm/t the maximum of which one was 0.80 gm/t.
- 2 Arsenic Values above 100 ppm (0.01%)

Figures 12-3 and 12-4 present a summary of the blank results sorted by time as represented by the submission number. The y-axis shows the grade whose unit of measure is in the title and the x-axis chronologically displays the work orders. The warning limit on the graph was established by Peregrine to trigger their internal review of the QAQC result.

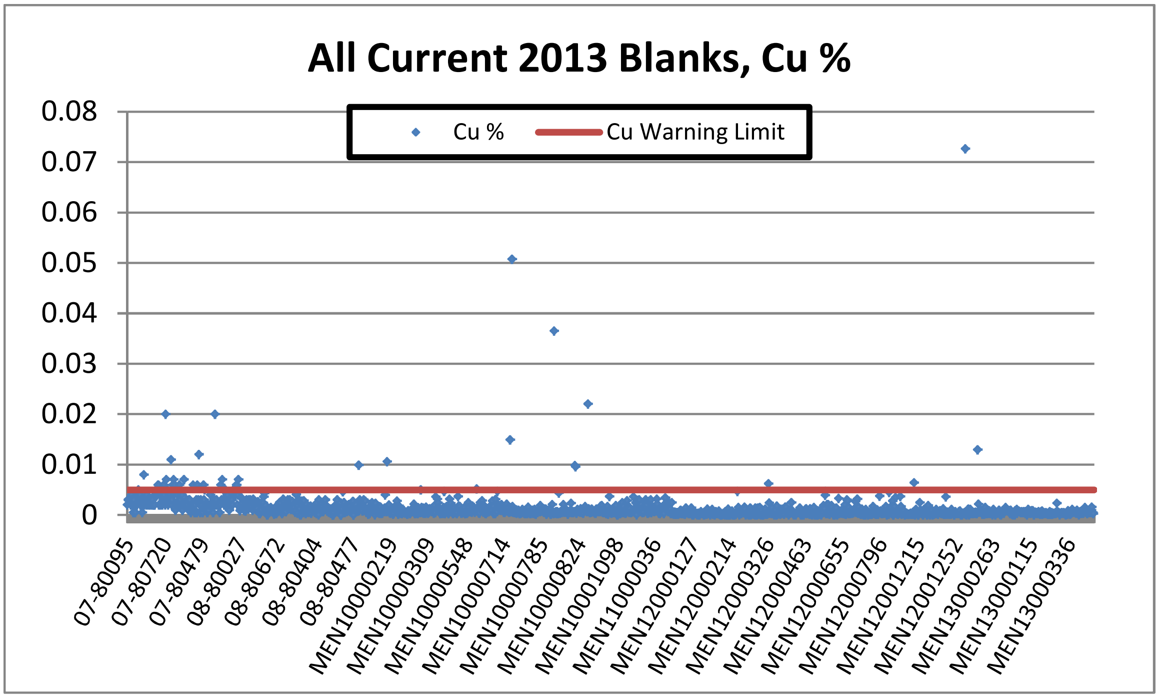
The graphs indicate that prior to 2008, the assay lab often reported arsenic blank samples higher than the Peregrine trigger value. Of 173 blanks that were ran prior to 2008, there were 106 with values above 10 ppm that averaged 32 ppm (0.0032%).

The total 1,489 blanks include 190 that were submitted during 2013. None of the 2013 blanks contributed to the outlier counts listed above.

Figure 12-5 illustrates the results of blank submissions within the 2016 drilling in the Altar deposit. No issues are observed with the 2016 blanks

Figure 12-3

Blank Results Copper and Gold



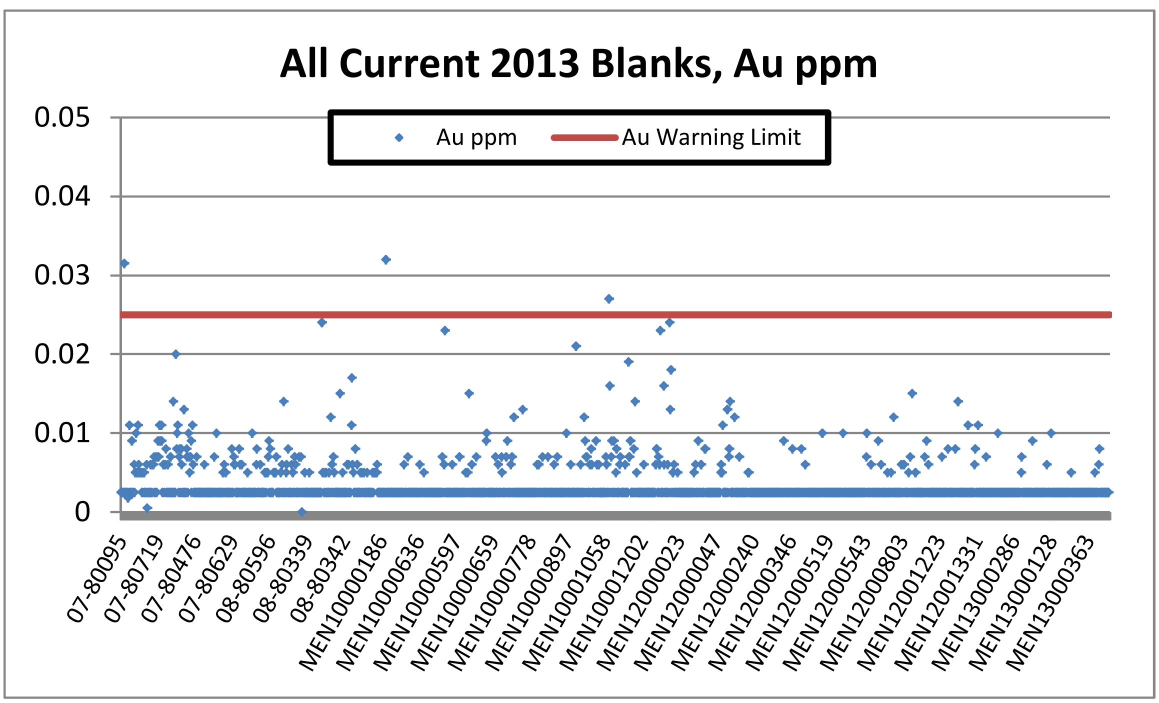
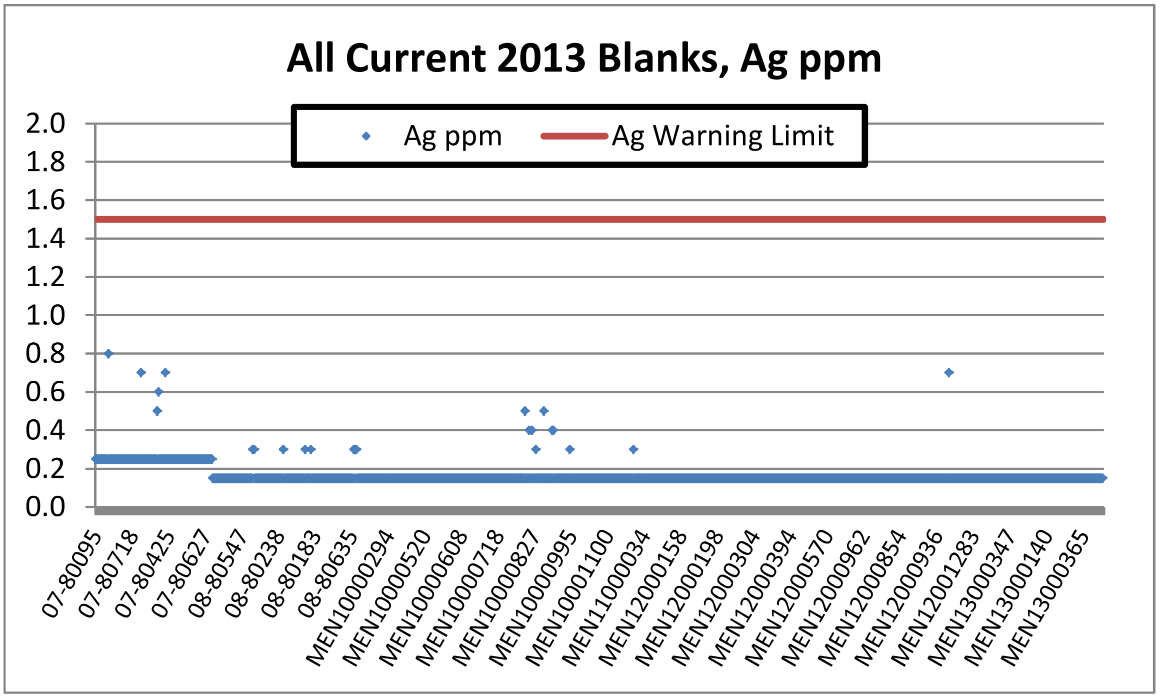


Figure 12-4

Blank Results Silver and Arsenic



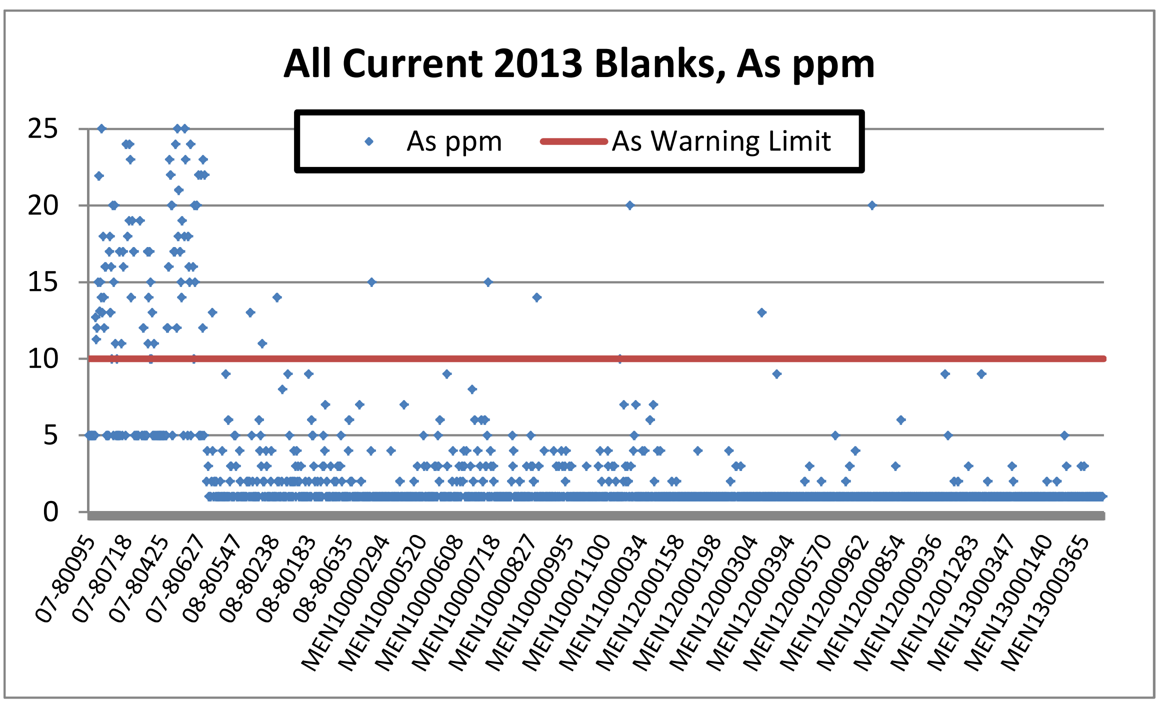
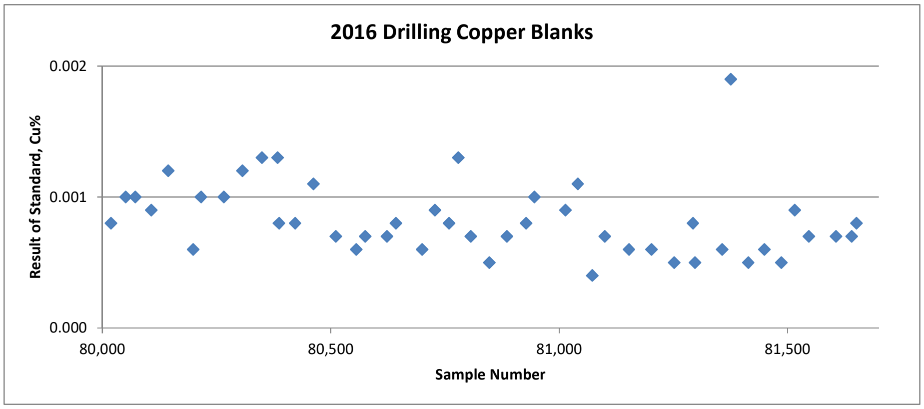
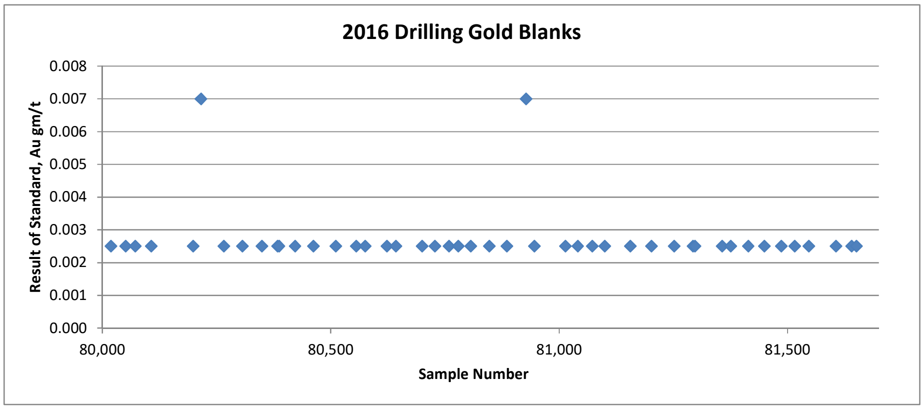
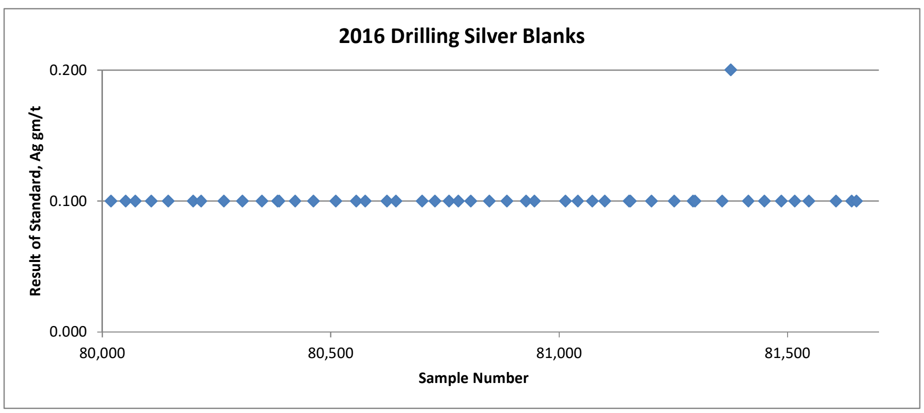


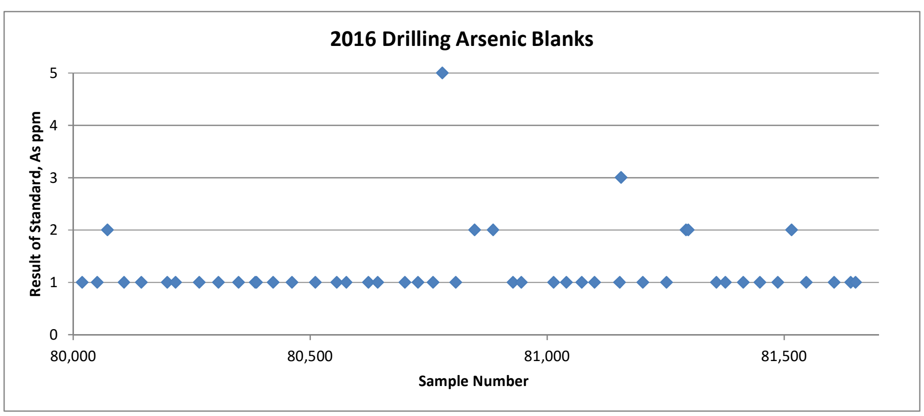
Figure 12-5

Blank Submissions, 2016
Altar Holes Only









12.4 Field Duplicates

Field duplicates are a ¼ split of the remaining half core that are prepared by Peregrine's core splitting and storage facility. The repeatability and consistency of the sample preparation and Acme assay procedures are tested with this ¼ core split process. In the sample stream, the first of the set of two duplicates are always designated as the original sample for drill hole database input.

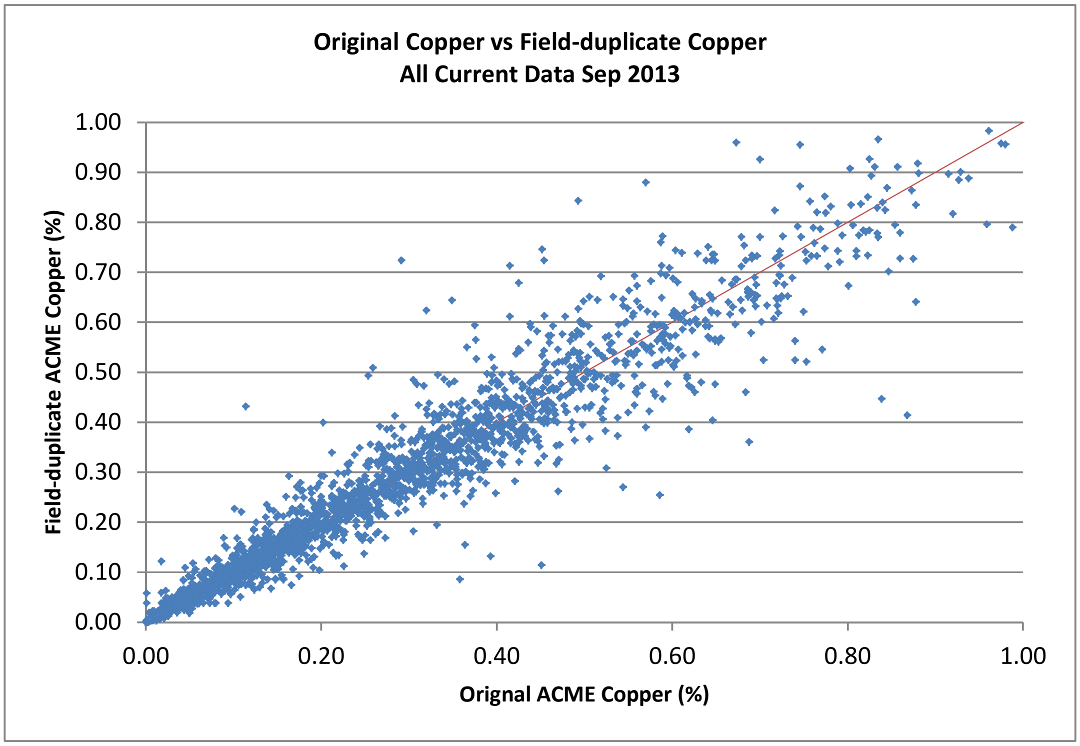
There were 3,075 field duplicates in the 2013 data set which is consistent with the 2 out of 29 selection process used in the laboratory submission protocol.

The results for 2013 are shown by scatter and QQ plots in Figures 12-6 through 12-9 for copper, gold, silver, and arsenic. Displayed on the x-axis is the original ACME assay and on the y-axis is the field-duplicate ACME assay. The scatter plot range has been limited to show the majority of the data. QQ plots represent 95% cells from 5 to 95%.

Figure 12-10 and 12-11 illustrate XY plots of the 2016 field duplicates for copper and gold.

ACME and ALS field duplicates perform as anticipated against their original assays with good repeatability and no observed bias.

Figure 12-6
2013 Split Core Field Duplicates for Copper
3075 Samples
Original Mean = 0.233% Cu,
Duplicate Mean = 0.233% Cu



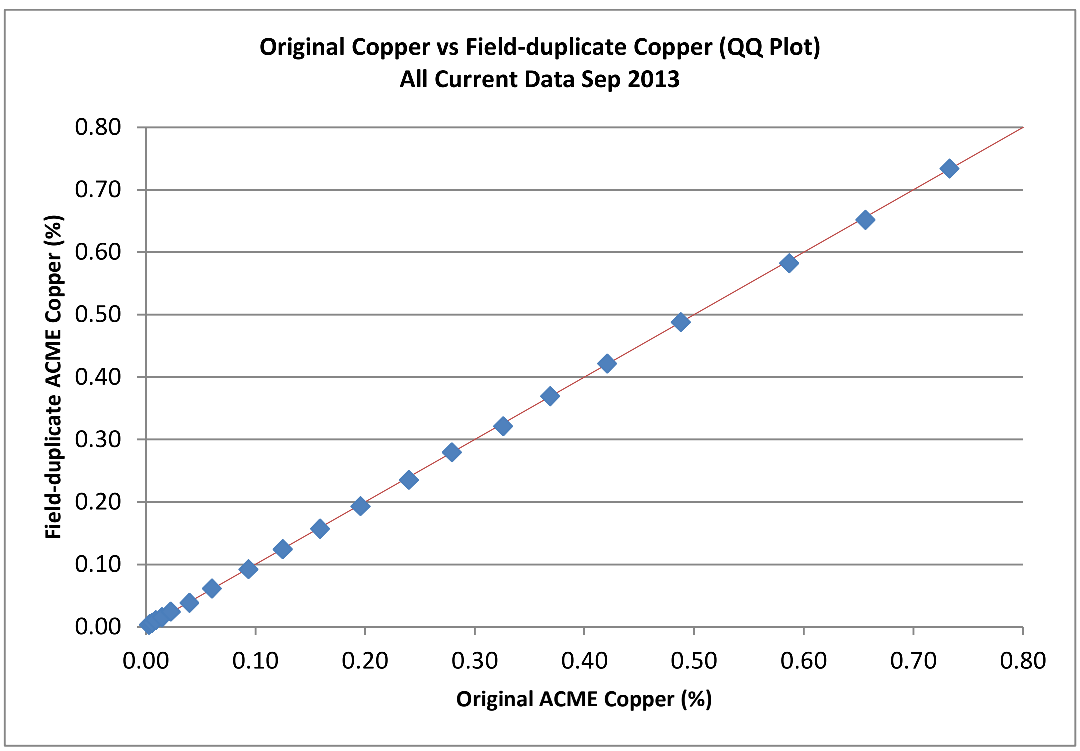
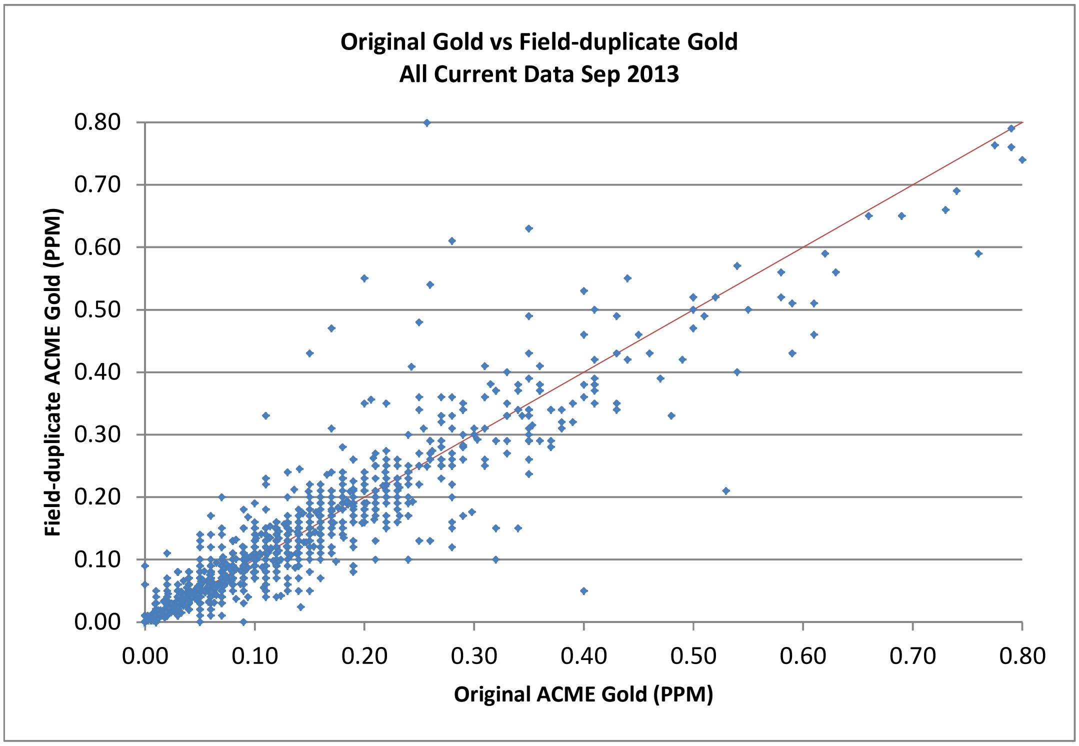


Figure 12-7
2013 Split Core Field Duplicates for Gold
3075 Samples
Original Mean = 0.087 gm/t
Duplicate Mean = 0.090 gm/t



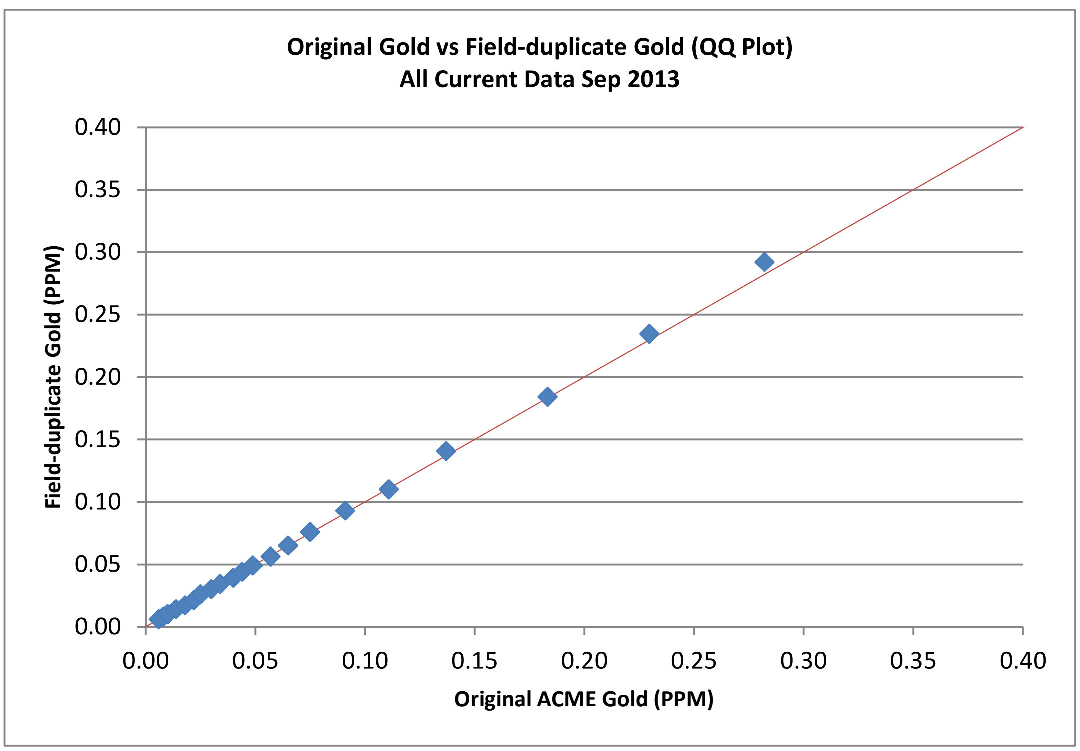
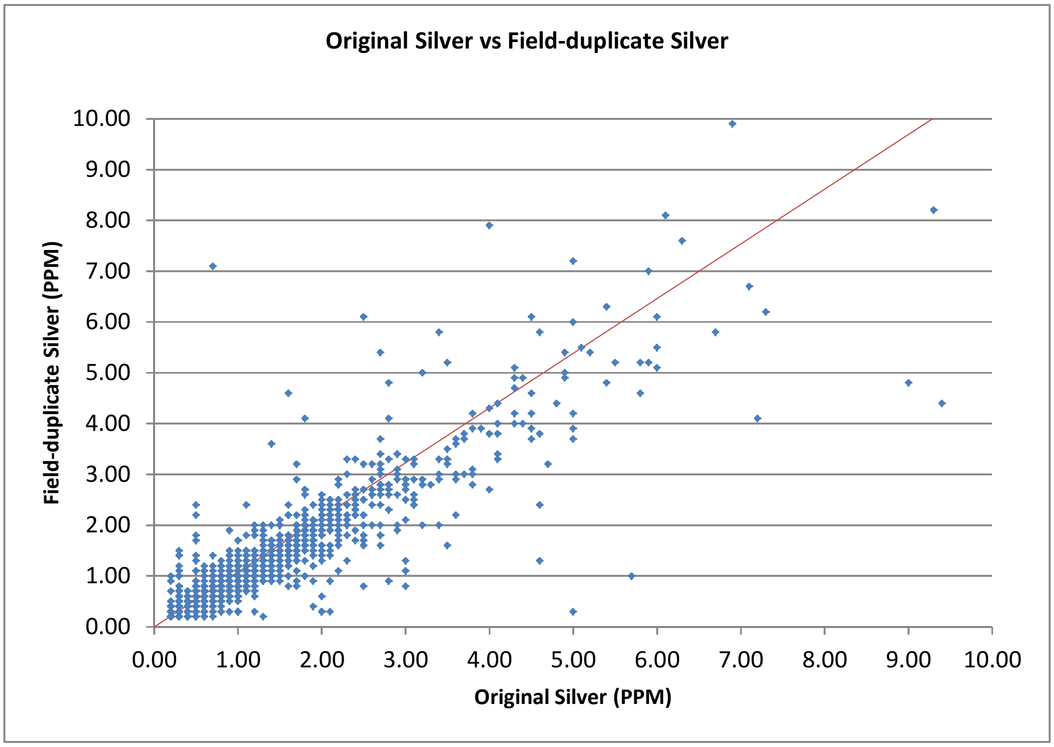


Figure 12-8
2013 Split Core Field Duplicates for Silver
3075 Samples
Original Mean = 1.018 gm/t
Duplicate Mean = 1.033 gm/t



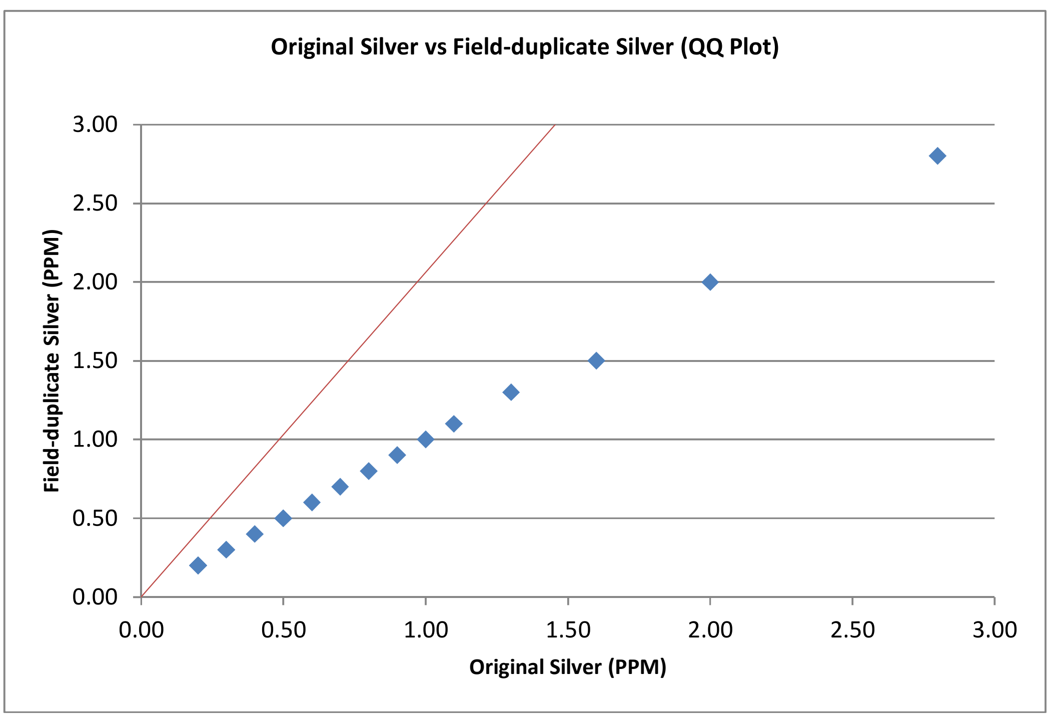
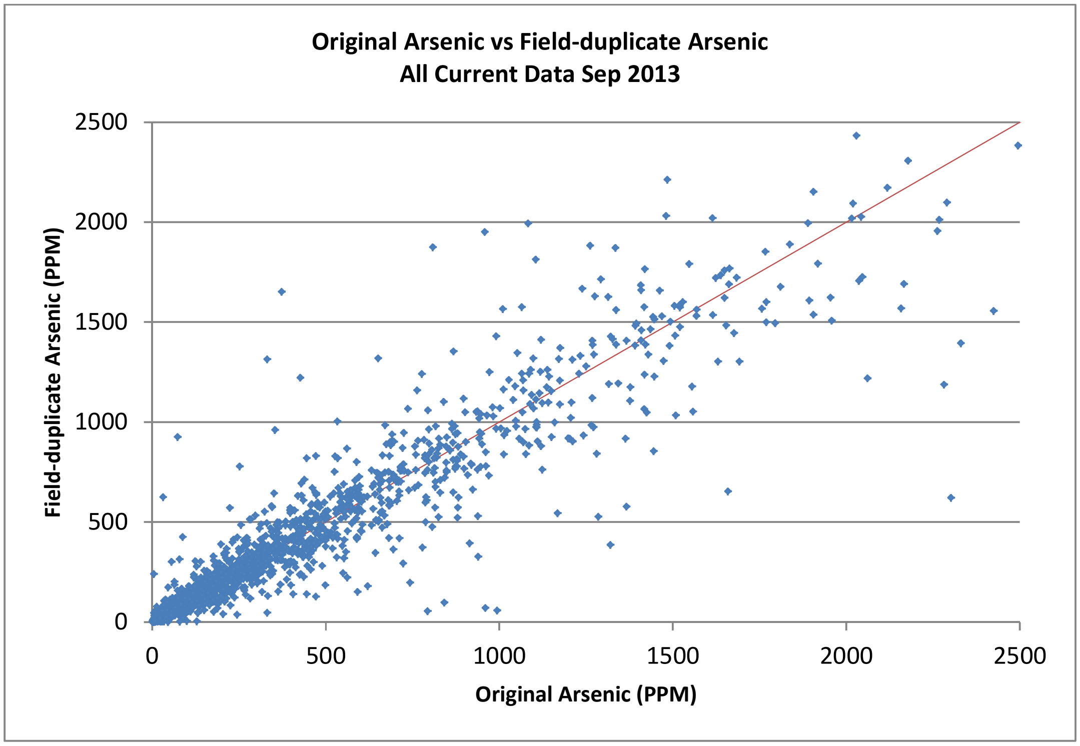


Figure 12-9
2013 Split Core Field Duplicates for Arsenic
3075 Samples
Original Mean = 262.3 ppm
Duplicate Mean = 265.6 ppm



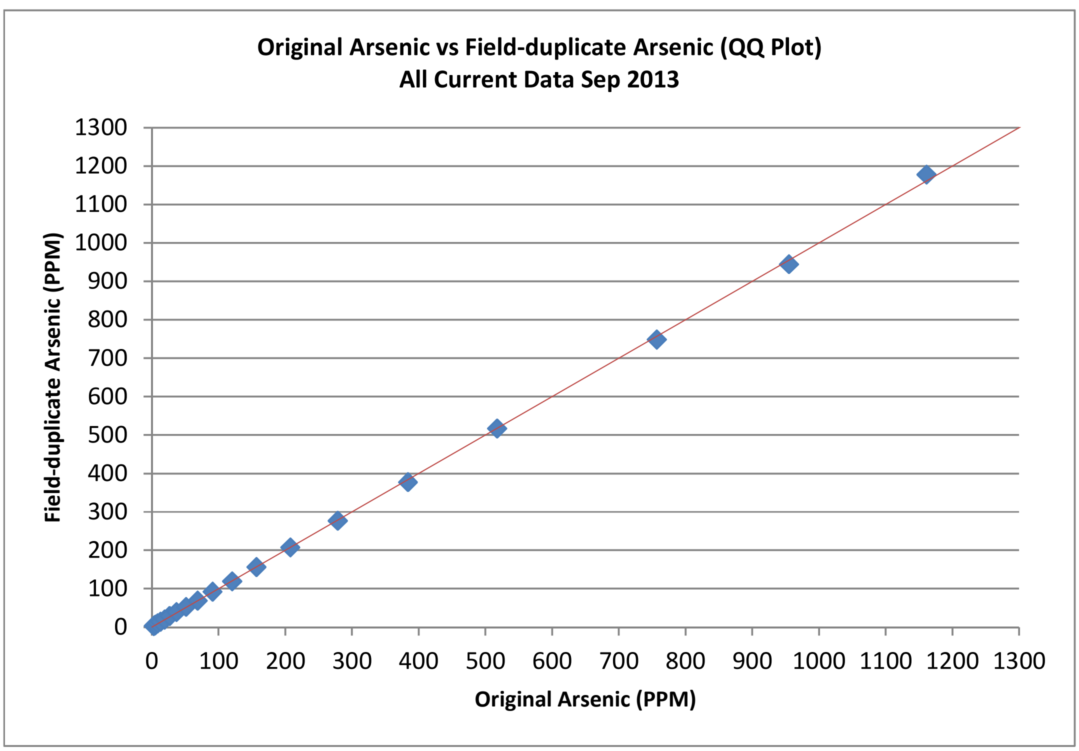


Figure 12-10
2016 Field Duplicates, Copper

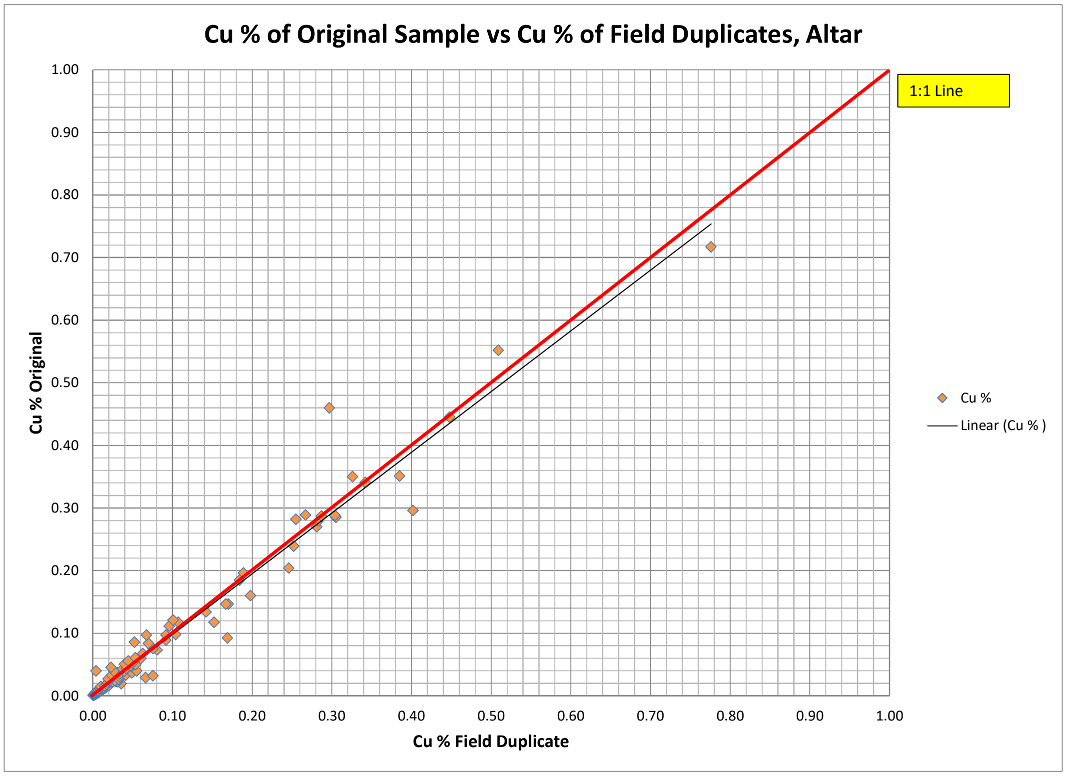
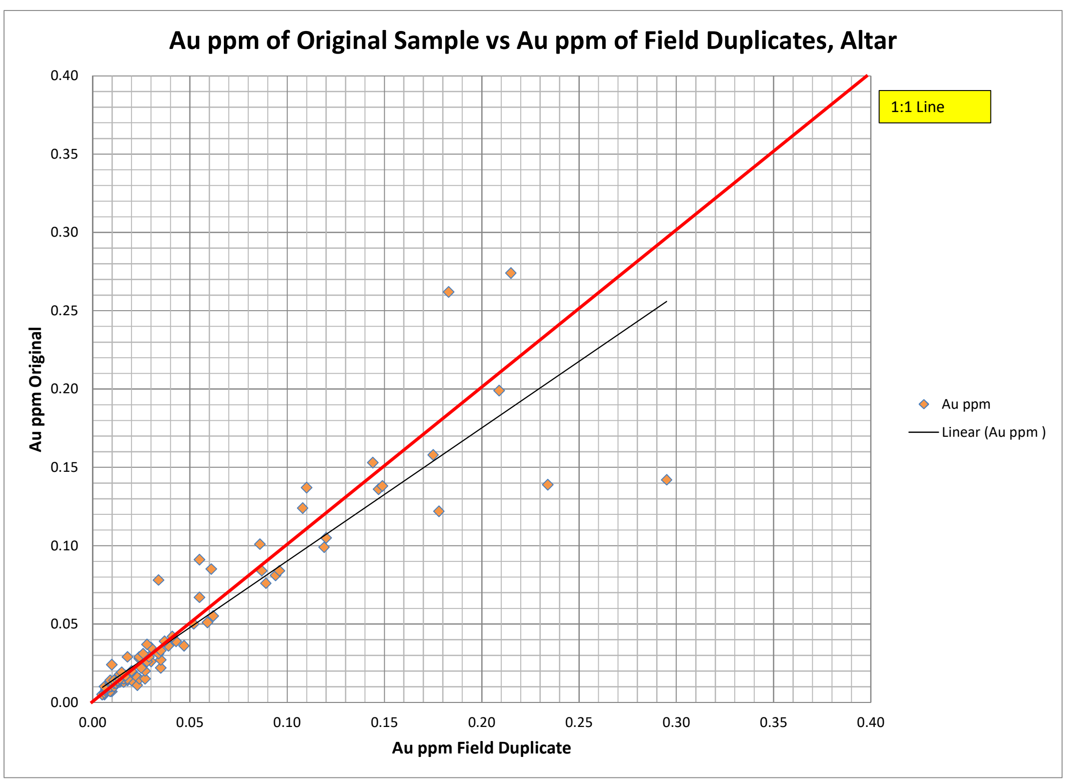


Figure 12-11
2016 Field Duplicates Gold



12.5 Secondary Laboratory Check Assays

Roughly 5% of the pulps are sent for a second assay at a separate laboratory. Check assays have been sent to Alex Stewart in Mendoza, Argentina (ASA) in some years and during 2014 to ALS Chemex in La Serena, Chile. Alex Stewart was used for the first few years of the Peregrine drill program. ALS served as the check lab when ACME was the primary lab. Alex Stewart is now the check lab with ALS as the primary lab in 2016..

Figures 12-12 through 12-15 summarize the 2013 check results for copper, gold, silver, and arsenic respectively. The XY scatter plots show the two check labs by color code on the plot. QQ plots are developed from a combination of both check lab results.

There are more gold check values than there are the other metals because the 2013 QDM gold check assays are included in the check data set. QDM was not assayed for the other metals.

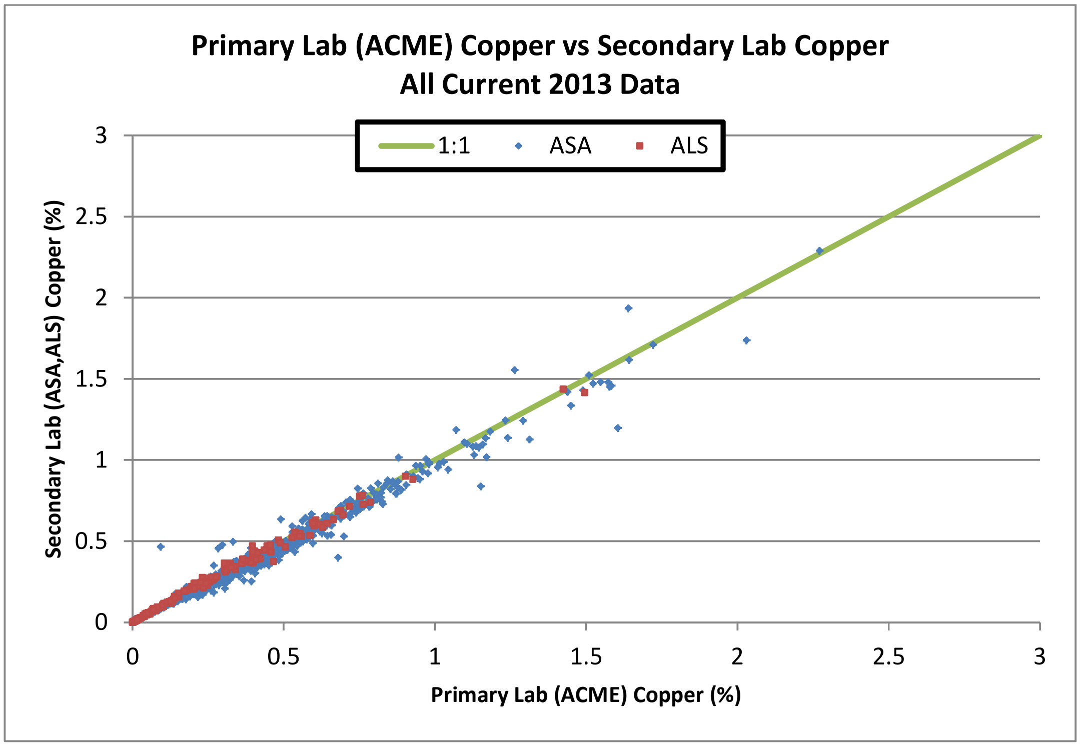
The performance of 2013 assays done by ACME hold up respectably. Copper, gold, arsenic, and silver ACME assays correspond with the secondary check labs.

An initial set of pulp checks on the 2016 assays were available at the time of this writing that represented about 20 to 25% of the total drilling in 2016. Figure 12-16 illustrates the copper and gold results showing the Alex Stewart (ASA) check assays versus the original ALS values. The information presented on Figure 12-16 are from QDM and Altar drilling. Statistical hypothesis tests on the means and sample pairing indicate that the original and checks came from the same population with 95% confidence.

12.6 Opinion

The qualified person for the data verification and resource estimate is John Marek, P.E. of Independent Mining Consultants, Inc. As a result of the data verification work, John Marek holds the opinion that the Altar data base can be reliably used for the determination of mineral resources.

Figure 12-12
Pre 2016, Pulp Check Assays for Copper
940 Samples
Original Mean = 0.373% Copper
Duplicate Mean = 0.359% Copper



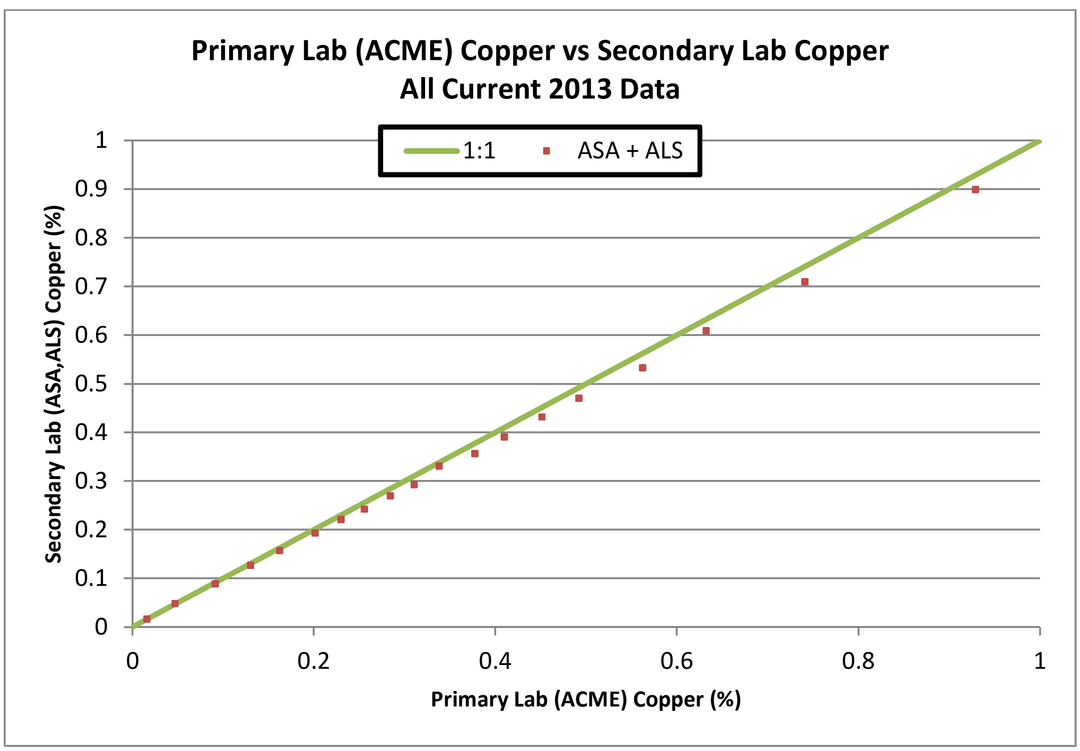
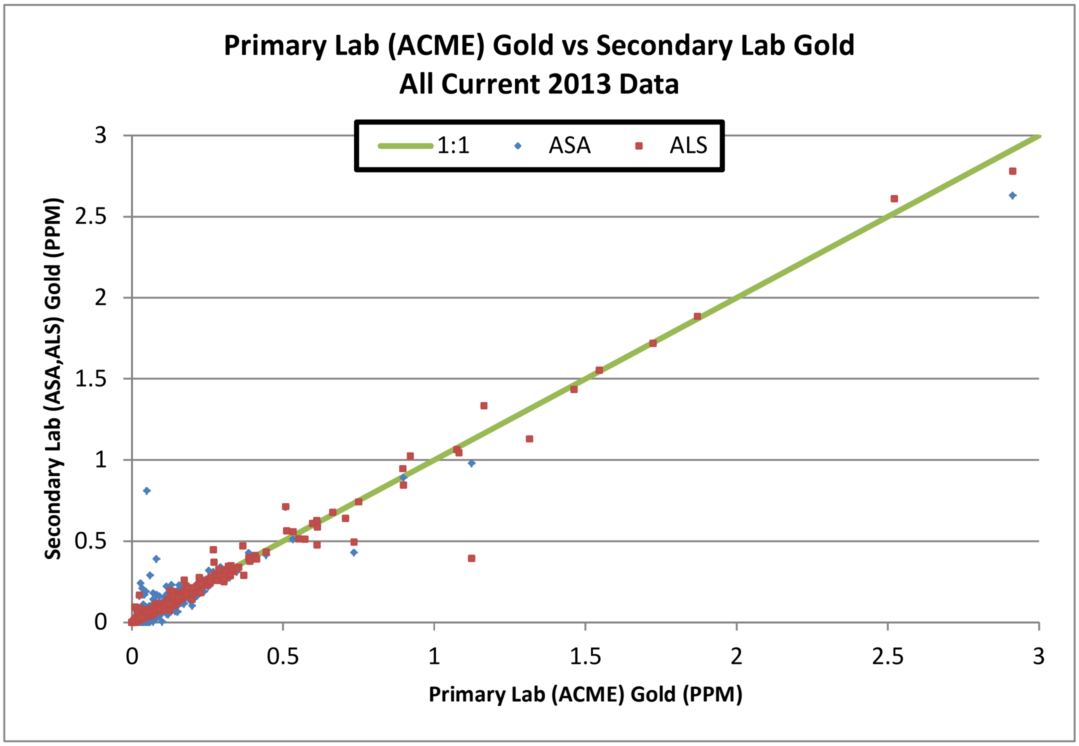


Figure 12-13
Pre 2016, Pulp Check Assays for Gold
1322 Samples
Original Mean = 0.120 gm/t
Duplicate Mean = 0.114 gm/t



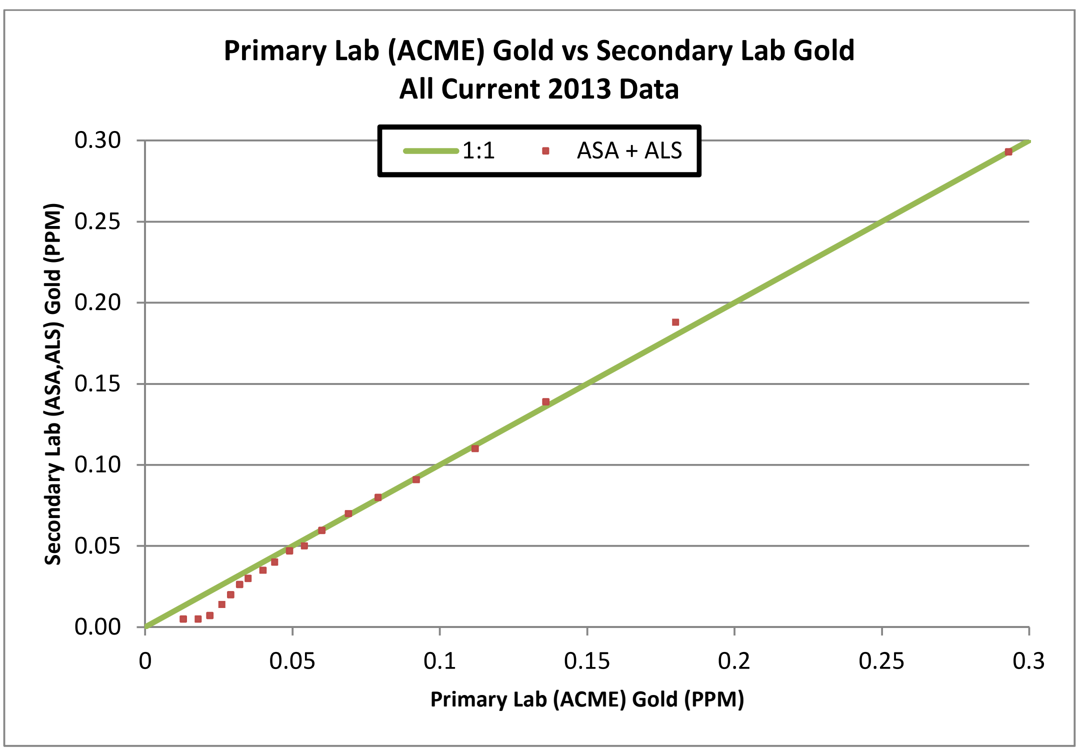
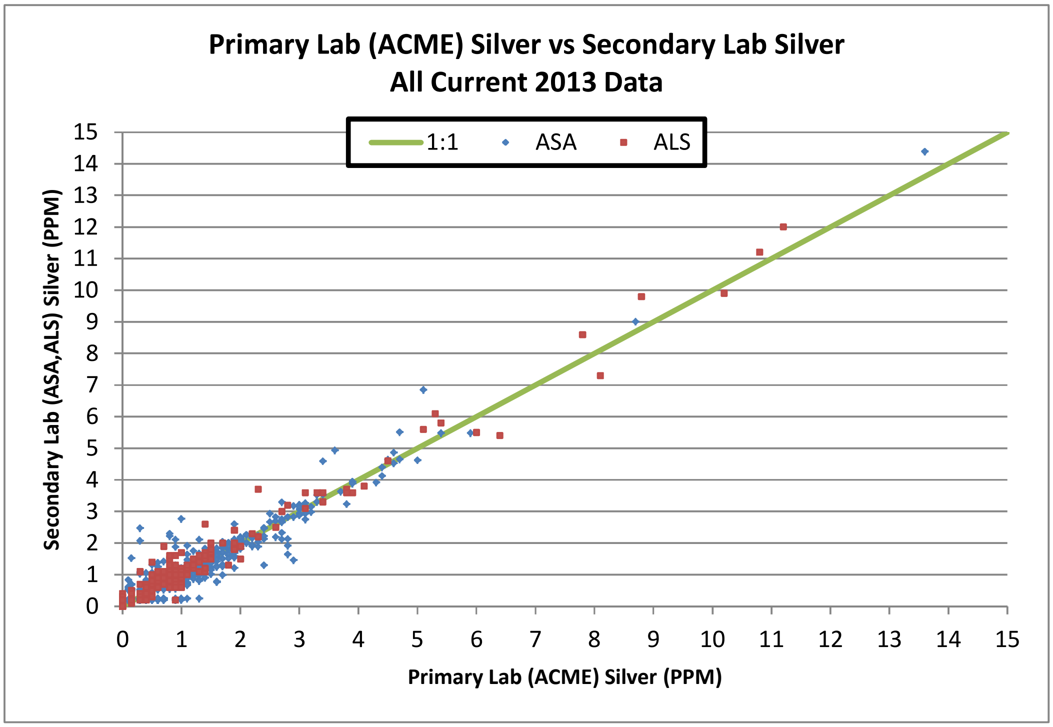


Figure 12-14
Pre 2016, Pulp Check Assays for Silver
940 Samples
Original Mean = 1.329 gm/t
Duplicate Mean = 1.381 gm/t



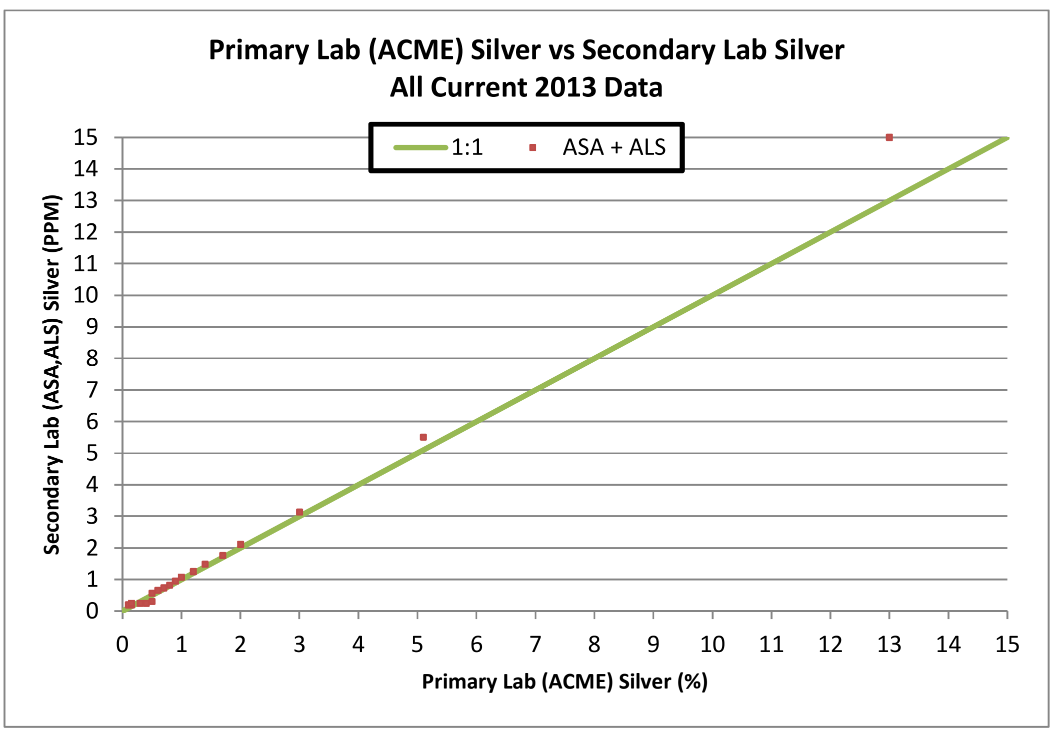
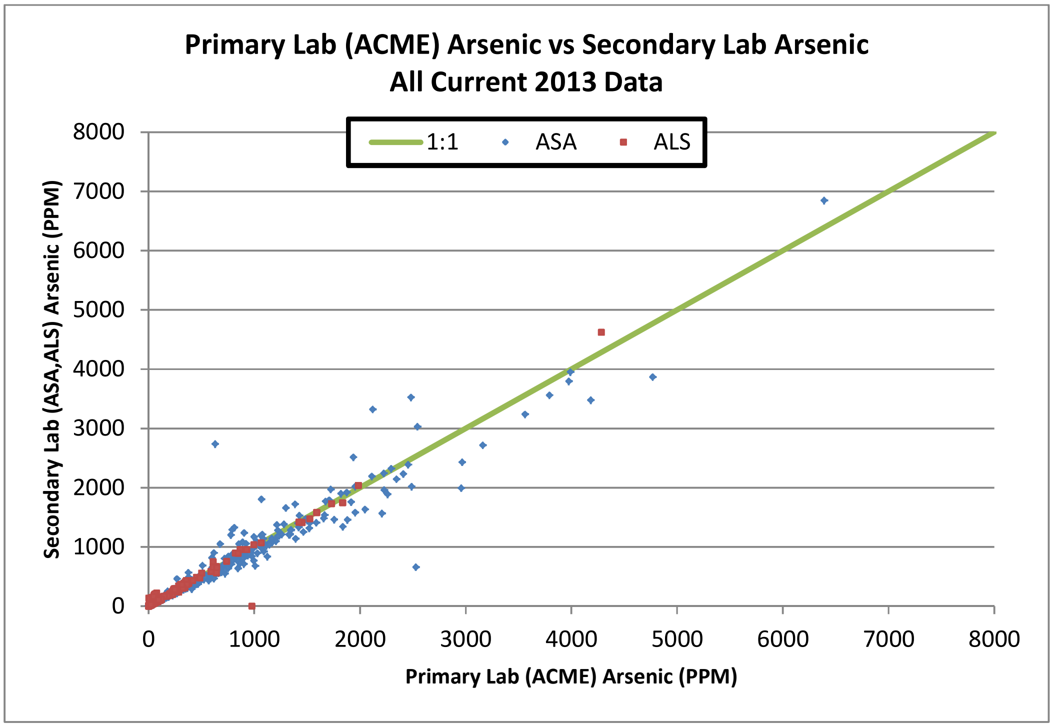


Figure 12-15
Pre 2016 Pulp Check Assays for Arsenic
940 Samples
Original Mean = 337 ppm
Duplicate Mean = 331 ppm



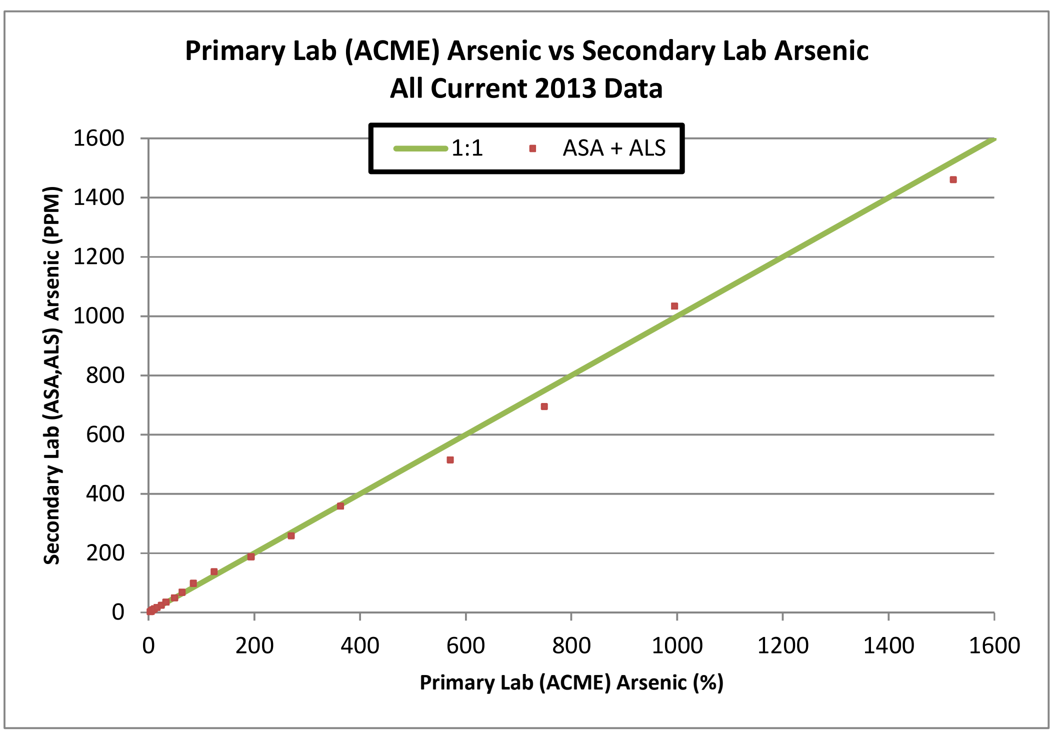
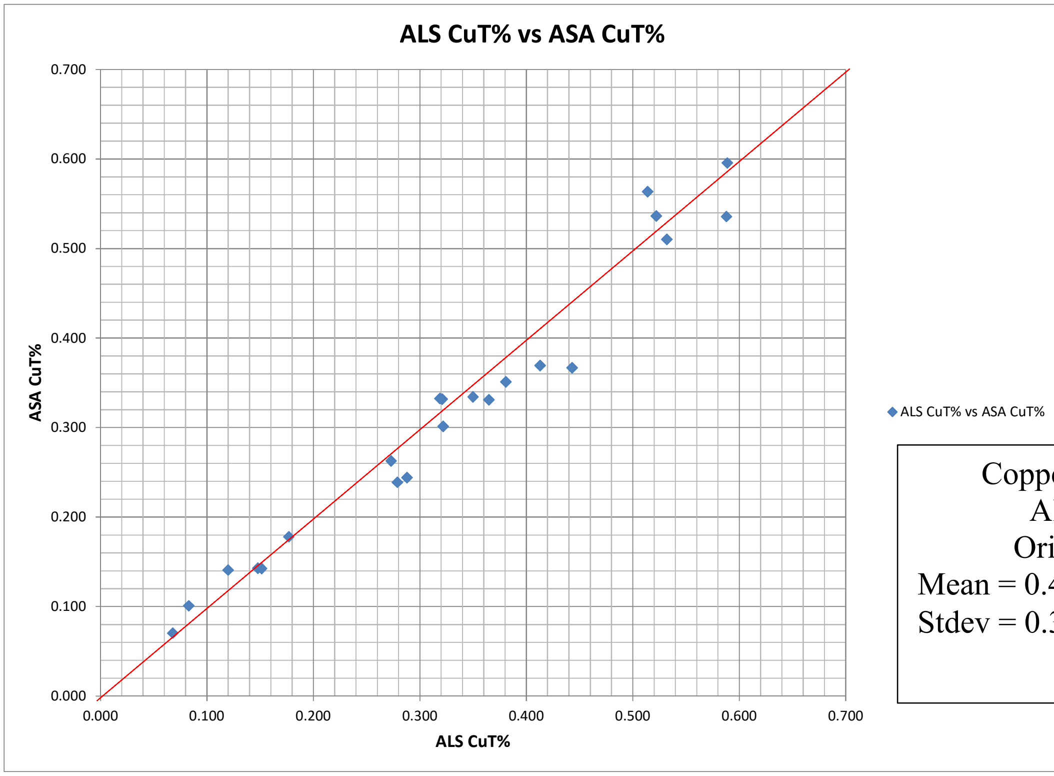
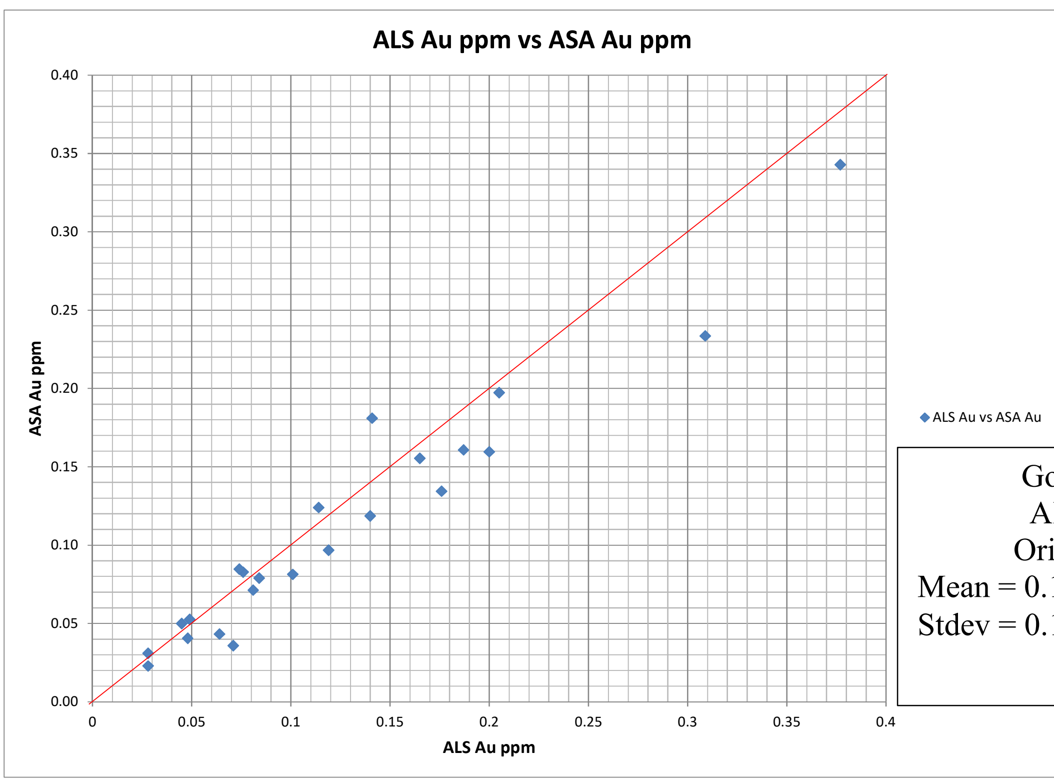


Figure 12-16
Copper and Gold Pulp Check Assays 2016



Copper Checks 2016	ALS Original	ASA Check
Mean =	0.43%	0.41%
Stdev =	0.345	0.334



Gold Checks 2016	ALS Original	ASA Check
Mean =	0.151 ppm	0.133 ppm
Stdev =	0.122	0.104

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The metallurgical development program on the Altar Copper Project started in 2007 and continued through 2014. Table 13-1 provides a summary of the programs and illustrates what testing was done, what samples were used, which entity did the work, and when it was done.

The current focus for Altar is to utilize conventional flotation to prepare a copper sulfide concentrate. Geologic evidence and process testing indicate that the concentrate will be sufficiently rich in arsenic that it would likely not be accepted by most copper smelters. As a result, some form of concentrate treatment other than direct smelting will be required.

The two forms of concentrate treatment that are considered in this study are: 1) POX treatment on-site of concentrates, and 2) Concentrate upgrade to remove arsenic followed by shipment of the clean concentrate to a smelter. The estimated resource is based on using conventional flotation followed by pressure oxidation of the concentrate at the mine site.
A number of the historic test programs outlined in this section address the potential to heap leach the soluble species of copper. Current knowledge of the Altar deposit indicates that there is insufficient leachable material to warrant further effort regarding heap leaching. The results of the test data for heap leach is however, summarized herein for completeness.

Metallurgical tests have been performed to evaluate:

- Altar Comminution
- Altar Flotation
- Concentrate Treatment Testing
- Altar Copper Leach
- Gold Cyanide Leach for Altar and QDM
- QDM Gold Flotation + Tails Leach

Samples for metallurgical testing have generally been pulled from Peregrine exploration drill core and specific metallurgical drill programs from 2007 through 2013. Eight metallurgical holes HQ diameter holes were drilled during the 2009-2010 program for comminution and column leach testing. These were twins of previous exploration holes. Five more PQ diameter metallurgical holes were drilled during the 2010-2011 season.

Some short drill intervals of specific rock types have been used for variability testing. By contrast, some large composites have been assembled from the available core for some of the tests. Both core samples and coarse crush rejects have been used where appropriate for testing.

A more detailed presentation of metallurgical test results are available as an appendix to this Technical Report. Thorough sample lists, results, and analysis are incorporated into the appendix.

Table 13-1
Summary of Metallurgical Test Programs

Program Description	Laboratory	Date
Sample preparation, initial Cu flotation study on three assay reject composites	Dawson Metallurgical Laboratories	2007
Mineralogy on Dawson float products	Dr.E. Peterson	2007
Cu bottle roll leach tests, water solubility tests on three assay reject composites.	McClelland Laboratories	2007-8
Mineralogy on McClelland bottle roll leach samples	Economic Geology Consulting	2007
Comminution testing on single porphyry, rhyolite and andesite HQ core samples.	Phillips Enterprises	2010
Gold bottle roll leach tests on 22 assay reject samples from the East and Central Zones of the Altar leach cap	McClelland Laboratories	2010
Column and bottle roll Cu leach tests, quick leach tests, water solubility tests on 15 porphyry and rhyolite HQ core composites	McClelland Laboratories	2010 – 2011
Petrographic studies on 114 assay reject samples from throughout the Altar deposit. (Sample preparation at McClelland Laboratories and Vancouver Petrographics.)	Terra Mineralogical Services	2010 - 2011
SAG mill comminution and flotation optimization/locked cycle tests on four porphyry and four rhyolite PQ core composites.	G&T Metallurgical Services	2011
SAG mill interpretive design report	M. Ian Callow	2011
Batch variability Cu flotation tests, plus Bond ball mill work index determinations on 30 core and assay reject samples	G&T Metallurgical Services	2011
Additional batch flotation and Bond ball mill work index determinations on 15 McClelland column leach composites	G&T Metallurgical Services	2011
Initial gold/silver bottle roll and column leach tests, plus diagnostic t tests on two surface samples and samples from two drill holes in the Quebrada de la Mina (QDM) deposit	McClelland Laboratories	2011
15 gold bottle roll leach tests and nine column leach tests on PQ core and assay reject samples from the East and Central Zones of the Altar leach cap	McClelland Laboratories	2011
Gold/silver/copper flotation tests on three QDM and two Altar leach cap composites	McClelland Laboratories	2011
Column and bottle roll leach tests on 10 low-grade Cu core samples from the Altar sulphide deposit	McClelland Laboratories	2011
Batch variability Cu flotation tests, plus Bond ball mill work index determinations on 53 core samples from the main and East Zones	G&T Metallurgical Services (ALS)	2012
Gold/silver/copper flotation tests and bottle roll leach test on 14 QDM and one Altar core samples	G&T Metallurgical Services (ALS)l	2012
Pilot Plant Test Work to confirm flotation response and provide sufficient concentrate for testing of concentrate alternatives.	ALMS Metallurgy Kamloops	2014
Two concentrate samples were tested to support a desk top study for concentrate treatment by POX or Concentrate Upgrade	Hydromet (Pty) Ltd.	2014

13.1 Altar Comminution Summary

The determination of Bond Ball Mill work index values (BMWi) were made with a standard screen closing size of 106µ for samples within the Altar copper reserve. The average BMWi is 14.4 kWh/t.

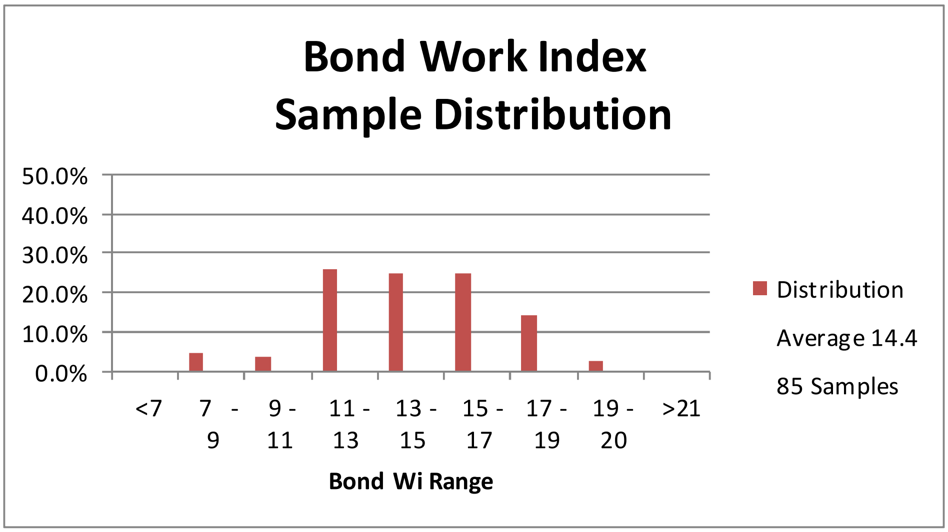


Figure 13-1

Abrasion index values ranged from 0.0750 to 0.1497. Materials with abrasion values below 0.1 are considered to have limited wear on metal surfaces. Highly abrasive materials would have abrasion index values above 0.3.

13.2 Altar Flotation Summary

<u>Flotation Conditions</u>

The standard grind size used in the flotation tests was 190µm. A basic reagent scheme incorporating Potassium Amyl Xanthate (PAX) as a collector and Methyl Isobutyl Carbonyl (MIBC) as a frother has become the Altar standard procedure. The conditions for regrind testing target 20µm K80 at a pH of 10.

Copper Recovery

The flotation tests show that there is a relationship between sulfide copper feed grade and copper recovery. This relationship is shown in the following equation:

RCu=((FCus-0.01%)*.92)/FCu

Where:

RCu = Recovery of copper as a fraction
FCus= Sulfide copper content in the head
FCu= Total copper content in the head

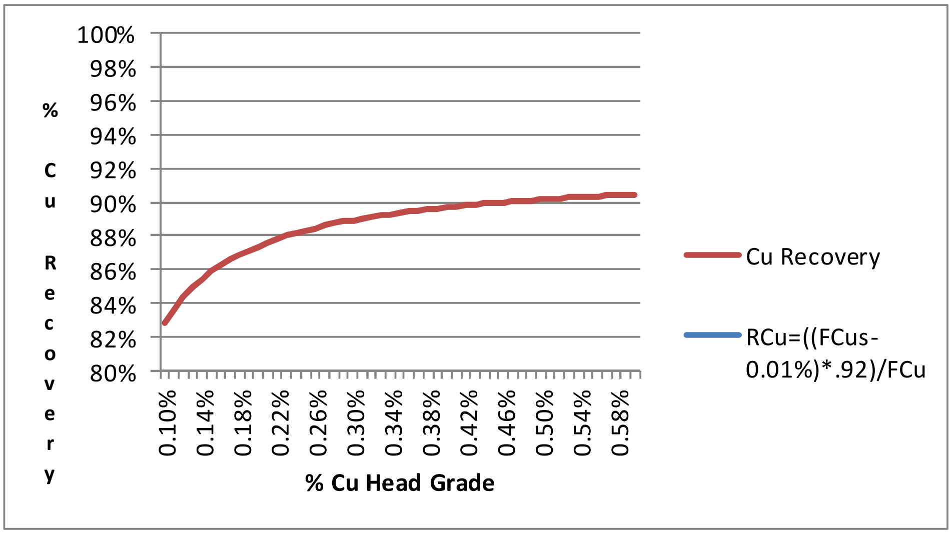


Figure 13-2, Copper Recovery vs Head Grade

Altar Concentrate Quality

A conservative estimate of concentrate produced from the Altar deposit is 26% copper with a cleaner circuit recovery of 93.5%, based on the limited number of locked cycle tests and the results obtained in the batch cleaner tests.

A suite of minor element analyses was conducted on concentrates produced in the locked cycle tests. Other than arsenic, potentially deleterious impurities are not present at levels that should present problems.

The arsenides in the samples floated well, with estimated recovery of 82.5 %. Arsenic levels in the concentrates are directly related to the sulfide copper and arsenic head grades. This relationship is illustrated as follows:

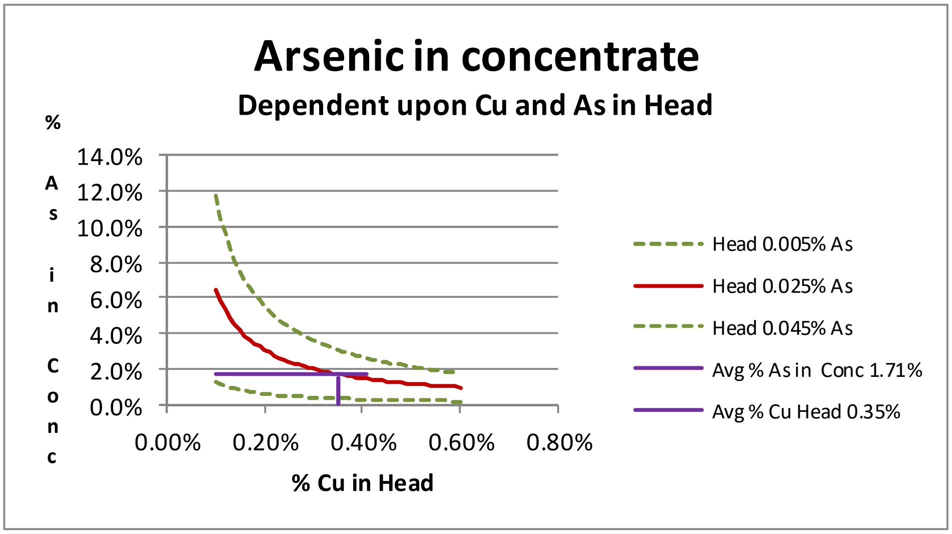


Figure 13-3, Arsenic in Concentrate

Gold Flotation Recovery

Tests have shown that if sufficient pyrite is rejected to produce a high-grade copper concentrate, the gold recovery drops to 50% or less. This outcome appears more prevalent in the porphyry unit than in the rhyolite rock type.

Altar Flotation Circuit Summary

The following bullets summarize the current thinking regarding the Altar flotation circuit.

1) The hardness of the Altar ore is quite variable, which will impact the design of the concentrator. Drop Weight Index (DWi) values vary from3.9 to 9.3 k-Wh/m^3.
2) Comminution parameters do not appear to be significantly influenced by the lithology of the ore.
3) A broader range of samples are required to define final requirements for sizing of a SAG mill.
4) The Altar ore appears to have limited abrasion of metal surfaces.
5) A broader range of samples are required to define final requirements for sizing of ball mills.
6) Altar ore is readily floatable and responds well to grind up to 300µm. Test size to date have focused on 190µm K80 size.
7) A basic reagent scheme incorporates Potassium Amyl Xanthate (PAX) as a collector, and Methyl Isobutyl Carbonyl (MIBC) as a frother.
8) Additional investigation of water solubility needs to be performed. Recycle of solutions and the impact of the soluble buildup will need to be evaluated.
9) Alternative treatment of high-arsenic concentrates other than toll smelting is indicated.

13.3 Pilot Plant Testing

Two shipments of Altar material weighing about 1.5 tonnes were shipped to ALS Metallurgy Kamloops, B.C. Canada. That material was first subjected to bench scale flotation tests including lock cycle results followed by pilot plant flotation to prepare two concentrates reflecting the sulfide component of the Central and East Altar deposits. A third concentrate composite was assembled from approximately 1,262 kg of material remaining from previous Altar metallurgical test programs. All testing at ALS Metallurgy Kamloops were supervised by Mr. Dan Turk of Stillwater Mining at the time of the testing.

The bench scale rougher and cleaner tests generally confirmed the previous bench scale flotation tests. Lock cycle results confirmed the recoveries on Figure 13-2 with copper concentrate grades ranging from 27.2 to 34.6%. Arsenic in con range from 1.1 to 3.9%.

The pilot plant work prepared sufficient quantities of three concentrates for initial testing of both pressure oxidation and concentrate upgrade. Concentrates were refrigerated and stored for shipment to the concentrate testing facility.

Pilot plant concentrates averaged 30% and 27% copper grade for the Central and East concentrates respectively. Arsenic levels in concentrate were 3.5 and 1.8% for Central and East respectively. Gold averaged 4.6 gm/t in both concentrates.

13.4 Concentrate Treatment Testing

Two methods of concentrate treatment were tested on a preliminary basis by Hydromet (Pty) Ltd. under the guidance of Mr. Grenvil Dunn.

1) Pressure oxidation (POX) followed by solvent extraction and electro-winning (SXEW) of the oxidized concentrate. After extraction of the copper, the concentrate would be neutralized and subjected to Cyanide Vat Leaching (Cn Leach) to remove the gold and silver from the concentrate to produce a precious metal dore by carbon in pulp processing.

2) Copper Concentrate upgrading using regenerated sodium hydroxide to remove the arsenic and antimony. A clean copper concentrate would be transported to a conventional smelter for recovery of copper, gold, and silver.

The test work was reported in the document: Peregrine Metals Ltd, Altar Project, Trade Off Study for the Treatment of its Altar Concentrate Employing Two Hydrometallurgical Options, Rev 0, 9 May 2014, by Hydromet (Pty) Ltd.

Two concentrates from Altar were tested. A majority of the work was done on the Central Concentrate with a lesser amount done on the Eastern Concentrate. Both concentrates were similar in copper and or impurity element extraction and reagent consumption. Sufficient test work was completed to outline a basic flow sheet and order of magnitude capital and operating costs for both concentrate treatment flowsheets.

13.5 Altar Copper Leach Summary

The copper leach program consisted of bottle roll and column test. The focus was to determine how the various ore and process parameters affect leach performance of the copper sulfide ores. Parameters included crush size, lithology (porphyry and rhyolite), head grade, and the degree of solubility.

Stillwater completed a number of sequential copper assays on core and on the samples for metallurgical testing. In simple terms, copper oxide minerals are solubilized in the sulfuric acid soluble procedure. Secondary enriched copper minerals are solubilized in the cyanide lixivant that follows the acid soluble procedure.

This solubility ratio served as a rough guide to the percentage of the total copper that is readily leachable. Material having a low solubility would be considered refractory and not be expected to leach as rapidly or completely as material with a high ratio. The solubility ratio was defined as:

Solubility Ratio = (Cu acid soluble + Cu CN soluble) / Total Cu

To improve the predictability of the leachable copper, a factor was added. The additional factor takes into account that enargite, Cu_3AsS_4 is soluble in cyanide however it is refractory in typical ferric sulfate leach solution. The resulting formula is:

(Cu acid soluble + Cu CN soluble – 2.544 x %As in feed) / Total Cu

The copper leach tests can be summarized as follows:

1) Results showed that the Altar ore was not particularly sensitive to feed size with respect to copper recovery.
2) Copper recovery is predictable
3) There is strong evidence that in the latter part of the leach cycle, the column charge was oxidizing and acid generating. All of the columns were still slowly leaching when testing was terminated. This would suggest additional copper extraction would result from the more refractory copper minerals.
4) Net acid consumption was low, averaging less than 7 Kg/Tonne.
5) Column leach tests were reproducible.
6) Additional investigation of water solubility needs to be performed. Recycle of solutions and the impact of the soluble buildup will need to be evaluated if copper leaching is contemplated in the future.

13.6 Gold Cyanide Leach Tests

Bottle roll tests were completed on samples from Altar and from QDM. Altar samples were near surface and generally from areas of the copper leached cap.

Altar Cn Leach Summary

1) The Altar oxidized leach cap appears to be amenable to cyanide leaching for gold recovery. The median gold recovery exceeds 80% and cyanide consumption is low.
2) Gold recovery is largely independent of either lithology or the ore zone, but tends to decrease with increasing depth.
3) The gold leaches rapidly, with most of the extraction occurring within 24 hours.
4) Silver recovery is erratic, but low, and is not likely to contribute to the project significantly.
5) Copper recovery is highly variable. If high enough, it could complicate gold recovery.
6) The bottle roll procedure is reproducible and testing was not subject to serious analytical issues.

QDM Cn Leach Summary

The results of the bottle roll cyanide leach tests at QDM were less encouraging than those obtained for the Altar leach cap. Gold recovery averaged 58% for the entire group of samples with values ranging from 49% to 78%.

The following QDM results were reported in a previous Technical Report of 31 January 2014. The information is re-included here for completeness.

13.7 QDM Gold Flotation and Gold Leach

Rougher flotation test were performed on the QDM samples at a grind size of 210µm K80. Flotation conditions were the same as used for the Altar rougher flotation. The results show the material identified as Oxide does contain significant sulfide gold mineralization. Rougher recovery averaged: 44.4%, 76.2%, and 87.1% for material classifications or Oxide, Mixed, and Sulfide respectfully.

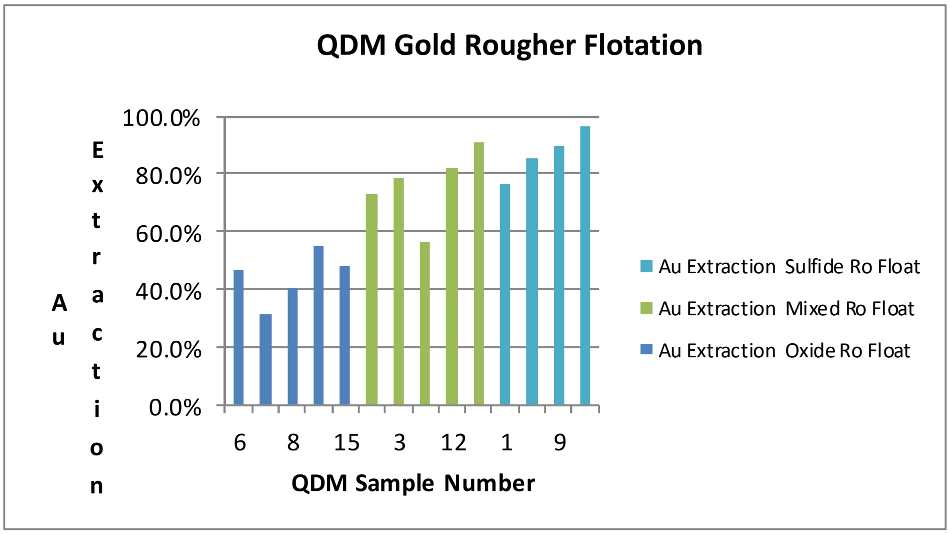


Figure 13-4

Gold Leach Test on Flotation Tails

Cyanide bottle roll leach test tails were performed on tail from the above rougher flotation test. Average reagent consumption kg/tonne were:

	Oxide	Mixed	Sulfide
Lime	9.98 kg/t	1.00	0.90
NaCN	0.68	0.84	0.73

The gold extraction in these bottle roll tests on flotation tails resulted in recoveries of: 46.5%, 21.0%, and 8.8% for the material classifications Oxide, Mixed, and Sulfide respectfully.

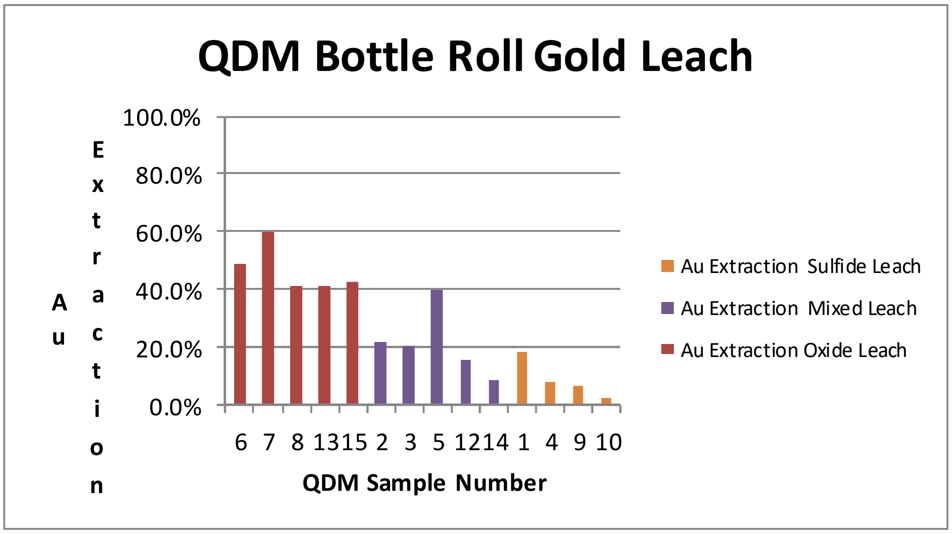


Figure 13-5

Gold Flotation and Leach Combined

Gold extraction combining flotation followed by cyanide leach produced a combined gold extraction average of 94.6 %.

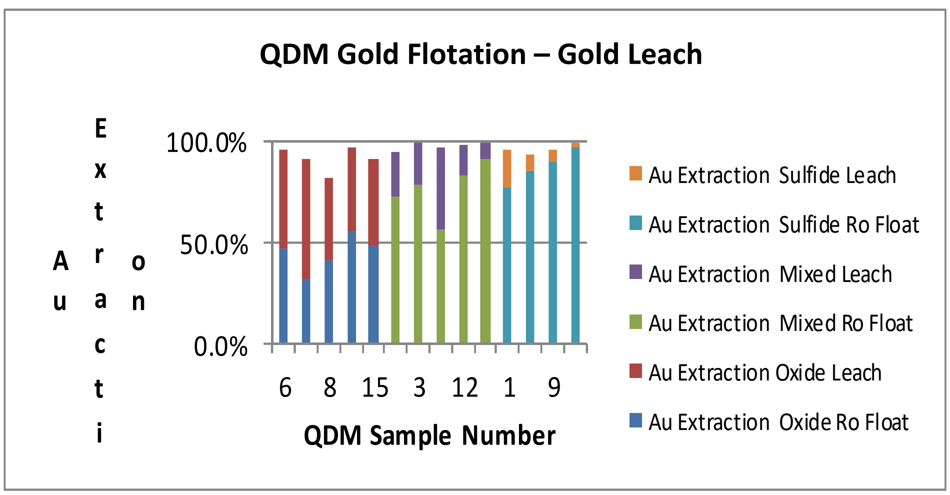


Figure 13-6

Conclusion QDM Gold

The QDM mineral reserve does not appear to have sufficient oxide material to develop a gold leach operation. It also appears not to have sufficient mineralization to develop a standalone gold flotation process.

A possible treatment process could include batch processing the QMD material though an Altar copper flotation process. The concentrate could either be oxidized and gold metal recovered or transported and sold to an outside interest.

14.0 MINERAL RESOURCE ESTIMATE

The mineral resource estimate for Altar Main and QDM has been developed from two computer block models based on drilling results and geologic interpretation provided by Minera Peregrine/Stillwater staff through the end of the 2011-2013 drilling season. Assay and drilling data were provided to IMC in August, 2013. John Marek of Independent Mining Consultants, Inc. is the qualified person for this section and the estimation of mineral resources.

The drilling completed during 2016 and 2017 has been evaluated by IMC and the QP, to assure that it does not have a material impact on the resource model presented in this section. The check procedures applied to the 2016 and 2017 drilling are described later in this section.

Two separate models have been developed for Altar Main and QDM due primarily to the 2km distance between the two projects and differences in mineralization.

For Altar Main, which includes Altar Central and Altar East, copper, gold, silver, and arsenic values in the block model have been incorporated into the calculation of economic value in order to establish Altar Main's contribution to the mineral resource estimate. Molybdenum has been estimated but does not contribute economically to the mineral resource. It is uncertain whether the molybdenum at Altar Main has the grade to justify the addition of a molybdenum circuit at current prices.

At QDM, only gold and silver values have been assigned economic credit to establish QDM's contribution to the mineral resource estimate. Copper and molybdenum have been estimated and do not contribute economically to the mineral resource.

The component of the mineralization that meets the mineral resource requirements for "reasonable prospects of economic extraction" was based on the results of the floating cone pit algorithm. The results of the floating cones are summarized at the end of this section when presenting the mineral resource. Sensitivity to changes in costs and metal prices since the original work in 2013 are presented with the statement of mineral resources.

14.1 Altar Block Model

Model Location

The model size and location of Altar Main is summarized below in Table 14-1 in the Gauss Kruger projection coordinates.

Table 14-1
2013 Sep Altar Main Model - Size and Location

Model Limits	Corner Coordinates			
	Southwest	Northwest	Northeast	Southeast
Easting	2,357,500	2,357,500	2,362,500	2,362,500
Northing	6,515,000	6,519,000	6,519,000	6,515,000
Elevation Range		2,500	4,405	
Model Rotation:	None			
		Columns	Rows	Levels
Size		200	160	127
Block Size	25 x 25 x 15 m Bench ht = 15 m			

Drill Hole Data

Altar project drilling has been generally been conducted on a 100m by 100m grid drill hole spacing. The drill hole database as of the download since August 2013 has a total of 219 drill holes measuring 94,686 meters of core containing 46,431 assay intervals. Altar Main, constituting Altar Central and Altar East, account for a total of 191 drill holes. The remainder of the data base is within the QDM deposit.

A number of intervals in Altar Main were assayed for sequential copper with sulfuric acid soluble followed by cyanide soluble assays on the residue of the sulfuric acid assay. A second total copper assay was then run on the final residue of the acid plus cyanide soluble so that the total of the three values could be checked against the original total copper assay. Sulfuric acid soluble assays will be abbreviated as “ascu” and cyanide soluble assays will be abbreviated as “cucn”.

Basic statistics and cumulative frequency plots were studied to determine the level at which outlier values should be capped. Altar assay grade capping was completed on copper, gold, silver, arsenic, molybdenum, and sequential copper data for Altar Main is summarized as follows:

Table 14-2
Altar Main Assay Cap Values
2013 Sep

Item	Cap Value
Copper	2.50 %
Gold	1.50 gm/t
Arsenic	1.0 %
Silver	50 ppm
Moly	0.15 %
Sulfur	None
Ascu	0.35 %
Cucn	2.50 %

Altar drill holes were composited at 15 meter down hole (length) intervals. A minimum composite length of 7.5 m was required for block estimation. Table 14-3 summarizes the assay data after capping was applied as well as when composited. This table includes the drill hole data that is contained in the Altar Main model only.

Table 14-3
Basic Statistics, Altar Main Drill Hole Data
Sep 2013 Data

Item	After Cap Assays		15-m Composites	
	Number	Mean	Number	Mean
Copper, %	42,770	0.246	5,720	0.245
Gold, gm/tonne	42,770	0.070	5,720	0.070
Silver, gm/tonne	42,770	0.907	5,720	0.904
Molybdenum, %	41,129	0.002	5,528	0.002
Arsenic, %	42,770	0.028	6,184	0.028
Sulfur%	28,490	2.866	3,818	2.860
Ascu %	7,213	0.029	946	0.029
Cucn %	7,213	0.152	946	0.153

The model was assembled with the data listed above during 2013. During 2016, two holes ALD-206 and ALD-207 were drilled at Altar East with the intent of targeting deep mineralizaiton below the open pit resource. Deep high grade was not intercepted with those holes. Once composited, those holes contain 54 and 60 composites repectively of which 52 and 41 respective composites are actually contained in the mineral rsource pit defined from the the 2013 drilling. These two holes would represent less than 2% additional drilling in Altar. None of the other 2016 holes or any of the 2017 holes intercepted the resource pit geometries.

The 2017 drilling is not material to the mineral resource since most of it was targeting outside exploration that is outside of the stated mineral resource.

The impact of the two 2016 holes on the 2013 mineral resource was measured with the following steps.

1) Drill Holes ALD-206 and ALD-207 composite values were compared to the block grades they penetrated based on the 2013 drilling
2) The 2013 model was quickly updated including the 2016 holes and the tonnage and grade reported that is contained in the 2013 resource pit.

The 2016 drill holes had the same average grade for copper as the 2013 model blocks that contained the composites. The gold and silver composite values for 2016 were slightly higher than the block model grades.

When the model was quickly updated with the 2016 composites, the overall inpact on the tabulation inside the 2013 resource pit was 1.1% more tonnage and roughly 0.2% more contained metal. These values are sufficiently small that their impact is neglible and confirms that the 2016 drilling is not material to the statement of mineral resources.

The desription of the model that follows summarizes the 2013 model procedures and results. The discussion of mineral resource will address the sensitivty of metal price and cost changes since the 2013 work.

Model Geology

Geologic interpretation of the major lithologic units was completed by Peregrine personnel. The interpretation was transferred to and verified by IMC. The interpretation was provided in the form of a surfaces and solids which IMC then coded into the block model. The most important host lithologies for ore are the Tdp, Tphp, Tinbx and Tpvb units.

Table 14-4
Altar & QDM Model Rock Types

Model Code	Abv.	Prj.	Rock Type
1	Ovbn	Both	Overburden
2	Tpr	Alt	Tertiary Pachon Rhyolite
3	Tpa	Both	Tertiary Pachon Andesite
4	Tdp	Alt	Tertiary Diorite Porphyry
5	Tpvb	Alt	Tertiary Pachon Volcanic Breccia
6	Tphp	Alt	Tertiary Plagioclase Hornblende Porphyry
7	Tdap	QDM	Tertiary Dacite Porphyry (QDM)
8	Tpan	Alt	Tertiary Porphyry Altar North
9	Tinbx	Alt	Tertiary Intrusive Breccia

Figure 14-1 illustrates a bench map slice through the Altar deposit illustrating the deposit geology on the 3490 elevation. Figure 14-2 is an east-west cross section looking north showing the lithology. Figure 14-3 illustrates the zone locations of the: Main, East, and Northwest zones of the deposit. The zones were used for statistics and grade estimation.

Oxidation surfaces completed by Peregrine personnel were also provided to IMC. Those surfaces were verified by IMC and were used to control bulk density estimation.

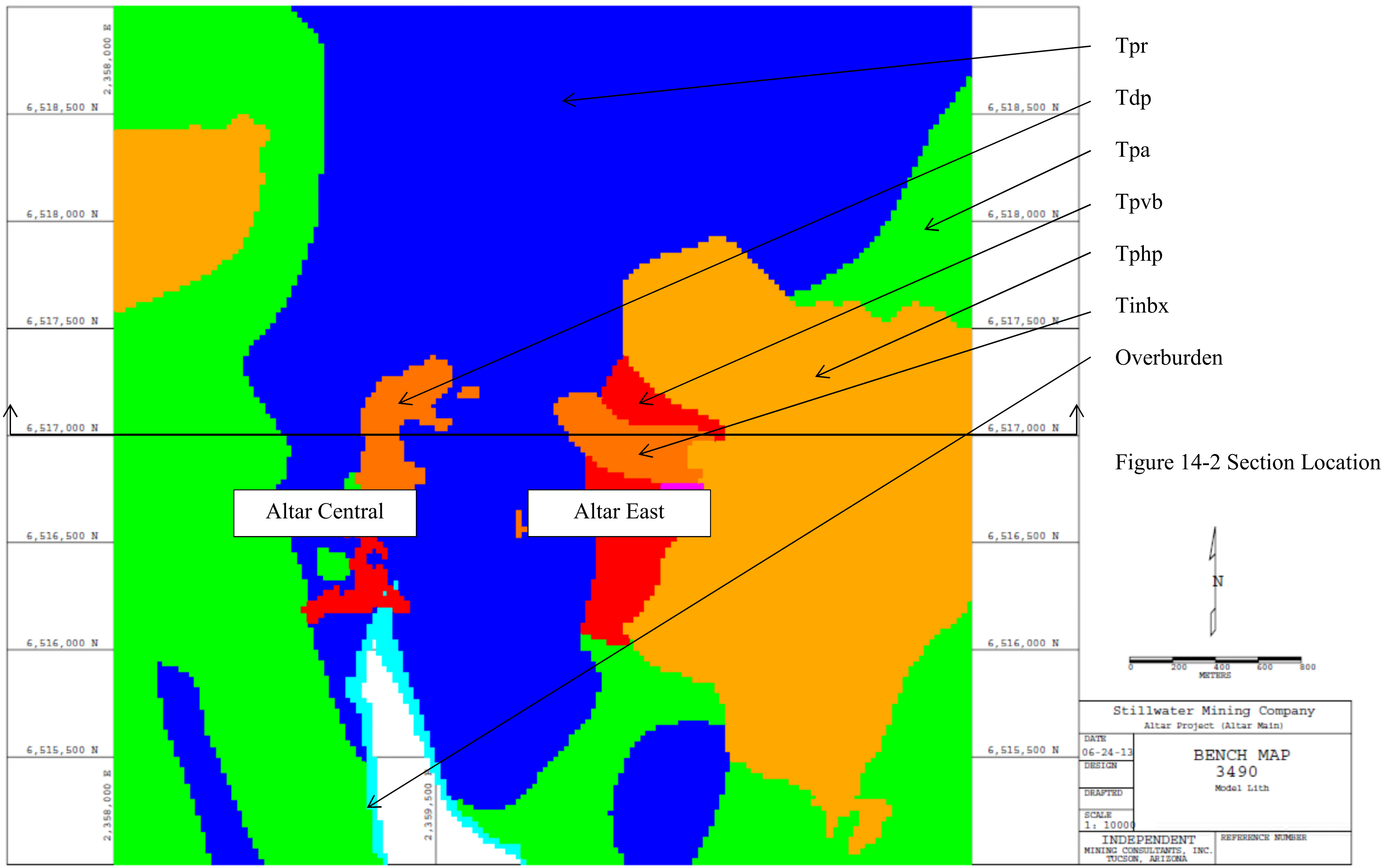


Figure 14-1
Lithology on the 3490 Bench, Source: IMC 2014

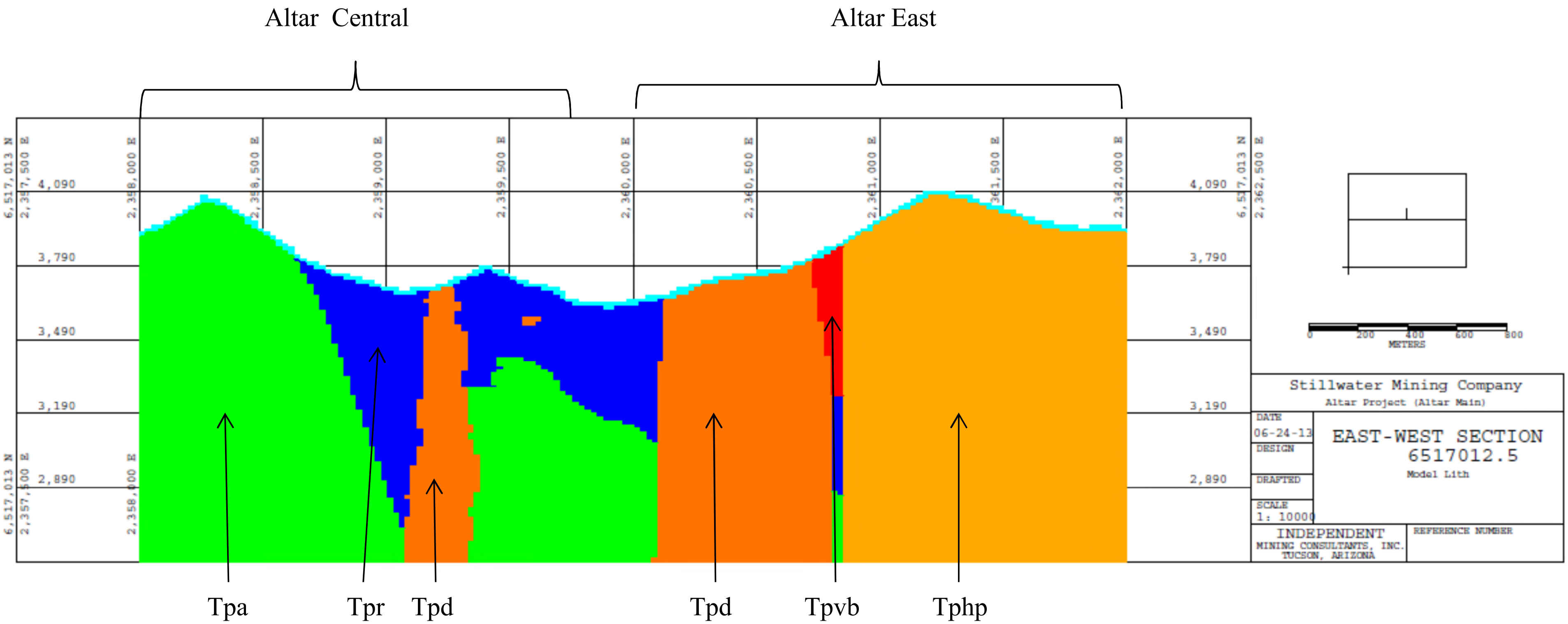


Figure 14-2
Lithology on EW Section 2,517,000 Looking North
Source, IMC 2014

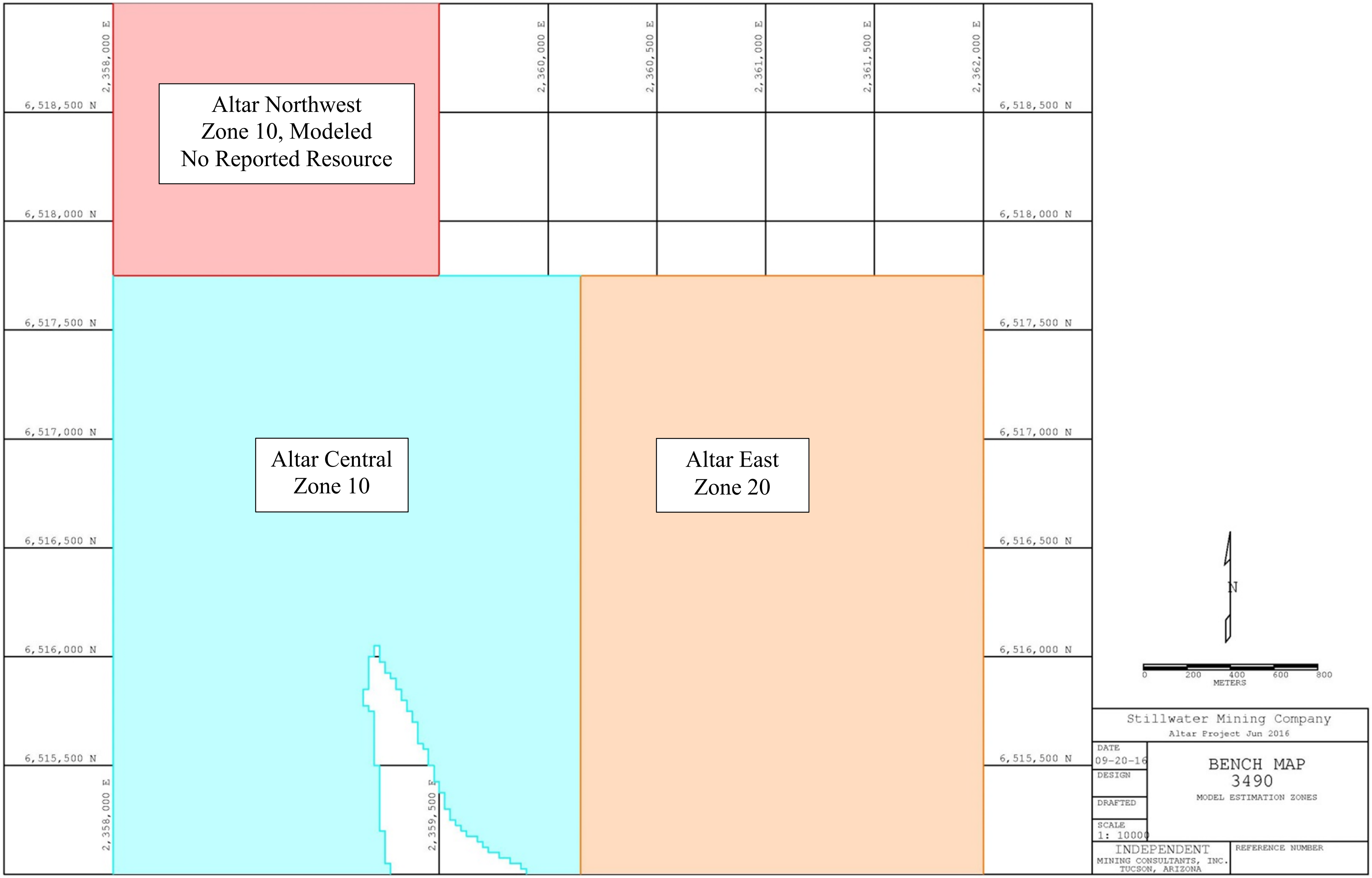


Figure 14-3
Illustration of Model Estimation Zones
Source IMC,2014

Variography and Grade Boundary Investigation

Altar Main has been zoned into Altar Central, Altar East, and a northwest exploration zone for statistical analysis and grade estimation. There has been little drilling in the northwest exploration area to date. The zoning was based on statistical analysis of grade distributions, lithology observed in the drill holes, deposit geometry, and by guidance from the geologists on site.

Table 14-5 summarizes the northing and easting limits for each zone and Figure 14-3 shows the boundaries on plan view.

Table 14-5
Estimation Boundaries and Zones

	Domain Code	Min Easting	Max Easting	Min Northing	Max Northing
Altar Model	Limits	6,515,000	6,519,000	2,357,500	2,362,500
Altar Central	10	6,515,000	6,517,750	2,358,000	2,360,150
Altar East	20	6,515,000	6,517,750	2,360,150	2,362,000
Altar Northwest	30	6,517,750	6,519,000	2,358,000	2,359,500
QDM Model	Limits, 50	6,516,500	6,519,000	2,354,500	2,357,500

Population statistics and variography were completed for multiple combinations of deposit zone, lith, and oxidation state. The final result of the statistical evaluation was to establish the statistical domain boundaries and procedures that were used for grade estimation.

Grade boundaries have primarily been set by kriged indicators in the Altar Model. Analysis of rock types and oxidation codes did not consistently align with observed grade boundaries.

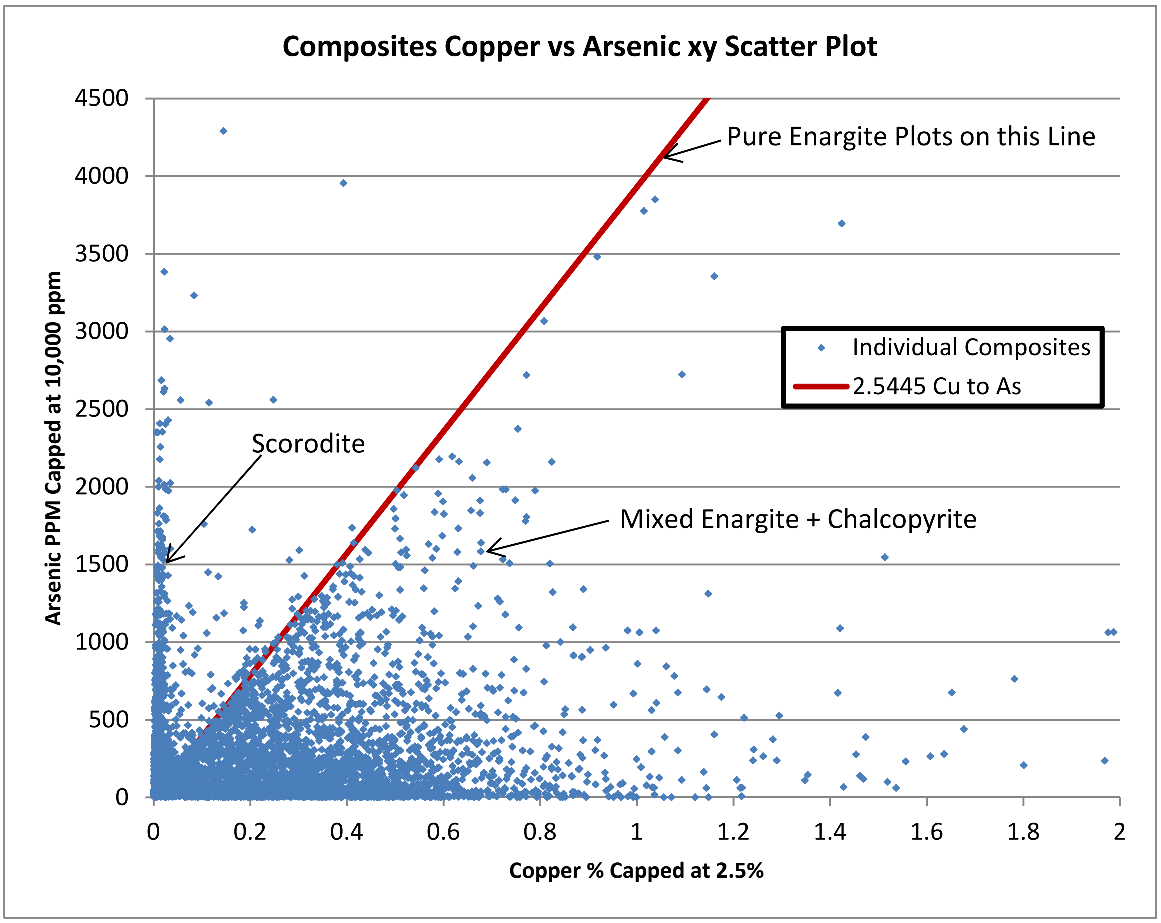
For example, comparisons between the interpreted oxidation surface, and the 0.10% copper indicator boundary produced a similar surface that separated the leach cap from an unweathered sulfide copper. However, the 0.10% copper grade also provided a boundary around the stock work zone at depth.

Indicators have been applied to the estimation of copper, arsenic, sulfur, and copper sequential assays (ascu, cucn). Probability plots of these elements were analyzed for distinct occurrences of two or more populations.

Based on cumulative frequency population plots, the grade discriminators that were applied to each metal or parameter are as follows:

Altar Model Indicators		
Copper Indicator Boundary	0.10	% copper
Sulfur Indicator Boundary	0.20	% sulfur
Arsenic Indicator Boundary	2.54	cu/as ratio
Ascu Indicator Boundary	0.10	% copper
Cucn Indicator Boundary	0.10	% copper

The indicator boundary for arsenic was based on the ratio of total copper to arsenic in the form of enargite at 2.5445. Below is a scatter plot of copper vs. arsenic composite data that shows the distinct occurrence of two populations within arsenic. The 2.5445 ratio is based on both metals reported in weight%. The graph shows the arsenic grade in parts per million.



Three items can be observed from the graph.

1) Composites that plot closely to the 2.5445 line define material where most of the mineralized copper is contained in enargite.
2) Material with copper to arsenic ratios greater than 2.5445 consist of arsenic minerals mixed with other copper sulfides.
3) Material with ratios less than 2.5445 define the arsenic associated with oxide material believed to be primarily scorodite.

The high arsenic, copper barren material was bounded and estimated separately to prevent smearing high grade oxidized arsenic (scorodite) into lower grade sulfide areas.

Variography indicates a general northeast-southwest orientation for copper, gold, silver, molybdenum, and sulfur in Altar Central. A northwest-southeast orientation was observed in copper, silver, molybdenum, and sulfur in Altar East. Gold in Altar East has been kept isotropic in plan.

Search orientations for arsenic and sulfur have paralleled the same direction as copper for consistency and in consideration of the potential negative impacts of these elements on Altar economics. The variogram range for sulfur has been stretched by a factor of 1.5 to assure reasonable coverage into waste zones of the deposit. This was done to maximize the sulfur coverage for future potential Acid Rock Drainage (ARD) categorization of the waste because there are fewer sulfur composites than copper composites.

In all cases, vertical variograms showed good continuity and long ranges of influence. This is a typical response for deposits with predominately vertical drilling and represents an unavoidable spatial bias in the data collection process.

Review of geologic and assay cross sections supported the validity of variogram interpretation and development of grade boundaries. The abundance of vertical data and abrupt local grade variability in that vertical data was also observed on section. The vertical search for all grade estimation models was limited to 90m to better reflect the local grade changes and improve mine planning guidance.

The resulting grade estimation procedures and kriging parameters are discussed in the next sub-section.

Altar Block Grade Estimation

Minerals estimated include copper, gold, arsenic, silver, molybdenum, sulfur, ascu, and cucn. Hard boundaries incorporated into the model were grade boundaries defined by the indicators discussed previously. Rock types and the oxidation surface were not used as boundaries for grade estimation.

Indicator grade boundaries were applied in the estimation of copper, arsenic, sulfur, and copper sequential assays (ascu, cucn). The indicators were found to provide a more reliable boundary than the interpreted oxidation surface. Gold, silver, and molybdenum were assigned by ordinary linear kriging.

The process of indicator kriging assigns indicator fractions or probabilities to each block. Indicator fractions may vary from 0 to 1 and represent the probability that a given block is above the grade discriminator value. Blocks were coded as above or below the indicator discriminator on a 50% basis. Indicators greater than 0.5 are assigned values of 1, and blocks with indicator less than 50% are set to 0 to represent the zone with grades likely to be less than the grade discriminator. Ordinary linear kriging of grades proceed as normal estimating the two zones independently, treating the grade boundary as a hard boundary. Composites on one side of the boundary can only influence and assign blocks in that zone.

Copper soluble species ascu and cucn, were estimated with the following steps:

- Ascu/total and Cucn/total fractions were calculated for each composite where sequential data was available.
- Ascu/total and Cucn/total composites fractions were kriged and assigned to the block model respecting the 0.10% total copper indicator.
- The soluble species ascu and cucn were calculated from estimated fractions and the estimated total copper

Compared to other composite data such as copper and gold, ascu and cucn have significantly less data and limited area coverage. This will have impacts and assumptions regarding the recoveries of deeper copper material below the leach cap in later sections.

Table 14-6 summarizes the indicator kriging procedures.

Table 14-7 summarizes the grade estimation parameters.

Table 14-6
Altar Main Indicator Kriging Parameters
Altar Main Block Grade Estimation
Same Discriminator Metal and Discriminator for Copper, Ascu, and Cucn

Metal	Altar Domain	Discriminator Grade	Orientations, Bearing			Range and Search in Meters			Nugget	Total
			Primary	Secondary	Vertical	Primary	Secondary	Vertical		Sill C + Co
Copper	Central	0.1 Cu %	045°	135°	090°	285m	100m	45m	0.1	1.0
	East	0.1 Cu %	135°	225°	090°	225m	150m	45m	0.1	1.0
	North	0.1 Cu %	000°	090°	090°	150m	150m	45m	0.1	1.0
Arsenic	Central	2.5445 Cu/As	045°	135°	090°	285m	100m	45m	0.1	1.0
	East	2.5445 Cu/As	135°	225°	090°	225m	150m	45m	0.1	1.0
	North	2.5445 Cu/As	000°	090°	090°	150m	150m	45m	0.1	1.0
Sulfur	Central	0.2 Suflur %	045°	135°	090°	430m	265m	45m	0.1	1.0
	East	0.2 Suflur %	135°	225°	090°	340m	265m	45m	0.1	1.0
	North	0.2 Suflur %	000°	090°	090°	225m	225m	45m	0.1	1.0
ascu	Central	0.1 Cu %	045°	135°	090°	285m	100m	45m	0.1	1.0
	East	0.1 Cu %	135°	225°	090°	225m	150m	45m	0.1	1.0
	North	0.1 Cu %	000°	090°	090°	150m	150m	45m	0.1	1.0
cucn	Central	0.1 Cu %	045°	135°	090°	285m	100m	45m	0.1	1.0
	East	0.1 Cu %	135°	225°	090°	225m	150m	45m	0.1	1.0
	North	0.1 Cu %	000°	090°	090°	150m	150m	45m	0.1	1.0

Maximum = 10, Minimum = 2, Maximum per Hole = 3

Table 14-7
Altar Grade Kriging Parameters
Alter Main Block Grade Estimation

Metal	Indicator Position	Altar Domain	Orientations, Bearing			Range and Search in Meters			Nugget	Total
			Primary	Secondary	Vertical	Primary	Secondary	Vertical		Sill C + Co
Copper	Inside and	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
	Outside	East	135°	225°	090°	225m	150m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
Gold	None	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
		East	000°	090°	090°	200m	200m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
Arsenic	Inside and	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
	Outside	East	135°	225°	090°	225m	150m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
Silver	None	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
		East	135°	225°	090°	225m	150m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
Moly	None	Central	045°	135°	090°	200m	200m	45m	0.1	1.0
		East	135°	225°	090°	200m	200m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
Sulfur	Inside and	Central	045°	135°	090°	430m	265m	45m	0.1	1.0
	Outside	East	135°	225°	090°	340m	265m	45m	0.1	1.0
		North	000°	090°	090°	225m	225m	45m	0.1	1.0
ascu	Inside and	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
	Outside	East	135°	225°	090°	225m	150m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0
cucn	Inside and	Central	045°	135°	090°	285m	100m	45m	0.1	1.0
	Outside	East	135°	225°	090°	225m	150m	45m	0.1	1.0
		North	000°	090°	090°	150m	150m	45m	0.1	1.0

Maximum = 10, Minimum = 2, Maximum per Hole = 3

Grade Estimation Respected Nearest Block Indicator Codes for Copper, Arsenic, Sulfur, Ascu, and Cucn

Altar Model Density Assignment Values and Procedure

Bulk density for Altar is based on 2,503 core samples from assay intervals selected by Peregrine and sent to Alex Stewart Laboratories for bulk density measurement. The core samples are weighed in air, coated in paraffin, weighed in air with the paraffin coating, then submerged and weighed in water. Table 14-8 below summarizes the densities that were assigned to the model based on lithology and oxidation.

IMC analyzed the data by rock type and oxidation state based on the interpreted oxide surface from Peregrine. The impact of fracturing on bulk density was also investigated using the RQD data provided by Peregrine.

Cell regression plots of density data were generated within 10% ranges of RQD. In summary there is a slight reduction in density data with lower RQD. A simple linear fit was applied to that data. The average RQD was then calculated for sulfide and oxide zones of the deposit that were entered into the linear equation to generate the correction factors shown at the bottom of Table 14-10. The density information shown on Table 14-10 has had the oxide and sulfide correction factors applied so that the assignments reflect in-place dry bulk density.

Tab 14-8
Altar Model Assigned Model Densities
2013 Bulk Density Data

Model		Model Dry Density Specific Gravity	
Code	Lith	Oxide=1	Sulfide=3
1	Overburden	2.000	2.000
2	Tpr	2.447	2.545
3	Tpa	2.485	2.633
4	Tdp	2.358	2.582
5	Tpvb	2.363	2.579
6	Tphp	2.379	2.640
9	Tinbx	2.454	2.651
Default		2.407	2.587

Mean of Test Data Reduced by a Factor
that reflects fracturing from RQD data

Oxide Factor = 0.995
Sulfide Factor = 0.985

Confidence Code Estimate

The determination of measured, indicated, and inferred was established based on Kriged Standard Deviation (KSD = Square root of kriged variance) and the number of composites used to estimate the block. Each confidence code had increasingly stricter rules on KSD and the number of influencing composites.

The confidence code estimate is based on the estimation of copper grade and is summarized as follows:

Procedure	Confidence Code
If Copper was estimated.	Inferred = 3
If Copper KSD <= 0.984 and Number of composites >= 3.0	Indicated = 2
If Copper KSD <= 0.692 and Number of composites =10	Measured = 1

The outer ring of 30 to 45m around isolated or external drill holes is coded as "inferred" in the long axis of the search. Within Altar Main, indicated material has a radius of about 70m around isolated holes in the northeast direction. Within Alter East, indicated material has about a 105m radius in the northwest direction around an isolated drill hole.

14.2 QDM Model

Model Location

The model size and location of the QDM model is summarized below in Table 14-9 in the Gauss Kruger projection coordinates.

Table 14-9
2013 Sep QDM Model - Size and Location

Model Limits	Corner Coordinates			
	Southwest	Northwest	Northeast	Southeast
Easting	2,354,500	2,357,500	2,357,500	2,354,500
Northing	6,516,500	6,519,000	6,519,000	6,516,500
Elevation Range		2,500	4,400	
Model Rotation:	None			
		Columns	Rows	Levels
Size		120	100	190
Block Size		25 x 25 x 10 m Bench ht = 10 m		

Drill Hole Data

Drilling at QDM was completed during the both the 2011 and 2012 seasons. The initial 4 holes were drilled by Peregrine Metals, with an additional 24 holes drilled in 2012. The total assay data base amounts to 28 holes containing 7,093 meters of drilling with 3462 assay intervals. The holes drilled in 2017 that appear to expand QDM on plan actually target a deep porphyry occurrence to the east of QDM and are not within the QDM resource pit geometry. The 2017 drill was not used in the estimation of QDM resource.

QDM assay grade capping was completed on copper, gold, silver, arsenic, molybdenum summarized below:

Table 14-10
QDM Assay Cap Values
2013 Sep

Item	Cap Value
Copper	0.50 %
Gold	6 gm/t
Arsenic	0.20 %
Silver	50 ppm
Moly	0.15 %
Sulfur	None

QDM drill holes were composited at 10 meter down hole (length) intervals. A minimum composite length of 5.0 m was required for block estimation. Table 14-11 summarizes the assay data after capping was applied as well as when composited. This table includes the drill hole data that is contained in the QDM model and used to estimate the QDM resource.

Table 14-11
Basic Statistics, QDM Drill Hole Data
Sep 2013 Data

Item	After Cap Assays		10-m Composites	
	Number	Mean	Number	Mean
Copper, %	3,432	0.056	690	0.055
Gold, gm/tonne	3,432	0.343	690	0.324
Silver, gm/tonne	3,432	1.749	690	1.746
Molybdenum, %	3,432	0.001	690	0.001
Arsenic, %	3,432	0.018	690	0.018
Sulfur%	3,432	3.425	690	3.422

QDM Model Geology

The Quebrada del la Mina (QDM) deposit is primarily a gold deposit with minor associated copper. The Pachon Andesite volcanics were intruded by a circular dacite porphyry stock approximately 700 m in diameter and host a large alteration footprint centered on the porphyry stock. The rock types that were stored within the model framework were: Pachon Andesite (Tpa), Dacite Porphyry (Tdap), and overburden.

The QDM geologic plans and sections that are shown in Section 7.0 illustrate the rock types and mineralized areas from the block model.

QDM Grade Estimation

Analysis of gold and silver grades indicated significant differences in population grades between QDM rock types: overburden, Tpa, and Tdap. Hard boundaries have been placed between QDM rocktypes, overburden, Tertiary Pachon Andesite, and Tertiary Dacite Porphyry. In overburden, the variogram range has been limited by a factor of 1/3 of that applied to the other rock types due to the limited dataset as well as the uncertain nature of overburden as an ore host.

Grade indicators have been applied to the estimation of sulfur. Probability plots of all elements were analyzed with the result that sulfur was separated on a 0.20% indicator discriminator. Gold and silver were estimated with ordinary linear kriging that was bounded by rock type.

Table 14-12 summarizes the indicator kriging procedures applied to sulfur.

Table 14-12
QDM Rock Type & Indicator Kriging Parameters

Metal	Altar Domain	Discriminator Grade	Orientations, Bearing			Range and Search in Meters			Nugget	Total Sill C + Co
			Primary	Secondary	Vertical	Primary	Secondary	Vertical		
Sulfur	QDM	0.2 Suflur %	022.5°	112.5°	090°	300m	265m	45m	0.1	1.0

Maximum = 10, Minimum = 2, Maximum per Hole = 3

Variography indicates a general North 22.5 degree East (N22.5E) orientation for copper, gold, silver, molybdenum, and sulfur in QDM. The variogram range for sulfur has been stretched by a factor of 1.5 to assure reasonable coverage into waste zones of the deposit. This was done to maximize the sulfur coverage for future potential ARD categorization of the waste.

In all cases, vertical variograms showed good continuity and long ranges of influence. This is a typical response for deposits with predominately vertical drilling and represents an unavoidable spatial bias in the data collection process.

Review of geologic and assay cross sections helped indicate and supported the validity of variogram interpretation and development of grade boundaries. The abundance of vertical data and abrupt local grade variability in that vertical data was also observed on section. The vertical search for all grade estimation models was limited to 45m to better reflect the local grade changes and improve mine planning guidance.

Table 14-13 summarizes the grade estimation parameters.

Table 14-13
QDM Grade Kriging Parameters
QDM Block Grade Estimation

Metal	Indicator Position	Altar Domain	Orientations, Bearing			Range and Search in Meters			Nugget	Total
			Primary	Secondary	Vertical	Primary	Secondary	Vertical		Sill C + Co
Copper	None	QDM	022.5°	112.5°	090°	200m	150m	45m	0.1	1.0
Gold	Ovbn	QDM	022.5°	112.5°	090°	60m	50m	45m	0.1	1.0
	Tpa, Tdap	QDM	022.5°	112.5°	090°	175m	150m	45m	0.1	1.0
Arsenic	None	QDM	022.5°	112.5°	090°	200m	150m	45m	0.1	1.0
Silver	Ovbn	QDM	022.5°	112.5°	090°	60m	50m	45m	0.1	1.0
	Tpa, Tdap	QDM	022.5°	112.5°	090°	175m	150m	45m	0.1	1.0
Moly	None	QDM	022.5°	112.5°	090°	200m	200m	45m	0.1	1.0
Sulfur	Inside and Outside	QDM	022.5°	112.5°	090°	300m	265m	45m	0.1	1.0

Maximum = 10, Minimum = 2, Maximum per Hole = 3
Grade Estimation Respected Rock Type Boundaries for Gold, Silver, Copper, and Moly
Grade Estimation for Sulfur Respected the 0.20% Sulfu Indicator

QDM Model Density Assignment Values and Procedure

Bulk density for QDM is based on 424 core samples from assay intervals selected by Peregrine and sent to Alex Stewart Laboratories for bulk density measurement. The core samples are weighed in air, coated in paraffin, weighed in air with the paraffin coating, then submerged and weighed in water. Table 14-14 summarizes the densities that were assigned to the model based on lithology and oxidation.

The concept and procedure for rock density reduction for RQD is similar to that explained in the previous section for the Altar model density assignment. The density information shown on Table 14-14 has had the oxide, mixed, and sulfide correction factors applied so that the assignments reflect in-place dry bulk density.

Tab 14-14
QDM Model Assigned Model Densities
2013 Bulk Density Data

Model		Model Dry Density Specific Gravity		
Code	Lith	Oxide=1	Mixed=2	Sulfide=3
1	Overburden	2.000	2.000	2.000
3	Tpa	2.381	2.558	2.542
7	Tdap	2.370	2.441	2.495
Default		2.371	2.487	2.515

Mean of Test Data Reduced by a Factor
that reflects fracturing from RQD data

Oxide Factor =	0.995
Mixed Factor =	0.990
Sulfide Factor =	0.985

Confidence Code Estimate

The determination of measured, indicated, and inferred was established based on Kriged Standard Deviation (KSD = Square root of kriged variance) and the number of composites used to estimate the block. Each confidence code had increasingly stricter rules on KSD and the number of influencing composites.

The confidence code estimate is based on the estimation of gold grade and is summarized as follows:

QDM Procedure	Confidence Code
If Gold was estimated.	Inferred = 3
If Gold KSD <= 0.94 and Number of composites >= 4	Indicated = 2
If Gold KSD <= 0.65 and Number of composites =10	Measured = 1

The outer ring of 50m to 75m around isolated or external drill holes is coded as “inferred” in the long axis of the search. Indicated material has a radius of about 70m around isolated holes in the northeast direction.

14.3 Mineral Resource

The mineral resources for both deposits were based on the application of the floating cone algorithm to the block models to establish the component of the deposit that has "reasonable prospects of economic extraction". The mineral resources are therefore contained within a computer generated open pit geometry where economic value has been assigned to measured, indicated, and inferred material.

The Altar and QDM resources were originally developed and reported in 2013. The sensitivity of the resource to changes in metal price and costs as of mid-2018 have been evaluated to confirm that the 2013 statement of resources is still valid.

Altar Resource Estimate

The Altar resource has been developed based on the following conceptual flow sheet:

1) Crushing
2) Communution
3) Flotation
4) Pressure Oxidation of the Flotation Concentrate (POX)
5) Solvent Extraction and Electro-winning of the POX product to produce EW Copper
6) Cyanide Leaching of the POX product after SXEW to produce the Gold and Silver

Traditional smelting was investigated but the arsenic levels in the Altar concentrate would make it difficult to find a smelter that would accept the Altar concentrates. Cutoff grade was determined on an Net Smelter Return (NSR, Net of Refining) basis which in this case means net of all refining costs on site since smelting is not applied. Cost estimates for the process were scaled from other projects or developed from published cost indexes. POX and SXEW costs were provided in the Hydromet report as noted in Sections 3, 13, and 17.

Table 14-15 summarizes the input parameters to the Altar resource determination. Economic credit was applied to measured, indicated, and inferred categories of mineralization. No constraints have been applied to the resource regarding tailing or waste storage capacities. The cutoff grade reflects the estimated cost to process the ore plus site G&A which total $4.67 NSR / tonne of ore.

The NSR calculation applied at Altar is summarized as follows:

Altar POX NSR Calculation

NSR =	($2.75 - $0.47) x Float Recovery x 0.98 x 22.0462	Sulfide Copper Contribution
	+ ($1178.57 - $205.16) x 0.50 x 0.975 x 0.0322	Gold Contribution
	+ ($22.79 - $0.55) x 0.51 x 0.975 x 0.0322	Silver Contribution

The resulting Altar mineral resource is summarized with the QDM resource statement on Table 14-17.

The qualified person for the estimation of the mineral resource was John Marek of Independent Mining Consultants, Inc. Significant metal price changes could materially change the estimated mineral resources in either a positive or a negative direction. To date, there has been limited testing of the POX-SXEW-CN Leach component of the flow sheet. As a result, there are consequent risks regarding costs and technical applicability of the process.

Part of the land position at Altar is a group of concessions called Rio Cenicero. There is an option agreement in place regarding the Rio Cenicero that is summarized in Section 4.0. The component of the mineral resource that is contained on the Rio Cenicero concessions is broken out on Table 14-18. The material on Table 14-18 is contained within the total resource reported on Table 14-17.

Sensitivity to 2018 Price and Cost Changes

Metal prices have increased since the mineral resource was originally developed in 2013. The metal prices that were used are summarized below along with the recent spot prices in the 2nd quarter of 2018.

	Metal Price on 2013 Resource	Spot Prices, 2nd Quarter 2018
Copper	\$2.75/lb	\$3.00/lb
Gold	\$1,178.57/ oz	\$1,250/oz
Silver	\$22.79 / oz	\$16.21/oz

The 2013 resource cone was retabulated using the spot prices above to understand the impact of the increase in metal prices on the mineral resource.

Additional tests were completed by increasing the cutoff grade to simulate an increase in costs. Mining costs have not inflated to any extent since 2013 due to the current costs of fuel of around \$68/barrel compared to the plus \$100/barrel costs in 2013.

However, as a robustness check, IMC tabulated the material in the resource pits with cost cutoff increases of about 7% and 28% compared with the 2013 costs and combined them with the 2018 spot values.

Table 14-19 summarizes the result for both Altar and QDM. Resource impacts due to cost inflation of 7% combined with 2018 spot prices can be confirmed as not material. Costs would have to increase to levels that are 28% higher than the 2013 costs for there to be a moderate impact on QDM.

A scan of the results on Table 14-19 indicates that the 2013 statement of mineral resources is robust and the stated resource has reasonable prospects of economic extraction on a current economic basis.

Table 14-15
Pressure Oxidation Leach (POX) Resource Cone Floating Cone Input Summary
Altar Flotation to POX Estimate, Assuming Internal Production of Copper,
and External Refining of Precious Metals

Mining Cost	Base	$1.40	/tonne of material
	Plus	$0.03	/bench above 3490
	Plus	$0.03	/bench below 3490
Floation Process per Tonne of Ore		$4.20	/tonne ore
G&A Cost per Tonne of Ore		$0.47	/tonne ore
Flotation Process Recovery			
	(Sulfide Copper - 0.01%) *	0.92	of Sulfide Copper
Gold		50%	
Silver		51%	
Concentrate Grade		26.0%	Copper
Avg Head Cu Grade		0.325%	Total Copper
Avg Con Ratio		89.7	ratio
Avg Head Au Grade		0.073	ppm Gold
POX, Refining, and Freight			
Copper Con POX		$0.258	/lb Copper
Copper Leaching		$0.245	/lb Copper
Copper Sales, Insurance, Misc		<u>$0.03</u>	/lb Copper
		+	
Inland Rail Freight		$37.00	/tonne metal product
Ocean Freight		$49.45	/tonne metal product
Copper Delivery Charges		$1.10	/tonne metal product
Port Charges		<u>$1.00</u>	<u>/tonne metal product</u>
=> Total Copper Charges		$0.57	/lb Copper
Precious Metals Con POX		$199.16	/troy ounce Gold
Gold Refining		$6.00	/troy ounce
Silver Refining		$0.55	/troy ounce
Payable Copper		98.0%	
Gold		97.5%	
Silver		97.5%	
Royalty		1.0%	Applied to All Metals
Overall Slope Angles for Floating Cones by Rock Type			
Tdp = Diorite Porphyry		33	degrees
Elsewhere		40	degrees
Resource Cone Base Metal Prices			
	Copper	$2.75	/lb Copper
	Gold	$1,179	/troy Ounce
	Silver	$22.79	/troy Ounce

No Arsenic Penalties Are Incurred As a Result of POX Processing

QDM Resource Estimate

The QDM resource estimate is contained within a floating cone pit and assumes that the Altar process facility is available for QDM processing. It is assumed that the QDM ores would be processed on a campaign basis through the Altar flotation, POX, and Cn Leach process. SXEW may or may not be utilized due to the low copper grade in QDM. It may be used to remove the copper prior to cyanide leaching to minimize the consumption of cyanide.

Table 14-16 summarizes the input parameters to the Altar resource determination. Economic credit was applied to measured, indicated, and inferred categories of mineralization. No constraints have been applied to the resource regarding tailing or waste storage capacities. The cutoff grade reflects the estimated cost to process the ore plus site G&A which total $13.17 NSR /tonne of ore. The cost of POX processing and cyanide leach of the POX product has been incorporated into the cost per ore tonne at QDM.

The NSR Calculation for Altar is summarized as follows:

QDM POX NSR Calculation

NSR =	($1178.57 - $6.00) x Float Recovery x 0.975 x 0.0322	Gold Contribution
	+ ($22.79 - $0.55) x 0.40 x 0.975 x 0.0322	Silver Contribution

The resulting QDM mineral resource is summarized on Table 14-17 along with the Altar mineral resource.

Table 14-16

QDM Pressure Oxidation Leach (POX) Resource Cone Floating Cone Input Summary
QDM Flotation Estimate, Assuming Internal Production of Copper,
and External Smelting of Precious Metals POX Product

Mining Cost	Base	$1.40	/tonne of material
	Additional Haulage	$0.50	/tonne of material
	Plus	$0.02	/bench above 3730
	Plus	$0.02	/bench below 3730
Floation Process per Tonne of Ore		$4.20	/tonne ore
POX Process per Tonne of Ore		$8.50	/tonne ore
G&A Cost per Tonne of Ore		$0.47	/tonne ore
Flotation Process Recovery (Altar batch proccesing)			
Gold			
	Oxide	40%	
	Mixed	70%	
	Sulfide	85%	
Silver		51%	
Smelting Refining and Freight			
Gold Refining		$6.00	/troy ounce
Silver Refining		$0.55	/troy ounce
Payable Gold		97.50%	
Silver		97.50%	
Royalty		Not Applied	
Overall Slope Angles for Floating Cones by Rock Type			
Everywhere		40	degrees
Resource Cone Base Metal Prices			
	Copper	$2.75	/lb Copper
	Gold	$1,179	/troy Ounce
	Silver	$22.79	/troy Ounce

Table 14-17

Altar Mineral Resources[1]
31 December 2013, Updated to 1 July 2018

Classification	Cutoff Grade NSR $/t	Mineral Resources at 4.67 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$4.67	995,001	$15.90	0.358	0.340	0.083	0.96	0.028	7,458	2,655	30,710
Indicated	$4.67	1,048,899	$14.09	0.312	0.305	0.065	0.90	0.023	7,053	2,192	30,351
Measured + Indicated	$4.67	2,043,900	$14.97	0.334	0.322	0.074	0.93	0.025	14,511	4,847	61,061
Inferred	$4.67	555,951	$12.88	0.283	0.279	0.060	0.87	0.022	3,420	1,072	15,551

Total Material of ore and waste in the Altar Cone: 8,041,551 ktonnes

Quebrada de La Mina, Mineral Resources[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources at 13.17 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t			Gold Gm/t	Silver Gm/t			Gold Ozs x 1000	Silver Ozs x 1000
Measured	$13.17	10,911	$27.94			0.930	3.49			326	1,224
Indicated	$13.17	2,623	$21.24			0.720	5.94			61	501
Measured + Indicated	$13.17	13,534	$26.64			0.889	3.96			387	1,725
Inferred	$13.17	603	$23.80			0.730	7.87			14	153

Total Material of ore and waste in the QDM Cone: 39,776 ktonnes

Total Altar and Quebrada de La Mina, Mineral Resources[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	4.67 at	1,005,912	$16.03	0.354	0.336	0.092	0.99	0.028	7,458	2,981	31,935
Indicated	Altar	1,051,522	$14.11	0.311	0.304	0.067	0.91	0.023	7,053	2,253	30,852
Measured + Indicated	13.17 at	2,057,434	$15.05	0.332	0.320	0.079	0.95	0.025	14,511	5,234	62,786
	QDM										
Inferred		556,554	$12.89	0.283	0.279	0.061	0.88	0.022	3,420	1,087	15,703

Notes:
The resource statement is included within a floating cone defined with the following metal prices:
$2.75/lb Copper, $1,179/oz Gold, $22.79/oz Silver
Copper and Arsenic grades are in percent of dry weight.
Gold and Silver grades are in grams per metric tonne.
Sulfide copper reflects the estimated grade of copper that could be processed by sulfide flotation.
There are no mineral reserves at Altar or QDM at this time.
Gold and Silver contained are in Thousands of Troy Ounces.
Weighted average grade calculations may not balance due to rounding.

[1]**Cautionary Notes to U.S. Investors**

This Technical Report, uses terminology that is defined under Canadian law by National Instrument 43-101 including "measured, indicated, and inferred", and "mineral resource" that the SEC guidelines strictly prohibit from including in company filings with the SEC.

The estimation of measured resources, indicated resources, and inferred resources involves greater uncertainty as to their existence and economic feasibility than estimation of proven and probable reserves. U.S. investors are cautioned not to assume that mineral resources in these categories will be converted into reserves.

Table 14-18

RIO CENICERO CONCESSION COMPONENT

Altar Mineral Resources, Rio Cenicero Concession[1]

31 December 2013, Updated to 1 July 2018

Classification	Cutoff Grade NSR $/t	Mineral Resources at 4.67 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$4.67	54,669	$17.44	0.352	0.351	0.146	1.21	0.017	423	257	2,127
Indicated	$4.67	77,118	$19.04	0.393	0.393	0.133	1.24	0.020	668	330	3,075
Measured + Indicated	$4.67	131,787	$18.38	0.376	0.376	0.138	1.23	0.019	1,091	586	5,201
Inferred	$4.67	61,365	$17.87	0.370	0.370	0.116	1.36	0.019	501	229	2,683

Quebrada de La Mina, Mineral Resources, Rio Cenicero Concession[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources at 13.17 NSR Cutoff				Contained Metal	
		Ore Ktonnes	NSR $/t	Gold Gm/t	Silver Gm/t	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$13.17	814	$17.68	0.620	2.98	16	78
Indicated	$13.17	1,059	$17.24	0.590	3.30	20	112
Measured + Indicated	$13.17	1,873	$17.43	0.603	3.16	36	190
Inferred	$13.17	340	$23.76	0.730	7.94	8	87

Total Altar and Quebrada de La Mina, Mineral Resources, on Rio Cenicero Concession[1]

Classification	Cutoff Grade NSR $/t	Mineral Resources							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	4.67 at	55,483	$17.45	0.347	0.346	0.153	1.236	0.017	423	273	2,205
Indicated	Altar	78,177	$19.02	0.388	0.388	0.139	1.268	0.020	668	350	3,187
Measured + Indicated	13.17 at	133,660	$18.37	0.371	0.370	0.145	1.25	0.018	1,091	623	5,392
	QDM										
Inferred		61,705	$17.91	0.368	0.368	0.119	1.396	0.019	501	237	2,770

Notes:
The Rio Cenicero Resources are a component of and are contained within the Mineral Resources on Table 1.
The resource statement is included within a floating cone defined with the following metal prices:
$2.75/lb Copper, $1,179/oz Gold, $22.79/oz Silver
Copper and Arsenic grades are in percent of dry weight.
Gold and Silver grades are in grams per metric tonne.
Sulfide copper reflects the estimated grade of copper that could be processed by sulfide flotation.
There are no mineral reserves at Altar or QDM at this time.
Gold and Silver contained are in Thousands of Troy Ounces.
Weighted average grade calculations may not balance due to rounding.

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The estimation of measured resources, indicated resources, and inferred resources involves greater uncertainty as to their existence and economic feasibility than estimation of proven and probable reserves. U.S. investors are cautioned not to assume that mineral resources in these categories will be converted into reserves.

Table 14-19
Altar Main Resource Sensitivty to Metal Price and Costs

Class	Cutoff Grade NSR $/t	Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Percent Difference in Tonnes and Contained Metal: Tonnes	NSR	TotCu	SulfCu	Au	Ag	As
									Negative means Tonnes or Metal Loss Relative to Resource						
Reported Mineral Resource															
Meas+Indic	$4.67	2,043,900	$14.97	0.334	0.322	0.074	0.93	0.025							
Inferred	$4.67	555,951	$12.88	0.283	0.279	0.060	0.87	0.022							
Change Prices to 2018 Spots of $3.00/lb Cu, $1,250/Oz Ag, $16.21/Oz Ag															
Meas+Indic	$4.67	2,056,194	$16.26	0.333	0.320	0.076	0.92	0.025	0.60%	9.25%	0.29%	0.12%	3.80%	0.04%	0.58%
Inferred	$4.67	564,508	$13.90	0.280	0.276	0.060	0.87	0.022	1.54%	9.57%	0.46%	0.45%	1.54%	1.54%	1.54%
Change Prices to 2018 Spots and Increase Costs to Reflect $5.00 Cutoff															
Meas+Indic	$5.00	2,041,318	$16.34	0.335	0.323	0.073	0.92	0.025	-0.13%	8.41%	-0.43%	-0.58%	-1.40%	-1.28%	-0.74%
Inferred	$5.00	557,619	$14.01	0.282	0.279	0.060	0.87	0.022	0.30%	9.10%	-0.05%	0.30%	0.30%	0.30%	0.30%
Change Prices to 2018 Spots and Increase Costs to Reflect $6.00 Cutoff															
Meas+Indic	$6.00	1,997,489	$16.58	0.340	0.328	0.073	0.93	0.025	-2.27%	8.34%	-0.36%	-0.45%	-2.74%	-2.13%	-2.10%
Inferred	$6.00	529,108	$14.46	0.291	0.288	0.061	0.89	0.022	-4.83%	6.88%	-2.14%	-1.76%	-3.24%	-2.64%	-4.83%

QDM Resouce Senstivity to Metal Price and Costs

Classification	Cutoff Grade NSR $/t	Ore Ktonnes	NSR $/t	Gold Gm/t	Silver Gm/t	Percent Difference Tonnes & Metal: Tonnes	NSR	Au	Ag
						Negative mean Loss			
Reported Mineral Resource									
Meas+Indic	$13.17	13,534	$26.64	0.889	3.96				
Inferred	$13.17	603	$23.80	0.730	7.87				
Change Prices to 2018 Spots of $1,250/Oz Ag, $16.21/Oz Ag									
Meas+Indic	$13.17	13,671	$27.61	0.889	3.94	1.01%	4.71%	0.97%	0.61%
Inferred	$13.17	603	$24.25	0.726	7.87	0.00%	1.88%	-0.55%	0.00%
Change Prices to 2018 Spots and Increase Costs to Reflect $14.00 Cutoff									
Meas+Indic	$14.00	13,288	$28.02	0.900	3.96	-1.82%	3.26%	-0.57%	-1.83%
Inferred	$14.00	603	$24.25	0.726	7.87	0.00%	1.88%	-0.55%	0.00%
Change Prices to 2018 Spots and Increase Costs to Reflect $17.00 Cutoff									
Meas+Indic	$17.00	11,442	$30.07	0.964	4.07	-15.46%	-4.58%	-8.29%	-13.06%
Inferred	$17.00	587	$24.45	0.733	7.93	-2.65%	0.00%	-2.25%	-1.91%

Material Contained within the Altar Resource Pit

The Altar resource pit was tabulated with the internal cutoff grade of $4.67 NSR/tonne to establish the mineral reserve as summarized on Table 14-17.

Tabulation of additional higher cutoff grades inside the same Altar pit geometry have been completed to illustrate the distribution of grades in the Altar resource. Table 14-20 is a summary of the Altar resource pit tabulated at higher NSR cutoff grades, illustrating that there is contained higher grade mineralization within the Altar resource.

The NSR calculation on Table 14-20 is identical to the prices and procedures reported on Table 14-17. The tabulation addresses the Altar pit only and does not include QDM.

Table 14-20

Altar Mineral Resources As Summarized on Table 14-17
31 December 2013, Updated to 1 July 2018

Classification	Cutoff Grade NSR $/t	Mineral Resources at 4.67 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$4.67	995,001	$15.90	0.358	0.340	0.083	0.96	0.028	7,458	2,655	30,710
Indicated	$4.67	1,048,899	$14.09	0.312	0.305	0.065	0.90	0.023	7,053	2,192	30,351
Measured + Indicated	$4.67	2,043,900	$14.97	0.334	0.322	0.074	0.93	0.025	14,511	4,847	61,061
Inferred	$4.67	555,951	$12.88	0.283	0.279	0.060	0.87	0.022	3,420	1,072	15,551

Alternative Cutoffs within the Altar Resource Pit Geometry

Classification	Cutoff Grade NSR $/t	Mineral Resources at $7.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$7.00	951,823	$16.80	0.370	0.351	0.082	0.96	0.028	7,365	2,509	29,378
Indicated	$7.00	969,609	$15.19	0.328	0.320	0.066	0.92	0.024	6,840	2,057	28,680
Measured + Indicated	$7.00	1,921,432	$15.99	0.349	0.335	0.074	0.94	0.026	14,206	4,567	58,057
Inferred	$7.00	468,314	$14.36	0.306	0.302	0.060	0.94	0.024	3,118	903	14,153

Classification	Cutoff Grade NSR $/t	Mineral Resources at $10.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$10.00	815,617	$18.16	0.401	0.380	0.087	1.01	0.029	6,833	2,281	26,485
Indicated	$10.00	746,548	$17.15	0.370	0.362	0.072	1.01	0.025	5,958	1,728	24,242
Measured + Indicated	$10.00	1,562,165	$17.68	0.386	0.371	0.080	1.01	0.027	12,791	4,010	50,727
Inferred	$10.00	323,770	$16.97	0.362	0.359	0.067	1.10	0.025	2,563	697	11,450

Classification	Cutoff Grade NSR $/t	Mineral Resources at $15.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$15.00	524,044	$21.27	0.471	0.446	0.101	1.13	0.031	5,153	1,702	19,039
Indicated	$15.00	399,964	$21.28	0.457	0.449	0.091	1.20	0.027	3,959	1,170	15,431
Measured + Indicated	$15.00	924,008	$21.28	0.465	0.447	0.097	1.16	0.029	9,112	2,872	34,470
Inferred	$15.00	167,889	$21.24	0.452	0.450	0.083	1.36	0.028	1,666	448	7,341

Classification	Cutoff Grade NSR $/t	Mineral Resources at $20.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$20.00	246,725	$25.74	0.570	0.540	0.125	1.30	0.032	2,937	992	10,312
Indicated	$20.00	207,848	$25.13	0.535	0.529	0.114	1.35	0.026	2,424	762	9,021
Measured + Indicated	$20.00	454,573	$25.46	0.554	0.535	0.120	1.32	0.029	5,361	1,753	19,333
Inferred	$20.00	83,570	$25.43	0.540	0.538	0.104	1.47	0.030	991	279	3,950

Classification	Cutoff Grade NSR $/t	Mineral Resources at $25.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$25.00	100,491	$30.97	0.684	0.646	0.160	1.47	0.032	1,431	517	4,749
Indicated	$25.00	86,105	$29.04	0.610	0.606	0.149	1.48	0.022	1,150	412	4,097
Measured + Indicated	$25.00	186,596	$30.08	0.650	0.628	0.155	1.47	0.027	2,582	929	8,847
Inferred	$25.00	39,529	$28.59	0.604	0.604	0.120	1.66	0.029	526	153	2,110

Classification	Cutoff Grade NSR $/t	Mineral Resources at $30.00 NSR Cutoff							Contained Metal		
		Ore Ktonnes	NSR $/t	Total Cu %	Sulfide Cu %	Gold Gm/t	Silver Gm/t	Arsenic %	Sulfide Cu Million Lbs	Gold Ozs x 1000	Silver Ozs x 1000
Measured	$30.00	43,788	$35.93	0.791	0.747	0.193	1.69	0.034	721	272	2,379
Indicated	$30.00	23,622	$34.32	0.707	0.703	0.212	1.71	0.023	366	161	1,299
Measured + Indicated	$30.00	67,410	$35.36	0.762	0.732	0.200	1.70	0.030	1,087	433	3,678
Inferred	$30.00	7,897	$35.19	0.741	0.741	0.162	1.71	0.019	129	41	434

15.0 MINERAL RESERVE ESTIMATES

There are no mineral reserves at Altar at this time.

16.0 MINING METHODS

The Altar deposit is currently contemplated as a large production rate open pit hard rock mine. There is no mine plan or mineral reserve at this time.

17.0 RECOVERY METHODS

The process plant for the Altar project is currently contemplated as a high production rate flotation mill that will utilize semi-autogenous (SAG) mills. Process testing as outlined in Section 13 indicates that the arsenic in the deposit will float well and report to concentrate at levels that will likely limit the ability to market the concentrate.

There are two options currently under consideration for concentrate treatment:

1) Pressure oxidation (POX) plant to treat about 700 to 1,000 tpd of concentrates, followed by solvent extraction and electro-winning (SXEW) of the oxidized concentrate. After extraction of the copper, the concentrate would be neutralized and subjected to Cyanide Vat Leaching (Cn Leach) to remove the gold and silver from the concentrate to produce a precious metal dore by carbon in pulp processing.

2) Copper Concentrate upgrading using regenerated sodium hydroxide to remove the arsenic and antimony. A clean copper concentrate would be transported to a conventional smelter for recovery of copper, gold, and silver.

Both options were tested on a preliminary basis and summarized in a report titled: Peregrine Metals Ltd, Altar Project, Trade Off Study for the Treatment of its Altar Concentrate Employing Two Hydrometallurgical Options, Rev 0, 9 May 2014, by Hydromet (Pty) Ltd. Mr. Grenvil Dunn of Hydromet (Pty) Ltd. is an acknowledged expert in this type of concentrate treatment technology. Mr. Dunn and his report are cited in Chapter 3 regarding reliance on other experts.

Figure 17-1 is a simplified flow sheet that illustrates the concentration process by flotation.

Figure 17-2 illustrates the POX-SXEW option. The autoclave circuit employs a first compartment flash cooling Flash Thicken Recycle(FTR) circuit and a classical discharge flash. The FTR thickener overflow and final compartment autoclave products are merged in the partial neutralization circuit where a majority of the acid released in the autoclave is neutralized and the iron precipitated.

The partial neutralization circuit solids are thickened and washed in a classical Counter Current Decantation (CCD) circuit to ensure almost all the copper is made available for recovery to metal.

Three copper solvent extraction (SX) circuits are employed to recover the copper from the aqueous streams leaving the CCD circuit. Two copper electrowinning (EW) circuits recover high grade copper as cathode.

The gold and silver report to the washed residue. This solid material has to be treated in a lime-boil circuit to render the silver recoverable. Cyanide is the lixiviant employed to dissolve both gold and silver from the residue. After separation from the barren solids the gold-silver pregnant liquor is treated with zinc in a Merrill-Crowe process to precipitate the precious metals.

Figure 17-3 illustrates the block flow sheet of the upgrade copper concentrates process.

The arsenic containing concentrate is re-pulped in an aqueous concentrate produced in a multiple effect evaporator.

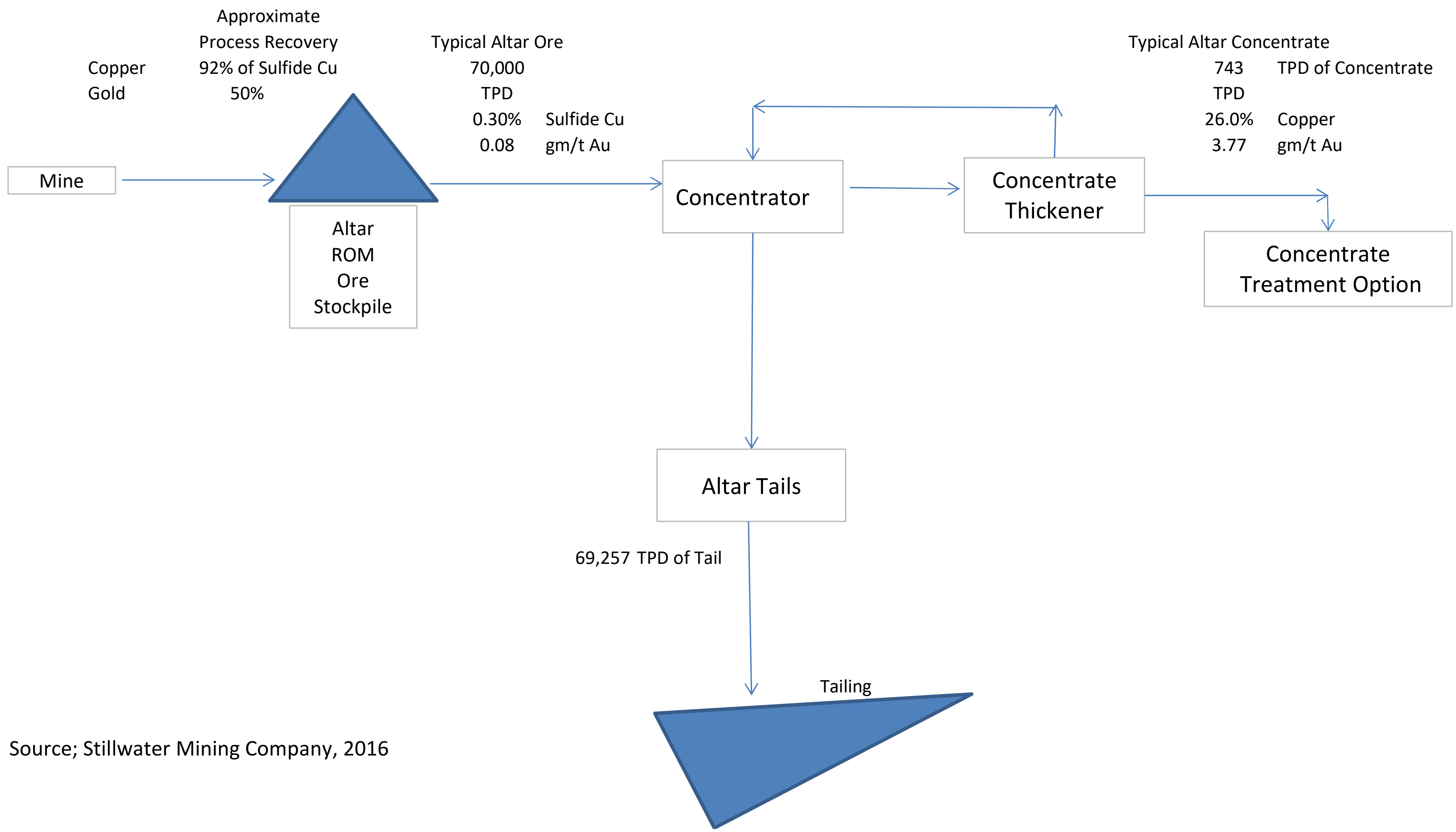
The evaporator receives wash liquor from two filtration processes where the solute is increased in concentration by the removal of water. The water distilled in the evaporator is condensed and recycled as a wash liquor in the same filtration steps. Steam is employed as the energy source in the evaporator.

The re-pulped arsenic concentrate is blended with regenerated sodium hydroxide and fed continuously to an autoclave operating at elevated temperature and pressure. In the autoclave arsenic and antimony are leached from the concentrate. When the leach is complete, the discharge slurry is cooled by flashing it down to atmospheric pressure.

The cooled slurry is then filtered and partially washed with recycle water. The filtered residue is re-pulped in recycle water and re-filtered and washed. The upgraded copper concentrate at typically 15% moisture can be sold or toll treated.

The filtrate containing arsenic and antimony is treated with lime for the regeneration of sodium hydroxide and rejection of arsenic and antimony. The precipitate formed in this step is filtered to recover the regenerated sodium hydroxide. This precipitate is washed to ensure acceptable recovery of the sodium hydroxide.

Figure 17-1
Altar Conceptual Process Flowsheet



Source; Stillwater Mining Company, 2016

Figure 17-2

Copper Pressure Leach SX-EW Flowsheet

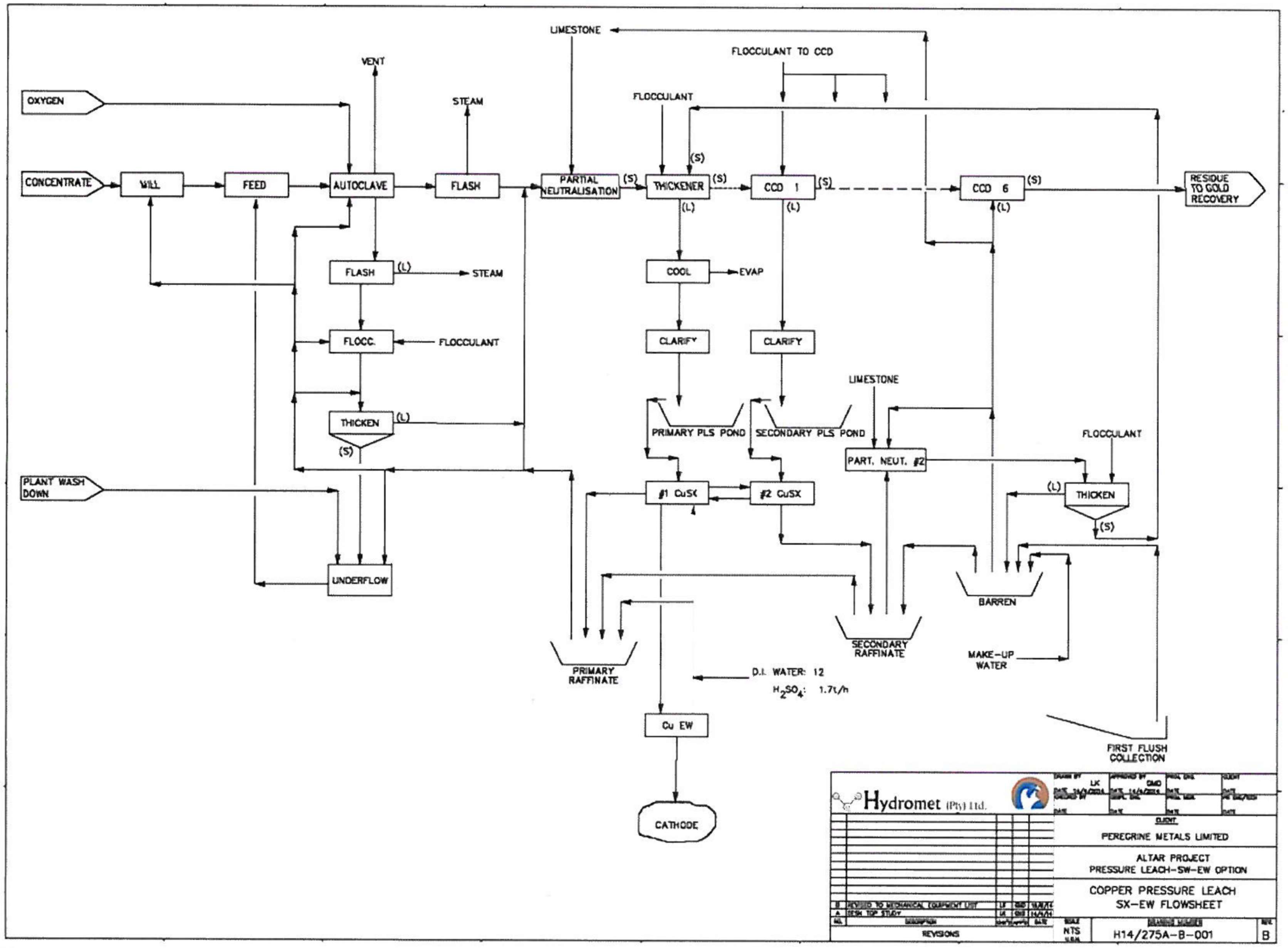
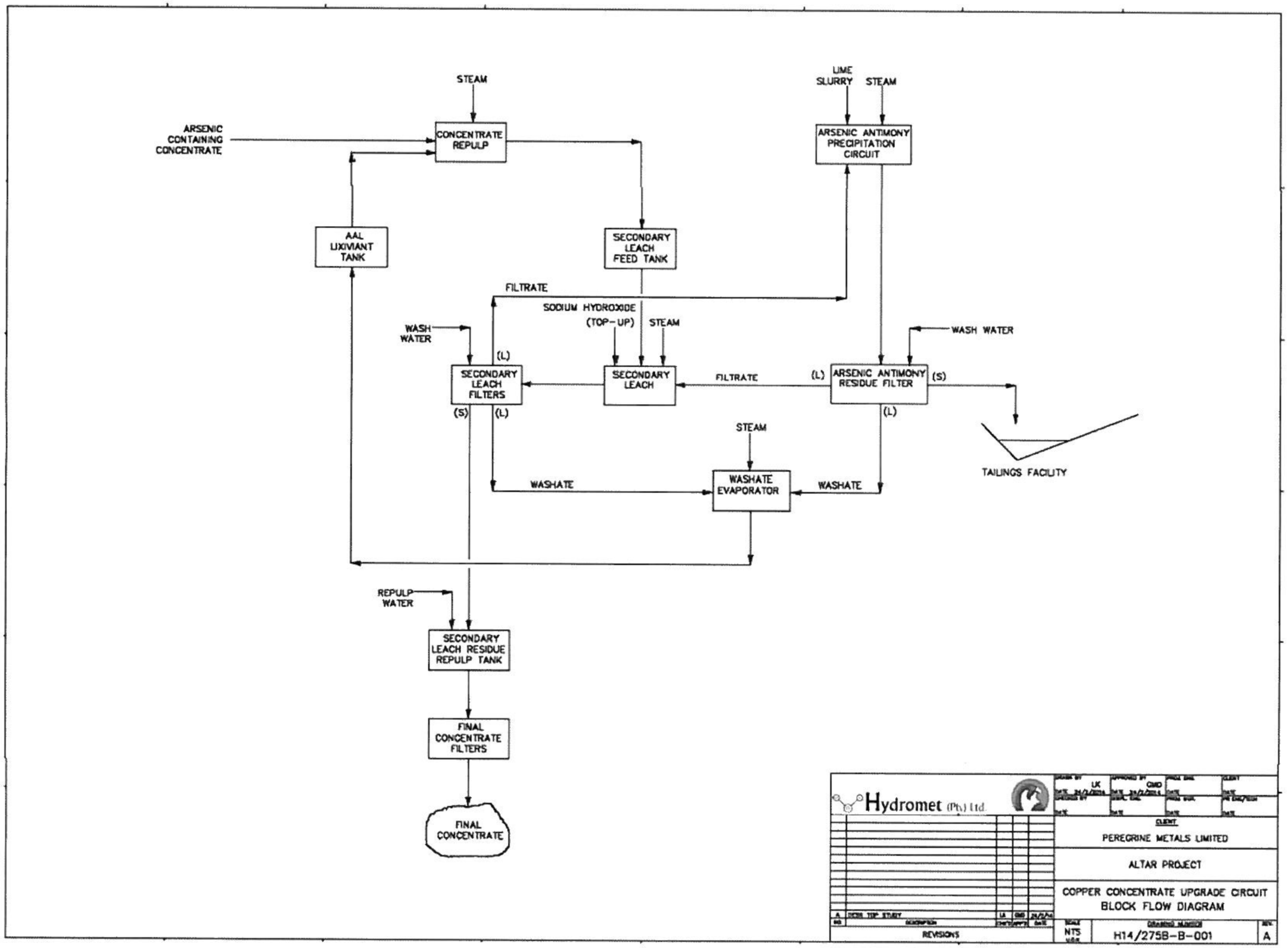


Figure 17-3

Copper Concentrate Upgrade Circuit Flowsheet



18.0 PROJECT INFRASTRUCTURE

The only project infrastructure that is in place at this time is the exploration camp and the road to that camp. Infrastructure requirements for various size operations and concentrate transport options are under investigation at this time.

19.0 MARKET STUDIES AND CONTRACTS

There have been no market studies or negotiated metal contracts at this time.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This Section was originally presented in a previous Technical Report “Estimated Mineral Resources, Altar Project, San Juan Province, Argentina”, by Independent Mining Consultants, Inc. 31 January 2014. The text has been updated by Stanford Foy, who is Director Corporate Development for Sibanye-Stillwater and author for this section. John Marek has relied on Mr. Foy and is the qualified person for this section.

20.1 Environmental Permitting - Argentina

The Environmental Law for Mining Business, Law No 24.585, is incorporated into the Mining Code. It aims to protect the environment and preserve natural and cultural heritage, which may be susceptible to impact by mining activities.

Activities specified in the above-mentioned regulations cover the following activities or project stages:

- Prospecting
- Exploration
- Exploitation

The law states that approval of the Environmental Impact Assessment (EIA) must be sought before the beginning of corresponding activities and it must be prepared by the holder of the mining concession.

The EIA must contain details, in relation to the stage of the project, a description of the area of influence, together with a description of the activities related to the stage of the project and details of possible changes to the soil, water, atmosphere, flora and fauna, relief, socio-cultural environment. It must also include contingency plans for dealing with the prevention, mitigation, rehabilitation, restoration or compensation for any environmental damage as appropriate. The enforcing authority must approve or reject the report within 60 working days of its submission. The Environmental Impact Statement (Declaracion de Impacto Ambiental ,DIA) is the legal instrument to approve the EIA and it must be updated at least every two years or at any time a substantial change of the project is expected.

Considering the fact that the Altar Property is owned and the Rio Cenicero concessions are under an option agreement, Minera Peregrine Argentina must treat the two properties separately in terms of environmental permitting. Minera Peregrine Argentina has been granted with the respective DIA for exploration for the Altar and Rio Cenicero properties.

20.2 Base Line Studies - Argentina

Different studies to fulfill the Altar Base Line Study have been conducted on the project since 2005 and the area for the Baseline study was extended to the Rio Cenicero area in 2009. The Baseline study results are used to prepare the Exploration EIA updates and will also be used in the preparation of an eventual Exploitation EIA that will be presented to obtain the permits to construct and operate the Altar/Rio Cenicero Projects.

Area of Influence

Figure 20-1 and Figure 20-2 presents the regional project location and the areas of influence considered for the Project.

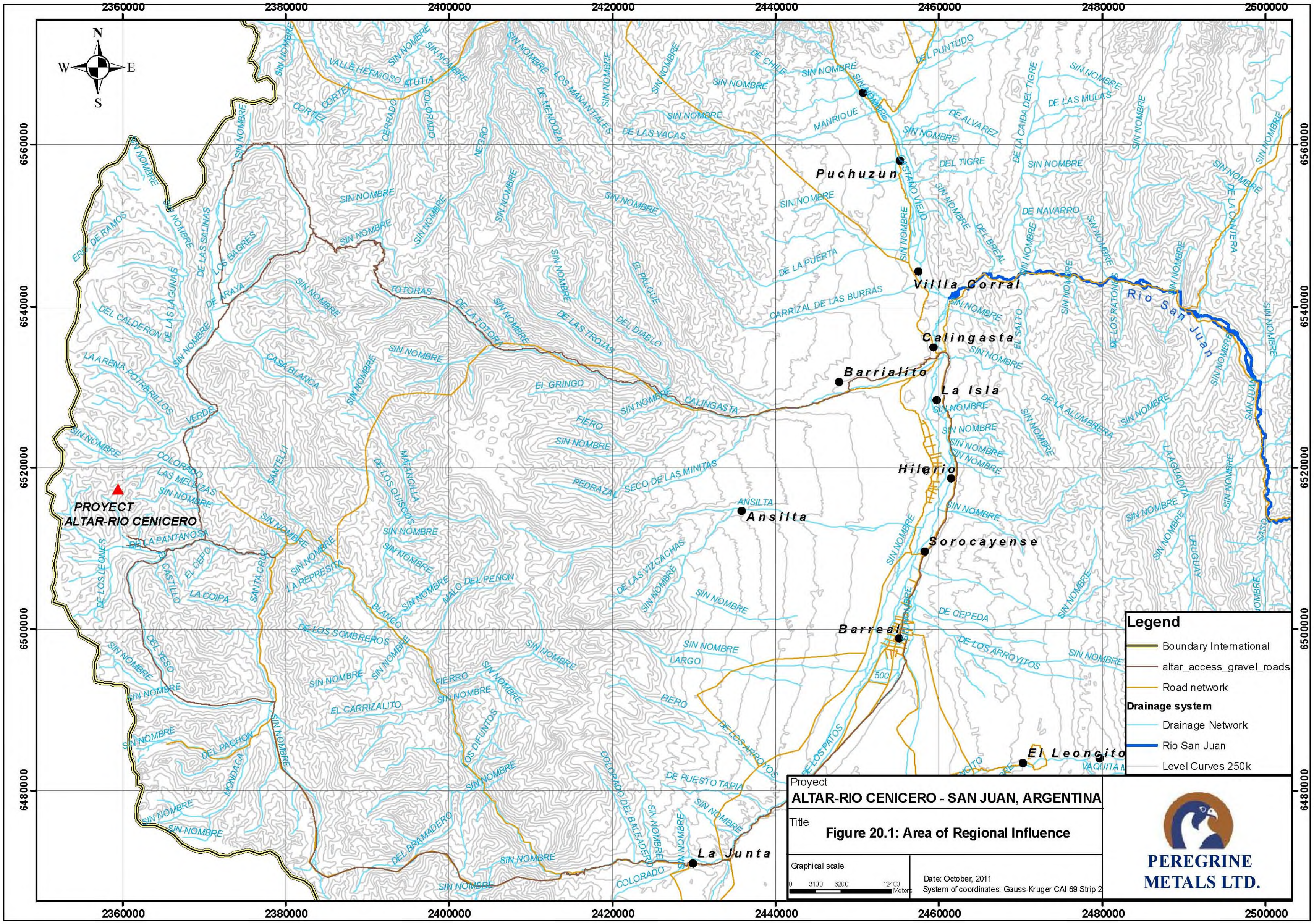


Figure 20-1 Area of Regional Influence

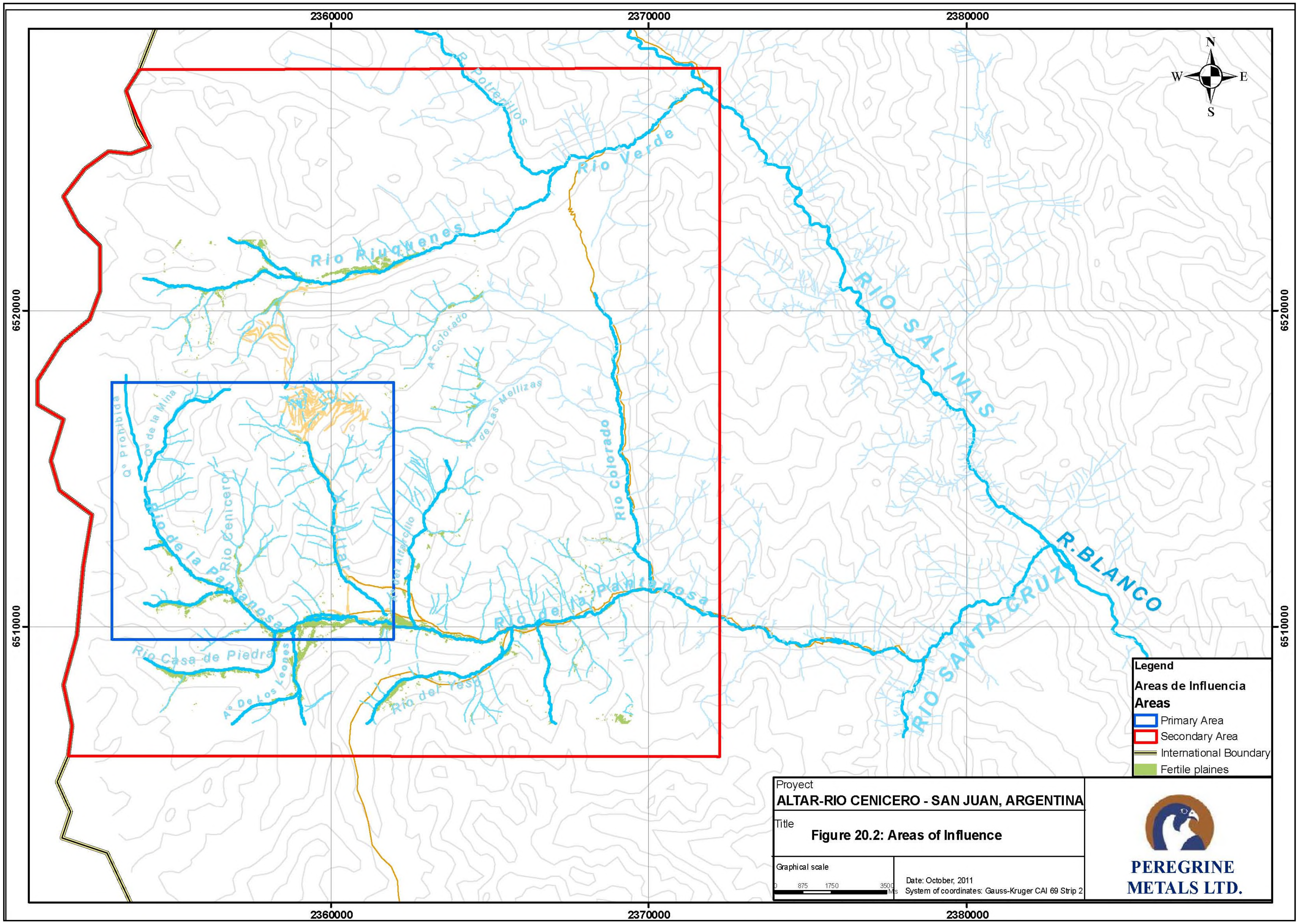


Figure 20-2 Areas of Influence

Geology

A complete discussion of regional and local geology is provided in Section 7.0.

Geomorphology

The Altar and Rio Cenicero areas are located in the western fringe of Argentina occupied by the Andes Cordillera. The Cordillera in this area is characterized by the presence of two major mountain ranges respectively named from East to West as Cordillera Frontal and Main Cordillera. The exploration area is located within the Main Cordillera which in the area also represents the continental divide.

The relief in the project area is characterized by steep and rather continuous mountain ranges generally oriented in a North to South direction. The mountains are cut by narrow valleys that predominately drain the water in an easterly direction. The main morphologies have been shaped by glacial and periglacial erosion and associated depositional features. Fluvial and to a lesser degree eolian landforms also contribute to the geomorphology of the area. The morphology of the area also shows features common to tectonically active area, such as landslides and debris flows.

The main geomorphological features are presented below:

- Glacial and periglacial features are well represented by an abundance of ancient (still undated) moraines, and glacio-fluvial deposits, such as outwash plain commonly found at the bottom of large U-shaped valleys. Steep arêtes and cirques are also common along mountain ridges and valley walls respectively.
- Presently there are no uncovered (“white”) glaciers in the Project area. Two rock glaciers, a landform common to periglacial environments are located within the Project area. The degree of activity or lack thereof, of the two rock glaciers has yet to be determined. Other periglacial features, such as felsenmeers, and gelifluction lobes have been identified in the project area.
- Landforms, indicative of tectonic and gravitational activity, such as landslides, debris flows, and colluvial deposits are also present in the area.
- The Pantanosa River fluvial activity is of moderate geomorphic importance, considering that the Project area is located at the headwaters of the river and its small tributaries that make up this watershed.

Seismic

The University of San Juan compiled the seismic information available in Argentina and Chile. The report estimates that the area of the project is exposed to important seismic events of magnitude between 7.0 to 7.5 Mw.

The subsidence of the Nazca plate originating in the Pacific Ocean is considered the main potential source of seismic activities, although some active cortical regional structures at the

West and East of the Main Cordillera can also induce seismic events of an estimated maximum magnitude of 7.0 Mw.

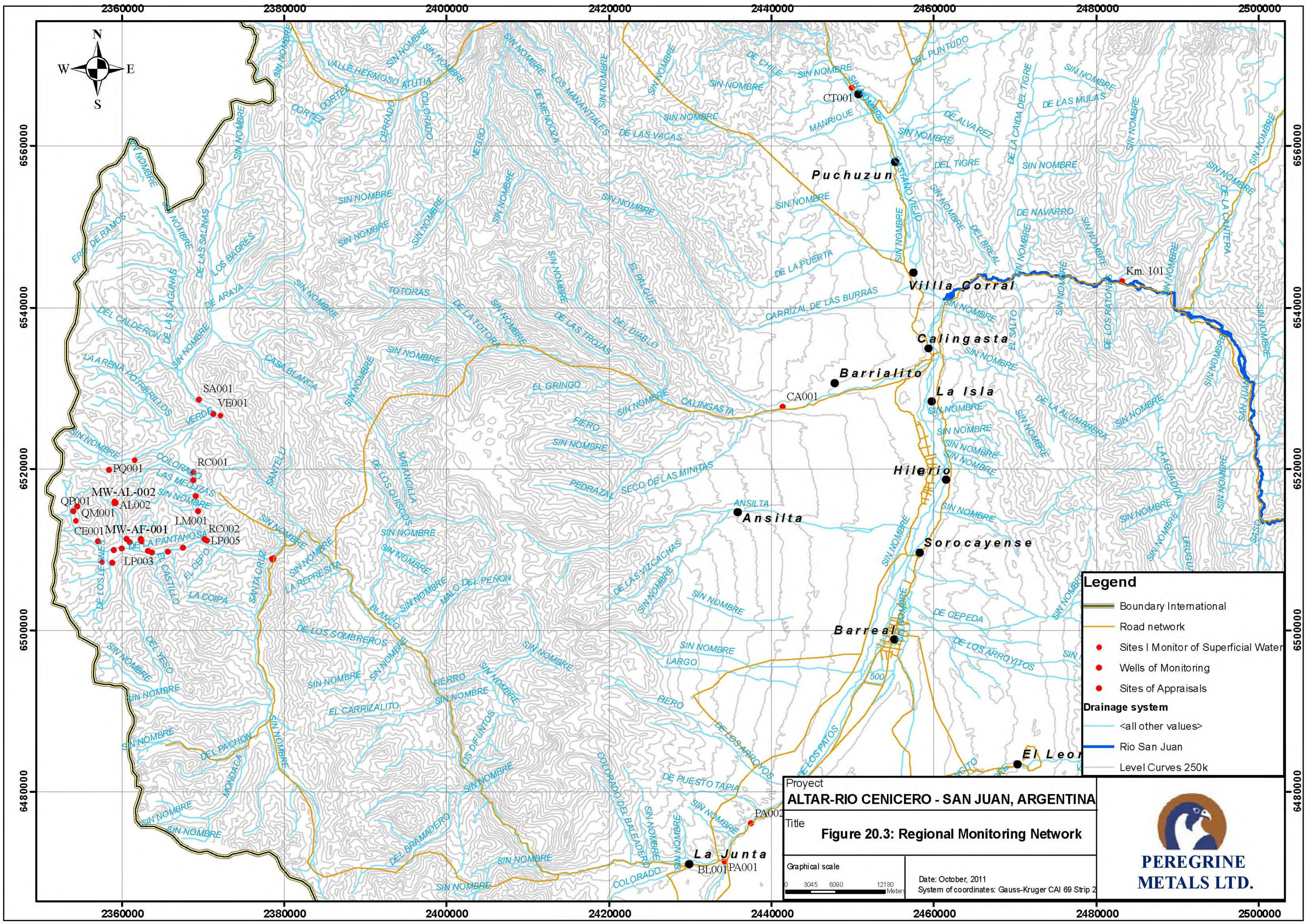
Climate

The project area climate is continental semi-arid, characteristic of elevations above 2,500 m in the Central Andes. Temperatures are relatively low during the entire year ranging from -3°C to 15ºC in summer and from -25°C to 7°C in winter. Precipitation ranges from 600 mm/year to 1,000mm/year. The majority of precipitation comes with frequent storms bringing rain and snowfall, along with strong winds, mainly in the winter (May to August). In contrast, the summers are generally dry. Net annual evaporation rates are high and exceed annual rainfall by a significant margin, but rainfall storms can provide significant precipitation in short durations. The Pacific Ocean has a strong effect on the climate of the region. Low pressure centers forming in the eastern Andes cause the movement of air masses from the Pacific Ocean eastward through the mountain passes. Storm fronts coming from the west may bring snowfall as early as mid-March.

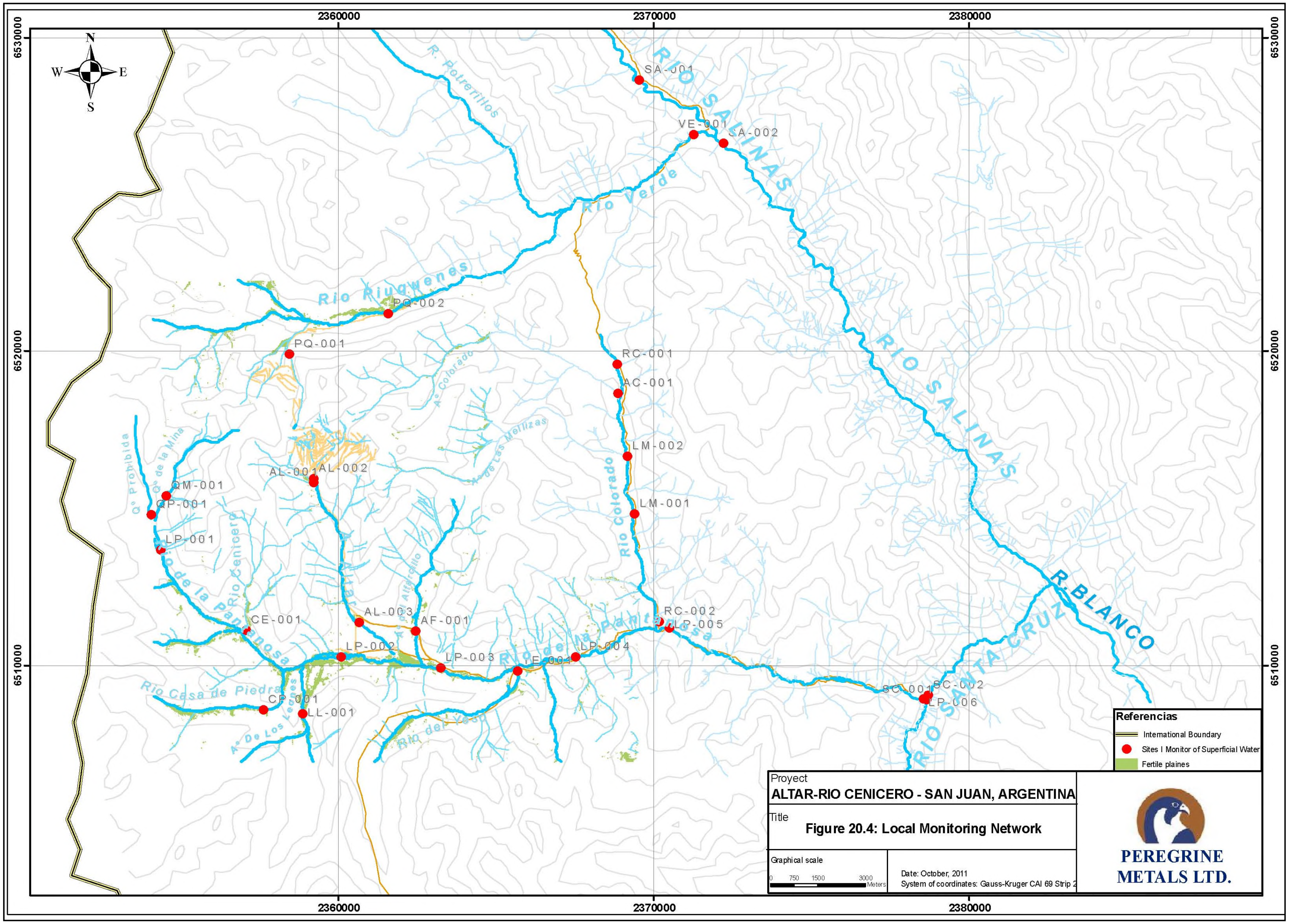
Hydrology

The Figures 20-3 and 20-4 present respectively the regional drainage system, regional monitoring network and local monitoring network. It can be observed that the Project is located at the head of an important drainage network feeding the San Juan River.

Bi-Monthly monitoring of the different river flows is recorded by the Fundacion Universidad Nacional de San Juan the monitoring stations located in the upper Cordillera are visited only when road accesses are available. The monitoring campaign started in April 2010 and has progressed since then. Since 2014, two hydrological campaigns were carried out each year, one in March (Upper Basin + Lower Basin) and another in June (Lower Basin only).



Figures 20-3 Regional Monitoring Network



Figures 20-4 Local Monitoring Network

The Table 20-1 presents the average flows registered in the most relevant creeks or rivers in the project zone of influence.

Table 20-1
Average Flows

Creek or River	Monitoring Point	Flow m^3/s	Comments
Altar	AL003	0.048	5 months (Dec 2011 to Apr 2012)
La Pantanosa	LP006	0.594	5 months (Dec 2011 to Apr 2012)
Santa Cruz	SC001	1.867	5 months (Dec 2011 to Apr 2012)
Blanco	BL001	11.73	7 months (Dec 2011 to Jul 2012)
De Los Patos (downstream of the Blanco River)	PA002	22.44	7 months (Dec 2011 to Jul 2012)

Water Quality

The different monitoring locations used to measure the flows are also used to collect water samples to characterize the main parameters of the water flowing in the water streams. The frequency is the same as for the flow measurements. In general the water quality is very good with the exception of the creeks flowing in the Altar and valley where the natural pH values are in the range of 2.8, conductivity of above 1,000 uS/cm and important quantities of metals are dissolved.

Hydrogeology

Hydrogeology studies were conducted during 2011 to mainly identify important aquifers that could supply water to the operations. Electrical resistivity of the sub-surface was measured in the following areas:

- Piuquenes – Verde Rivers
- Pantanosa River
- Quebrada De La Mina Valley
- Altar Creek Alluvial Fan
- Quebrada de Alfarcillo Valley
- Colorado River

The areas presenting less resistivity were considered more favorable to contain water since they are generally associated with Quaternary sediments filling the valleys shaped by the glaciers. The areas judged the most favorable were drilled and the Figure 20-5 presents the location of the four water prospect holes drilled. Table 20-2 shows the characteristics of the four water prospect holes.

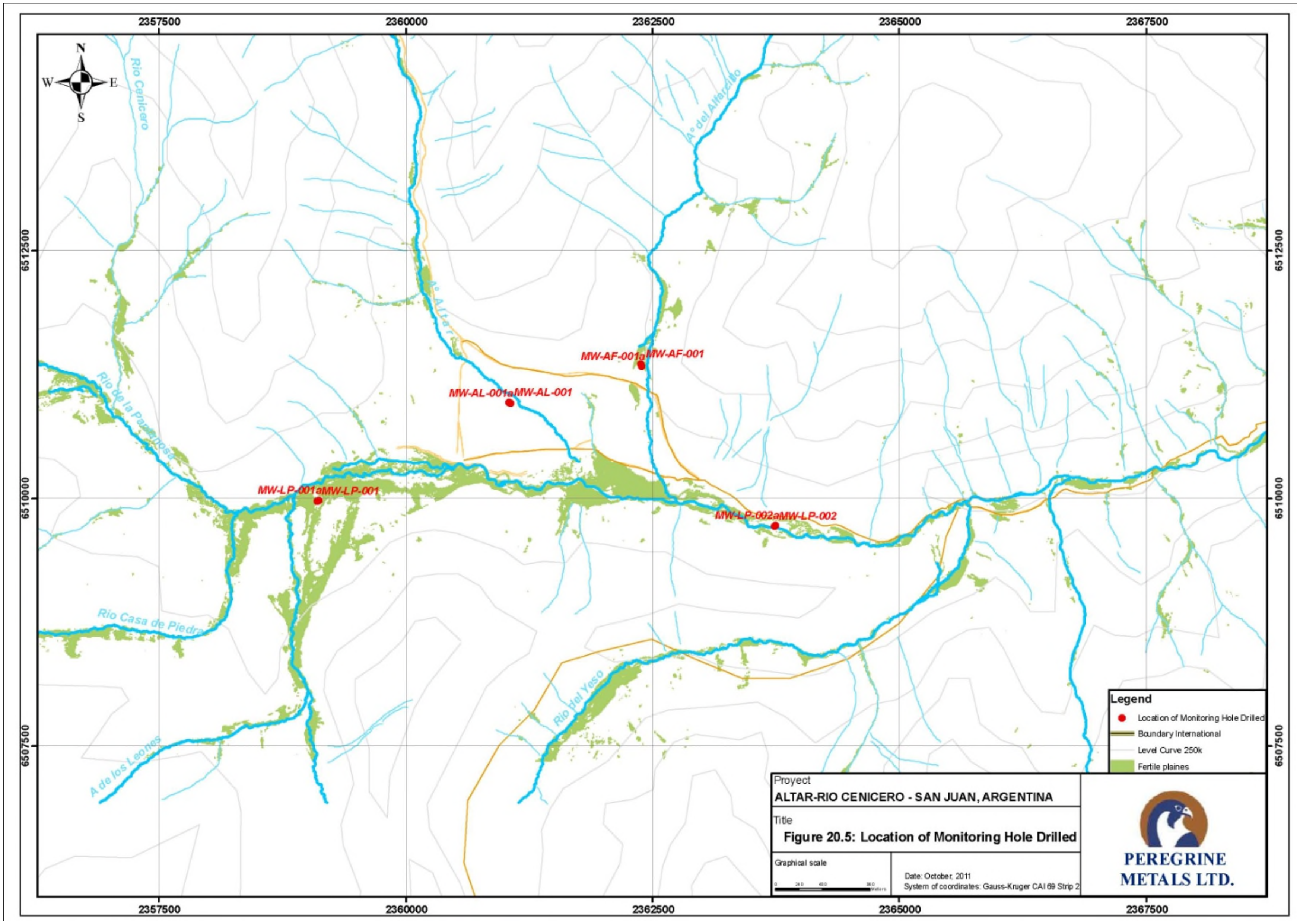
Table 20-2
Prospect Hole Characteristics

Hole	Location	Depth	Comments
AF-001	Alfarcillo Valley	165 m (Ø 25 cm) – Liner Ø 15 cm)	Observation hole 168 m Water table: - 11 m from collar
AL-001	Altar Alluvial Fan	138 m (Ø 25 cm) – Liner Ø 15 cm)	Observation hole 132 m Water table: - 19 m from collar
LP-001	La Pantanosa Valley Upstream	165 m (Ø 30 cm) – Liner Ø 15 cm)	Observation hole 165 m Water table: - 13.5 m from collar
LP-002	La Pantanosa Valley Downstream	224 m (Ø 25 cm) – Liner Ø 15 cm)	Observation hole 41 m Water table: On surface

It was observed in the hole LP-002 that sediments were replaced by clayish material and consequently reducing conductivity and storage capacity properties.

Pumping tests were performed and piezometers were installed in the observation holes. A preliminary estimation indicated that the water table in the wide area of the Pantanosa Valley would contain approximately 38,000,000 m^3 of water but would have limited capacity of recharge and a very low underground flow.

Diamond drill holes located in the Altar ore body are also used to monitor the groundwater levels that range from near surface to near 200 m below ground. Groundwater levels are generally deep in the upper elevations and closer to surface in the valley bottom. However, some notably high groundwater levels were measured indicating that perched water tables may be present locally.



Figures 20-5 Location of Monitoring Holes

<u>Flora and Fauna</u>

The project area is characterized by a High-Andean ecosystem dominated by subshrubs of the genus Adesmia and the presence of poposas, yaretas and plants generally associated with steppes and wetlands. The area is also characterized by the long time tradition for the Chilean herdsmen and their livestock to cross the border and graze their animals in Argentine territory during the summer time. The border crossing is informal and almost impossible for the authorities to control.

The five campaigns conducted in the field have identified important vegetation diversity between the different patches of vegetation located in the steppe areas. Effects on the vegetation in particular to the isolated vegetation patches and also to the wetlands due to animal grazing have been observed on the lower part of the project area. It is also interesting to note that by diverting or blocking some creeks the herdsmen have been able to create or extend some wetland areas to feed their animals.

The Azorella Madreporica plant, specie considered vulnerable in Chile, has been observed in the project area.

The project area is considered rich in animal biodiversity in particular in the wetland sectors. The following animals inhabiting the project area are considered as protected species according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora:

Appendix I: (higher level of endangerment)

- Condor

Appendix II:

- Andean hummingbird
- Wild felines such as the puma
- Guanaco
- Birds of prey such as mora eagle, harrier, leaden falcon and Andean vulture

The wetlands are quite rich in wildlife and the following species are present:

- Agachonas or wading bird (Family of Thinocoriade)
- Ducks
- Chorlo (Family Charadriidae)
- Becasse (Family Scolopacidae)

It is important to note the presence of Andes frog, considered as vulnerable species. The presence of the herdsmen with their dogs and the competition for grazing areas between the livestock and wild animals impact the wildlife negatively.

Ichthyological surveys were conducted in the following rivers:

- Salinas
- Verde
- Piuquenes
- Colorado
- Santa Cruz
- La Pantanosa

Rainbow trout were identified and collected in all the rivers studied. Even if the rainbow trout was introduced in Argentina at the beginning of the 20th Century the specie(s) has an important value in term of recreational fishing. Toxicity analysis performed on the trout did not return any abnormal values for lead, mercury, chrome and cadmium.

Five limnology campaigns were conducted to qualify and quantify the micro-organisms present in the different water courses of the project area.

Soil Classification

A soil survey campaign was conducted on the project site and the soils classified by order of occurrence, are as follows:

- Rock outcrops with absence of soil cover.
- Slopes or decline complex: The soils are derived from fragmented rock predominantly of volcanic origin. They are in general very steep to extremely steep and contain in some areas small quantities of organic matter.
- Glacifluvial terraces constituted of fragmented rock with presence of some organic matter.
- Wetlands with important quantities of organic matter.

The soils in the project have very limited agricultural use due to the severe climatic conditions, drainage, erosion and abundance of rock fragments and rock outcrops. The wetlands are however recognized as very important for the ecosystem.

Landscape

The different project landscapes were studied, and the Pantanosa Valley was considered the most relevant landscape of the project.

Air Quality

Monitoring of the air was performed during the months of January, February and March 2011. PM10 analysis did not reveal the presence of any contaminants above the Argentinean standards.

Archaeology and Paleontology

A first archaeological survey was conducted on the property in 2008 and did not report any significant findings in the project area. The report also recommended a second phase to study in more details the areas boarding the creeks and rivers where potential settlements should have taken place. The report also stated that archaeological studies in the area are presenting a higher degree of difficulty because it appears that the Chilean herdsmen, for geographical reasons, use the same areas that were probably used by the pre-Hispanic people.

A second regional archaeological survey was conducted in 2012. The Table 20-3 presents the results of the survey. The conclusions of the archaeological report are quite similar to the first report and underline the important activities along the water courses of the project area and the rather low activity in the areas of the Altar and Quebrada de La Mina Orebodies. The second report also recommends to prepare a program to study in more details the sites located near the project orebodies and infrastructures.

No paleontological discoveries were reported on the project. In March 2017, Dr. Teresa Michieli, carried out the archaeological prospecting of the previously studied sites.
The conclusions of this study indicated that many of the points indicated in the previous report as archaeological sites (pre-Hispanic or historical), had not been well characterized, where some were cited twice and in most cases they were marked as different points of the same installation. In addition, the areas where prospecting and exploration have taken place has not yielded any evidence of past temporary or seasonal installations. The same holds true for the area of the camp. All the pre-Hispanic archaeological evidences found are prior to the presence of the Inca domination of the region.

Table 20-4 presents the results of the study:

Table 20-3
2012 Archaeological Survey

Area	Sites with Pre-Hispanic Remains	Sites with Pre-Hispanic and Modern Remains	Sites with Modern Remains	Sites without Remains	Sites not Inspected	Total
Rio Verde	1	0	2	2	1	6
Rio Colorado	3	2	1	4	6	16
Rio Pantanosa	13	8	11	25	10	67
Rio Casa de Piedra	6	2	1	6	1	16
Arroyo Altar	1	1	2	2	0	6
Arroyo Alfarcillo	0	0	0	6	1	7
Rio Piuquenes	6	1	1	2	1	11
Rio Los Leones	5	0	1	6	2	14
Rio del Yeso	4	0	2	1	1	8
Total	**39**	**14**	**21**	**54**	**23**	**151**

Table 20-4
2017 Archaeological Survey

Area	Sites Without Evidence	Sites with Evidence of Archaeological Material	Historical-Cultural Sites	Hosts
Quebrada de la Mina	2	0	0	0
Arroyo Altar	2	0	0	0
Río La Pantanosa	0	6	13	24
Río del Yeso	0	2	6	0
Arroyo Alfarcillo	0	0	1	6
Total	**4**	**8**	**20**	**30**

Acid Rock Drainage

Lorax Environmental conducted an_Acid Rock Drainage (ARD) Static Investigation Program for the Project. A total of 50 samples were selected in different areas of the ore body for the static test program. Samples were selected based on a review of the Altar project geology and assay results.

A summary of significant results regarding the Phase I geochemical characterizations of Altar Project are listed below:

- The leach cap zone has no acid buffer capacity and based on Acid Base Accounting (ABA) testing is considered as Potentially Acid Generating.
- The sulphide zone samples have limited buffering capacity to acid buffer and based on ABA testing are considered as Potentially Acid Generating.
- Solid phase metals that are enriched in Altar Project samples include Ag, As, Bi, Cu, Hg, Mo, Pb, Sb, Se, and Th. It is believed that some of those metals could leach and dissolve in the waste dumps effluents.

Monitoring of Glacial and Periglacial Features

As stated previously, there are no uncovered ("white") glaciers in the Project area, however one rock glacier has been monitored for almost 8 years at Altar and another rock glacier has been monitored for almost 6 years at QDM.

Temperature data loggers have been installed in different areas of the project to assess the presence of permafrost or to determine conditions where permafrost could exist. The monitoring program for the presence of permafrost is ongoing for a period of almost 7 years. In 2015, a permafrost distribution and conditions map was presented to authorities for the project area, and has been revised in the 2017 and 2018 baseline environmental campaigns. In 2016 the development of the climate model for the study area began, based on the Coordinated Regional Climate Downscaling Experiment (CORDEX). CORDEX is a program promoted by the World Council Research Program (WCRP) that aims to establish a coordinated international framework to produce improved projections of global climate changes at regional levels to be used in impact studies and adaptation within the guidelines of the Intergovernmental Panel on Climate Change.

Finally a program developed with some USA Universities permitting to obtain inter-discipline results from the following technologies was put in place:

- Hydrologic and chemical investigation of the waters generated in the rock glacier areas.
- Geophysics on the rock glacier area.
- Laser survey (LIDAR) of the two rock glaciers to detect movements and analyze such movements.
- Interpretation of satellite images (INSAR) to detect movements and analyze such movements.
- Topographic monitoring of the displacement of the studied rock glaciers.

Social and Community Aspects

The project is located respectively at 175 km and 187 km by road from Barreal and Calingasta, which constitute with Tamberia the main communities of the Municipality of Calingasta. The Municipality of Calingasta was founded in 1869 and experienced very intense mining and processing of Aluminum Sulfate between the years 1973 and 1993. A chemical process to produce Aluminum Sulfate made the mining and processing industry noncompetitive and the operations closed abruptly, leaving important environmental liabilities. In 2010, the population of the municipality Calingasta was 8,453 inhabitants. The road connectivity to the provincial Capital of San Juan is limited due to the dangerous road conditions. The connectivity to Mendoza through Uspallata is of better quality. The education offered in the Municipality of Calingasta is Primary and Secondary Levels. There is a technical school forming among other careers Mining Technicians. Two elementary hospitals are located in Barreal and Calingasta. The main business activities for the area until recently were farming, tourism and commerce; however the presence of Xstrata developing the El Pachon Project and the start-up of the small gold mine Casposo substantially increased the mining activities in the area.

20.3 Environment - Chile

An Environmental Scoping Study for the Chilean portion of the El Altar Project has been prepared by SRK Consulting Chile S.A.

The scope of the Environmental Scoping Study covers a conceptual identification of the relevant environmental aspects associated with the eventual Altar project infrastructure in Chile as well as identification of the necessary studies and actions for the following project phases to enable environmental permitting and social licensing procedures for the project to operate in Chile. No baseline study work had started on the Chilean side at the time of preparing this Report.

21.0 CAPITAL AND OPERATING COSTS

No estimates of capital and operating costs have been prepared at this time.

22.0 ECONOMIC ANALYSIS

No economic analysis has been performed on the Altar project at this time.

23.0 ADJACENT PROPERTIES

The Altar Project is located in a known mining, advanced exploration, and exploration projects area. The information reported in the section is available in the public domain from the companies listed below. The qualified person, John Marek, has been unable to verify that information and the information reported herein is not necessarily indicative of the mineralization of the Altar Project.

The three closest mines and advanced projects to the Altar Project are porphyry copper deposits of Miocene age:

1) The open pit Los Pelambres mines (Antofagasta PLC and partners) in Chile
2) El Pachon project, currently owned by Glencore, in Argentina and the,
3) Los Azules project, currently under advanced exploration by McEwen Mining, in Argentina.

In addition, the Piuquenes exploration project is located immediately north of the Altar Project and has been the object of exploration drilling as recently as 2016.

The Figure 23-1 presents the location of adjacent mines and advanced projects in relation to the Altar Project.

The Mine Los Pelambres and the El Pachon Project report reserves and resources under the Australian Joint Ore Reserves Committee (JORC) Code. The Los Azules Project reports the resources under the Canadian Institute of Mining and Metallurgy (CIMM) guidelines.

The producing Los Pelambres mine is hosted in a sequence of andesitic lavas, flowbreccias and volcanoclastic sediments that has been intruded by small irregular dioritic to granodioritic plutons, and by an approximately 5 x 2 km quartz diorite stock. A number of related alteration and mineralization events are associated with emplacement of multiple center(s) of small (~200 m in diameter), vertically-zoned bodies of aplite, pegmatite, and hydrothermal breccia within the quartz diorite. Each center(s) formed a bornite-rich core, grading out through chalcopyrite to pyrite. Hypogene mineralization commenced prior to the cessation of magmatism, taking the form of quartz stockwork veining, potassic alteration and breccia pipes. Late mineralization occurs as pyrite veining with sericite halos. Mineralization in both types is present in veins, with the only disseminated ore being in the alteration halos of these veins. Supergene enrichment is important at Los Pelambres, with five blanket-like zones formed vertically.

Los Pelambres commenced operation in 1999. Copper concentrate is transported by pipeline 120 km to the coast, where it is dewatered, dried and stored prior to shipment by sea.

Proven and probable reserves at a at the end of 2017 were reported as 1.2 billion tonnes at 0.60% copper, 0.020% molybdenum, 0.05 gm/t gold. At the end of 2017, measured and indicated mineral resources, including reserves, stood at 3.4 billion tonnes averaging 0.54% copper, 0.015% molybdenum and 0.05 gm/t gold. Inferred resources were reported at 2.7 billion tonnes at 0.46% copper, 0.015% molybdenum, and 0.06gm/t gold.

El Pachon is an advanced exploration project. The deposit is located in Argentina literally meters from the Chilean border. Press reports have indicated that the environmental permit situation at the property is complicated by the presence of glaciers on the concessions.

The mineralization in the El Pachon porphyry copper and molybdenum occurs mainly in andesite, diorite, tuff, and a siliceous breccia; the main intrusive phase is a diorite. Some late stage intrusions, (Quartz–Biotite–Feldspar Porphyry and Tourmaline Breccias) are barren and cross cut the mineralized units. Copper is associated with fracture filling, whereas molybdenum is primarily found within quartz veinlets. Approximately 94% of the mineralization lies within the primary zone.

Glencore reported on December 31, 2017 measured and indicated mineral resources for the El Pachon project totaling 1.59 billion tonnes at 0.55% copper, 0.012% molybdenum and 2.13 gm/t silver, with a further 1.53 billion tonnes grading 0.41% copper, 0.090% molybdenum and 1.80 gm/t silver in the Inferred category at the same cut-off grade.

The Los Azules Project is an advanced–stage porphyry copper exploration project located in the cordillera region of San Juan Province, Argentina, near the border with Chile. The mineralization is typical of a porphyry copper system in that the upper part of the system consists of a barren leached cap, which is underlain by a secondary enrichment blanket, and the primary mineralization below the secondary enrichment zone extends to at least 650 m.

A mineral resource estimate was presented within a PEA Technical Report dated September 1, 2017. The Indicated Resource at a cut-off grade of 0.20% copper is estimated at 962 million tonnes grading 0.48% copper, 0.06 gm/t gold and 1.80 gm/t silver. Inferred Resources at the same cut-off grade stood at 2,666 million tonnes grading 0.33% copper, 0.04 gm/t gold and 1.60 gm/t silver.

The PEA contemplates a flotation mill operation that would process 80,000 tpd expanding to 120,000 tpd at a later stage. The copper concentrate will be shipped to smelters.

Sources: Antofagasta Minerals 2017 Annual Report
Glencore Resource and Reserve Report, December 31, 2017
McEwen Mining, Technical Report, Preliminary Economic Assessment Update for the Los Azules Project, Argentina. Sept 1, 2017 for McEwen Mining, website November 2013

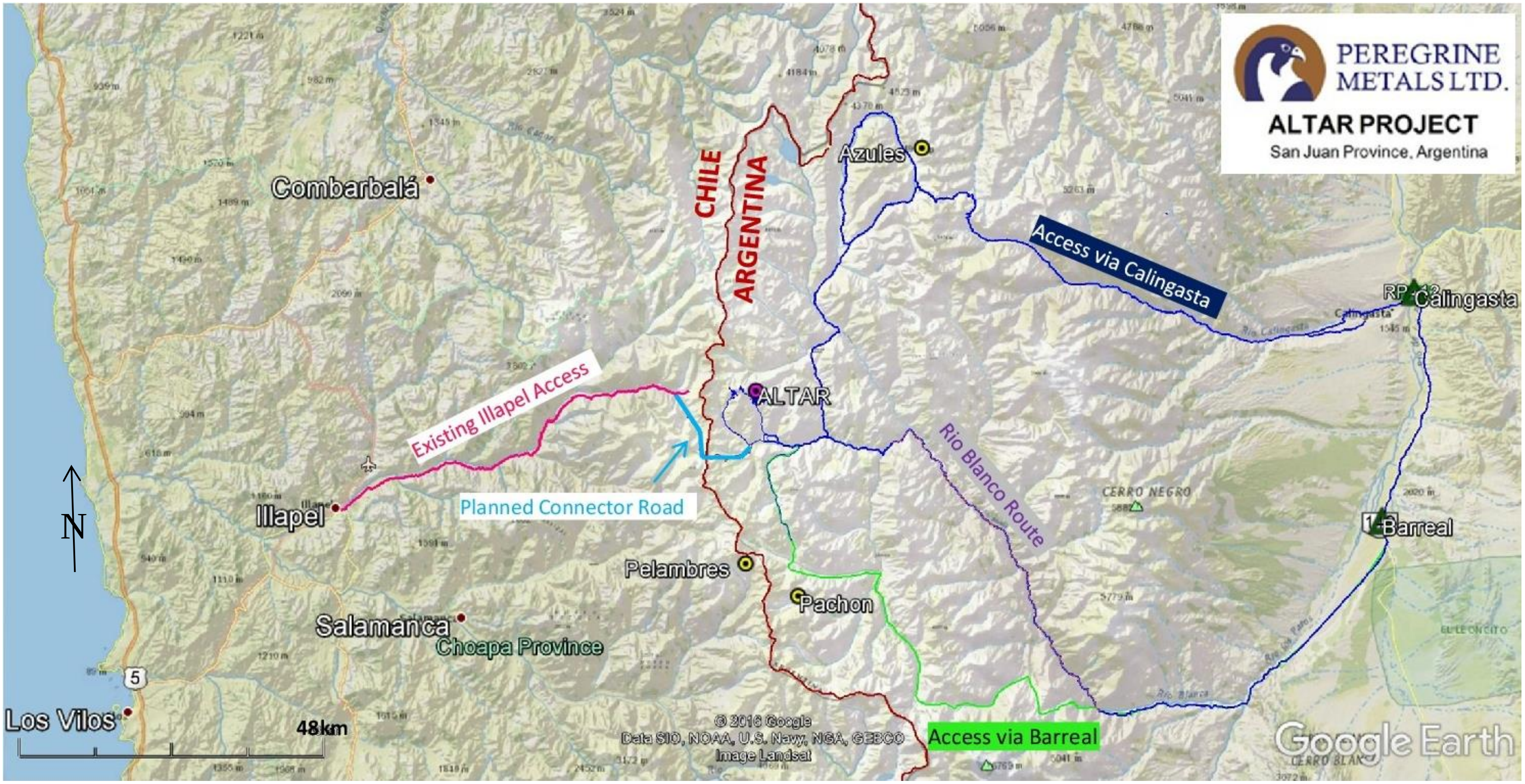


Figure 23-1
Location of Adjacent Properties

24.0 OTHER RELEVANT DATA AND INFORMATION

All information relevant to the estimation of mineral resources and the preparation of the Preliminary Economic Assessment has been presented in the previous chapters.

25.0 INTERPRETATIONS AND CONCLUSIONS

The Altar Project is a large copper-gold porphyry system. The mineral resource as stated in Section 14 indicates a large tonnage with reasonable prospects of economic extraction. This evaluation identifies a smaller component of that resource with higher grade that has potential to develop a moderate sized project that could combine both open pit and underground production.

The Quebrada de la Mina (QDM) gold and silver deposit is 2km west of Altar. It has the potential to contribute some precious metals credit to Altar using the same process concept as is currently contemplated at Altar.

Altar has associated arsenic in the form of enargite that concentrates in a conventional flotation mill to the degree that concentrates are not marketable without additional processing. Sufficient process testing has been completed to suggest two reasonable alternatives for concentrate treatment:

1) Pressure oxidation (POX) processing of the concentrate with solvent extraction and electro-winning (SXEW) to produce electro-won copper followed by cyanide treatment of the POX tail to produce gold and silver dore.

2) Concentrate upgrade to convert enargite to scorodite followed by flotation separation of the scorodite to the tail. A marketable concentrate is produced for shipment to smelters.

Substantial testing and detail analysis will be required to establish the best approach and the operating parameters of the concentrate treatment process at Altar.

Geotechnical work at Altar is in the early stages. Assumptions regarding slope angles in the pit will change as more detailed work is completed in the future.

The metal prices that were used to develop the mineral resource reflect somewhat conservative copper and gold prices than are currently occurring. The resource was based on $2.75/lb copper with gold and silver of $1,179 and $22.79/oz respectively. Spot market prices for copper were approximately $3.00/lb with gold at $1,250 and silver at $16.21 per oz in the second quarter of 2018.

26.0 RECOMMENDATIONS

IMC recommends that a measured approach be taken in the evaluation and development of Altar. Drilling and exploration activities at the project have outlined potentially economic mineralization and several exploration targets that require additional work.

IMC recommends a phased budget composed of two parts:

Part 1

- Extensive relogging program to focus on better definition and understanding of high-grade zones.
- Extend geophysical coverage over key alteration zones utilizing a Titan24 type program or equivalent.
- Followed by a 5000m (4 or 5 core-hole) drill program to test targets generated.

Part 2

- Based on results of Part 1, continue with additional core drilling as warranted.

IMC recommends the next phase of exploration spending, estimated at US$ 5,200,000 to further progress the Altar Project.

Table 26.1 PROPOSED BUDGET

Item	Cost(US$)
5,000m drill program	3,200,000
Geophysical program	500,000
General Support and Administrative*	1,000,000
Contingency (10%)	500,000
Total	5,200,000

*G&A also includes baseline environmental/social spending and extensive core relogging

In addition, there are several copper concentrate treatment processes that are being evaluated by the mining industry. Altar could benefit from a technical breakthrough or an operating proof of concept. Continued monitoring of this topic is warranted.

27.0 REFERENCES

The primary reference for this report has been the previous Technical Report as summarized below.

"Altar Project, San Juan Province, Argentina – NI43-101 Technical Report", Nilsson Mine Services, Ltd, Geosim Services, Inc. Hydrometal, Inc. Amended 21 March 2011.

Desk Top Study For Smelting & Refining and Pressure Leach – Solvent Extraction – Electowin Options for the Recovery of Copper, 1 January, 2012, Hydromet (Pty) Ltd.

"Estimated Mineral Resources Altar Project, San Juan Province, Argentina", Independent Mining Consultants, Inc. 31 January 2014.

Gustafson, L.B., and Hunt, J.P., 1975, The porphyry copper deposit at El Salvador, Chile: Economic Geology, v. 70, p. 857-912.

Letter to D. Turk, Director – Corporate Project Metallurgy, Stillwater Mining Company, October 2013, From Grenvil M. Dunn, (Pr. Eng., FIChe), Director, Hyrdromet (Pty) Ltd.

Peregrine Metals Ltd. Altar Project Conceptual Study, Final Report, (Concentrate Pipeline) Ausenco PSI. 25 October 2011

Peregrine Metals Ltd, Altar Project, Trade Off Study for the Treatment of its Altar Concentrate Employing Two Hydrometallurgical Options, Rev 0, 9 May 2014, by Hydromet (Pty) Ltd. Mr. Grenvil Dunn of Hydromet (Pty) Ltd.

Pilot Plant Test Work, Altar Project, Stillwater Mining Company KM4073, ALS Metallurgy Kamloops, 17 February 2014.

"Preliminary Economic Assessment of the Altar Project, San Juan Province, Argentina", 11 May 2012, by KD Engineering and several sub-contractors.

Project Memorandum, Preliminary Slope Design Studies – Altar Project, Argentina, BGC Engineering Inc. 30 June 2010

Project Memoranda, Taxation in Argentina and Royalties affecting the Altar and IPEEM Mining Properties. Federica Liporace, 20 May 2013.

"Technical Report, Altar Project, San Juan Province, Argentina"
Ronald Simpson P.Geo, John Nilsson P.Eng. W.Joseph Schlitt, P.Eng
October 4, 2010, and amended March 21, 2011

Antofagasta Minerals 2017 Annual Report

Glencore Resource and Reserve Report, December 31, 2017

McEwen Mining, Technical Report , Preliminary Economic Assessment Update for the Los Azules Project, Argentina. Sept 1, 2017 for McEwen Mining, website November 2013

28.0 DATE, SIGNATURE PAGE, AND CERTIFCATE OF QUALIFED PERSON

This report was amended and reissued on 28 September 2018.

The original date of this report is August 16, 2018.

The effective date of this report is August 16, 2018.

The effective date of the Mineral Resource estimate is July 1, 2018.

The qualified person for this report is:

John Marek, President, of Independent Mining Consultants, Inc.
His certificate provides the signature requirement for this report.

Assisted by:

Stanford T. Foy CPG, Director Corporate Development, Sibanye Stillwater
His certificate provides the signature requirement for this report.

CERTIFICATE OF QUALIFIED PERSON

I, Stanford T. Foy, CPG. do hereby certify that:

a) I am currently employed as the Director Corporate Development and Senior Geological Engineer by:

Sibanye-Stillwater US Operations
P.O.BOX 1330
536 E. Pike Ave.
Columbus, Montana, USA 59019

b) This certificate is part of the report titled "Mineral Resources, Altar Project, San Juan Province, Argentina", dated 16th of August 2018 and amended on 28 September 2018.

c) I graduated with the following degree from the Montana Collage of Mineral Science and Technology (Montana Tech in Butte MT).

Bachelors of Science, Geological Engineering 1992

I am a Registered Member of the Society for Mining, Metallurgy and Exploration (SME).

I am a certified professional geologist (CPG) with the American Institute of Professional Geologists (AIPG).

I have worked as a geological engineer, geoscientist, exploration manager, reserve estimation specialist, economic geologist and within operational and technical management for over 26 years. I have managed exploration programs, drill programs, and interpreted geologic occurrences in both precious metals and base metals for numerous projects. My experience covers resource and reserve modeling, mine design, and advanced economic modeling for both open-pit and underground projects. My advanced training at the university included geophysics, structural geology, exploration methods, geostatistics, mine planning and I have built upon that initial training as a resource modeler and reserve estimation specialist in base and precious metals for my entire career. I have acted as the Qualified Person on these topics for company disclosures in the past.

My work experience includes geologic modeling, mine planning, mine cost estimation, mine management and mine feasibility studies for base and precious metals projects for over 26 years.

d) I last visited the Altar Property February 13-24, 2018. In addition, I have visited the property each year between 2011 and 2018.

e) I assisted IMC with the following sections of the report titled "Mineral Resources, Altar Project, San Juan Province, Argentina**",** dated 16th of August 2018 and revised on 28 September 2018. Sections 4, 6, 9, and 20.

f) I am not independent, applying the tests in Section 1.5 of National Instrument 43-101 because of my employment with Sibanye-Stillwater.

g) Stillwater Mining Company (Sibanye-Stillwater). and Stanford Foy have worked on the Altar project since year 2011. Focus was on advancing the project from early stage to advanced stage exploration during this time. Because of my employment with Sibanye-Stillwater, I am non-independent (as required in section 5.3(1) of the companion policy 43-101CP), however, I aided IMC in generation of the mineral resource published in-house on January 31, 2014 titled "Estimated Mineral Resources, Altar & Quebrada de la Mina Deposits, San Juan Province, Argentina".

h) I have read National Instrument 43-101 and Form 43-101F1, and to my knowledge, the Technical Report has been prepared in compliance with that instrument and form.

i) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated: September 28, 2018

SME
Society for Mining, Metallurgy & Exploration
Stanford Foy
SME Registered Member No. 4140727
Signature
Date Signed Sept 28, 2018
Expiration date Dec 31, 2018

Stanford T. Foy
Registered Member of the Society for Mining, Metallurgy and Exploration (SME).

I, John M. Marek P.E. do hereby certify that:

a) I am currently employed as the President and a Senior Mining Engineer by:

Independent Mining Consultants, Inc.
3560 E. Gas Road
Tucson, Arizona, USA 85714

b) This certificate is part of the report titled "Technical Report Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", dated 16 August 2018 and amended 28 September 2018.

c) I graduated with the following degrees from the Colorado School of Mines
Bachelors of Science, Mineral Engineering – Physics 1974
Masters of Science, Mining Engineering 1976

I am a Registered Professional Mining Engineer in the State of Arizona USA
Registration # 12772
I am a Registered Professional Engineer in the State of Colorado USA
Registration # 16191

I am a Registered Member of the American Institute of Mining and Metallurgical Engineers, Society of Mining Engineers

I have worked as a mining engineer, geoscientist, and reserve estimation specialist for more than 42 years. I have managed drill programs, overseen sampling programs, and interpreted geologic occurrences in both precious metals and base metals for numerous projects over that time frame. My advanced training at the university included geostatistics and I have built upon that initial training as a resource modeler and reserve estimation specialist in base and precious metals for my entire career. I have acted as the Qualified Person on these topics for numerous Technical Reports.

My work experience includes mine planning, equipment selection, mine cost estimation and mine feasibility studies for base and precious metals projects world wide for over 42 years.

d) I visited the Altar Property February 1-2, 2013. I visited the sample preparation and assay facilities that are used for the project on February 4, 2013. A site visit has not been possible since John Marek and IMC have been requested to prepare this Technical Report by Regulus and Aldebaran due to the winter snow pack at the project site. The camp and the road into the camp are closed until the South American summer.

e) I am responsible for all sections of the report titled "Technical Report Estimated Mineral Resources, Altar Project, San Juan Province, Argentina", with an effective date of 16 August 2018 and as amended on 28 September 2018.

f) I am independent of Regulus Resources Inc. and Aldebaran Resources, Inc. and their subsidiaries, applying the tests in Section 1.5 of National Instrument 43-101.

g) Independent Mining Consultants, Inc. and John Marek have worked on the Altar project in the past. A mineral resource was published on January 31, 2014 titled "Estimated Mineral Resources, Altar & Quebrada de la Mina Deposits, San Juan Province, Argentina". Scoping level evaluations of alternative mining and processing methods was prepared for the previous owner Stillwater Mining Company but never published in the public domain.

h) I have read National Instrument 43-101 and Form 43-101F1, and to my knowledge, the Technical Report has been prepared in compliance with that instrument and form.

i) As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated: September 28, 2018

SME
Society for
Mining, Metallurgy
& Exploration
John M. Marek
SME Registered Member No. 2021600
Signature
Date Signed 28 Sep 2018
Expiration date 31 Dec 2018

John M. Marek
Registered Member of the American Institute of Mining and Metallurgical Engineers, Society of Mining Engineers