

# **RED METAL RESOURCES LTD.**

# NI 43-101 UPDATED TECHNICAL REPORT ON THE FARELLÓN PROJECT REGION III, CHILE

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By William J. Lewis B.Sc., P.Geo.

SUITE 900 - 390 BAY STREET, TORONTO ONTARIO, CANADA M5H 2Y2 Telephone (1) (416) 362-5135 Fax (1) (416) 362 5763



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#### 1.0 SUMMARY

#### **1.1 INTRODUCTION**

Red Metal Resources Ltd. (Red Metal) has retained Micon International Limited (Micon) to provide an independent summary and review of the exploration program on the polymetallic Farellón Project located within Region III of the Republic of Chile (Chile) and to comment on the propriety of Red Metal's exploration program and the proposed exploration budget. This report presents a review of the previous work in order to offer an opinion as to whether the Project merits the further exploration expenditures proposed by Red Metal.

This Technical Report was revised on May 4, 2012 to comply with a number of minor revisions required by the reviewer from the TSX Venture Exchange.

This report does not contain a mineral resource estimate for the Farellón Project as Red Metal is in the process of outlining the extent of the mineralization on the property with its exploration programs. Red Metal may chose to conduct a mineral resource estimate on the Project once it is confident that it has outlined the mineralization sufficiently to warrant an estimate.

The term "Farellón Project" refers to the immediate area which is the focus of the exploration programs by Red Metal and where the prior resource estimates have neen conducted. The term "Farellón Property" refers to the entire land package acquired by Red Metal.

This report follows the format and guidelines of Form 43-101F1, Technical Report for National Instrument 43-101, Standards of Disclosure for Mineral Projects, and its Companion Policy NI 43-101CP, as amended by the Canadian Securities Administrators and which came into force on June 30, 2011. The June 30, 2011 format and guidelines of Form 43-101F1 and its Companion Policy NI 43-101CP replace the former format, guidelines and companion policy which was dated December 23, 2005.

Micon does not have nor has it previously had any material interest in either Red Metal or related entities or interests. The relationship with Red Metal is solely a professional association between the client and the independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

This report is intended to be used by Red Metal subject to the terms and conditions of its agreement with Micon. That agreement permits Red Metal to file this report as an NI 43-101 Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

This report may include technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations



inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

The conclusions and recommendations in this report reflect the author's best judgment in light of the information available at the time of writing. The author and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

#### **1.2 LOCATION AND PROPERTY DESCRIPTION**

Red Metal's Farellón Project is located in the Province of Huasco, third region of Chile, Región de Atacama. The project is situated 75 km northwest of the city of Vallenar, 20 km west of the Pan-American Highway, 150 km south of the city of Copiapó and approximately 700 km north of the Chilean capital of Santiago, in the coastal Cordillera. The Farellón Property lies within the Atacama Desert, considered the driest place on earth. The Atacama Desert is bound to the west by the Chilean Coast Range and to the east by the Andes.

#### **1.3 OWNERSHIP AND MINERAL TITLE**

The patented mining concessions are registered in the name of and owned 100% by Minera Polymet Limitada (Polymet), a 99% owned subsidiary of Red Metal. The Chilean subsidiary of Red Metal was incorporated as Polymet by means of a public deed dated July 16, 2007 and granted before the Notary Public, Mr. Ricardo Alvares Pizarro. The incorporation was registered in the same year, in folio 153 N° 65 at the Commerce Registry kept by the Real Estate Registrar of Vallenar and published in the Official Gazette on August 13, 2007.

Red Metal acquired the Farellón Property through an assignment agreement between Polymet and Minera Farellón Limitada (Minera Farellón) dated September 25, 2007 and amended on November 20, 2007. Under the assignment agreement, Minera Farellón agreed to assign to Polymet its option to buy the Farellón Property. Polymet acquired the option on April 25, 2008, and assumed all of Minera Farellón's rights and obligations under the Farellón option agreement on the same day. Red Metal exercised the option and bought the property from the vendor on April 25, 2008. Red Metal owes a royalty equal to 1.5% of the net smelter return, to a maximum of US\$600,000. The royalty is payable monthly and is subject to a monthly minimum of US\$1,000 when Red Metal starts exploiting the minerals it extracts from the property. Red Metal can pay any unpaid balance of the royalty at any time.

Exploration on the Farellón Project to date has been almost exclusively conducted on the north-south oriented mining concession, Farellón uno al ocho (Farellón 1-8), which measures approximately 1.7 km north-south by 0.5 km east-west. The 2009 and 2011 drilling programs were both conducted entirely on the Farellón 1-8 concession. The southern half of the Farellón 1-8 concession is within the Llanos de Challe National Park boundaries.

Three contiguous concessions, also owned by Red Metal, wrap around the Farellón 1-8



concession approximately 1.5 km to the north and 1.5 km east. These consist of three rectangular concessions, two of which are approximately 2 km by 1 km and one which is approximately 3 km by 1 km.

A new rectangular concession called Farellón 3 was laid down by Red Metal as a pedimento in February, 2011, bordering the Farellón 1-8 concession to the south and extending 1 km north-south and 3 km east-west. The western half of the Farellón 3 concession lies with the Llanos de Challe National Park. The Farellón 3 concession is still in pedimento status as of February, 2012. The total annual 2012 concession tax for the Farellón Property is US\$6,682

The Llanos de Challe National Park was created in July, 1994. According to the Mining Code of Chile, to mine or complete any exploration work within the park boundaries, Red Metal will be required to get written authorization from the government.

#### 1.4 HISTORY

Mining in the region was historically focused on the Carrizal Alto area to the north of the main Farellón Property. However, the Farellón Project was mined on a limited basis during the 1940's when activities on Carrizal Alto had for the most part already shut down. Very little information regarding the mining has survived but there is a small amount of historical data located in the Servicio Nacional de Geologia Y Minera (Sernageomin) national archives in Santiago.

Historical records indicate that copper mining commenced at Carrizal Alto in the 1820's and continued on a significant scale, mostly by British companies, until 1891 when disastrous flooding occurred and the mines closed. The historical reports indicate that the larger mines were obtaining good grades over significant widths in the bottom workings at the time of closure. It is estimated that during this period, in excess of 3 million tonnes with grades in excess of 5% copper and widths of 8 m were extracted. There was also a large quantity of direct shipping ore at 12% copper. At one time, there was a considerable body of tails present to support to these figures but the high gold and copper prices over the last few years have led to the extraction and reprocessing of this material. A brief revival of the operations occurred in the 1930's but little work has occurred since.

#### 1.5 GEOLOGY AND MINERALIZATION

#### 1.5.1 Geology

Chile is divided into three major physiographic units running north-south, the Coastal cordillera, the Central valley and the High cordillera (Andes). The Farellón Property lies within the Coastal cordillera which is on the western margin of Chile and extends from the southern Peruvian border to Puerto Montt in southern Chile.

The Farellón Property lies on the western margin of the northern portion of the Chilean Coastal cordillera at the contact between Paleozoic metasediments and late Jurassic diorites



and monzodiorites.

The Farellón Property lies over the sheared contact of Paleozoic metasediments in the western portion and Jurassic diorite in the eastern portion. The contact between the metasediments and the diorite is a mylonitic sheared contact striking north-northeast and dipping approximately 65° to the northwest. The metasediments are composed of quartz-feldspar-hornblende gneisses. The diorite underlying the eastern portion of the Project area has been extensively intruded by intermediate mafic dykes oriented northeasterly. Locally, a small stock-like felsic body, called Pan de Azucar, with lesser satellite dykes intrudes the diorite. The intrusive relationship between the diorite and metasediments always appears to be tectonic.

The contact between the metasediments and the diorites is a mylonitic shear zone ranging from 5 to 15 m in width and is host to mineralized quartz-calcite veins. To the north, the veins splay off to the east into the diorites. The southern concession of the Farellón Property covers a 1.7 km section along strike of the sheared contact and the northern claims overlie a further 0.75 km of the sheared contact, as well as a 1.7 km section of the veining splayed into the diorite.

The alteration associated with the shear zone is comprised of sulphidized quartz-calcite veins with an intense pyrite-sericite-biotite alteration halo. In places, there is massive siderite and ankerite alteration.

#### 1.5.2 Mineralization

Vein type, plutonic hosted iron oxide copper gold (IOCG) deposits such as Carrizal Alto and, by extension, the Farellón Property are characterized by a distinct mineralogy that includes not only copper and gold but also cobalt, nickel, arsenic, molybdenum and uranium. All of the IOCG deposits are partially defined by their iron content in the form of either magnetite or hematite. A variety of alteration assemblages has been noted in the Chilean deposits, according to whether or not the deposits are hematite or magnetite dominated.

Carrizal Alto, just north along strike from the Farellón Property, has historically been known as a significant cobalt deposit and has returned cobalt grades of up to 0.5% in the form of cobaltiferous arsenopyrite. Copper mineralization on the Farellón Property consists of malachite and chrysocolla in the oxide zone and chalcopyrite in the sulphide zone. There is some indication that, in the oxide zone, some of the copper mineralization is tied up in a goethite clay matrix. Alteration includes actinolite, biotite, serecite, epidote, quartz and carbonate alteration.



#### 1.6 CONCLUSIONS AND RECOMMENDATIONS

#### 1.6.1 Conclusions

The 2011 drilling program was conducted to both infill and begin to identify the extent of the mineralization on the Farellón Project. The target of the program was to outline a 700 m strike length of mineralization down to a 200 m vertical depth, with an approximate 75 m intercept spacing, and to infill gaps along a further 300 m to increase intercepts to 150 m spacing. By infilling the area with drilling at 75 m pierce points, the aim is to increase confidence in the continuity and increase knowledge of the nature and structural controls on mineralization to aid further exploration planning. Red Metal was successful through the 2011 drilling program in confirming and extending the mineralization both in the down dip direction and along strike.

Micon reviewed the samples and sampling procedures undertaken by Red Metal at the Farellón Property during the 2011 program. Micon believes that the samples are representative of the geology encountered in the drilling program and that the samples were taken in such a manner as to minimize any sampling bias.

Micon has reviewed Red Metal's 2011 QA/QC protocols and generally agrees with them. However, Micon recommends that Red Metal also engage a secondary laboratory in order to conduct a check analysis on between 5% and 10% of the original assays. In general, Micon believes that Red Metal is following the August, 2000 CIM Exploration Best Practices Guidelines.

Through acquiring the Farellón Property, Red Metal is in the position of having acquired a portion of a major historical mining district in Chile that has not been subjected fully to modern exploration concepts and technology. The property holds the potential for the discovery of mineralized deposits of similar character and grade as those exploited in the district in the past.

The Farellón Project should be considered a mid-stage exploration project upon which Red Metal has initiated preliminary exploration and drilling in order to gain a further understanding of the nature and extent of the mineralization. However, further work will be required to fully identify the nature and extent of the mineralization located on the property.

#### **1.6.2** Recommendations

Based on the positive results from Red Metal's second exploration drilling program on the Farellón Property, it plans to conduct further exploration. Red Metal's next program of exploration drilling will consist of potentially two phases. The first phase will consist of a 5,000 m program of primarily infill drilling to flesh out the structural issues that have been noted in the previous campaigns, as well as to test the primary mineralization at depth. If the first phase continues to return positive results, a second phase 15,000 m drilling program



would be conducted in order to test the extent of the mineralization down to a 400 m depth and conduct an initial mineral resource estimate.

During the first phase, 5,000 m, program it is Red Metal's intent to drill between 15 and 20 diamond drill holes targeting the area between 150 to 300 m vertical depth of the mineralized veins. The holes will be spaced to allow for 50 to 100 m between intersections depending on the complexity of the structure in specific areas. All holes will be drilled as close to a  $-60^{\circ}$  dip as is reasonable, considering the topography. The location of the proposed holes will be dependent on topography and the ability to construct suitable drill pads for the machines. Therefore, the location of the drill holes will be determined just prior to or during the drilling program.

All holes will be drilled outside the National Park boundary, as was the case for the two previous drilling programs. Red Metal does not anticipate that there will be any issue with acquiring the necessary permits for exploration from the Chilean authorities since the first drilling phase of 5,000 m will take place in the same area as its two previous drilling campaigns and there were no objections or special conditions attached to the previous permits.

The budget for the first phase of work totals approximately US\$922,000, with the second phase totalling approximately US\$5.2 million if it is conducted. Therefore, Red Metal proposes to spend a total of approximately US\$6.1 million in exploration on the Farellón Property if both phases of exploration are conducted.

Micon has reviewed Red Metal's proposal for further exploration on its Farellón Property and recommends that Red Metal conducts the exploration program as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities, or as a result of exploration activities themselves.

Through its acquisition of the Farellón Project, Red Metal has acquired a property with the potential to yield significant polymetallic mineralization. Micon agrees with the general direction of Red Metal's initial and proposed exploration programs for the Project and makes the following additional recommendations:

- 1. Micon recommends that Red Metal should add a screened metallic assay protocol to its QC/QC program as a secondary check if any high grade assays of gold and copper are encountered during future exploration programs or if there is a significant difference between the primary and secondary assays for both field duplicate and check samples.
- 2. Micon recommends that Red Metal designate a secondary assay laboratory to reassay a portion of between 5% and 10% of the samples assayed by Geoanalytica. This additional assaying procedure would act as a check on the results produced by Geoanalytica.



- 3. Micon recommends that Red Metal survey the old surface workings and, where safe to do so, the underground workings. Additionally, these workings should be sampled where it is deemed safe. This will add a further dimension to the database and will be very useful if a resource estimate is conducted on the Farellón Project.
- 4. Micon recommends that Red Metal build a covered facility in which to store its samples in Vallenar in order to preserve them from the effects of weather.



#### 2.0 INTRODUCTION

At the request of Ms. Caitlin Jeffs, President and CEO of Red Metal Resources Ltd. (Red Metal), Micon International Limited (Micon) has been retained to provide an independent summary and review of the previous exploration on the polymetallic Farellón Project located in Region III of the Republic of Chile (Chile), and to comment on the propriety of Red Metal's 2011 exploration program and the proposed budget for further work.

This Technical Report was revised on May 4, 2012 to comply with a number of minor revisions required by the reviewer from the TSX Venture Exchange.

This report presents a review of the previous work in order to offer an opinion as to whether the project merits the exploration expenditures proposed by Red Metal. It does not constitute an audit of any previously estimated mineral resources on the Farellón Property. This Technical Report is the second report written by Micon on the Farellón Project for Red Metal.

The geological setting of the property, mineralization style and occurrences, and exploration history were described in reports that were prepared by Ulriksen (1991), Floyd (1995), Terence Willsteed and Associates (1997) and Micon (2010), as well as in various government and other publications listed in Section 28, References. The relevant sections of those reports are reproduced herein.

The term "Farellón Project" refers to the immediate area surrounding historical workings and the area which was the focus of previous drilling by Minera Stamford S.A. (Minera Stamford). The term "Farellón Property" refers to the entire land package acquired by Red Metal.

The qualified person responsible for the preparation of this report and the opinion on the propriety of the proposed exploration program is William J. Lewis, P.Geo.

All currency amounts are stated in Chilean pesos, Canadian dollars or US dollars with commodity prices typically expressed in US dollars. Quantities are generally stated in Système International d'Unités (SI units), the standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per metric tonne (g/t) for metal grades. Gold and silver grades may also be expressed in parts per million (ppm) or parts per billion (ppb) and their quantities may also be reported in troy ounces (ounces, oz), a common practice in the mining industry. Base metal grades are generally reported in percent (%). Table 2.1 provides a list of the various abbreviations used throughout this report. Appendix 1 provides a glossary of terms which may be encountered in this report.

Micon's first site visit to the Farellón Property occurred from October 3 to 7, 2009. During this visit, a review of the exploration program and Quality Assurance/Quality Control (QA/QC) procedures was conducted. The details regarding the 2009 site visit are contained

#### Table 2.1 List of Abbreviations

Name	Abbreviation	Name	Abbreviation
Acre(s) (imperial)	ac	Milligram(s)	mg
Canadian Institute of Mining, Metallurgy and Petroleum	CIM	Millimetre(s)	mm
Canadian National Instrument 43-101	NI 43-101	North American Datum	NAD
Centimetre(s)	cm	Net present value	NPV
Day	d	Net smelter return	NSR
Degree(s)	0	Not available/applicable	n.a.
Degrees Celsius	°C	Ounces	OZ
Digital elevation model	DEM	Ounces per year	oz/y
Dollar(s), Canadian and US	CDN\$, US\$	Parts per billion	ppb
Foot or Feet (imperial units))	ft	Parts per million	ppm
Gram(s)	g	Percent(age)	%
Grams per metric tonne	g/t	Pincock, Allen & Holt	PAH
Greater than	>	Pound(s)	lb
Ground magnetic survey	GMS	Qualified Person	QP
Hectare(s)	ha	Quality Assurance/Quality Control	QA/QC
Internal rate of return	IRR	Red Metal Resources Ltd.	Red Metal
Kilogram(s)	kg	Reverse circulation	RC
Kilometre(s)	km	Second	S
Less than	<	Specific gravity	SG
Litre(s)	L	Square kilometres	km <sup>2</sup>
Metre(s)	m	Système International d'Unités	SI
Micon International Limited	Micon	Ton(s) (short)	ton
Mile(s)	mi	Tons (short) per day	tons/d
Million tonnes	Mt	Tonne (metric)	t
Million ounces	Moz	Tonnes (metric) per day	t/d
Million years	Ma	Total copper	CuT
Million metric tonnes per year	Mt/y		



in the Micon Technical Report entitled "NI 43-101 Technical Report on the Farellón Project Region III, Chile" and dated January 15, 2010.

Micon was accompanied during its initial the 2009 site visit to the Farellón Project by Harry Floyd, a consulting geologist to Red Metal and Kevin Mitchell, Red Metal's operations manager in Chile. Three grab samples from the reverse circulation drilling were also taken to independently verify the mineralization encountered during the drilling program. During the 2012 site visit, which ocurred from March 13 to 16, Micon was accompanied by Peter Tipple, a geologist with Red Metal.

The review of the Farellón Project is based on published material researched by Micon, as well as data, professional opinions and unpublished material originally submitted to Micon by the professional staff of Red Metal or its consultants. In addition to Red Metal's data on the Farellón Project, it supplied copies of the previous reports on the project area by various operators for Micon's use in examining and compiling the information for this report.

This report follows the format and guidelines of Form 43-101F1, Technical Report for National Instrument 43-101, Standards of Disclosure for Mineral Projects, and its Companion Policy NI 43-101CP, as amended by the Canadian Securities Administrators and which came into force on June 30, 2011. The June 30, 2011 format and guidelines of Form 43-101F1 and its Companion Policy NI 43-101CP replace the former format, guidelines and companion policy which was dated December 23, 2005.

Micon does not have, nor has it previously had, any material interest in either Red Metal or related entities or interests. The relationship with Red Metal is solely a professional association between the client and the independent consultant. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

This report is intended to be used by Red Metal subject to the terms and conditions of its agreement with Micon. That agreement permits Red Metal to file this report as an NI 43-101 Technical Report with the Canadian Securities Administrators (CSA) pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

This report may include technical information which requires subsequent calculations or estimates to derive sub-totals, totals and weighted averages. Such calculations or estimations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, Micon does not consider them to be material.

The conclusions and recommendations in this report reflect the author's best judgment in light of the information available at the time of writing. The author and Micon reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.



#### 3.0 **RELIANCE ON OTHER EXPERTS**

Micon has reviewed and analyzed data provided by Red Metal, its consultants and previous operators of the Farellón Project, and has drawn its own conclusions therefrom, augmented by its earlier direct field examination. Micon has not carried out any independent exploration work, drilled any holes or carried out an extensive program of sampling and assaying on the property. However, during its initial 2009 field visit for Red Metal, Micon did collect three samples from the rejects of the Farellón reverse circulation drilling. Micon's sampling was not intended to duplicate the volume of data collected by Red Metal or its predecessors; however, it was adequate to independently confirm the presence of the relevant mineralization on the property. The results of Micon's sampling are contained in Micon's January, 2010 Technical Report.

While exercising all reasonable diligence in checking, confirming and testing it, Micon has relied upon Red Metal's presentation of the project data from previous operators for the Farellón Property in formulating its opinion.

The various agreements under which Red Metal holds title to the mineral concessions for the Project have not been reviewed by Micon and Micon offers no legal opinion as to the validity of the mineral title claimed. A description of the property, and ownership thereof, is provided for general information purposes only.

The existing environmental conditions, liabilities and remediation have been described where required by NI 43-101 regulations. These statements are provided for information purposes only and Micon offers no opinion in this regard.

The descriptions of geology, mineralization and exploration used in this report were originally taken from reports prepared by various companies or their contracted consultants for the Farellón Project. The conclusions of this report rely on data available in published and unpublished reports supplied by the various companies which have conducted the exploration on the properties and or information supplied originally by Red Metal. Micon has no reason to doubt the validity of this information.

Micon is pleased to acknowledge the helpful cooperation of Red Metal's management, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

Some of the figures and tables for this report were reproduced or derived from historical reports written on the property by various individuals and/or supplied to Micon by Red Metal. Most of the photographs were taken by Mr. Lewis during his 2012 site visit. In the cases where photographs, figures or tables were supplied by other individuals or Red Metal they are referenced below the inserted item.



#### 4.0 **PROPERTY DESCRIPTION AND LOCATION**

#### 4.1 **PROPERTY LOCATION**

Red Metal's Farellón Project is composed of two separate groups of mineral concessions which are not contiguous but lie within the historical Carriazal Alto mining district and southwest of the Carriazal Alto mine.

Red Metal's Farellón Project is located in the Province of Huasco, third region of Chile, Región de Atacama. The Project is situated 75 km northwest of the city of Vallenar, 20 km west of the Pan-American Highway, 150 km south of the city of Copiapó and approximately 700 km north of the Chilean capital of Santiago, in the coastal Cordillera. The UTM coordinates for the project site are 6,888,800S, 309,150E using the provisional South American Datum 1956 (PSA56), or at a latitude and longitude of 28°05′00″S, 70°55′00″W. The Project is approximately 550 m above sea level. The location of the Farellón Project is shown in Figure 4.1.

#### 4.2 OWNERSHIP, LAND TENURE AND SURFACE RIGHTS

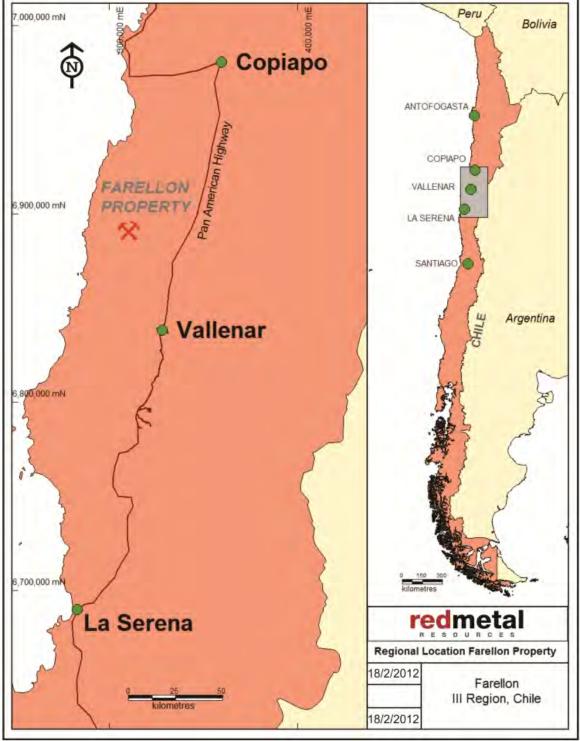
#### 4.2.1 Ownership

Red Metal acquired the Farellón Property through an assignment agreement between Minera Polymet Limitada (Polymet), a 99% owned subsidiary of Red Metal, and Minera Farellón Limitada (Minera Farellón) dated September 25, 2007 and amended on November 20, 2007. Under the assignment agreement, Minera Farellón agreed to assign to Polymet its option to buy the Farellón Property for US\$250,000 payable by April 30, 2008. Polymet paid Minera Farellón for the assignment on April 25, 2008, and assumed all of Minera Farellón's rights and obligations under the Farellón option agreement on the same day. Red Metal exercised the option and bought the property from the vendor on April 25, 2008. Red Metal owes a royalty equal to 1.5% of the net smelter return, to a maximum of US\$600,000. The royalty is payable monthly and is subject to a monthly minimum of US\$1,000 when Red Metal starts exploiting the minerals it extracts from the property. Red Metal can pay any unpaid balance of the royalty at any time.

The patented mining concessions are registered in the name of, and owned 100% by, Polymet. The Chilean subsidiary of Red Metal was incorporated as Polymet by means of a public deed dated July 16, 2007 and granted before the Notary Public Mr. Ricardo Alvares Pizarro. The incorporation was registered in the same year, in folio 153 N° 65 at the Commerce Registry kept by the Real Estate Registrar of Vallenar and published in the Official Gazette on August 13, 2007.



Figure 4.1 Farellón Project Location Map



Map provided by Red Metal Resources Ltd.



#### 4.2.2 Land Tenure

The work conducted on the Farellón Project to date has been almost exclusively conducted on the north-south oriented mining concession, Farellón uno al ocho (Farellón 1-8), which measures approximately 1.7 km north-south by 0.5 km east-west. The 2009 and 2011 drilling programs were both conducted entirely on the Farellón 1-8 concession. The southern half of the Farellón 1-8 concession is within the Llanos de Challe National Park boundaries.

Three contiguous concessions, also owned by Red Metal, wrap around the Farellón 1-8 concession approximately 1.5 km to the north and 1.5 km east. These consist of three rectangular concessions, two of which are approximately 2 km by 1 km and one of which is approximately 3 km by 1 km.

A new rectangular concession called Farellón 3 was laid down by Red Metal as a pedimento in February, 2011, bordering the Farellón 1-8 concession to the south and extending 1 km north-south and 3 km east-west. Approximately half of all the holes drilled during a 1996 RC drill program, discussed later in Section 6, fall within the Farellón 3 claim boundaries. The western half of the Farellón 3 concession, in which all previous drilling has occurred, lies with the Llanos de Challe National Park. The Farellón 3 concession still had pedimento status as of February, 2012.

The two areas, including the new Farellón 3 concession, cover a total area of 1,068 ha. The total annual 2012 concession tax for the Farellón Property was US\$6,682. See Figure 4.2 for a map showing the location of the mineral concessions. Table 4.1 summarizes the relevant information regarding the individual mineral concessions.

#### 4.2.3 Surface Rights

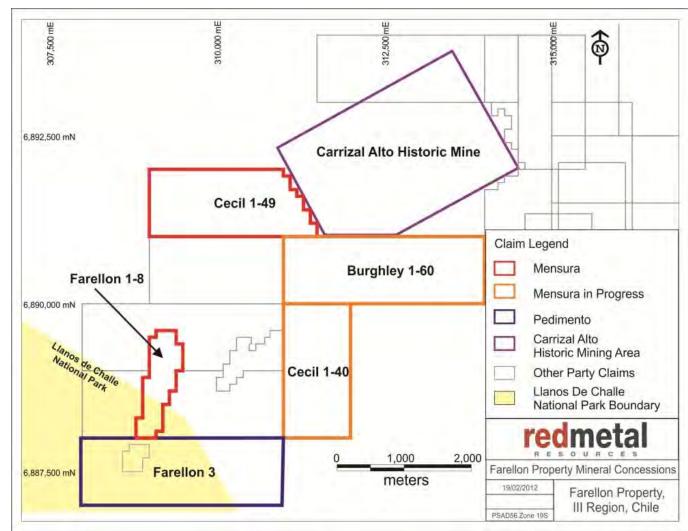
The surface rights of the Farellón project are government owned. If the property is developed and mined at a later date, the surface rights will have to be secured as part of the permitting process. Surface rights are rented to mines for the life of the mine by the Chilean government.

The status of the mineral rights, surface rights and details of agreements have not been reviewed by Micon and Micon offers no legal opinion as to the validity of the mineral title claimed. A description of the property, and ownership thereof, is provided for general information purposes only.

#### 4.3 MINERAL RIGHTS IN CHILE

Chile's current mining and land tenure policies were incorporated into law in 1982 and amended in 1983. The laws were established to secure the property rights of both domestic and foreign investors to stimulate mining development in Chile. The state owns all mineral resources, but exploration and exploitation of these resources are permitted through mining concessions which are granted by the courts according to law.

Figure 4.2 Farellón Project Mineral Concession Map, Carrizal Alto Sector (as of February 17, 2012)





Concession Name	Concession Type	Concession	Emine	Area	Annual Tax		
Concession Mame	Concession Type	Number	Expiry	(ha)	(Pesos) <sup>1</sup>	(US\$)	(CDN\$)
Farellón Alto Uno al Ocho	Mensura	3303-0156-2	These	40	157,492	323	323
Cecil 1 to 49	Mensura	12627	claims do	228	897,704	$1,840^2$	$1,840^{3}$
Cecil 1 - 40	Solicitude de Mensura/Application to Exploitation	24068	not expire as long as annual	200	787,460	1,614	1,614
Burghley 1 - 60	Solicitude de Mensura/Application to Exploitation	24069	taxes are paid.	300	1,181,190	2,421	2,421
Farellón 3	Pedimento	25962	]	300	236,238	484	484
Total				1.068	3.260.084	6.682	6.682

# Table 4.1Summary of Mineral Concession Information for the Farellón Project<br/>(as of February 17, 2012)

<sup>1</sup> The Peso amount changes slightly each year based on an internal Chilean inflationary rate (UTM), taxes are due in March.

<sup>2</sup> Estimated at February 16, 2012 using an exchange rate of 487.95 Chilean pesos 1 US dollar.

<sup>3</sup> Estimated at February 16, 2012 using an exchange rate of 1.00 Canadian dollars to 1 US dollar.

Table provided by Red Metal Resources Ltd.

Concessions are defined by UTM coordinates representing the centre-point of the concession and dimensions (in metres) in north-south and east-west directions. There are two kinds of concessions, mining and exploration, and three possible stages of a concession to get from an exploration concession to a mining concession: pedimento, manfestación and mensura. An exploration concession can be placed on any area, whereas the survey to establish a permanent exploitation concession (mensura) can only be effected on "free" areas where no other mensuras exist.

Exploration and exploitation mining rights in Chile are acquired in the following stages:

A **pedimento** is an initial exploration concession the position of which is well located by UTM coordinates defining the north-south and east-west boundaries. The minimum size of a pedimento is 100 ha and the maximum is 5,000 ha with a maximum length-to-width ratio of 5:1. A pedimento is valid for a maximum period of 2 years. At the end of the 2 year period it may; a) be reduced in size by at least 50% and renewed for an additional 2 years or b) entered in the process to establish a permanent concession by converting it into a manifestation. New pedimentos are allowed to overlap pre-existing pedimentos; however, the pedimento with the earliest filing date always takes precedence providing the concession holder maintains the concession in accordance with the Mining Code and the applicable regulations.

Before a pedimento expires, or at any stage during its two year life including the first day the pedimento is registered, it may be converted to a **manifestación**. A manifestación is valid for 220 days and prior to the 220 day expiry date the owner must make a request to upgrade to a mensura.



Prior to the expiration of a manifestación, the owner must request a survey or **mensura**. After acceptance of the Survey Request (Solicitud de Mensura), the owner has approximately 12 months to have the concession surveyed by a government licensed surveyor. The surrounding concession owners may witness the survey, which is subsequently described in a legal format and presented to the National Mining Service (Sernageomin) for technical review which includes field inspection and verification. Following the technical approval by Sernageomin, the file returns to a judge of the appropriate jurisdiction who must dictate the constitution of the claim as a mensura (equivalent to a patented claim). Once constituted, an abstract describing the claim is published in Chile's official mining bulletin (published weekly) and 30 days later the claim can be inscribed in the appropriate Mining Registry (Conservador de Minas).

Once constituted, a mensura is a permanent property right, with no expiration date. As long as the annual fees (patentes) are paid in a timely manner, (from March to May of each year) clear title and ownership of the mineral rights is assured in perpetuity. Failure to pay the annual tax for an extended period can result in the concession being listed for remate (auction sale), wherein a third party may acquire a concession for the payment of back taxes owed (plus a penalty payment). In such a case, the claim is included in a list published 30 days prior to the auction and the owner has the possibility of paying the back taxes plus penalty and thus removing the claim from the auction list.

The Mining Code of Chile guarantees the owner of mining concessions the right-of-access to the surface area required for exploration and exploitation. This right is normally obtained by a voluntary agreement between the mineral claim owner and the surface owner. The mining company may obtain the right-of-way (Servidumbre) thorough the civil court system, if necessary, by agreeing to indemnify the surface owner for the court determined value of the surface area.

The concessions have both rights and obligations as defined by a Constitutional Organic Law (enacted in 1982). Concessions can be mortgaged or transferred and the holder has full ownership rights and is entitled to obtain the right-of-way for exploration and exploitation. The concession holder has the right to use, for mining purposes, any water flows which infiltrate any mining workings. In addition, the concession holder has the right to defend his ownership against state and third parties. An exploration concession is obtained by a claims filing and includes all minerals that may exist within its area.

Water is located on the Farellón Property, and all of the historic drill holes intersected water at about 100 m. Water which infiltrates the old mine workings, as well as any other water found within the Farellón mineral concessions, can be used for exploration, exploitation or processing. Water which does not infiltrate mine workings can be obtained from Canto del Agua approximately 10 km from the property. Canto del Agua is situated in a small valley where the water table lies approximately one metre below surface. To obtain water from Canto del Agua, Red Metal would have to apply for a water usage permit according to the Chilean Water Code. The water code is in the process of being reviewed and revised by the Chilean government.



#### 4.4 ENVIRONMENTAL

Red Metal has not applied for any environmental permits on the Farellón Property and has been advised that none of the exploration work completed to date requires an environmental permit. For all exploration work in Chile, any damage done to the land must be repaired.

The Llanos de Challe National Park, which was created in July, 1994, covers the southern 750 m of the Farellón 1-8 concession. According to the Mining Code of Chile, to mine or complete any exploration work within the park boundaries Red Metal will be required to get written authorization from the government. Red Metal submitted an application to explore within the Llanos de Challe National Park in December, 2011 and is awaiting a response from the government.

Micon is unaware of any outstanding environmental liabilities attached to the Farellón Project and is unable to comment on any remediation which may have been undertaken by previous companies. However, since the Farellón Project is adjacent to a Chilean National Park stricter environmental regulations or oversight may be applied to any work permits for the Project.

#### 4.5 OTHER FACTORS AND RISKS

Red Metal has informed Micon that there are no other significant factors or risks besides those discussed in this report that may affect access, title or right or ability to perform work on the Farellón property.



#### 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

#### 5.1 ACCESSIBILITY

The Farellón Project is readily accessible from Vallenar, Chile, via both paved and well maintained dirt roads. Access is primarily gained by taking the Pan-American highway (Ruta 5) north from Vallenar to the Carrizal turn-off (approximately 20 km north). From the turn-off, follow the well maintained dirt road to the CMP Cerro Colorado iron mine where one turns right (north) and continues to Canto del Agua. Just prior to the old slag dumps and plant ruins, there is a right hand turn which takes the traveler towards Carrizal Alto. Follow the road towards Carrizal Alto for approximately 3 km prior to turning left (west) onto a dirt side road which leads directly to the property. There are numerous gravel roads in the area, so a guide is necessary to access the property the first time. The old Farellón mine workings, which are situated on the western slopes of the Cerro Azucar, are located approximately 8 km from the turn-off.

#### 5.2 LOCAL RESOURCES AMND INFRASTRUCTURE

There is no infrastructure located on the property other than the historic underground workings, ruins of the processing plant and gravel roads. Cellular telephone service is available at all peak elevations on the Project area.

The major population centres for the region are Copiapó and Vallenar with 130,000 and 60,000 inhabitants, respectively. Both population centres have modern facilities with high tension power lines and a fibre optic communication line located parallel to the Pan-American highway.

The city of Copiapó is 150 km to the north and is the general supply centre for the growing mining industry in the region. A copper smelter which services the region, as well as other areas, is located in Copiapó. The city of Vallenar is situated 70 km southeast of the Project and is the closest major centre for the area.

Copiapó has daily air and bus services to Santiago and other centres. Vallenar has daily bus services as well and there is a small airport close to Vallenar where service is limited to twice weekly flights to and from Santiago. The closest major airport is located in the coastal city of La Serena to the south.

La Empressa Nacional de Mineria (ENAMI) currently operates a 35,000 t/d toll crushing facility with an attached heap leach operation in Vallenar. This facility is used by a number of small mining operations to process their ore and ENAMI pays the miners for the ore depending on the tonnage and grade of the material shipped to the plant. All of the concentrates are sent to the Paipote smelter in Copiapó.



Vallenar is the closest community to Barrick Gold Corporation's (Barrick Gold) Pascua Lama project. Teck Resources Limited's (Teck) Relincho project and the El Morro project held 30% by New Gold Incorporated (New Gold) and 70% by Goldcorp Inc. (Goldcorp) are also serviced principally from Vallenar.

Airstrips for light aircraft are located at Tololo Pampa, 13 km south of Canto del Agua and at Carrizal Bajo. However, the current state of repair of these airstrips is not known.

The Chilean mining industry is extremely well developed, with the country being a major producer of copper, iron ore and other metals. Mining supplies and equipment as well as a highly trained technical and professional workforce are available in Chile, and major international mining companies operating in Chile have little requirement for expatriate employees. A number of international exploration and mining service companies and engineering firms also operate in Chile and provide excellent geological and logistical support to foreign companies. An experienced labour force is available in the town of Vallenar, as well as within the surrounding communities.

#### 5.3 CLIMATE AND PHYSIOGRAPHY

#### 5.3.1 Climate

The Farellón Property lies within the Atacama Desert, considered the driest place on earth. The Atacama Desert is bound to the west by the Chilean Coast Range and to the east by the Andes. In the winter, fog moving in from the coast provides enough moisture for some cacti and lichens to grow. Any rainfall is primarily in winter and averages 12 mm annually in Copiapó. Average daily temperatures in summer range from 10° to 35°C and from 0° to 15°C in the winter months. In general, exploration programs can be conducted throughout the year.

#### 5.3.2 Physiography

The Farellón Property is located near the commencement of the steeply sided river bed valley of the Quebrada Carrizal channel which flows directly to the coastal village of Carrizal Bajo. Immediately to the east of the Farellón Property, the regional topography opens into the plain of the La Joula and Algarrobo valleys, which cover a gently sloping catchment area of about 1,000 km<sup>2</sup>, before entering the foothills of the High Cordillera.

Figure 5.1 is a view of Cerro Azucar

Figure 5.2 is a view of the Farellón Property looking south from the 2009 and 2011 drilling platforms towards the National Park.

Figure 5.1 A View of Cerro Azucar Showing the Old Farellón Mine Workings at Right



Figure 5.2 A View of the Farellón Property Looking South Towards the National Park from the 2009 and 2011 Drilling Platforms





#### 6.0 HISTORY

#### 6.1 INTRODUCTION

Mining has played an important role in the economy of Chile with copper mining forming the cornerstone of a substantial portion of the employment for its population. However, historically, it has been the Coastal cordillera which has been the most significant mineral producing zone in Chile. This zone extends for over 2,500 km from south of Valparaiso northward to the Peruvian boarder, and ranges from 50 to 100 km in width.

Gold, silver and copper were mined from high grade deposits commencing in the 16<sup>th</sup> century.

#### 6.2 **REGIONAL HISTORY**

Mining in the region was historically focused on the Carrizal Alto area to the north of the main Farellón Property. However, the Farellón Property was mined on a limited basis during the 1940's when operations at Carrizal Alto had, for the most part, already shut down. There is very little information regarding the mining but a few plans of the limited underground mining have survived. Some of the historical data for the Farellón Project can be found in the Sernageomin national archives in Santiago.

Historical records indicate that copper mining commenced at Carrizal Alto in the 1820's and continued on a significant scale, mostly by British companies, until 1891 when disastrous flooding occurred and the mines closed. The historical reports indicate that the larger mines were obtaining good grades over significant widths in the bottom workings at the time of closure. It is estimated that during this period, in excess of 3 Mt with grades in excess of 5% copper and widths of 8 m were extracted, and there was also a large quantity of direct shipping ore at 12% copper. At one time, there was a considerable body of tails present to support these figures but the high gold and copper prices over the last few years have led to the extraction and reprocessing of this material.

Miller and Singewald noted in their 1919 volume "The Mineral Deposits of South America" that " *in the vicinity of Carrizal Alto in the northern part of the Department of Freirina many copper mines have been worked, although most are now idle. Several are worked to a depth of more than 1,000 feet. Numerous copper mines have been worked in all parts of the Department of Vallenar but most of them were shallow and soon abandoned. Many of the deposits are thought to be worthy of investigation.*"

A brief revival of the mines occurred in the 1930's, but little work has occurred since.

The principal northeast trending veins are the Mina Grande and Armonia vein systems. Both were worked extensively, e.g., at Mina Grande workings extended for 2.5 km as a nearly continuous line of pits, collapsed stopes, narrow open cuts and numerous shafts. The Armonia vein system is similar and extends for 1.8 km. Oxidation depths ranged from 50 m



to 150 m and, judging from remnants, many of the veins were probably worked to this depth and abandoned as sulphides were reached.

In the most productive zone at Mina Grande, which stretched for 1.5 km, the vein is up to 15 m thick and composed of quartz, sericite, chalcopyrite and pyrite. Amphibole-rich seams occur towards the diorite wall rock, which itself frequently contains chalcopyrite and pyrite impregnations and smaller veins. The central and western portions of the reefs were also particularly rich in cobalt and values in excess of 1% are reported. Preliminary sampling of the workings indicates that cobalt is depleted near the surface.

The main producing mine was the Veta Principal on the Mina Grande shear which was mined to a depth of 400 m along a strike of 1.8 km and over a width varying from 2 m to 15 m. The deepest workings reached 600 m and several slag dumps remain at old sites of local smelters treating the sulphide ores.

Bulk mineable epithermal and copper porphyry deposits have dominated the geological exploration scene since the 1970's. A number of old mining camps in the coastal zone of northern and central Chile have been revived by this activity, such as El Guanaco and Andacollo. Carrizal Alto, despite spectacular past production from the Capote, Mina Grande and Armonia mines, has remained virtually untouched since the brief gold revival of the 1930's.

With the rise in gold prices in the 1970's, most of the gold tailings in Chile were retreated and the recent gold prices have caused most of the remaining tailings to be treated. The recent rise in copper prices over the last couple of years has led to the retreatment of a number of copper tailings, as well as most of the low grade dumps.

Figures 6.1 and 6.2 are views of some of the old mine workings on the Farellón Property.

#### 6.3 PREVIOUS EXPLORATION PROGRAMS

#### 6.3.1 Historical Exploration Programs

Oliver Resources, an Irish based company, through its Chilean subsidiary Oliver Resources Chile Ltda., commenced exploration in the region in 1990 but withdrew at an early stage for corporate reasons. Oliver Resources is believed to have conducted a stream sediment program but no results have been located. Stream sediment work for gold and copper around Carrizal Alto would be of dubious value due to widespread contamination by the prior mining activities. A March, 1991 report for Oliver Resources reports the results of sampling of the Farellón Alto and Bajo mine dumps, as summarized in Table 6.1.



Figure 6.1 A View of Old Mine Workings on the Farellón Property



Figure 6.2 A Second View of Old Workings on the Farellón Property





In the early 1990's a Chilean group, Minera Stamford S.A. (Minera Stamford), owned the Azucar property which was a large group of mineral and mining concessions in the area that included the Farellón concessions. In 1994, Minera Stamford formed a joint venture with an Australian mining company called Metalsearch. From 1991 to 1997, exploration by the joint venture on the Azucar property included geological mapping, rock chip sampling, soil geochemistry, reverse circulation (RC) drilling and metallurgical sampling. The remaining exploration records covering this work are incomplete.

Sample		Assay Results	Location	
Number	Gold (g/t)	Silver (g/t)	Copper (%)	Location
058	0.91		0.75	Farellón Alto mine dump
059	4.92	3.0	2.26	Farellón Alto mine dump
062	2.78		2.68	Farellón Bajo mine dump
063	1.37	2.0	4.00	Farellón Bajo mine dump
064	0.83	1.0	2.76	Farellón Bajo mine dump
065	3.08	2.0	5.36	Farellón Bajo mine dump

 Table 6.1

 Summary of the Farellón Alto and Bajo Mine Dump Sampling

Table derived from the 1991 report by O'Sullivan.

Geological mapping of the Azucar project showed a northeast-trending sheared contact between gneisses and diorites. The sheared zone is between 50 to 200 m wide and contains significant consistent mineralization along a 2,000 m strike length.

Minera Stamford collected 152 rock chip and dump samples from areas with signs of mining activity along the northeast-trending mineralized shear zone. A total of 36 samples fall within Red Metal's Farellón Property. Only gold, copper and cobalt results can be found from this sampling. The highest gold sample within the Farellón Property is 13.50 g/t, the highest copper result is 6.15% and the highest cobalt result is 0.68%. The sampling shows consistent mineralization in a shear zone crossing the length of the Farellón Property.

A total of 591 soil samples were taken by Minera Stamford, but no related records can be found of this work.

A RC drill program of 33 holes totalling 6,486 m was completed between 1996 and 1997 on the Azucar property. However, only 22 drill holes totalling 3,918 m fall within the Farellón Property. The drilling was conducted at irregular intervals along the mineralized shear and the holes were sampled at regular 1-m sample intervals along their entire length. Red Metal has only been able to obtain gold, copper and cobalt results from this drilling program. The drilling confirmed mineralization in the shear zone down to a vertical depth of approximately 200 m. The highest gold result was 21.03 g/t, the highest copper result was 9.21% and the best cobalt result was 0.58% (all of these results are over one metre). Figure 6.3 depicts the locations of the Minera Stamford drill holes on the Farellón Property. Figure 6.4 is a section showing the mineralization on the Farellón Project intersected by Minera Stamford drill holes FAR-96-13, FAR-96-20 and FAR-96-21.



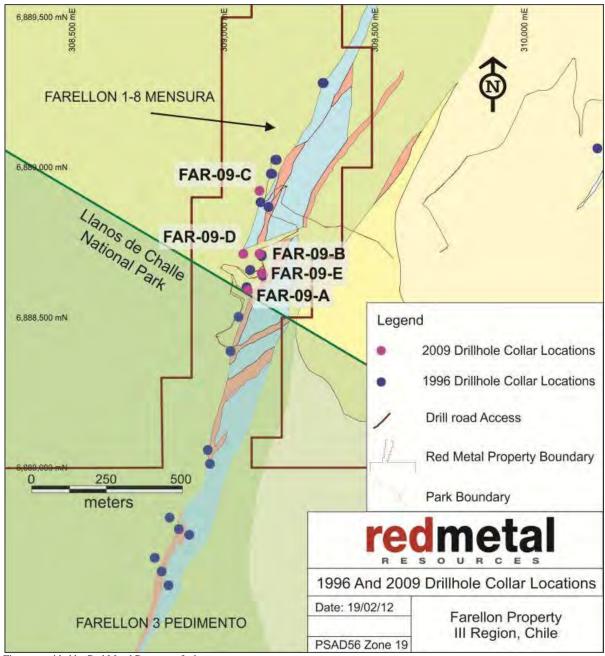


Figure 6.3 Location Map of the Minera Stamford Drill Holes on the Farellón Property

Figure provided by Red Metal Resources Ltd.



Figure 6.4 Section Indicating the Mineralization Encountered on the Section Covered by Minera Stamford Drill Holes FAR-96-13, FAR-96-20 and FAR-96-21

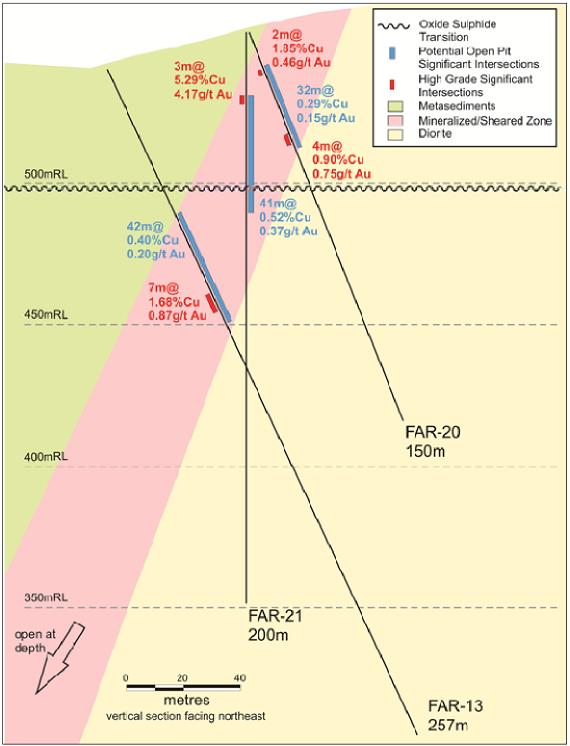


Figure provided by Red Metal Resources Ltd..



Table 6.2 summarizes the 1996 to 1997 Minera Stamford RC drill hole statistics for the Farellón Project. Table 6.3 summarizes the significant 1996 to 1997 Minera Stamford RC drill hole intervals for the Farellón Project.

Table 6.2
Summary of 1996 to 1997 Minera Stamford Reverse Circulation Drill Hole Statistics for the Farellón
Project

Hole Number		UTM Coordina	Azimuth	$\mathbf{Dim}(0)$	Depth	
Hole Nulliber	Easting	Northern	Elevation (m)	(°)	Dip (°)	( <b>m</b> )
FAR-96-06	308962.3	6888011	573	110	-62	100
FAR-96-07	308954.21	6888059	560	110	-62	163
FAR-96-09	309131.2	6888706.2	552	95	-65	242
FAR-96-010	309167.31	6888979.9	557	112	-75	211
FAR-96-011	309155.51	6888869.8	565	102	-62	169
FAR-96-013	309092.8	6888659.19	540	110	-65	257
FAR-96-014	309131.5	6888703.4	552	90	-90	203
FAR-96-015	309155	6888867.2	565	90	-90	200
FAR-96-016	309128.3	6888882.2	565	111	-65	200
FAR-96-017	309165.4	6888979.3	557	90	-90	200
FAR-96-018	309181	6889025.6	562	115	-65	51
FAR-96-019	309180	6889026	562	90	-90	200
FAR-96-020	309138.71	6888639.8	553	140	-65	150
FAR-96-021	309137.91	6888640.7	553	90	-90	200
FAR-96-022	309086.1	6888591	564	131	-65	150
FAR-96-023	309085.3	6888600.89	564	90	-90	200
FAR-96-024	309057.61	6888502.8	544	110	-65	150
FAR-96-025	309056.61	6888503	544	90	-90	172
FAR-96-026	309029.91	6888386.5	544	140	-65	150
FAR-96-027	309029.3	6888387.2	544	90	-90	199
FAR-96-028	309337.51	6889279.4	500	112	-65	150
FAR-96-029	309336.5	6889280	500	90	-90	201
Total						3,918

Table provided by Red Metal Resources Ltd.

# Table 6.3 97 Minore Stamford Powerse Circult

# Summary of Significant 1996 to 1997 Minera Stamford Reverse Circulation Drill Hole Intervals for the Farellón Project

Drill Hole	Significant Interval (m)			Assay Results			
Drill Hole	From	То	Length	Gold (g/t)	Copper (%)	Cobalt (%)	
FAR-96-06	49	54	5	0.15	0.73	0.01	
FAR-96-07	25	34	9	0.38	1.05	0.02	
FAR-96-09	57	84	27	0.51	0.91	0.03	
FAR-96-010	31	36	5	1.00	0.68	0.04	
FAR-96-011	20	26	6	0.67	0.46	0.02	
FAR-96-013	86	93	7	0.87	1.68	0.04	
FAR-96-014	77	83	6	0.66	0.85	0.06	
FAR-96-015	59	79	20	0.99	0.98	0.06	
FAK-90-015	99	109	10	0.18	1.02	0.03	
FAR-96-016	24	26	2	0.95	1.57	0.02	
FAK-90-010	64	70	6	0.73	0.81	0.07	
FAR-96-020	14	16	2	0.46	1.85	0.05	
	39	43	4	0.75	0.90	0.03	
FAR-96-021	22	25	3	4.17	5.29	0.11	
FAR-96-022	29	39	10	1.53	1.31	0.04	



Drill Hole	Significant Interval (m)			Assay Results		
	From	То	Length	Gold (g/t)	Copper (%)	Cobalt (%)
	100	108	8	3.72	2.49	0.06
FAR-96-023	50	53	3	0.48	1.10	0.06
	59	64	5	0.28	0.78	0.03
	132	147	15	0.60	1.42	0.03
FAR-96-024	33	36	3	0.94	2.89	0.06
FAR-96-025	65	85	20	0.97	1.22	0.02
FAR-96-028	55	58	3	0.12	0.52	0.06
FAR-96-029	30	34	4	0.18	1.15	0.07
	82	87	5	0.09	0.96	0.01

Table provided by Red Metal Resources Ltd.

With regard to the Minera Stamford significant intervals stated in Table 6.3 the true width of the mineralization is unknown as the previous drilling was reverse circulation (RC) and no geological logs have been located for the 1996 to 1997 exploration drilling program. In addition, the pinch and swell nature of the mineralization as well as the true orientation of the mineralization, which was not fully defined by the program, contributed the lack of understanding of the true width of the mineralization.

Minera Stamford indicated in its May, 2000 report that "routinely each RC metre was split and sampled conventionally although there was no wet sample collection system available, which was unfortunate as 14 of the holes" on the Azucar project encountered large volumes of water. Minera Stamford does indicate that the water could have resulted in many of the mineralized samples being washed out.

For the QA/QC program, the May, 2000 Minera Stamford report mentioned the following:

"Gold was assayed by MIBK extraction and fire assay whereas copper and cobalt were assayed by AAS. A sub-set of 153 samples were assayed for gold by bottle roll cyanide leaching of 4 kg passing No 10 sieve followed by fire assay of residue. These assays produced an enhancement of about 30% gold in mineralized sections and it is recommended to extend this program. Two check samples and one standard sample were routinely assayed per 34 assays by Acme Labs. Another check was carried out by assaying as routine the resampled bottle roll material. Assay variations were within acceptable limits."

The Minera Stamford report indicates that for geological presentation and correlation purposes it applied the following cut-off grades:

- "Gold >100 ppb i.e. 0.1 g/t."
- "Copper >100 ppm i.e. 0.01 %."
- "Cobalt > 100 ppm i.e. 0.01% or 0.1 kg/t."

"On the cross-sections only those intervals exceeding 0.5 g/t gold, 0.5% copper or 0.4 kg/t cobalt singly or combined to a unit value of USD \$18.00/ tonne have been presented with assay details. The mineralized intervals are plotted on the sections in their raw form with no



attempt to present them from a mining perspective. However it is clear even with this approach that economically viable intersections are present on most cross-sections."

The Farellón workings are in metamorphics within the sheared metamorphic/tonalite contact zone which is about 200 m wide here. The workings are large but restricted to the oxide zone and range from 1 to 20 m wide. A sample taken by Minera Stamford of the wallrock and quartz veined metamorphics returned 3.0% copper, 1.4 g/t gold, 0.08% cobalt, 1.1% arsenic.

The lower Farellón workings are several hundred metres to the south and associated with massive siderite. A sample collected by Minera Stamford of the lode material returned 5.6% copper, 2.4 g/t gold, 0.02% cobalt. Of particular interest is a sample taken over a 20 m width of the contact zone comprised of silicified and carbonate veined metamorphic material which assayed 0.4% copper, 0.23 g/t gold, 0.02% cobalt. A 20 t trial parcel of material from the Farellón workings in the 1950's is reported to have returned over 1% cobalt.

# 6.3.2 Red Metal Programs (2009)

# 6.3.2.1 Geological Mapping Program

Red Metal conducted a short geological mapping program over the Cecil and Burghley claims to better define future exploration targets. Mapping was completed by a Red Metal geologist and geotechnician during May and June, 2009.

The Burghley claim is located within the upper Cretaceous pluton. Mineralized veins appear in diorite host rocks, running approximately northeast-southwest. A swarm of intermediate to mafic dykes runs approximately north-south throughout the area. Epidote alteration was prevalent with areas adjacent to mineralization displaying chlorite and serecite alteration. A few locations showed biotite alteration. Many mineralized areas are accompanied by a calcareous filling matrix. Veins are predominant in the eastern end of the property and shears/faults are more prevalent towards the west. Mineralized veins and faults strike approximately 224° and dip -60°. Copper oxide mineralization in the form of malachite and copper wad was seen in numerous areas.

# 6.3.2.2 September, 2009 Drilling Program

Red Metal's first exploration drilling program of 5 RC holes, totalling 725 m, was conducted in September, 2009. Table 6.4 summarizes the details of the September, 2009 drilling program. Figure 6.5 indicates the locations of both the 1996 Minera Stamford and the 2009 Red Metal drill holes.



Hole	UTM Coordinates			Azimuth	Dip	Depth	Comments
Number	Easting	Northern	Elevation (m)	(°)	(°)	( <b>m</b> )	Comments
FAR-09-A	309,086	6,888,591	550	131	-65	125	Twin of FAR-96-22.
FAR-09-B	309,125	6,888,709	560	95	-65	100	Twin of FAR-96-09.
FAR-09-C	309,127	6,888,922	555	105	-65	145	Continuity between sections
FAR-09-D	308,955	6,888,696	539	95	-65	287	Test of depth extent
FAR-09-E	309,133	6,888,645	551	Vertical	-90	68	Twin FAR-96-21.
Total						725	

 Table 6.4

 Summary of the September, 2009 Reverse Circulation Drilling Program

Table provided by Red Metal Resources Ltd.

Figure 6.5 Location Map of the 1996 Minera Stamford and 2009 Red Metal Drill Holes on the Farellón Project

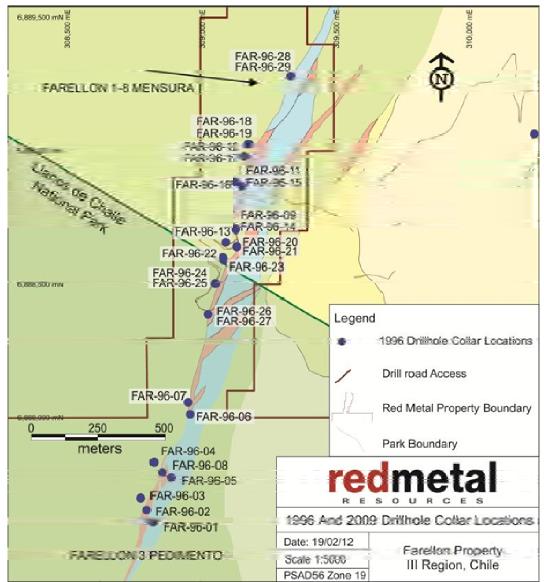


Figure provided by Red Metal Resources Ltd.



The drilling company in Chile used by Red Metal to conduct the drilling program was PerfoAndes Limitada which is based in the community of Tierra Amarilla just south of the city of Copiapó. The drilling contractor is an independent contractor with no direct interest in Red Metal or its 99% owned Chilean subsidiary, Polymet.

The drilling was completed using a Tramrock Dx40 RC rig which is larger than the T4 drill rig used during the Minera Stamford drilling program in the 1990's. As a result Red Metal had to widen the existing roads on the property as well as rehabilitating access to some of the old drilling pads.

The drilling program was designed, for the most part, to twin a number of Minera Stamford holes from the 1990's in order to verify the data acquired by the earlier drilling. No geological information was recovered from the Minera Stamford drill program and assays were not verified by any laboratory certificates. One drill hole tested 100 m below the known mineralization and one drill hole tested continuity of mineralization between previously drilled sections.

All of the drilling conducted by Red Metal in September, 2009 was outside the National Park boundaries.

Collar locations and azimuths for the 2009 drilling were surveyed using a total station surveying tool. Downhole surveys were completed on all drill holes from the 2009 program and on six drill holes from 1996 to 1997 program by Minera Stamford, holes 9, 14, 20, 21, 22 and 23. Surveying of all historic drill holes surrounding the current drilling was attempted, but some of the holes were caved and the survey tool could not be lowered into the hole.

In addition each drill hole has approximately 1.5 m of blue PVC piping added to it as a surface pre-collar which was cemented into place to permanently denote the drill hole location.

The significant assays for Red Metal's 2009 exploration drilling program are summarized in Table 6.5. The significant assays are reported as core lengths as the true width of the mineralized zone had not been established at the time of the 2009 program.

Drill Hole	•	Assay In	nterval	(m)	Assay	Grade
Number		From	То	Core Length	Gold (ppm)	Copper (%)
		31	34	3.0	0.81	1.99
FAR-09-A		79	109	30.0	0.18	0.62
		97	106	9.0	0.44	1.63
		56	96	40.0	0.27	0.55
FAR-09-B	including	56	63	7.0	0.22	0.66
ГАК-09-D		74	96	22.0	0.42	0.79
	including	75	86	11.0	0.67	1.35
FAR-09-C		73	103	30.0	0.79	0.55

 Table 6.5

 Summary of the Significant Assays for the 2009 Exploration Drilling Program on the Farellón Project



Drill Hole		Assay I	nterval	Assay Grade		
Number		From To Core Length		Gold (ppm) Copper (%)		
	including	77	82	5.0	4.16	2.57
FAR-09-D		95	134	39.0	0.11	0.58
FAK-09-D	including	95	103	8.0	0.33	2.02
FAR-09-E		25	30	5.0	0.54	1.35
ГАК-09-Е		65	68	3.0	0.58	1.46

Table provided by Red Metal Resources Ltd.

The results of Red Metal's 2009 exploration drilling program to twin a number of Minera Samford's 1996 drill holes confirmed the general location and tenor of the mineralization located during the 1996/97 drilling program. However, in two of the drill holes (FAR-09-A and FAR-09-E) the disparity between the historical 1996/97 gold assays and the 2009 gold assays merits further investigation. In the case of FAR-09-E, the disparity between the historical 1996 and 2009 assays also occurs in the copper assays and this will also need to be further investigated.

In general, the 2009 drilling program identified that the copper and gold mineralization located at the Farellón Project exhibited a direct correlation to the earlier results in both location and relative intensity.

All drill holes during the 2009 drilling program intersected oxide facies mineralization with only minor amounts of sulphides observed (FAR-09-D).

Red Metal expenditures on the Farellón Property for 2009 are summarized in Table 6.6.

Item	Cost (US\$)	Cost (CDN\$)	Comments
Accommodation	1,324	1,410	Office and house rental for drill program
Assays	28,009	29,616	Acme Laboratories
Equipment rental	2,398	2,571	Drill pad and drill road building
Drilling	43,392	45,714	PerfoAndes Ltda.
Surveying	5,411	5,792	Comprobe downhole surveys
Field supplies	1,177	1,235	Bags, trays etc.
Labour	14,268	15,299	Contract Geologist, Project manager, geotechnician
Meals	704	753	Meals for drillers, geologist and tech during program
Travel and transportation	2,105	2,242	Truck and expenses for contract geologist
Total	98,788	104,632	

Table 6.6
Summary of the 2009 Exploration and Property Expenditures

Table provided by Red Metal Resources Ltd.

For Table 6.6 the Chilean peso exchange rates with the US dollar and Canadian dollar were pegged at 483.9886 and 488.7746 pesos, respectively.



### 6.4 HISTORICAL RESOURCE ESTIMATES AND PRODUCTION

There are no formal historical resource estimates on the Farellón Project. However, a number of old letter-style reports were put together by the provincial engineer for Atacama particularly in 1963. The sources for the 1963 report were other reports dated from 1942 to 1949. In the report it was noted that the deposit consisted of 3 veins in metamorphic rocks and that blocks of material approximately 50 m in length and depth had been extracted.

The 1963 report contained a number of tables which indicated the reserves reported in the previous 1949 report by Ing. Herbert Hornkohl. There are a number of inaccuracies in the tables contained in the 1963 report, most likely related to typing errors, and Micon has attempted to correct these errors by comparing them to the 1949 tables where applicable. The tables from the reports are reproduced below but not all of the units of measurement were provided for the tabulated grades in the reports. Therefore, Micon has not assigned units of measurement to any grades which are not specified in the reports.

			Grade								
	Tons	Cu (%)	Au (g/t)	Ag	CaO (%)	SiO <sub>2</sub> (%)	Fe <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	S		
Veta Pique*	5,849	3.1	1.2	3.8	45.3	4.4	7.8	1.6	0.7		
Veta Naciente*	6,817	2.7	1.1	4.9	44.1	5.0	11.7	2.7	0.7		
Total	12,666	2.9	1.1	4.4	44.7	4.7	9.9	2.2	0.7		

"Positive Ore"

\*Note: Veta Pique = Shaft vein and Veta Naciente = Outcrop vein. Derived from the 1949 and 1963 reports in the Senageomin files, Chile.

After the 1949 study was conducted, the mine was worked and at 1963 there was no visible mineralization (positive ore). There were 500 tons of waste and 1,320 tons of extracted material with the following grades.

#### "Waste"

Tons	Cu	Au	Ag	CaO	FeO	MgO	SiO <sub>2</sub>
500	2.20	1.0	10.0	45.98	5.29	0.60	2.50

Derived from the 1949 and 1963 reports in the Senageomin files, Chile.

"Extractions"

	Tons	Cu	Au	Ag	CaO	FeO	MgO	SiO <sub>2</sub>
Veta Pique*	810							
Veta Naciente*	510							
Total	1,320	2.3	1.0	5.0	45.07	6.54	0.22	3.0

\*Note: Veta Pique = Shaft vein and Veta Naciente = Outcrop vein.

Derived from the 1949 and 1963 reports in the Senageomin files, Chile.



The 1963 report mentions that 8 samples were taken from the accessible workings in both veins. The summary of the assay results for the 8 samples as tabulated in the report is reproduced below.

Sample	Vein	Length				Grade			
Number	vem	( <b>m</b> )	Cu	Au	Ag	CaO	FeO	MgO	SiO <sub>2</sub>
1	Veta Pique	2.50	1.80	0.5	5.0	47.89	6.54	0.27	1.34
2	Veta Pique	2.45	6.90	1.0	20.0	31.14	13.77	0.30	2.00
3	Veta Pique	3.00	3.00	1.0	10.0	46.43	5.86	0.26	2.50
4	Veta Pique	1.00	1.20	0.2	5.0	31.52	3.49	0.30	25.66
5	Veta Naciente	2.00	2.40	0.5	5.0	47.99	5.52	0.32	1.50
6	Veta Naciente	1.80	3.00	1.0	5.0	38.25	6.09	0.23	17.84
7	Veta Pique	1.70	1.70	0.5	3.0	43.77	4.51	0.28	10.00
8	Veta Naciente	0.80	1.60	0.5	3.0	28.80	3.71	0.23	29.54
Total*		1.8	2.10	0.6	5	40.66	5.10	0.27	12.62

Note\*: The arithmetic average for the total in the table excludes Sample 2. Derived from the 1963 report in the Senageomin files, Chile.

As in the previous tables, no units of measurement were provided in the 1963 report for the assay grades. The report noted that the high  $SiO_2$  contained in the average was due to the very high grade for the  $SiO_2$  reported in samples 4, 6, 7 and 8. Micon has not attempted to verify the sampling mentioned in 1963 as the workings are not entirely accessible and there is no sample location map upon which to attempt to duplicate the samples. The sampling mentioned in the historical reports will need to be verified by sampling the mineralization in the underground workings if they become accessible and it is safe for work to be carried out in them. However, Micon believes that the verification of the mineralization on the Farellón Project can be more efficiently accomplished by conducting further drilling at this time.

The May, 2000 Minera Stamford report mentions a resource estimate but this is a conceptual resource estimate based on a minimal amount of information. However, Micon has reviewed this conceptual estimate and concluded that it would not meet the criteria necessary for its inclusion in an NI 43-101 report. Therefore, Red Metal should not rely on it as justification for a program of compilation work and further exploration. Further work is required to locate and evaluate the true extent and nature of the mineralization on the Farellón Project.

As mentioned previously, a small amount of historical production has occurred on the Farellón Property primarily during the 1940's. However, there are few existing records of the production and there appear to be some discrepancies in the potential size of the waste dumps (1,000 and 500 tons) and grades reported in the material between the 1949 and 1963 reports contained in the archived files. Micon does not believe that the historical discrepancies are of any consequence to the current exploration on the Farellón Property but, has noted them for the sake of clarity should someone review the old files.



# 7.0 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 **REGIONAL GEOLOGY**

Chile is divided into three major physiographic units running north-south, the Coastal cordillera, the Central valley and the High cordillera (Andes). The Farellón Property lies within the Coastal cordillera which lies on the western margin of Chile and extends from the southern Peruvian border to Puerto Montt in southern Chile.

There are five main geological elements in the Coastal cordillera:

- 1) Early Cretaceous back-arc basin marine carbonates in the east.
- 2) A late Jurassic to early Cretaceous calc-alkaline volcanic arc in the central part of the region.
- 3) The early Cretaceous Coastal batholith to the west (Marschik, 2001).
- 4) The Atacama fault zone to the west (Marschik, 2001).
- 5) The Paleozoic basement metasediments along the western margin (Hitzman, 2000).

The formation of the Coastal Cordillera is as follows:

- In the Coastal cordillera of northern Chile, major Mesozoic plutonic complexes are emplaced into broadly contemporaneous arc and intra-arc volcanics and underlying penetratively deformed metasedimentary units of Paleozoic age.
- The northwest trending Atacama brittle fault system of northern Chile was active during the Mesozoic volcanism and plutonism.
- Widespread extension induced tilting of the volcano-sedimentary sequences.
- Immediately east of the Mesozoic arc terrane of the Coastal cordillera in northern Chile, sedimentary sequences accumulated in a series of interconnected, predominantly marine, back-arc basins.
- Early to mid-Jurassic through mid-Cretaceous volcanism and plutonism throughout the Coastal cordillera and immediately adjoining regions are generally considered to have taken place under variably extensional conditions in response to retreating subduction boundaries (slab roll-back) and steep, Mariana-type subduction (Hitzman, 2000).

The Farellón Property lies on the western margin of the northern portion of the Chilean Coastal cordillera at the contact between Paleozoic metasediments and late Jurassic diorites



and monzodiorites. Figure 7.1 is a map of the regional geology surrounding the Farellón Property.

Paleozoic metasediments are from the Chanaral Metamorphic Complex comprised of shales, phyllites and schists. The sediments have a strong north-northeast striking shallow foliation of not more than 40° dip.

The diorites are from the Canto del Agua formation which consist of diorites and gabbros and is known to host extensive veining with copper and gold mineralization (Arevalo and Welkner, 2003).

# 7.2 **PROPERTY GEOLOGY**

### 7.2.1 Geology

The Farellón Property lies over the sheared contact of Paleozoic metasediments in the western portion and Jurassic diorite in the eastern portion. The contact between the metasediments and the diorite is a mylonitic sheared contact striking north-northeast and dipping approximately 65° to the northwest. The metasediments are composed of quartz-feldspar-hornblende gneisses (Minera Stamford, 2000). The diorite underlying the eastern portion of the Project area has been extensively intruded by intermediate mafic dykes oriented northeasterly. Locally, a small stock-like felsic body, called Pan de Azucar, with lesser satellite dykes, intrudes the diorite. The intrusive relationship between the diorite and metasediments always appears to be tectonic (Willsteed, 1997). Figure 7.2 is a map of the local geology immediately surrounding the Farellón Property.

### 7.2.2 Structure

The contact zone between the metasediments and the diorites is a mylonitic shear zone ranging from 5 to 15 m in width and is host to mineralized quartz-calcite veins. To the north, the veins splay off to the east into the diorites. The southern concession of the Farellón Property covers a 1.7 km section along strike of the sheared contact and the northern claims overlie a further 0.75 km of the sheared contact as well as a 1.7 km section of the veining splayed into the diorite.

### 7.2.3 Alteration

The alteration associated with the shear zone is comprised of sulphidized quartz-calcite veins with an intense pyrite-serecite-biotite alteration halo. In places, there is massive siderite and ankerite alteration (Minera Stamford, 2000).

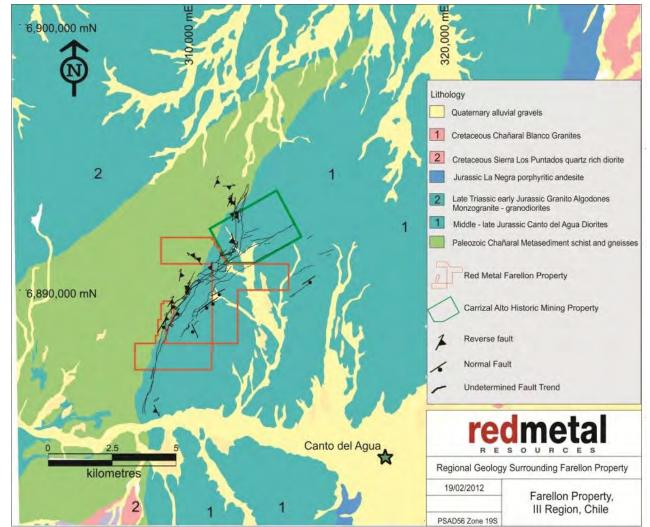


Figure 7.1 Regional Map of the Geology Surrounding the Farellón Property

Figure provided by Red Metal Resources Ltd.



Figure 7.2 Map of the Local Geology Surrounding the Farellón Property

Figure provided by Red Metal Resources Ltd.



# 7.3 MINERALIZATION

Vein type, plutonic hosted IOCG deposits such as Carrizal Alto and, by extension, the Farellón Property are characterized by a distinct mineralogy that includes not only copper and gold but also cobalt, nickel, arsenic, molybdenum and uranium (Sillitoe, 2003). All of the IOCG deposits are partially defined by their iron content in the form of either magnetite or hematite. A variety of alteration assemblages has been noted in the Chilean deposits, according to whether or not the deposits are hematite or magnetite dominated. The magnetite-rich veins contain appreciable actinolite, biotite and quartz, as well as local apatite, clinopyroxene, garnet, hematite and K-feldspar, and possess narrow alteration haloes containing one or more of actinolite, biotite, albite, K-feldspar, epidote, quartz, chlorite, sericite and scapolite. The hematite-rich veins tend to contain sericite and/or chlorite, with or without K-feldspar or albite, and to possess alteration haloes characterized (Sillitoe, 2003) by these same minerals. Typically the vein deposits of the Coastal cordillera are chalcopyrite, actinolite and magnetite deposits (Ruiz, 1962).

Carrizal Alto, just north along strike from the Farellón Property (Figure 7.2), has historically been known as a significant cobalt deposit (Ruiz, 1962) and has returned cobalt grades of up to 0.5% in the form of cobaltiferous arsenopyrite (Sillitoe, 2003, Ruiz, 1962). Copper mineralization on the Farellón Property consists of malachite and chrysocolla in the oxide zone and chalcopyrite in the sulphide zone. There is some indication that, in the oxide zone, some of the copper mineralization is tied up in a goethite clay matrix (Willsteed, 1997, Floyd, 2009). Alteration includes actinolite, biotite, serecite, epidote, quartz and carbonate alteration.



### 8.0 **DEPOSIT TYPES**

Iron oxide-copper gold (IOCG) deposits cover a broad spectrum of deposits. The deposit type in northern Chile has been clearly defined in Sillitoe, 2003 as follows.

"Iron oxide-copper-gold deposits, defined primarily by their elevated magnetite and/or hematite contents, constitute a broad, ill-defined clan related to a variety of tectono-magmatic settings. The youngest and, therefore, most readily understandable IOCG belt is located in the Coastal Cordillera of northern Chile and southern Peru, where it is part of volcano-plutonic arc of Jurassic through Early Cretaceous age. The arc is characterised by voluminous tholeiitic to calcalkaline plutonic complexes of gabbro through granodiorite composition and primitive, mantlederived parentage. Major arc-parallel fault systems developed in response to extension and transtension induced by subduction rollback at the retreating convergent margin. The arc crust was attenuated and subjected to high heat flow. IOCG deposits share the arc with massive magnetite deposits, the copper-deficient end-members of the IOCG clan, as well as with mantotype copper and small porphyry copper deposits to create distinctive metallogenic signature."

"The IOCG deposits display close relations to the plutonic complexes and broadly coeval fault systems. Based on deposit morphology and dictated in part by lithological and structural parameters, they can be separated into several styles: veins, hydrothermal breccias, replacement mantos, calcic skarns and composite deposits that combine all or many of the preceding types. The vein deposits tend to be hosted by intrusive rocks, especially equigranular gabbrodiorite and diorite, whereas the larger, composite deposits (e.g. Candelaria-Punta del Cobre) occur within volcano-sedimentary sequences up to km from pluton contacts and in intimate association with major orogen-parallel fault systems. Structurally localised IOCG deposits normally share faults and fractures with pre-mineral mafic dykes, many of dioritic composition, thereby further emphasising the close connection with mafic magmatism. The deposits formed in association with sodic, calcic and potassic alteration, either alone or in some combination, reveal evidence of an upward and outward zonation from magnetite-actinolite-apatite to specular hematite-chloritesericite and possess Cu-Au-Co-Ni-As-Mo-U(LREE) (light rare earth element) signature reminiscent of some calcic iron skarns around diorite intrusions. Scant observations suggest that massive calcite veins and, at shallower palaeodepths, extensive zones of barren pyritic feldspardestructive alteration may be indicators of concealed IOCG deposits."

IOCG deposits of northern Chile are known to exist in the belt from just south of the town of Vallenar (almost 29°S) to just south of Chanaral (26°S) (Hitzman, 2000).

The Farellón Property lies well within the Chilean IOCG belt and fits many of the tectonic and mineralogical definitions outlined by Sillitoe. The Farellón Property is considered to be a vein style IOCG deposit with significant amounts of iron oxide, copper, gold and cobalt distinctive of IOCG deposits in the region.



### 9.0 EXPLORATION

A description of the historical exploration work conducted on the property is provided in Section 6.0. Also included in Section 6.0 is the 2009 exploration program which has been summarized from the previous January, 2010 Micon Technical Report. Therefore, this Section will discuss only the work conducted by Red Metal since the previous report was issued.

Red Metal first acquired the rights to the Farellón Property on April 25, 2008 upon its Chilean subsidiary exercising the option to buy the property from Minera Farellón. Red Metal is evaluating the Property to determine its full potential.

# 9.1 2011 RED METAL EXPLORATION PROGRAM

Red Metal's second drilling program consisted of 9 reverse circulation (RC) holes and 2 combined RC/diamond holes. Drilling consisted of 2,050 m of RC and 183.7 m of diamond for a total of 2,233.7 m over the period of July to August, 2011.

The drilling program aimed to test mineralization down dip of known significant intercepts, extend the known mineralized strike length of the overall deposit and infill drill to better constrain future resource estimations.

Red Metal expenditures on the Farellón Property for 2011 are summarized in Table 9.1. For the period ending on February 29, 2012, an estimated total of US\$643,356 or CDN \$643,867 has been spent by Red Metal since acquiring the Project.

Itom		Cost		Comments
Item	Chilean Peso	(US\$)	(CDN\$)	Comments
Accommodation	1,100,000	2,272.78	2,250.53	Office and house rental for drill program.
Assays	26,498,143	54,750	54,213	Acme Laboratory.
Equipment rental	37,677,110	77,847	77,085	Drill pad and drill road building.
Drilling	140,115,813	289,502	286,668	Major Drilling
Field supplies	2,580,910	5,333	5,280	Bags, trays, etc.
Labour	49,460,690	102,194	101,193	Contract geologist, project manager, and geotechnician
Meals	3,000,000	6,198.49	6,137.80	For drillers, geologists and tech during the drill program.
Travel and transportation	3,131,858	6,470.93	6,407.57	Truck and expenses for contract geologist.
Total		544,568	539,235	

Table 9.1
Summary of the 2011 Exploration and Property Expenditures

Table provided by Red Metal Resources Ltd.

For Table 9.1 the Chilean peso exchange rates with the US dollar and Canadian dollar were pegged at 483.9886 and 488.7746 pesos, respectively.



# 9.2 **RED METAL EXPLORATION TARGETS**

The main target on the Farellón Property is the mineralized shear contact between the diorites and the metasediments. The shear zone has been interpreted to host several parallel, mineralized lenses that have been drilled at sporadic spacing along the 1.7 km strike length on the Farellón 1-8 claim. An initial geological mapping program on the Cecil and Burghley claims to the north has identified several veins splaying off the main mineralized shear structure and into the diorite (Figure 7.2).



# 10.0 DRILLING

A description of the historical drilling conducted on the property is provided in Section 6.0. Also included in Section 6.0 is the 2009 drilling campaign which has been summarized from the previous January, 2010 Micon Technical Report. Therefore, this section will discuss only the drilling conducted by Red Metal since the previous report was issued.

### 10.1 2011 EXPLORATION DRILLING PROGRAM, GENERAL DISCUSSION

Red Metal's second exploration drilling program consisted of 9 RC holes, and 2 combined RC/diamond holes for a total of 2,050 m of RC drilled and 183.7 m of diamond core drilled, conducted from July to August, 2011. Table 10.1 summarizes the details of the July to August, 2011 drilling program. Figure 10.1 indicates the locations of the 1996 Minera Stamford, and the 2009, 2011 Red Metal drill holes.

TT-1-	J	JTM Coordin	nates	A4	D:	Denth	
Hole Number	Easting	Northern	Elevation (m)	Azimuth (°)	Dip (°)	Depth (m)	Comments
FA-11-001	309,298	6,889,226	499	130	-65	101	
FA-11-002	309,180	6,889,140	508	130	-65	228	
FA-11-003	308,992	6,888,677	517	130	-60	200	
FA-11-004	309,095	6,888,808	513	130	-65	200	
FA-11-005	309,041	6,888,760	497	130	-60	143	Abandoned at 143 m – mechanical.
FA-11-006	309,113	6,888,870	556	130	-80	200	
FA-11-007	309,113	6,888,870	556	130	-60	162	
FA-11-008	309,104	6,888,984	531	130	-65	200	
FA-11-009	308,955	6,888,710	536	130	-65	247.55	Diamond from 200 – 247.55 m
FA-11-010	309,007	6,888,852	528	130	-60	300	Diamond from 164 – 300 m
FA-11-011	309,031	6,888,950	541	130	-65	252	
Total						2,233.7	

 Table 10.1

 Summary of the July to August, 2011 Combined Reverse Circulation/Diamond Drilling Program

Table provided by Red Metal Resources Ltd.

The drilling company used by Red Metal to conduct the Farellón 2011 drilling program was Major Drilling Chile S.A. which is based in the community of Coquimbo just south of the city of La Serena. The drilling contractor is an independent contractor with no direct interest in Red Metal or its 99% owned Chilean subsidiary Polymet.

The drilling was completed using a truck mounted multipurpose drill rig UDR 1000 with a 1100 CFM to 350 psi compressor. This drill was capable of switching from RC drilling to diamond core drilling at the required depth.

The target of the program was to outline 700 m strike length of mineralization down to 200 m vertical depth at approximately 75 m intercept spacing, and to infill gaps along a further 300 m to increase intercepts to 150 m spacing. Many of the intercepts in this area are from the 1996/97 drill program and no geological information can be located for these



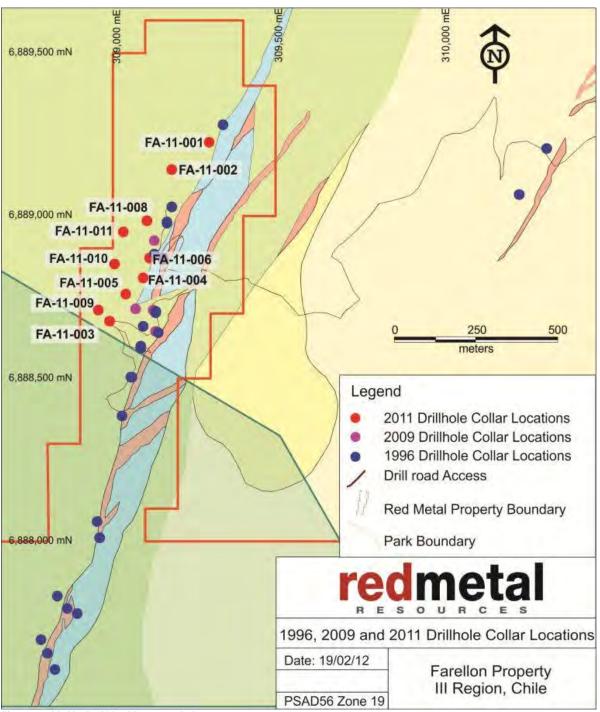


Figure 10.1 Location Map of the 1996 Minera Stamford and 2009, 2011 Red Metal Drill Holes on the Farellón Project

Figure provided by Red Metal Resources Ltd.



drill holes. By infilling the area with drilling at 75 m pierce points the aim is to increase confidence in the continuity and increase knowledge of the nature and structural controls on mineralization to aid further exploration planning.

Red Metal has informed Micon that all of the drilling conducted during the July to August, 2011 campaign was located outside the National Park boundaries. Park officials visited the property while the drill program was ongoing to confirm no drilling was taking place inside park boundaries.

Collar locations and azimuths for the 2011 drilling were surveyed in by Red Metal geologists working on the drill program using a hand held GPS. Red Metal used a magnetic REFLEX EZ-TRAC instrument to complete downhole surveys using a digital remote gyroscope. Downhole surveys were completed on all 11 drill holes from the 2011 program approximately every 50 to 100 m downhole, so most drill holes had at least 3 readings taken along with the one on the surface. Due to the high magnetic susceptibility of the subsurface, the azimuth reading and the magnetic readout gave inaccurate readouts, thus only the downhole dip could be recorded with any degree of confidence.

The downhole survey information for all of the 2011 drill holes is summarized in Table 10.2.

Hole Number	Depth (m)	Dip	Hole Number	Depth (m)	Dip
	0	-65.0		0	-65.0
FA-11-001	50	-64.0	FA-11-008	100	-60.6
	101	-63.0		200	-55.8
	0	-65.0		0	-65.0
FA-11-002	100	-62.0	FA-11-009	100	-60.3
	200	-61.7	FA-11-009	200	-56.9
	0	-60.0		247.55	-55.0
FA-11-003	100	-57.5		0	-60.0
	200	-55.0	FA-11-010	100	-55.9
	0	-65.0	FA-11-010	200	-53.8
FA-11-004	80	-62.2		300	-52.4
	200	-62.7		0	-65.0
FA-11-005	0	-60.0	EA 11.011	100	-64.3
FA-11-005	100	-60.4	FA-11-011	200	-64.7
FA-11-006	0	-80.0		250	-59.9
FA-11-000	100	-76.0			
	180	-75.4			
	0	-60.0			
FA-11-007	100	-55.8			
	160	-55.3			

 Table 10.2

 Summary of the 2011 Drill Hole Downhole Surveys

Table Provided by Red Metal Resources Ltd.

### **10.2 DISCUSSION OF THE 2011 DRILLING PROGRAM RESULTS**

The following is a short discussion regarding Red Metal's 2011 drill holes along with the results obtained. A discussion of the overall program results in light of the original objectives of the 2011 exploration program is also included.



The 2011 drill holes results are discussed as either individual drill holes or as groups of drill holes based on their proximity along the same drilling azimuth plane of  $130^{\circ}$ , taken within a +/- 30 m envelope.

# 10.2.1 Drill Hole FA-11-001

The first elevated spike in mineralization occurs between 36 and 49 m with 2.51% total copper (CuT) and 0.35 g/t Au, in a predominantly supergene zone, with malachite and lesser chalcopyrite. This high grade zone is intersected at approximately the same depth as FAR-96-028 and FAR-96-029 which are both collared 70 m further to the northeast. FAR-96-028 intersected the mineralized zone from 55 to 58 m and graded 0.52% CuT and 0.12 g/t Au with FAR-96-029 intersecting the zone from 30 to 34 m grading 1.15% CuT and 0.18g/t Au.

FA-11-001 intersects a wider and higher grade mineralized zone than FAR-96-028, and FAR-96-029 further to the northeast. It is unknown if this is due to local pinching and swelling of the zone or if it is more of a regional trend since both FAR-96-028 and 029 are on the northeastern edge of all previous drill holes and the next drill hole to the southwest is 150 m away.

A second mineralized zone occurs from 78 to 85 m which averages 0.43% CuT and 0.04 g/t Au. This zone is in a transitional supergene/hypogene zone that is increasingly dominated by chalcopyrite mineralization. FAR-96-029 intersects the same zone at 82 to 87m and averages 0.96% CuT with 0.09 ppm Au, however no mineralization is seen at this depth in drill hole FAR-96-028.

FA-11-001 was shutdown while the drill was still in transition supergene/hypogene zone at 101 m in a barren dark grey andesite host rock. Figure 10.2 is a cross-section through drill hole FA-11-001.

# 10.2.2 Drill Hole FA-11-002

This drill hole encountered a 0.1% CuT mineralized intersection from 90 to 100 m, primarily composed of copper oxide minerals including chrysocolla and malachite. The nearest comparable drill hole is FAR-96-018 115 m to the south which did not have any significant intercept either. However, but FAR-96-010 only 50 m further to the south-southwest does have rich mineralized intercepts.

Persistent pyrite was recorded in RC chips from 140 m down to 229 m at the end of hole and iron oxide (hematite/limonite etc) was recorded during the logging process from surface to the end of hole.

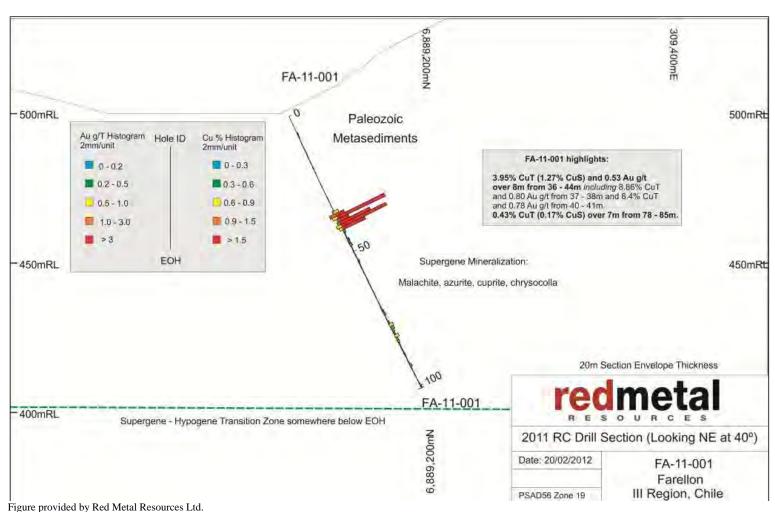


Figure 10.2 Cross-Section through Drill Hole FA-11-001

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Mineralization is possibly down dropped due to faulting and significant intercepts may lie below the end of the hole, or possibly mineralization has been leached away since oxide conditions persist throughout the drill hole length indicating extensive fracturing and fluid movement. Figure 10.3 is a cross-section through drill hole FA-11-002.

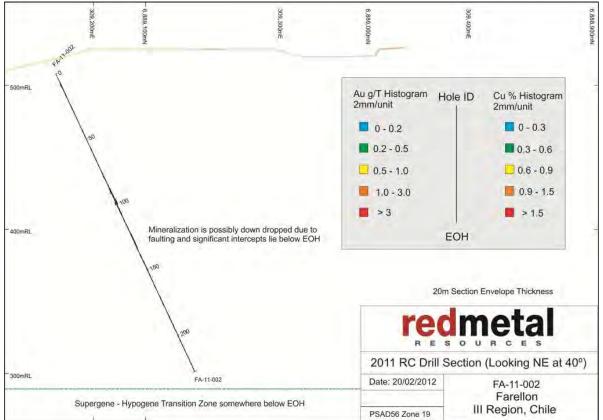


Figure 10.3 Drill Hole FA-11-002 Cross-Section

Figure provided by Red Metal Resources Ltd.

### 10.2.3 Drill Holes FA-11-003 and FA-11-009

Both FA-11-003 and FA-11-009 are collared along the same 130° azimuth plane, FA-11-009 stepped back and down dip of FA-11-003. Mineralized intercepts from these drill holes correspond to a northwest dipping zone of mineralization correlateable to previous drill holes (FAR-96-022 and FAR-96-023) which intersected the same zone further up dip. The assays from these four drill holes are fairly consistent in grade, cross-cutting what appears to be a consistent mineralized structure dipping to the northwest at 30 to 40°.

FA-11-003 has two significant intercepts; the first at 150 to 155 m averaging 0.40% CuT and 0.28 g/t Au with the second at 177 to 182 m averaging 0.44% CuT and 0.15 g/t Au.



FA-11-003 has two closely spaced mineralized zones as does FAR-96-023 immediately up dip from it, but FA-11-009 which lies down dip and FAR-96-022 do not. It may be that there is a fault splay running through the mineralized zone, is this area, which splits the mineralization locally.

FA-11-009 has one significant intercept from 202 to 211.55 m averaging 0.95% CuT and 0.42 g/t Au.

These mineralized intersections occur exclusively in a hypogene zone with an abundance of carbonate and silica, immediately beneath the oxide zone transition.

Both these drill holes failed to intersect any supergene mineralization at shallow depths. Both FAR-96-022 and FAR-96-023 intersected a consistent 30 to 40° northwest dipping mineralized structure further up dip (which is not intersected further down dip in either FA-11-003 or FA-11-009). This structure appears to be a mineralized supergene fault zone which terminates somewhere between FAR-96-023 and FA-11-003. Figure 10.4 is a crosssection through drill holes FA-11-003 and FA-11-009.

# 10.2.4 Drill Hole FA-11-004 and FA-11-010

Drill holes FA-11-004 and FA-11-010 (Figure 10.5) occur along the same approximate 130° azimuth plane with hole FA-11-010 stepped back from and drilled down dip of FA-11-004.

These drill holes are collared where there is no drilling information for 50 m section.

FA-11-004 intersected three mineralized zones of interest:

- 1. A narrow mineralized zone from 36 to 42 m that encountered old workings between 38 to 40 m. This mineralized intersection contained a gold grade of 1.51 g/t and a soluble copper grade of 0.50% from 40 to 42 m.
- 2. Elevated Cu values from 111 to 120 m with predominantly supergene mineralization i.e malachite around ~0.5% in a pronounced hematized fault zone setting.
- 3. Supergene mineralization from 135 to 139 m with Cu values approaching 1% and dominated by malachite mineralization. This mineralized zone occurs in the footwall of a hematized fault zone extending from 125 to 136 m.

Figure 10.4 Cross-Section through Drill Holes FA-11-003 and FA-11-009

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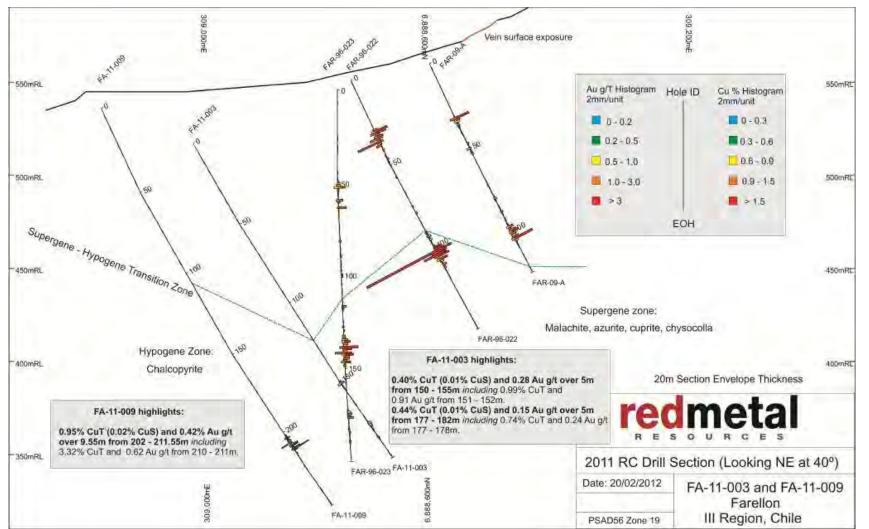


Figure provided by Red Metal Resources Ltd.

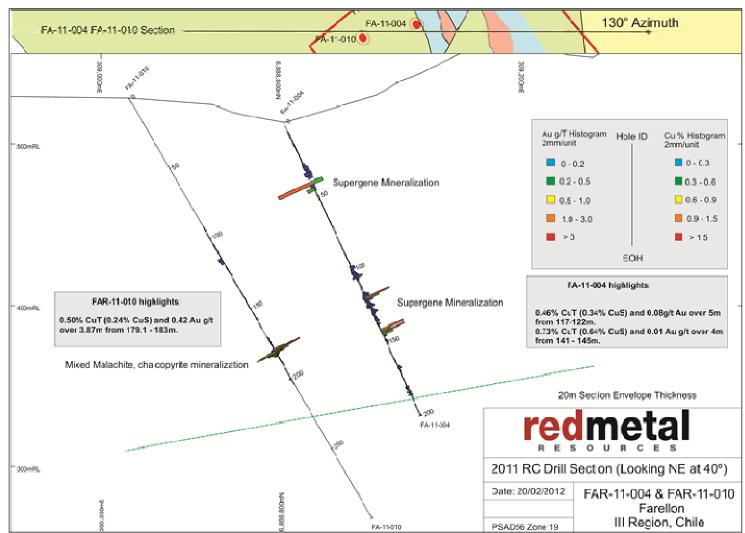


Figure 10.5 Cross-Section through Drill Hole FA-11-004 and FA-11-010

Figure provided by Red Metal Resources Ltd.

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FA-11-010, down dip of FA-11-004, has only one primary mineralized intersection, between 179 and 183 m, with CuT values averaging 0.50% and Au values of 0.39 g/t. The zone is dominated by malachite mineralization with lesser chalcopyrite and appears on the hanging wall of a hematized fault zone extending sporadically from 183 to 213 m. The mineralized intersection appears to correlate up dip with the second mineralized intersection of FA-11-004. A possible fault separates the second and third mineralized zones since the last mineralized zone of FA-11-004 occurs on the footwall of a fault and the mineralized intercept of FA-11-010 occurs on the hanging wall of what is likely the same faulted structure.

FA-11-004 ends in oxidized hematized conditions with abundant pyrite, whereas further down dip FA-11-010 appears to be in reducing conditions with sporadic pyrite.

These drill holes likely intersect one or more fault zones which may have leached mineralization away from the structures or possibly the mineralized vein systems are locally pinched in these areas.

# 10.2.5 Drill Hole FA-11-005

Drill hole FA-11-005 has a higher grade intersection from 124 to 133 m that averages 0.84% CuT and 0.26 g/t Au. The hole was lost in mineralization at a depth of 143 m. The intersection is consistent with the down dip extension of the planar northwest dipping mineralized shear zone encountered in FAR-96-009, -014, -020, -021 and in FAR-09-B, -D, and -E.

Mineralization is dominated by hypogene chalcopyrite with minor soluble Cu oxides, mainly malachite.

Figure 10.6 is a cross-section through drill hole FA-11-005.

### 10.2.6 Drill Holes FA-11-006, FA-11-007 and FA-11-011

FA-11-006, FA-11-007 and FA-11-011 test the down dip extension of the known mineralization intersected further up dip by drill holes FAR-96-011, FAR-96-015 and FAR-96-016. Each mineralized intersection occurs in hematized oxidized conditions with predominantly malachite supergene mineralization. Figure 10.7 is a cross-section through drill holes FA-11-006, FA-11-007 and FA-11-011.

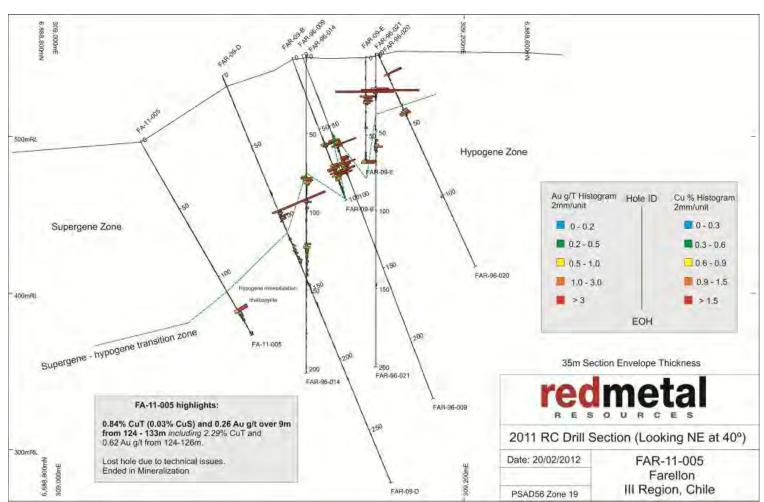


Figure 10.6 Cross-Section through Drill Hole FA-11-005

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Figure provided by Red Metal Resources Ltd.

Figure 10.7 Cross-Section through Drill Holes FA-11-006, FA-11-007 and FA-11-011

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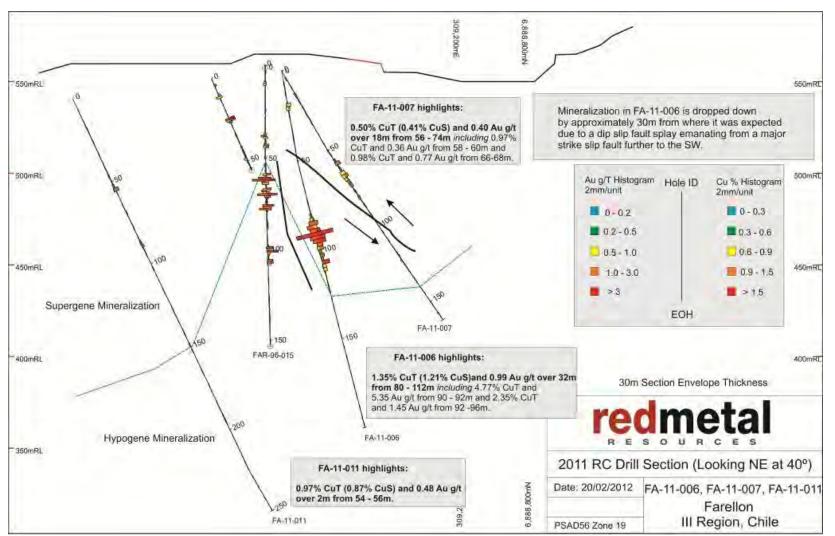


Figure provided by Red Metal Resources Ltd.



FA-11-007 encountered a higher grade intersection from 56 to 74 m with 0.50% CuT and 0.40 g/t Au. The zone is dominated by hematized oxide conditions and supergene mineralization. A minor mineralized zone occurs from 111 to 118 m with CuT averaging 0.15% and Au approximately 0.35 g/t.

FA-11-006 tested the mineralization down dip from drill hole FA-11-007 and has two intersections; the first from 18 to 22 m grading 0.6% CuT and 0.47 g/t Au and the second from 80 to 112 m grading 1.35% CuT and 0.99 g/t Au. As with FA-11-007, these mineralized zones are dominated by supergene malachite mineralization in hematized oxide conditions.

FA-11-011 tests the down dip extent of the mineralized zones identified in FA-11-006 and intersected two small mineralized zones. The first zone was from 54 to 56 m with grades of 0.97% CuT and 0.48 g/t Au and the second zone was from 88 to 90 m grading 0.45% CuT 0.18 g/t Au. The mineralization is dominated by supergene malachite within hematized oxide conditions. These mineralized intercepts likely correlate to the mineralized zones seen in FA-11-007, and -006 located further up dip from FA-11-011.

However, there is no deeper mineralized intercept in FA-11-011, as seen in FA-11-006 and -007 further up dip, even though FA-11-011 exhibits the same hematized oxide conditions to the end of the hole at 250 m. Whether this is due to a localized pinch out or a closing out of the mineralized system at depth in this area is unknown.

# 10.2.7 Drill Hole FA-11-008

Drill hole FA-11-008 was completed to test the down dip mineralization located in holes FAR-96-010, -017 and FAR-09-C all of which intersected mineralized zones at approximately 50 m and again at depths of 80 to 120 m.

Hole FA-11-008 lacked any mineralized intersection around 50 m but does exhibit elevated mineralization occurring at 98 to 102 m with grades of 0.85% CuT and 0.26 g/t Au. This zone is dominated by hypogene chalcopyrite mineralization with carbonate alteration, while still showing traces of hematite/limonite oxidation.

A small mineralized zone also occurs between 132 and 140 m which exhibits supergene/hypogene conditions.

It appears that there is a down dip extension from FAR-09-C to FA-11-008 but that it is declining in grade and thickness with depth, with the more shallow depths possibly enriched by supergene mineralization. FA-11-008 shows mostly hypogene mineralization.

Figure 10.8 is a cross-section through drill holes FA-11-008.



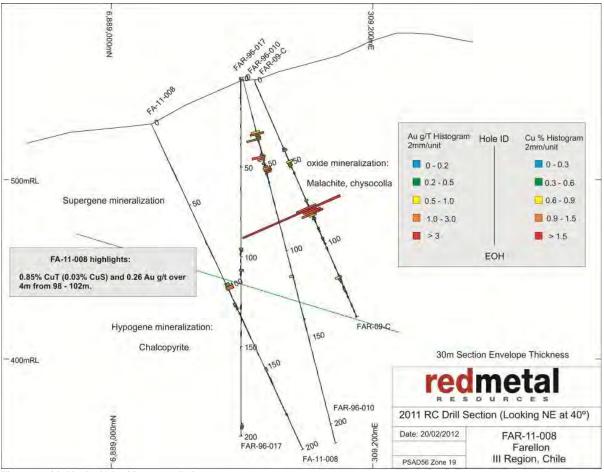


Figure 10.8 Cross-Section through Drill Hole FA-11-008

Figure provided by Red Metal Resources Ltd.

### 10.2.8 Overall 2011 Drilling Program Results

The significant assays for Red Metal's 2011 exploration drilling program have been summarized in Table 10.3. At this time the significant assays are reported as core lengths as the true width of the mineralized zone has not been established.



Drill Hole Number		Assay I	nterval (n	Assay Grade		
Drill Hole Nulliber		From	То	Core Length	Gold (ppm)	Copper (%)
		36	49	13	0.35	2.51
FA-11-001	including	36	44	8.0	0.53	3.95
		78	85	7.0	0.04	0.43
FA-11-002		Zor	ne faulted	off, no significa	nt intercepts	
FA-11-003		150	155	5	0.28	0.40
FA-11-005		177	182	5	0.15	0.44
FA-11-004		141	145	4	0.01	0.73
FA-11-005		124	133	9	0.26	0.84
Hole lost in mineralization						
FA-11-006		80	112	32	0.99	1.35
FA-11-007		56	74	18	0.40	0.50
FA-11-008		98	102	4	0.26	0.85
FA-11-009		202	211.55	9.55	0.42	0.95
FA-11-010		179.13	183	3.87	0.39	0.50
FA-11-011		54	56	2	0.48	0.97

 Table 10.3

 Summary of the Significant Assays for the 2011 Exploration Drilling Program on the Farellón Project

Table provided by Red Metal Resources Ltd.

Drilling returned promising results across the Farellón Project, with copper results as high as 8.86%, with 0.80 g/t gold over 1 m (FA-11-001), and high gold results of 5.35 g/t with associated 4.77% copper (FA-11-006). There is evidence of pinching and swelling in the mineralized vein structures and significant intercepts ranged between 2 and 32 m wide. Ten of the eleven drill holes had significant intercepts as listed in Table 10.3. Drill hole FA-11-002 did not intersect the interpreted mineralized zone. Although the zone is interpreted to be displaced due to faulting, that interpretation is unclear at present.

All significant intercepts from the 2011 drill holes, from a depth of 0 to 150 m, are dominated by supergene mineralization, with lesser amounts of sulphides. Sulphides become more common in the deeper transition supergene-hypogene zones nearing 150 m below surface.

The transition to hypogene conditions tends to occur at approximately 150 m below surface but can be highly variable depending on faulting, groundwater flow pathways and variable elevation.

At depths below 150 m, hypogene conditions dominate with sulphide mineralization, as seen with the mineralized intercepts in FA-11-003 at 177 to 182 m, FA-11-009 at 202 to 211.55 m, and FA-11-010 at 179.13 to 183 m.

Supergene mineralization is dominated by malachite, chrysocolla and copper-gold tied up in goethite and limonite iron oxides. Alteration haloes occur in association with supergene mineralization, including abundant carbonate precipitation that is easily liberated when hydrochloric acid (HCl) is applied to rock chips. Associated alteration also includes limonite, hematite, goethite and manganese oxide. There also may be background alteration



including chlorite, epidote, actinolite, biotite and sericite but these alteration minerals are not synchronous with the appearance of supergene mineralization.

Hypogene mineralization is dominated by chalcopyrite and gold is tied up in the sulphide structure. Chalcopyrite occurs as amorphous blebs and lesser disseminations hosted in massive, sometimes vuggy quartz and calcite. This can be seen by examining the core from drill hole FA-11-009 from the mineralized intersection located from 202 to 211.55 m (Figure 10.9).



Figure 10.9 A View of the Mineralized Intersection in the Core from Drill Hole FA-11-009

Figure provided by Red Metal Resources Ltd.

The significant intersections of mineralization can broadly be described as occurring along the regional lithological boundary shear zone between the overlying Paleozoic metasediments to the west and underlying Jurassic intrusives to the east. However, most of the 2011 drill holes did not pass through the lithological boundaries even after drilling through the mineralized structures. Therefore, it may be said that this mineralization does occur in close proximity to the lithogical boundaries, but that the mineralized structures do not exactly follow the contact and can also occur as splays and faults emanating off the major structural boundary.

Table 10.4 summarizes the lithology encountered with each drill hole during the 2011 Farellón drilling program.



	Depth (m)						
Drill Hole Number	From	То	Rock Type	Rock Type at End of Drill Hole			
	0	6.0	Overburden				
FA-11-001	6.0	48.0	Metasediments				
	48.0	49.0	Quartz Vein				
	49.0	94.0	Metasediments				
	94.0	101.0	Andesite	Andesite			
FA-11-002	0	6.0	Overburden				
171-11-002	6.0	228.0	Metasediments	Metasediments			
	0	6.0	Overburden				
	6.0	149.0	Metasediments				
	149.0	158.0	Calcite Vein				
FA-11-003	158.0	176.0	Metasediments				
171-11-005	176.0	179.0	Calcite Vein				
	179.0	184.0	Metasediments				
	184.0	187.0	Calcite Vein				
	187.0	200.0	Metasediments	Metasediments			
	0	6.0	Overburden				
FA-11-004	6.0	156.0	Metasediments				
171-11-004	156.0	164.0	Andesite				
	164.0	200.0	Metasediments	Metasediments			
	0	6.0	Overburden				
FA-11-005	6.0	126.0	Metasediments				
TA-11-005	126.0	129.0	Calcite Vein				
	129.0	143.0	Metasediments	Metasediments			
	0	6.0	Overburden				
	6.0	8.0	Andesite				
FA-11-006	8.0	34.0	Metasediments				
FA-11-000	34.0	36.0	Fault zone				
	36.0	195.0	Metasediments				
	195.0	200.0	Andesite	Andesite			
	0	4.0	Overburden				
	4.0	96.0	Metasediments				
FA-11-007	96.0	100.0	Fault zone				
ГА-11-007	100.0	113.0	Metasediments				
	113.0	114.0	Fault zone				
	114.0	162.0	Metasediments	Metasediments			
EA 11.009	0	4.0	Overburden				
FA-11-008	4.0	200.0	Metasediments				
EA 11.000	0	4.0	Overburden				
FA-11-009	4.0	247.55	Metasediments	Metasediments			
	0	4.0	Overburden				
FA-11-010	4.0	179.13	Metasediments				
	179.13	186.0	Fault zone				
	186.0	203.35	Metasediments				
	203.35	300.15	Diorite	Diorite			
	0	6.0	Overburden				
	6.0	152.0	Metasediments				
<b>EA 11 011</b>	152.0	158.0	Diorite				
FA-11-011	158.0	180.0	Metasediments				
	180.0	188.0	Diorite				
	188.0	252.0	Metasediments	Metasediments			
able provided by Red Metal Resources Ltd.							

Table 10.4Summary of the 2011 Drill Hole Lithology

Table provided by Red Metal Resources Ltd.



The 2011 drilling program completed the initial phase of drilling with the ultimate goal of bringing the deposit up to prefeasibility study in the relatively near term. The 2011 drill results confirmed that mineralization is still present down dip of the intersections identified during the previous drilling campaign and remains open at depth.

The infill drilling confirmed that the mineralization has potentially economic grades and begins the process of outlining a consistent 75 m spacing between drill holes.

The 2011 drill results also indicate that the potentially economic grades for the copper and gold mineralization are still open along strike to the northeast and southwest, as demonstrated by hole FA-11-001 which was drilled towards the northwest.

All drill holes during the 2011 program intersected oxide facies mineralization with the only significant intercepts containing sulphides found in FA-11-003 and FA-11-009.

# **10.3 MICON COMMENTS**

Micon has reviewed Red Metal's drilling program on the Farellón Project and believes that the program was conducted using the best practice guidelines outlined by the CIM. The exploration program was conducted such that the results can be used as the basis upon which to conduct further exploration programs or other studies which will identify the full extent and tenor of the mineralization located upon the Farellón Property.



# 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

A description of the historical sample preparation, analysis and security conducted on the property, if known, is provided in Section 6.0. The sample preparation, analysis and security conducted previously by Red Metal during its 2009 drilling campaign is described in the previous January, 2010 Micon Technical Report for the Farellón Project. Therefore, this Section will discuss only the sample preparation and analysis conducted by Red Metal since the previous report was issued.

### 11.1 2011 SAMPLE PREPARATION, ANALYSIS AND SECURITY PROGRAM

Red Metal has conducted its initial exploration programs on the Farellón Project. As part of the Phase I exploration program, Red Metal conducted an 11 hole combined RC/diamond drilling campaign during July and August, 2011. In conjunction with the drilling, Red Metal instituted a QA/QC program to address the security of the samples and the integrity of the results from the program.

Two metre sampling intervals of the RC drill holes started at the collar of the hole and proceeded from the surface down to approximately 20 m above where mineralization was expected to commence (based on modelling projections). At this point, the 2 m sample intervals were reduced to 1 m. By reducing the sampling interval in the mineralized zones, better constraints were placed on isolating mineralized intervals and improving mineralization control at depth. This system of 2 m to 1 m sampling intervals was repeated for all holes. FA-11-009 and FA-11-010 began with RC drilling but switched to diamond drilling at 200 m and 164 m, respectively.

The RC cuttings for each one or two metre sample were obtained from the cyclone and then passed through a splitter. Two samples were obtained for each sample interval in the drilling program; a larger sample (approximately 15 kg) to be used as a backup sample and a smaller sample (from 2 to 5 kg) which was sent to the assay laboratory for analysis. Both plastic sample bags were clearly marked with the drill hole identification number and the depths of the sample. Geoanalitica Ltda. (Geoanalitica) sample tickets were added later and recorded in both the log and the stubs of the ticket book for precise sample number correlation control. Washed drill chips or cuttings were also obtained from each sample interval of either one or two metres and these were placed in cutting tray boxes to record the geology of each interval. The maintenance of cuttings in a tray box is similar to keeping half the core for each sample interval in a core drilling program.

Each sample destined for the assay laboratory had a paper ticket placed in the sample bags and the number written twice on each bag with a permanent ink marker. Drawstrings were used to secure each cloth sample bag. Each sample was placed with 5 to 7 other individual samples in poly-woven sacks which were then zapstrapped with the Geoanalitica address and sample series written in permanent maker on the bag.



The backup or representative samples for every one or two metres of drilling from the 2011 program have been saved in heavy duty sample bags and stored in Vallenar at Red Metal's field house which is owned by Red Metal's operation manager, Kevin Mitchell. The sample bags have been stored under heavy duty dark tarpaulins to protect the sample bags from deterioration under the strong sunlight. All samples have been clearly marked with drill hole and metreage information; as well an extra sample ticket was stapled to the sample bag.

The chip trays and backup samples, as well as the assay samples prior to shipment, are stored under lock and key in a shed at Red Metal's field house. The shed is secure and the key is held by the property caretaker.

The assay samples contained in the sealed poly-woven sacks are trucked by Red Metal to Vallenar and then shipped via Pullman Cargo to the Geoanalitica laboratory in Coquimbo. Once in Coquimbo the samples are prepared and assayed.

Geoanalitica is an independent ISO 9001: 2008 certified analytical laboratory that provides analytical services to the mining industry, like many others in South America. Red Metal has no relationship with Geoanalitica other than a client based relationship for the purposes of assaying its mineral samples.

Red Metal's QA/QC protocol consists of the addition of standards, blanks and field duplicates to the sample stream. These are inserted into the sample series using the same number sequence as the samples themselves. One of the QA/QC check samples is inserted every 25 samples and it alternates between standards, blanks and laboratory duplicates so that, within each batch of 100 samples, one sample blank, one field duplicate and two standards are included. Table 11.1 summarizes the type and frequency of the QA/QC samples inserted at the various preparation stages.

Stage	Туре	Frequency	Description	Inserted By
After Splitting	Standard	1 per 50 Samples	One of 3 Standards	Red Metal
After Splitting	Blank	1 per 100 Samples	Rock Blank	Red Metal
After Splitting	Field Duplicate	1 per 100 Samples	Second 50 g Split	Red Metal

 Table 11.1

 Summary of the Type and Frequency of the QA/QC Samples on the Farellón Project

Table provided by Red Metal Resources Ltd.

# 11.2 RED METAL QA/QC PROTOCOL

### **11.2.1** Standard Reference Samples

Red Metal is currently using 3 standards which it purchased for the drilling program. The 3 standards are comprised of 1 high grade copper standard and 2 copper-gold multi-element standards. The 3 standards were purchased from Analytical Solutions Ltd. based in Toronto, Canada. Table 11.2 summarizes the assay standards used for Red Metal's 2011 drilling program on the Farellón Project as well as the number of each standard sent for analysis.



Type of Reference	Number of	Label	Element	Recommended	95% Confidence Level	
Material	Standards Shipped	Laber	Liement	Value	Low	High
High copper standard	11	OREAS 163	Copper	1.71%	1.62%	1.79%
Copper-gold multi-	13	OREAS 151a	Copper	0.166%	0.162%	0.169%
element standard	15		Gold	0.043 ppm	0.042 ppm	0.044 ppm
Copper-gold multi-	11	OREAS 152a	Copper	0.385%	0.379%	0.391%
element standard	11		Gold	0.116 ppm	0.114 ppm	0.118 ppm
Total	35					

 Table 11.2

 Summary of the Standard Reference Material

Table provided by Red Metal Resources Ltd.

#### **11.2.2** Blank Samples

Blank samples were prepared in-house by Red Metal using clean barren quartz. The blank samples were inserted into the sample stream on a ratio of one for every 100 samples.

### **11.2.3** Field Duplicate Samples

Field duplicates were obtained by sampling the same interval as the immediate previous sample and treating them as ordinary samples, except that they were recorded as duplicates. The field duplicate samples were inserted on a ratio of one duplicate for every 100 samples.

### 11.3 QA/QC RESULTS FROM RED METAL'S 2011 DRILLING PROGRAM

### **11.3.1** Results for the Standard Reference Samples

A total of 35 standard reference samples were submitted to Geoanalitica in Coquimbo for analysis during the 2011 drilling program. Table 11.3 summarizes the assay results for the 35 standard reference samples submitted. Figures 11.1 through 11.5 graphically show the laboratory assays reported for the three standards. The number of standards submitted is statistically too small to support definitive conclusions. However, the results do appear to indicate that the assays obtained for both copper and gold at Geoanalytica are reliable and that in general no assay errors were encountered.



Table 11.3
Summary of the Assay Results for the Standard Reference Samples Submitted to Geoanalitica

Standard Reference	Drill Hole	Sample	Assay	Assay Results		
Sample ID	Number	Number	Copper (%)	Gold (ppm)		
	FA-11-001	202275	0.16	0.05		
	FA-11-002	202725	0.17	0.05		
	FA-11-003	201500	0.16	0.05		
	FA-11-004	201825	0.16	0.05		
	FA-11-006	202575	0.16	0.06		
	FA-11-007	261325	0.18	0.07		
OREAS 151a	FA-11-008	202075	0.17	0.04		
	FA-11-009	201625	0.16	0.05		
	FA-11-009	201750	0.17	0.05		
	FA-11-010	202525	0.16	0.06		
	FA-11-010	202675	0.16	0.05		
	FA-11-010	202400	0.17	0.06		
	FA-11-011	6525	0.17	0.05		
	FA-11-002	201375	0.40	0.11		
	FA-11-003	201475	0.40	0.13		
	FA-11-004	201875	0.40	0.09		
	FA-11-005	202475	0.39	0.12		
	FA-11-007	261375	0.40	0.13		
OREAS 152a	FA-11-008	202125	0.40	0.13		
	FA-11-009	202975	0.40	0.12		
	FA-11-010	200875	0.39	0.14		
	FA-11-010	261550	0.40	0.13		
	FA-11-010	202375	0.40	0.12		
	FA-11-011	202775	0.39	0.13		
	FA-11-001	202325	1.63	0.08		
	FA-11-002	201425	1.68	0.06		
	FA-11-003	201550	1.69	0.08		
	FA-11-004	201925	1.62	0.09		
	FA-11-005	202450	1.62	0.07		
OREAS 163	FA-11-006	202625	1.68	0.07		
	FA-11-009	201725	1.65	0.06		
	FA-11-010	261525	1.70	0.06		
	FA-11-010	261425	1.67	0.08		
	FA-11-010	201975	1.66	0.07		
	FA-11-011	6575	1.68	0.08		

Table provided by Red Metal Resources Ltd.



Figure 11.1 Graph of the Copper Assay Results for Standard Reference Sample OREAS 151a

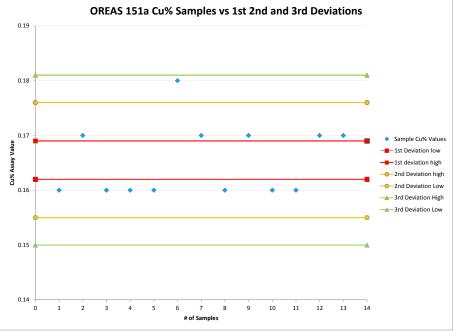


Figure provided by Red Metal Resources Ltd.

Figure 11.2 Graph of the Gold Assay Results for Standard Reference Sample OREAS 151a

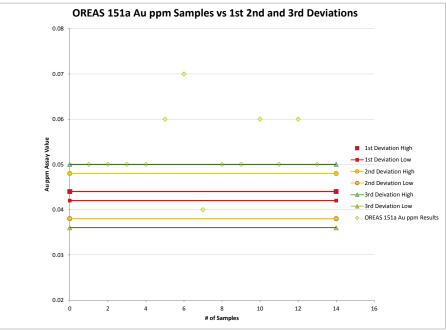


Figure provided by Red Metal Resources Ltd.



Figure 11.3 Graph of the Copper Assay Results for Standard Reference Sample OREAS 152a

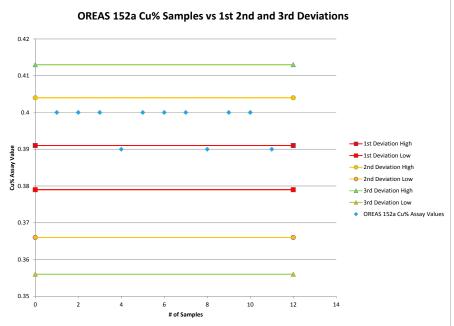


Figure provided by Red Metal Resources Ltd.

Figure 11.4 Graph of the Gold Assay Results for Standard Reference Sample OREAS 152a

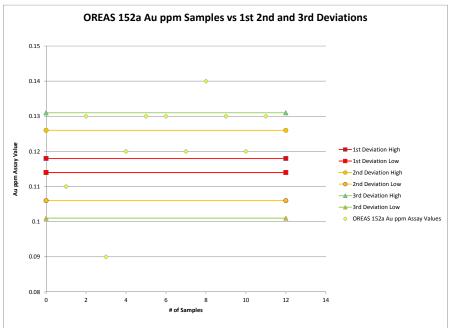
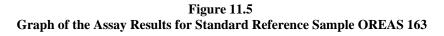
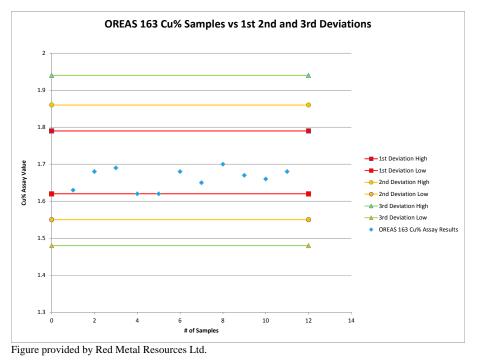


Figure provided by Red Metal Resources Ltd.







#### **11.3.2** Results for the Blank Samples

A total of 14 blank samples were submitted to Geoanalitica for analysis during the 2011 drilling program. Table 11.4 summarizes the assay results for these samples and Figure 11.6 graphs the assay results. While 14 samples is statistically a small number upon which to base any definitive conclusions, all of the samples returned assays below or at the detection limit. Therefore, is appears that the sample preparation at Geoanalitica is well conducted and that no contamination or other potential errors were introduced during the sample preparation phase of the assaying process.

Drill Hole Number	Sample Number	Assay Results		
Drill Hole Nulliber	Sample Number	Copper (%)	Gold (ppm)	
FA-11-002	201400	< 0.01	< 0.01	
FA-11-003	201525	< 0.01	< 0.01	
FA-11-004	201850	< 0.01	< 0.01	
FA-11-004	201950	< 0.01	< 0.01	
FA-11-005	202425	< 0.01	< 0.01	
FA-11-006	202600	< 0.01	< 0.01	
FA-11-007	261350	< 0.01	< 0.01	
FA-11-008	202100	< 0.01	< 0.01	
FA-11-009	201650	< 0.01	< 0.01	
FA-11-009	200075	< 0.01	< 0.01	

 Table 11.4

 Summary of the 2011 Assay Results for the Blank Samples



Drill Hole Number	Somple Number	Assay Results		
Drill Hole Nulliber	Sample Number	Copper (%)	Gold (ppm)	
FA-11-010	202550	< 0.01	< 0.01	
FA-11-010	202700	< 0.01	< 0.01	
FA-11-010	201600	< 0.01	< 0.01	
FA-11-011	6550	< 0.01	< 0.01	
FA-11-011	202800	< 0.01	< 0.01	

Table provided by Red Metal Resources Ltd.

Figure 11.6
Graph of the 2011 Assay Results for the Blank Samples

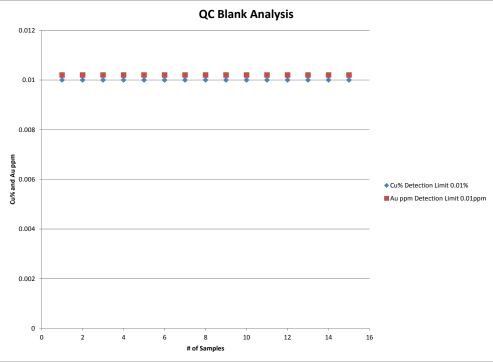


Figure provided by Red Metal Resources Ltd.

#### **11.3.3 Results for the Field Duplicate Samples**

A total of 11 field duplicate samples were submitted to Geoanalitica for analysis during the 2011 drilling program. Table 11.5 summarizes the assay results for these samples and Figure 11.7 graphically depicts the assay results. The 11 samples are statistically too small a number upon which to base any definitive conclusions regarding the repeatability of the sample results at the assay laboratory.

Drill Hole	Somulo	Original As	say Results	Duplicate A	ssay Results	Me	ean	Absolute I	Difference
Number	Sample Number	Copper (%)	Gold (ppm)	Copper (%)	Gold (ppm)	Copper (%)	Gold (ppm)	Copper (%)	Gold (ppm)
FA-11-001	202350	0.07	< 0.01	0.11	< 0.01	0.09	< 0.01	0.04	0
FA-11-002	202703	0.03	0.02	0.01	0.04	0.02	0.03	0.02	0.02
FA-11-003	201575	0.14	0.16	0.13	0.16	0.135	0.16	0.01	0
FA-11-004	201900	0.07	0.01	0.10	0.01	0.085	0.01	0.03	0
FA-11-006	202650	< 0.01	< 0.01	0.02	0.01	0.01	0.01	0.02	0.01
FA-11-007	261400	0.02	0.02	0.02	0.01	0.02	0.015	0	0.01
FA-11-008	202150	0.02	0.01	0.02	< 0.01	0.02	0.01	0	0.01
FA-11-009	203000	< 0.01	0.02	< 0.01	0.02	< 0.01	0.02	0	0
FA-11-010	200900	0.85	0.33	1.71	0.38	1.28	0.355	0.86	0.05
FA-11-010	261450	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0	0
FA-11-011	6600	0.03	0.02	0.03	0.02	0.03	0.02	0	0

 Table 11.5

 Summary of the Assay Results for the 2011 Field Duplicate Samples

Table provided by Red Metal Resources Ltd.



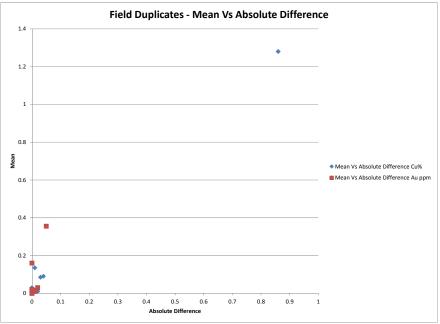


Figure 11.7 Graph of the Assay Results for the 2011 Field Duplicate Samples

#### 11.4 MICON COMMENTS REGARDING RED METAL'S 2011 QA/QC RESULTS

Micon has reviewed Red Metal's 2011 QA/QC protocols and generally agrees with them. However, as the exploration programs continue at the Farellón Project, refinements to the program should be undertaken to ensure that Red Metal continues to follow the August, 2000 CIM Exploration Best Practice Guidelines.

Micon believes that the results obtained by Red Metal provide an adequate basis upon which to build a database which can be used in future exploration programs as the Project advances.

Micon also recommends that Red Metal institutes an addition to its QA/QC protocols by designating a secondary assay laboratory to re-assay of between 5% and 10% of the samples assayed by Geoanalitica. This additional sampling procedure would act as a secondary check on the results produced by Geoanalitica.

Figure provided by Red Metal Resources Ltd.



# **12.0 DATA VERIFICATION**

# 12.1 INITIAL 2009 SITE VISIT

Micon conducted its first site visit to the Farellón Project between October 3 and 7, 2009. During this visit, a review of the initial exploration program and QA/QC procedures was conducted.

During the first visit, three grab samples from the reverse circulation drilling were taken to independently verify the mineralization encountered during the 2009 drilling program. Micon's grab samples were obtained from the larger backup sample (approximately 15 kg) retained by Red Metal. Micon's samples were carried back to Canada by Mr. Lewis.

Micon arranged for its grab samples to be analyzed for total copper, gold, silver and cobalt. All assaying was conducted by TSL Laboratories Inc. (TSL) of Saskatoon, Saskatchewan. TSL's quality system conforms to requirements of ISO/IEC Standard 17025 Guidelines. Red Metal has no relationship with TSL and Micon's relationship is a client based relationship for the purposes of assaying the mineral samples which were derived from the 2009 drilling program. TSL is an independent laboratory which provides analytical services to the mining industry, like many other laboratories in North America.

Micon noted that, while its assay results were generally lower than those obtained by Red Metal for the same drill interval, they support the general tenor of Red Metal's assay results.

A complete discussion of these results and of the initial site visit is contained in Micon's 2010 Technical Report entitled "NI 43-101 Technical Report on the Farellón Project, Region III, Chile", dated January 15, 2010.

#### 12.2 2012 SITE VISIT

A second site visit to the Farellón Project was conducted between March 13 and 16, 2012 in conjunction with this report and to review the 2011 exploration program results obtained by Red Metal.

During the second site visit, the drill locations were inspected and discussions related to the QA/QC program and results, further exploration and geology were undertaken. Figures 12.1 through 12.4 are photographs of a number of drill collars and platforms inspected during the site visit. Figures 12.5 through 12.7 show the core storage and logging area in Vallenar.

No new samples were taken of the mineralization at the Farellón Project, since the 2011 drill holes were infill and stepout holes located along the trend of the mineralization discussed in the previous 2010 Micon Technical Report, and the author of the current report was also the author of the previous Micon report.



Figure 12.1 Collars for Holes FA-11-006 and FA-11-007



Figure 12.2 Collars for Holes FA-11-004 (Right) and FA-11-010 (Left)





#### Figure 12.3 Collar for Hole FA-11-002



Figure 12.4 Collar for Hole FA-11-011







Figure 12.5 Red Metal Core Logging Facilities in Vallenar

Figure 12.6 A View of the Core Racks at the Red Metal Core Logging Facility in Vallenar





Figure 12.7 A View of the Sample Storage at the Red Metal Core Logging Facility in Vallenar



# 12.3 MICON COMMENTS

Micon has conducted a review of Red Metal's exploration program and its ancillary components and has found that the program is generally well run and that the results can be relied upon as the basis for further work at the Farellón Project.



#### 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Red Metal is not reporting a mineral resource at the Farellón Project and has performed no metallurgical testwork on the known mineralization.

Red Metal's focus will be on exploration for new zones of mineralization, in addition to evaluation of the known zones on the Farellón Project. Economic and technical evaluation of treatment options will likely be required in the future.



#### 14.0 MINERAL RESOURCE ESTIMATES

As discussed in Section 6, some documentation exists for historical resource estimates on the Farellón Project which were conducted prior to February 1, 2001. However, as exploration progresses, further economic and technical evaluation of the resource potential for the Project will need to be performed in accordance with present industry practices and standards as set out in NI 43-101.

The historical estimates do not conform to the presently accepted CIM standards and definitions for resource estimates, as required by NI 43-101 regulations. Red Metal should not rely on the historical resource estimates as justification for a program of compilation work and further exploration. Further work is required to locate and evaluate the true extent and nature of the mineralization on the Farellón Property.



#### 15.0 TO 22.00 INAPPLICABLE SECTIONS

The following sections of an NI 43-101 Technical Report apply to advanced properties. However, the Farellón Project is not an advanced property and the following sections are not applicable to this report.

#### **15.0 MINERAL RESERVE ESTIMATES**

#### **16.0 MINING METHODS**

#### **17.0 RECOVERY METHODS**

# **18.0 PROJECT INFRASTRUCTURE**

#### **19.0 MARKET STUDIES AND CONTRACTS**

# 20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

#### 21.0 CAPITAL AND OPERATING COSTS

# 22.0 ECONOMIC ANALYSIS



#### 23.0 ADJACENT PROPERTIES

There are no immediately adjacent properties which directly affect the interpretation, evaluation of the mineralization or anomalies found on the Farellón Property. However, the regional geology is such that there are a number of regional mineralized trends which cross the Farellón Property which Micon considers to positively affect the prospectivity of the ground.

#### 23.1 CARRIZAL ALTO

Copper mining commenced at the Carrizal Alto mining district in the 1820's and continued on a significant scale, mostly by British companies, until 1891 when disastrous flooding occurred and the mines closed. Historical reports indicate that the larger mines obtained good grades over significant intervals in the bottom workings when the mines closed. During the 1800's, in excess of 3 million tonnes with grades in excess of 5% copper and widths of 8 m were extracted, including a large amount of direct shipping material containing 12% copper. A considerable body of tails and old dumps was present until recently, which lent support to these figures. Table 23.1 summarizes the yearly production between 1862 and 1870.

Year	Tons	Copper Grade (%)
1862	22,479	15.5
1863	24,900	15.5
1864	35,245	15.5
1865	24,032	15.0
1866	26,159	15.0
1867	24,547	13.4
1868	17,802	15.0
1869	20,300	13.5
1870	26,600	13.0
Total	222,064	

Table 23.1Summary of Carrizal Alto Production from 1862 to 1870

Table taken from the 1991 Report by Ulriksen.

Figure 23.1 is a view of the old headframe at Carrizal Alto. Figure 23.2 is a view of the old dam above the headframe at Carrizal Alto.

# 23.2 KAHUNA PROPERTY

The Kahuna Property is held by Vector Mining, a private company, which is not doing any exploration work there at this time. The Kahuna concession was recently held by Catalina Resources PLC (Catalina) which then dropped its option on the property, as which time the claims returned to Vector Mining.





Figure 23.1 A View of the Old Headframe at Carrizal Alto

Figure 23.2 A View of the Old Dam above the Headframe at Carrizal Alto





Before dropping its option, Catalina was active with exploration on the Kahuna property within the last few years. Catalina is a private UK-registered mineral exploration company. Many potentially mineralized vein structures outcrop in the area. The main objective of Catalina's work was to undertake a geophysical exploration program to determine whether the mineralized structures to the northeast, exploited in the Carrizal Alto mine, extended into the Kahuna area, determine whether any such structures were associated with possible sulphide mineralization and define drill targets for a subsequent phase of work.

The survey area was traversed in detail and a geological map prepared showing all the different lithologies and previous mine workings. Two target areas were defined; one within the diorite intrusive hosting the high-grade mineralization at the old Carrizal Alto mine, the other in the surrounding metamorphic sediments.

Two ground geophysical surveys (induced polarization (IP) and magnetometry) completed during May, 2007, confirmed the continuity of the mineral-bearing structures between Carrizal Alto and the Kahuna area and defined sites for follow-up drilling.

The ground magnetic survey was completed on a grid measuring 1.2 km by 3.2 km. A total of 70 km were surveyed on lines spaced 50 m apart. In the IP survey, a total of 27 km of data were acquired with a gradient array. Three one km lines were surveyed in a more detailed follow-up with a multi-array consisting of both pole-dipole and multi-bipole gradient arrays.

The principal orientation of the shear zones was confirmed to be to the northeast towards Carrizal Alto where similar structures were exploited previously for copper and cobalt. However, there are also several trends to the northwest thought to be fault zones that offset the mineralized shear zones slightly. A north-south trend is probably due to dykes.

A strong IP anomaly was located in the western portion of the survey area. This anomaly also correlates with a shallow strongly conductive zone known to be associated with mineralization developed on the margin of the intrusive and exposed in shallow workings. This anomaly warrants further attention.

Figure 23.3 shows the location of the Farellón Project in relation to adjacent properties.

Mr. Lewis has been unable to verify the information contained in this section and the information is not necessarily indicative of the mineralization on the Farellón property.

₿ ŝ 6,892,500 mM **Carrizal Alto Historic Mine** -Cecil 1-49 Burg Claim Legend Fanellon 1-8 Application For Exploitation Concession 6.890.000 mM Kalenna P Exploitation Concession Carrizal Alto Mime Boundiary Vector Mining Kahuna Property Lianos de Challe National Park Cercil 1-40 Lianos De Challe National Park Boundary redmeta 2,000 Farelon Property Claims and Adjacent Properties 1,000 6,887,500 mM Farellon 3 19/02/2012 meters Farellon Property, III Region, Chile PSA056 Zone 185

Figure 23.3 Location of the Farellón Project in Relation to Adjacent Properties

RNATIONAL

industry consultants

Figure provided by Red Metal Resources Ltd.



# 24.0 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding Red Metal's Farellón Project are included in other sections of this report.



# 25.0 INTERPRETATION AND CONCLUSIONS

Red Metal first acquired the rights to the Farellón Property in April, 2008 upon its Chilean subsidiary exercising the option to buy the property from Minera Farellón. Red Metal has completed the first two phases of an exploration program which will ultimately determine the full potential of the property.

Red Metal conducted its initial exploration and drilling program in 2009. The program consisted of a short geological mapping campaign to better define future exploration targets and a 5 hole RC drilling program to twin a number of holes from the 1996/97 program in order to verify the data acquired by the earlier drilling.

Red Metal's 2009 drilling program to twin previous drill holes confirmed the general location and tenor of the mineralization located during the 1996/97 drilling program.

The 2011 drilling program was conducted to both infill and begin to identify the extent of the mineralization on the Farellón Project. The objective of the program was to outline a 700 m strike length of mineralization down to a 200 m vertical depth with an approximate 75 m intercept spacing, and to infill gaps along a further 300 m to increase intercepts to 150 m spacing. By infilling the area with drilling at 75 m pierce points, the aim was to increase confidence in the continuity and increase knowledge of the nature and structural controls on mineralization to aid further exploration planning. Red Metal was successful with the 2011 drilling program in confirming and extending the mineralization both in the down dip direction and along strike.

Micon reviewed the samples and sampling procedures undertaken by Red Metal at the Farellón Property during the 2011 program. Micon believes that the samples are representative of the geology encountered in the drilling program and that the samples were taken in such a manner as to minimize any sampling bias.

Micon has reviewed with Red Metal's 2011 QA/QC protocols and generally agrees with them. However, Micon recommends that Red Metal also engage a secondary laboratory in order to conduct a check analysis on between 5% and 10% of the original assays. In general, Micon believes that Red Metal is following the August, 2000 CIM Exploration Best Practice Guidelines.

Through the Farellón Property, Red Metal has acquired a portion of a major historical mining district in Chile that has not been subjected fully to modern exploration concepts and technology. The property holds the potential for the discovery of mineralized deposits of similar character and grade as those exploited in the district in the past.

The Farellón Project should be considered a mid-stage exploration project upon which Red Metal has initiated preliminary exploration and drilling in order to gain a further understanding of the nature and extent of the mineralization located. However, further work will be required to fully identify the mineralization located on the property.



#### 26.0 **RECOMMENDATIONS**

Red Metal, in its acquisition of the rights to the Farellón Property, has obtained a number of mineral concessions in a historical mining district in Chile which was a prolific past producer. Production in the area was suspended due to economic conditions rather than exhaustion of the deposits. Additionally, the mining district has for the most part not been subjected to modern exploration techniques. Red Metal has successfully completed its second exploration program on the property and has added this information to its database.

#### 26.1 FURTHER EXPLORATION AND STUDIES

Based on the positive results from Red Metal's second exploration drilling program on the Farellón Property, it plans to conduct further exploration. Red Metal's next program of exploration drilling will consist of potentially two phases. The first phase will consist of a 5,000 m program of primarily infill drilling to flesh out the structural issues that have been noted in the previous campaigns, as well as to test the primary mineralization at depth. If the first phase continues to return positive results, a second phase 15,000 m drilling program would be conducted in order to test the extent of the mineralization down to a 400 m depth and conduct an initial mineral resource estimate.

During the first phase, 5,000 m, program it is Red Metal's intent to drill between 15 and 20 diamond drill holes targeting the area between 150 to 300 m vertical depth of the mineralized veins. The holes will be spaced to allow for 50 to 100 m between intersections depending on the complexity of the structure in specific areas. All holes will be drilled as close to a  $-60^{\circ}$  dip as is reasonable, considering the topography. The location of the proposed holes will be dependent on topography and the ability to construct suitable drill pads for the machines. Therefore, the location of the drill holes will be determined just prior to or during the drilling program.

All holes will be drilled outside the National Park boundary, as was the case for the two previous drilling programs. Red Metal does not anticipate that there will be any issue with acquiring the necessary permits for exploration from the Chilean authorities since the first drilling phase of 5,000 m will take place in the same area as its two previous drilling campaigns and there were no objections or special conditions attached to the previous permits.

The budget for the two phases of exploration is summarized in Table 26.1.

Micon has reviewed Red Metal's proposal for further exploration on its Farellón Property and recommends that Red Metal conducts the exploration program as proposed, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities, as a result of exploration activities themselves.



Budget Item	Total (US\$)	Comments
Exploration (Phase 1) Target Delineation and	Selective Testin	ng
Diamond drilling	\$650,000	Diamond drilling @ \$130/metre
Consulting geologist	\$65,000	Consulting geologist @ \$650/day
Geotechnicians	\$6,750	Geotechnician @ \$150/day
Heavy equipment rental	\$30,000	Drill access road and pad building
Assays	\$37,500	Assaying @ \$25/sample
Room and board	\$25,000	\$100/day per geologist and technician
Travel	\$20,000	Flights and travel costs for geologists
Trucks and fuel	\$6,000	Approx. \$2,000 fuel, service etc. for two trucks
10% contingency for miscellaneous items	\$81,425	Field supplies etc.
Subtotal (Phase 1)	\$921,675	
Exploration (Phase 2) Exploration and Deline	ation of Discove	ery
Geophysical surveys	\$100,000	Magnetics and IP
Consulting geologist	\$2,275,000	Consulting geologist @ \$650/day
Geotechnicians	\$52,500	Geotechnician @ \$150/day
Heavy equipment rental	\$50,000	Building drill pads and access roads
Assays	\$125,000	Assaying @ \$25/sample
Diamond drilling	\$1,950,000	Diamond drilling @ \$130/metre
Room and board	\$350	\$100/day per geologist and technician
Travel	\$40,000	Flights and travel costs for geologists
Trucks and fuel	\$10,000	Approx. \$2,000 fuel, service etc. for two trucks
3D model and initial resource estimation	\$100,000	Consultants to build a 3D model required for future exploration and
SD moder and mittal resource estimation	\$100,000	resource estimation
10% contingency for miscellaneous items	\$470,285	Field supplies etc.
Subtotal (Phase 2)	\$5,173,135	
Total US\$ (Both Phases)	\$6,094,810	

<b>Table 26.1</b>
Farellón Project Exploration Budget

Table provided by Red Metal Resources Ltd.

# 26.2 FURTHER RECOMMENDATIONS

Through its acquisition of the Farellón Project, Red Metal has acquired a property with the potential to yield significant copper and gold mineralization. Micon agrees with the general direction of Red Metal's initial and proposed exploration programs for the Project and makes the following additional recommendations:

- 1) Micon recommends that Red Metal should add a screened metallic assay protocol to its QC/QC program as a secondary check if high grade assays of gold and copper are encountered during future exploration programs or if there is a significant difference between the primary and secondary assays for both field duplicates and check samples.
- 2) Micon recommends that Red Metal designate a secondary assay laboratory to reassay between 5% and 10% of the samples assayed by Geoanalitica. This additional sampling procedure would act as a secondary check on the results produced by Geoanalitica.
- 3) Micon recommends that Red Metal survey the old surface workings and, where safe to do so, the underground workings. Additionally, these workings should be sampled



where it is deemed safe. This will add a further dimension to the database and will be very useful if a resource estimate is conducted on the Farellón Project.

4) Micon recommends that Red Metal build a covered facility in which to store its samples in Vallenar in order to preserve them from the effects of weather.



# 27.0 DATE AND SIGNATURE PAGE

# MICON INTERNATIONAL LIMITED

"William J. Lewis" {Signed and sealed}

William J. Lewis, P.Geo. Senior Geologist

March 30, 2012 Revised: May 4, 2012



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# 29.0 CERTIFICATE OF AUTHOR



#### CERTIFICATE OF AUTHOR WILLIAM J. LEWIS

As the author of this report on the Farellón Property of Red Metal Resources Ltd., in Region III, Chile, I, William J. Lewis do hereby certify that:

- 1) I am employed as a Senior Geologist by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail <u>wlewis@micon-international.com</u>;
- 2) I hold the following academic qualifications:

B.Sc. (Geology) University of British Columbia 1985

- 3) I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
  - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333)
  - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450)
  - Association of Professional Geoscientists of Ontario (Membership #1522)
  - The Geological Association of Canada (Associate Member # A5975)
  - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758)
- 4) I have worked as a geologist in the minerals industry for 27 years;
- 5) I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines, 5 years as a surficial geologist and geologist on precious and base metals and industrial minerals and 7 years as a consulting geologist with Micon;
- 6) I conducted an initial site visit to the Farellón Property in Chile between October 3 and 7, 2009 and a second site visit between March 13 and 16, 2012.
- 7) As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading;
- 9) I am independent of the parties involved in the property for which this report is required, other than providing consulting services;
- 10) I have read the NI 43-101 Instrument and this Technical Report has been prepared in compliance with this Instrument.
- 11) I am responsible for all Sections (Items) in this Technical Report dated March 30, 2012, Revised May 4, 2012, and entitled "NI 43-101 Technical Report on the Farellón Project, Region III, Chile".

Dated this 30<sup>th</sup> day of March, 2012, Revised on 4<sup>th</sup> day of May, 2012

"William J. Lewis"

William J. Lewis, B.Sc., P.Geo. Senior Geologist,



# **APPENDIX 1**

# **GLOSSARY OF MINING TERMS**



# **GLOSSARY AND DEFINED TERMS**

The following is a glossary of certain mining terms that may be used in this Technical Report.

A

- Adit A horizontal passage from the surface into the mine providing access to a mineral deposit.
- Ag Silver. A metallic chemical element with the chemical symbol Ag (Latin: argentum, from the Indo-European root \*arg- for "grey" or "shining") and atomic number 47. A soft, white, lustrous transition metal, it has the highest electrical conductivity of any element and the highest thermal conductivity of any metal. The metal occurs naturally in its pure, free form (native silver), as an alloy with gold and other metals, and in minerals such as argentite and chlorargyrite. Most silver is produced as a by-product of copper, gold, lead, and zinc refining.
- Arsenopyrite A tin-white or silver-white to steel-gray orthorhombic mineral: FeAsS.
- Assay A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.
- Au Gold. A chemical element with the symbol Au (from Latin: aurum "gold") and an atomic number of 79. Gold is a dense, soft, shiny, malleable and ductile metal. Pure gold has a bright yellow colour and luster traditionally considered attractive, which it maintains without oxidizing in air or water. Chemically, gold is a transition metal and a group 11 element. It is one of the least reactive solid chemical elements. The metal therefore occurs often in free elemental (native) form, as nuggets or grains in rocks, in veins and in alluvial deposits. Less commonly, it occurs in minerals as gold compounds, usually with tellurium.

B

BackfillWaste material used to fill the void created by mining a mineral deposit<br/>(orebody).BackA term used to denote the roof or ceiling of a mining drift.Ball millA steel cylinder filled with steel balls into which crushed ore is fed. The<br/>ball mill is rotated, causing the balls to cascade and grind the ore.Base metalAny non-precious metal (e.g. copper, lead, zinc, nickel, etc.).BlastholeA drill hole in a mine that is filled with explosives in order to blast loose a<br/>quantity of rock.



- Bulk mining Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
- Bulk sample A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential mineral deposit (orebody) being sampled and used to determine metallurgical characteristics.
- Bullion Metal formed into bars or ingots.
- By-product A secondary metal or mineral product recovered in the milling process.

С

Cage	Mining term used for an elevator.
Calcine	Name given to concentrate that is ready for smelting (i.e. the sulphur has been driven off by oxidation).
Chalcopyrite	A sulphide mineral of copper and iron; the most important ore mineral of copper.
Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face, back or walls.
Chute	An opening, usually constructed of timber and equipped with a gate, through which ore is drawn from a stope into mine cars.
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
CIM Standards	The CIM definitions and standards for mineral resources and mineral reserves adopted by CIM Council from time to time. The most recent update adopted by the CIM Council is effective as of November 27, 2010.
Concentrate	A fine, powdery product of the milling process containing a high percentage of valuable metal.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.
Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.



Cu	Copper. A chemical element with the symbol Cu (from Latin: cuprum) and atomic number 29. It is a ductile metal with very high thermal and electrical conductivity. Pure copper is soft and malleable; an exposed surface has a reddish-orange tarnish. It is used as a conductor of heat and electricity, a building material, and a constituent of various metal alloys.
Custom smelter	A smelter which processes concentrates from independent mines. Concentrates may be purchased or the smelter may be contracted to do the processing for the independent company.
Cut-off grade	The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.
Cyanidation	A method of extracting exposed gold or silver grains from crushed or ground ore by dissolving it in a weak cyanide solution. May be carried out in tanks inside a mill or in heaps of ore out of doors.
Cyanide	A chemical species containing carbon and nitrogen used to dissolve gold and silver from ore.
D	
Dacite	The extrusive (volcanic) equivalent of quartz diorite.
Decline	A sloping underground opening for machine access from level to level or from surface; also called a ramp.
Development	Underground work carried out for the purpose of opening up a mineral deposit. Includes shaft sinking, cross-cutting, drifting and raising.
Development dri	lling
	Drilling to establish accurate estimates of mineral resources or reserves.
Dilution	Rock that is, by necessity, removed along with the ore in the mining process, subsequently lowering the grade of the ore.
Diorite	An intrusive igneous rock composed chiefly of sodic plagioclase, hornblende, biotite or pyroxene.
Dip	The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.

Drift A horizontal or nearly horizontal underground opening driven along a vein to gain access to the deposit.



# E

Epithermal	Hydrothermal mineral deposit formed within one kilometre of the earth's surface, in the temperature range of 50° to 200°C.
Epithermal dep	osit
	A mineral deposit consisting of veins and replacement bodies, usually in volcanic or sedimentary rocks, containing precious metals or, more rarely, base metals.
Exploration	Prospecting, sampling, mapping, diamond drilling and other work involved in searching for or defining a mineral deposit.
F	
Face	The end of a drift, cross-cut or stope in which work is taking place.
Fault	A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other.
Flotation	A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink.
Fold	Any bending or wrinkling of rock strata.
Footwall	The rock on the underside of a vein or mineralized (ore) structure.
Fracture	A break in the rock, the opening of which allows mineral-bearing solutions to enter. A "cross-fracture" is a minor break extending at more-or-less right angles to the direction of the principal fractures.
G	
Galena	Lead sulphide, the most common ore mineral of lead.
Crada	Tame wood to indicate the concentration of an economically desirable

Grade Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold or silver, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt or oz/t).

Gram	0.0321507 troy ounces.
g/t	Grams per metric tonne.
gpt	Grams per tonne.

# Η

Hangingwall The rock on the upper side of a vein or mineral (ore) deposit.



- High gradeRich mineralization (ore). As a verb, it refers to selective mining of the<br/>best mineralization (ore) in a deposit.Uset uselsThe real-sense dimensional (ore) deposit.
- Host rock The rock surrounding a mineral (ore) deposit.
- Hydrothermal Processes associated with heated or superheated water, especially mineralization or alteration.

# I

#### Indicated Mineral Resource

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

#### Inferred Mineral Resource

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

Intrusive A body of igneous rock formed by the consolidation of magma intruded into other

# K

km Kilometre(s). Equal to 0.62 miles.

# L

Leaching	The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.
Level	The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally about 50 m or more apart.
Limestone	A bedded, sedimentary deposit consisting chiefly of calcium carbonate.

#### Longhole Mining



One of the mining methods used to conduct bulk tonnage mining underground

#### Μ

m Metre(s). Equal to 3.28 feet.

Marble A metamorphic rock derived from the recrystallization of limestone under intense heat and pressure.

Measured Mineral Resource

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

- Metallurgy The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.
- Metamorphic Affected by physical, chemical, and structural processes imposed by depth in the earth's crust.
- Mill A plant in which ore is treated and metals are recovered or prepared for smelting; also a revolving drum used for the grinding of ores in preparation for treatment.
- Mine An excavation on or beneath the surface of the ground from which mineral matter of value is extracted.
- Mineral A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favorable conditions, a definite crystal form.

Mineral Claim or Concession

That portion of public mineral lands which a party has staked or marked out in accordance with federal or state mining laws to acquire the right to explore for and exploit the minerals under the surface.

# Mineralization The process or processes by which mineral or minerals are introduced into a rock, resulting in a valuable or potentially valuable deposit.



#### Mineral Resource

A concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the earth's crust in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge. The term mineral resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which mineral reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase reasonable prospects for economic extraction implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A mineral resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions, might become economically extractable. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 - Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 and recently updated as of November 27, 2010 (the CIM Standards).

# Ν

#### National Instrument 43-101

Means "Canadian" National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP. NI 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities which trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they only trade on Over The Counter (OTC) derivatives or other instrumented securities. The NI 43-101 rules and guidelines were updated as of June 30, 2011.

#### Net Smelter Return

A payment made by a producer of metals based on the value of the gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.



# 0

Orebody	A term used to denote the mineralization contained within an economic mineral deposit.
Outcrop	An exposure of rock or mineral deposit that can be seen on surface, that is, not covered by soil or water.
Oxidation	A chemical reaction caused by exposure to oxygen that results in a change in the chemical composition of a mineral.
Ounce	A measure of weight in gold and other precious metals, correctly troy ounces, which weigh 31.1 grams as distinct from an imperial ounce which weigh 28.4 grams.
OZ	Ounce
Р	
Pb	Lead. A main-group element in the carbon group with the symbol Pb (from Latin: plumbum) and atomic number 82. Lead is a soft, malleable poor metal. It is also counted as one of the heavy metals. Metallic lead has a bluish-white colour after being freshly cut, but it soon tarnishes to a dull grayish colour when exposed to air. Lead has a shiny chrome-silver luster when it is melted into a liquid.

- Plant A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.
- Pyrite A common, pale-bronze or brass-yellow, mineral. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most wide-spread and abundant of the sulfide minerals and occurs in all kinds of rocks.

# Q

Qualified Person Conforms to that definition under NI 43-101 for an individual: (a) to be an engineer or geoscientist with at least five years' experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; (b) to have experience relevant to the subject matter of the mineral project and the technical report; and (c) to be a member in good standing of a professional association that, among other things, is self-regulatory, has been given authority by statute, admits members based on their qualifications and experience, requires compliance with professional standards of competence and ethics and has disciplinary powers to suspend or expel a member.



# R

Raise	A vertical hole between mine levels used to move ore or waste rock or to provide ventilation or access.
Ramp	An inclined underground tunnel which provides access for exploration or a connection between levels of a mine.
Reclamation	The restoration of a site after mining or exploration activity is completed.
Recovery Rate	A term used in process metallurgy to indicate the proportion of valuable material obtained in the processing of an ore. It is generally stated as a percentage of the material recovered compared to the total material present.
Red Metal	Red Metal Resources Ltd., including, unless the context otherwise requires, the Company's subsidiaries.
Refining	The final stage of metal production in which impurities are removed from the molten metal.
Refractory ore	Ore that resists the action of chemical reagents in the normal treatment processes and which may require pressure leaching or other means to effect the full recovery of the valuable minerals.
Rod mill	A steel cylinder filled with steel rods into which crushed ore is fed. The rod mill is rotated, causing the balls to cascade and grind the ore.
S	
Shaft	A vertical passageway to an underground mine for moving personnel, equipment, supplies and material including ore and waste rock.
Shoot	A concentration of mineral values; that part of a vein or zone carrying values of ore grade.

- Sill A term used to denote the floor of a mining level or drift Also, used to denote a mining level developed on mineralization or orebody.
- Skarn Name for the metamorphic rocks surrounding an igneous intrusive where it comes in contact with a limestone or dolostone formation.
- Sphalerite A zinc sulphide mineral; the most common ore mineral of zinc.
- Stockpile Broken mineralization (ore) heaped on surface, pending treatment or shipment.
- Stope An area in an underground mine where mineralization (ore) is mined.
- Strike The direction, or bearing from true north, of a vein or rock formation measured on a horizontal surface.
- Stringer A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.



Sulphides	A group of minerals which contains sulfur and other metallic element such as copper and zinc. Gold is usually associated with sulphide enrichment in mineral deposits.
Т	
Tailings	Material rejected from a mill after most of the recoverable valuable minerals have been extracted.
Tailings pond	A low-lying depression used to confine tailings, the prime function of which is to allow enough time for heavy metals to settle out or for cyanide to be destroyed before water is discharged into the local watershed.
Tonne	A metric ton of 1,000 kilograms (2,205 pounds).
Tunnel	A horizontal underground opening, open to the atmosphere at both ends.
V	
Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards from some deep source.
W	
Wall rocks	Rock units on either side of a mineral deposit (orebody). The hanging wall and footwall rocks of a mineral deposit (orebody).
Waste	Unmineralized, or sometimes mineralized, rock that is not minable at a profit.
Z	
Zn	Zinc. From the German Zink, or spelter (which may also refer to zinc alloys), is a metallic chemical element; it has the symbol Zn and atomic number 30. It is the first element in group 12 of the periodic table. Zinc is, in some respects, chemically similar to magnesium, because its ion is of similar size and its only common oxidation state is +2. Zinc is the 24th most abundant element in the Earth's crust and has five stable isotopes. The most common zinc ore is sphalerite (zinc blende), a zinc sulfide mineral.
Zone	An area of distinct mineralization.