## Andean Resources Ltd. Coba Southwest Project Technical Report



Prepared by: Eric L. Hanson, P. Geo. Franklin D. Roosevelt 886 La Serena, Chile Tel. +59-9-9236-2776 E-mail: <u>ERICLHANSON@COMPUSERVE.COM</u> April 27, 2020 Coba Southwest Project Technical Report

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Cover Photo: Old head frame on Teresa Claims Mine – North Shaft

## DATE AND SIGNATURE PAGE

This report, titled "Coba Southwest Project Technical Report" was prepared for Compania Recursos Andina Limitada, is effective April 27, 2020 and was prepared by the author, Eric Lloyd Hanson.



## **CERTIFICATION OF THE AUTHOR**

- I, Eric L. Hanson, B.Sc., P. Geo. do hereby certify that:
  - 1) I am a consulting geologist residing in La Serena, Chile.
  - 2) The report entitled "Coba Southwest Project Technical Report" has an effective date of April 27, 2020.
  - 3) I graduated with a B.Sc. (Honors) degree in Geology from The University of Manitoba in 1988.
  - 4) I am a member in good standing of Engineers Geoscientists Manitoba, membership number 20219.
  - 5) I have practiced my profession continuously for over 20 years in the mineral and petroleum industries since graduation from university. My professional career includes mineral exploration and mine geology in Canada, Africa, South America and Europe. This includes recent field work done at the Coba Southwest Project.
  - 6) I most recently visited the Coba Southwest Project on February 28, 2020.
  - 7) I am responsible for the entirety of the technical report.
  - 8) I am independent of the issuer, Andean Resources and the Property (as those terms are defined in Section 1 of this report).
  - 9) I have been involved with the Coba Southwest Project since May 2018.
  - 10)I have read the relevant sections of NI 43-101.
  - 11) As of the date of this report I certify to the best of my knowledge, information and belief, that the Coba Southwest Technical Report contains all scientific and technical information that is required to be disclosed to make the report not misleading.

Eric Lloyd Hanson, B.Sc., P. Geo

**Consulting Geologist** 

Dated at La Serena, Chile

April 27, 2020

## Table of Contents

Title P	age	1
Date a	nd Signature Page	3
Certific	cation of the Author	4
1.	Summary	8
2.	Introduction	9
	2a. Issuer	9
	2b. Terms of Reference and Purpose	10
	2c. Sources of Information	10
	2d. Qualified Person	10
3.	Reliance on Other Experts	10
4.	Property Description and Location	11
	4a. Area of Property	11
	4b. Location	11
	4c. Types of Mineral Claims	13
	4d. Title, Interest, Surface Rights, Legal Access, Obligations etc.	15
	4e. Royalties, Back-In Rights etc.	16
	4f. Environmental Liabilities	16
	4g. Permits	17
	4h. Other Risks	17
5.	Accessibility, Climate, Local Resources, Infrastructure & Physiography	17
	5a. Topography, Elevation & Vegetation	17
	5b. Access	17
	5c. Proximity to Population Centres	17
	5d. Climate & Operating Season	18
	5e. Surface Rights, Power & Water	18
6.	History	19
	6a. Prior Ownership	19
	6b. Work by Previous Owners/Operators	19
	6c. Historical Mineral Resources/Reserve Estimates	20
	6d. Production	20
7.	Geologic Setting and Mineralization	20
	7a. Regional, Local & Property Geology	20
	7b. Significant Mineralization, Geological Control, etc	23

## List of Tables

4-1	Claims Summary	13
9-1	Surface Rock Sampling Summary	26
9-2	Soil Sampling Summary	33
11-1	ALS Global Codes and Procedures	34
26-1	Proposed Phase 1 Drill Hole Locations	42
26-2	Proposed Phase 1 Exploration Budget	44
26-3	Proposed Phase 2 Exploration Budget	47

PAGE

## List of Figures

4-1	Location Map	12
4-2	Claim Map	14
5-1	Historical Rainfall	18
7-1	Regional Geology	21
7-2	Local Geology	22
8-1	Schematic Diagram Illustrating the Shear Zone Related Vein Deposit Model	24
9-1	Modern Exploration Surface Rock Samples	25
9-2	Surface Rock Samples w/over 0.5% Cu – Teresa Claims	27
9-3	Surface Rock Samples w/over 0.5% Cu – La Fortuna Claims	28
9-4	Surface Rock Samples w/over 0.5% Au – Teresa Claims	29
9-5	Surface Rock Samples w/over 0.5% Au – La Fortuna Claims	30
9-6	Surface Rock Samples w/over 800 ppm Co – Teresa Claims	31
9-7	La Fortuna Soil Sample Grid	32
23-1	Adjacent Properties Showing the Armonia Vein	39
23-2	Vein System Map of Carrizal Alto Mining Camp	40
26-1	Proposed Phase 1 Drill Hole Locations	43
26-2	Proposed Magnetometer Survey	46

## 1. SUMMARY

This technical report, entitled Coba Southwest Technical Report (this "**Technical Report**") was commissioned on February 25, 2020 by Compania Recursos Andina Limitada (translated into English is "Andean Resources Ltd." which will be the name used in the balance of this report ("**Andean Resources**"). Andean Resources was formed under the laws of Chile.

Andean Resources has entered into a non-binding letter of intent ("LOI") with Big Dougie Capital Corp. ("Big Dougie"), a "Capital Pool Company" as defined under the policies of the TSX Venture Exchange, Inc. The LOI contemplates that Big Dougie will complete a business combination or asset acquisition with Andean Resources whereby Big Dougie will acquire the Teresa 1-3, La Fortuna and Coba 13-15 claims (as described further below) by the payment of \$500,000 US in cash and the issuance to Andean Resources or the shareholders of Andean Resources (depending on the final transaction structure which has not been finalized as of the effective date of this report) of 50 M shares from the treasury of Big Dougie. Concurrently, a financing, either within Andean Resources or Big Dougie, is contemplated to be completed in a minimum amount of \$750,000 and a maximum amount of \$1,500,000. The minimum financing amount remains subject to adjustment.

The Author's objective was to prepare a technical report compliant with the requirements of National Instrument 43-101 – "Standard Disclosure for Mineral Properties" on the claims owned by Andean Resources which are located approximately 55 km north-northwest of Vallenar in the Atacama Region (Region III), Chile.

The purpose of this Technical Report is to describe and evaluate the claims owned by Andean Resources with the objective of determining whether the claims merit further exploration work.

The claim package consists of 3 "exploration claims" and 4 "exploitation claims" totalling 820 hectares.

The exploitation claims are known as the "Teresa" (3) and "La Fortuna" (1) claims. The exploration claims are known as the "COBA 13-15" (3) claims. Andean Resources owns 100% of all of the claims which are not subject to any encumbrances. The exploitation and exploration claims collectively are referred to as the "**Property**" in this report and the project area is referred to as the "**Coba Southwest Project**" in this report.

Table 4-1 provides a detailed breakdown of the claims.

The Coba Southwest Project lies within the historic "Carrizal Alto" mining district. The Coba Southwest Project hosts polymetallic veins with copper, gold, and cobalt mineralization. Significant historic production has been undertaken in the Carrizal Alto district including underground production from the main (north) and secondary (south) shaft on the Teresa

claims. The north shaft is located beneath an abandoned head frame (refer to the cover photo) (collectively, the "**Teresa Mine**"). Additionally, many old artisanal workings lie within the Coba Southwest Project area.

The Coba Southwest Project lacks a modern, systematic exploration program. Access directly into the Property is via the Pan-American Highway (Route 5) north from Vallenar, followed by a combination of paved, gravel, and dirt roads which are generally in good condition.

The Property is located within the Coastal IOCG (Iron Oxide Copper Gold) Belt that parallels the Chilean coastline. This IOCG Belt is further subdivided and the project area is located within the Coastal Metamorphic Terrane of Devonian-Jurassic age. Directly to the south-southwest is the Freirina Fault Zone.

An initial program of surface geochemical sampling of rocks and soils, Transient Electromagnetic survey, dewatering and surveying plus rock sampling of the Teresa North and South shaft underground workings together with a program of reconnaissance drilling (the "**Phase 1 Program**") is recommended which is estimated to cost approximately \$433,000 Canadian Dollars. A follow-up exploration program, consisting of additional geophysics and more drilling (the "**Phase 2 Program**") is also recommended subject to satisfactory results from the Phase I Program. The Phase 2 Program is estimated to cost approximately \$455,000 Canadian dollars.

## 2. INTRODUCTION

#### 2a. Issuer

This Technical Report was commissioned on February 25, 2020 by Compania Recursos Andina Limitada which translates to Andean Resources Ltd in English. Hereinafter in this report, the English translation of the company name, being "Andean Resources Ltd." ("**Andean Resources**") will be used. Andean Resources is a corporation formed under the laws of Chile. The Author's objective was to prepare a technical report compliant with the requirements of National Instrument 43-101 – "Standard Disclosure for Mineral Properties", evaluating the Property to consider the merits of conducting further exploration work thereon. The Author notes that the Coba Southwest Project area has been the subject of significant historical mining operations and in evaluating the Property, has taken into consideration an additional objective – that of validating historical production grades which are reported in the "Historical Information" section of this report. The Coba Southwest Project is located approximately 55 km north-northwest of Vallenar in the Atacama Region (Region III), Chile.

## 2b. Terms of Reference & Purpose

The purpose of this Technical Report is to describe and evaluate the Property in order to determine if further exploration work is merited.

#### 2c. Sources of Information

Information in this Technical Report includes:

a) Geochemical analyses of samples taken from the project area performed by ALS Global Labs, a division of ALS Limited ("**ALS Global**").

b) Personal communications and review of historical maps and other information contained in the files of Mr. Terry Walker M.Sc. P. Geo., General Manager of Golden Rock Geological Services ("**Golden Rock**") of La Serena, Chile.

c) Recent field work performed by the Author and Golden Rock.

d) Internal company report prepared by Minera Stamford S.A. (not NI 43-101 compliant).

e) Non NI 43-101 compliant report and other information from the website of Red Metal Resources Ltd. ("**Red Metal**").

#### 2d. Qualified Person

E.L Hanson, P. Geo. (the "**Author**"), last visited the property on Feb 28, 2020 when he accompanied an independent engineering consultant to do a physical inspection of the north Teresa Mine shaft.

## **3: RELIANCE ON OTHER EXPERTS**

The Author's opinions contained herein, effective as at April 27, 2020, are based on information and various technical and economic conditions as of the effective date. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favorable than as expressed herein.

The Author is an independent consulting geologist based in La Serena, Chile. The results of the technical review by the Author are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

The Author has not conducted a detailed review of the title documents related to ownership of

the Property as they are mostly legal in nature. However, based on a general review of those documents, as provided by Andean Resources, all of the claims appear to have been processed correctly and are up to date with their annual fees as at the effective date of this Technical Report.

The opinions expressed in this Technical Report are based on the informational comments noted above and are provided in response to a specific request from Andean Resources to do so.

The Author has exercised all due care in reviewing the information used. Opinions presented in this Technical Report apply to the site conditions and features as they existed at the time of the Author's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the effective date of this Technical Report, about which the author had no prior knowledge nor had the opportunity to evaluate.

## 4. PROPERTY DESCRIPTION AND LOCATION

## 4a. Area of the Property

The Property consists of a mixture of exploration and exploitation claims. They consist of 3 exploration claims totalling 800 hectares and 4 exploitation claims totalling 20 hectares for a total of 820 hectares.

The 3 exploration claims are the COBA 13-15 claims.

The 4 exploitation claims consist of 3 separate claims making up the Teresa block together with the one La Fortuna claim.

## 4b. Location

The Property is located approximately 55 km north-northwest of Vallenar in the Atacama Region (Region III), Chile (see Fig.4-1). Access is via the Pan-American Highway (Route 5) north from the town of Vallenar, followed by a combination of paved, gravel, and dirt roads that are generally in good condition right into the project area. Central UTM coordinates for the COBA 13-15 exploration claims is 308500 Easting, 6887000 Northing, PSAD 56, Zone 19J.

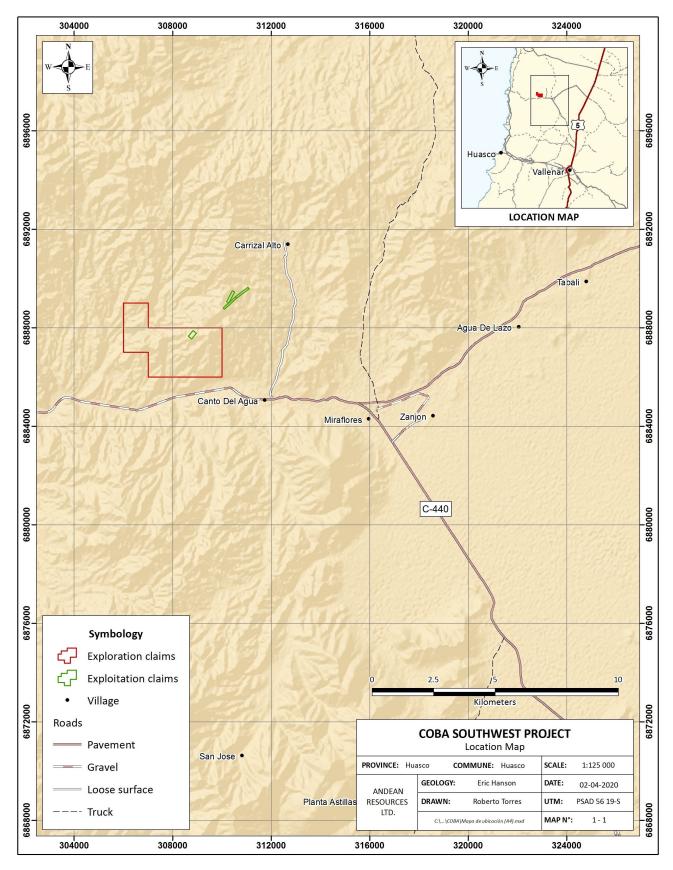


Figure 4-1: Location Map

## 4c. Types of Mineral Claims

The Property consists of 3 exploration claims and 4 exploitation claims totalling 820 hectares and is 100% owned by Andean Resources which are not subject to any encumbrances such as additional royalties, back in rights or net smelter interest or similar (see Table 4-1, Fig. 4-2).

## **Exploration Claims**

Name		Status	Hectares	_
	COBA 13	Granted	300	
	COBA 14	Granted	300	
	COBA 15	Granted	200	
			800	Sub-Total Exploration Claims

## **Exploitation Claims**

Name	Status	Hectares	_
TERESA I/III	Granted	15	(3 claims)
LA FORTUNA	Granted	5	]
-		20	Sub-Total Exploration Claims

Claim Type	Hectares
Exploration Claims	800
Exploitation Claims	20
Total area of Coba SW Project	820

**Table 4-1: Claims Summary** 

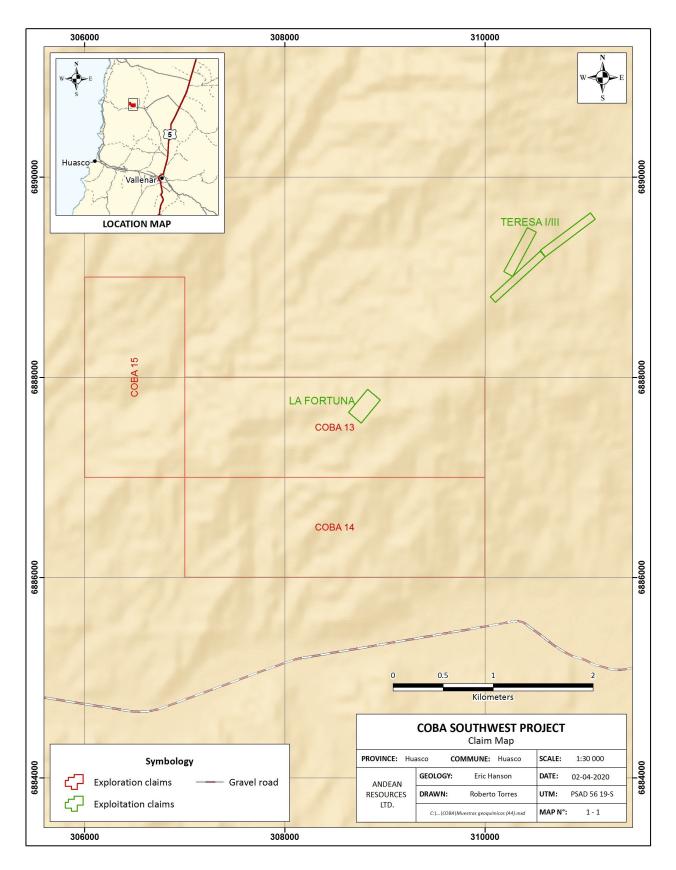


Figure 4-2: Claim Map

#### 4d. Title, Interest, Surface Rights, Legal Access, etc.

#### Mineral Claims and Mining Property Rights in Chile

In accordance with Chilean mining legislation, there are two types of mining concessions in Chile; exploration concessions and exploitation concessions as follows:

**Exploration Concessions** – The titleholder of an exploration concession has the right to carry out all types of mining exploration activities within the area of the concession. Exploration concessions can overlap or be granted over the same area of land however, only the titleholder with the earliest dated exploration concession over a particular area can exercise the rights granted by the exploration concession.

For each exploration concession, the titleholder must pay an annual fee of approximately US\$1.5 per hectare to the Chilean Treasury. Exploration concessions have duration of two years. At the end of this period, they may either be renewed as an exploration concession for two further years in which case at least 50% of the surface area must be renounced or be converted totally or partially into exploitation concessions.

A titleholder with the earliest dated exploration concession has preferential rights to exploitation concessions in the area covered by the exploration concession over and above any third parties with or without later dated exploration concessions covering all or part of that area. However, the titleholder must oppose any applications made by third parties for overlapping exploitation concessions within the area for the exploration concession for it to remain valid.

**Exploitation Concessions** – The titleholder of an exploitation concession is granted the right to explore and exploit the minerals located within the area of the concession and to take ownership of the minerals that are extracted. Exploitation concessions cannot overlap or be granted over the same area of land.

Exploitation concessions are of indefinite duration and an annual fee is payable to the Chilean Treasury in relation to each exploitation concession of approximately US\$7.5 per hectare.

Where a titleholder of an exploration concession has applied to convert the exploration concession into an exploitation concession, the application for the exploitation concession and the exploitation concession itself is backdated to the date of the exploration concession.

A titleholder to an exploitation concession must apply to annul or cancel any exploitation concessions that overlap with the area covered by its exploitation concession within a specific time period in order for the exploitation concession to remain valid.

## TITLE

Andean Resources owns a 100% non-encumbered title to the claims making up the Property.

## TRANSACTION PARTICULARS

Andean Resources has entered into a non-binding letter of intent ("LOI") with Big Dougie Capital Corp. ("Big Dougie"), a "Capital Pool Company" as defined under the policies of the TSX Venture Exchange, Inc. The LOI contemplates that Big Dougie will complete a business combination or asset acquisition with Andean Resources whereby Big Dougie will acquire the Teresa, La Fortuna and Coba 13-15 claims (as described further below) by the payment of \$500,000 US in cash and the issuance to Andean Resources or the shareholders of Andean Resources (depending on the final transaction structure which has not been finalized as of the effective date of this report) of 50 M shares from the treasury of Big Dougie. Concurrently, a financing, either within Andean Resources or Big Dougie, is contemplated to be completed in a minimum amount of \$750,000 and a maximum amount of \$1,500,000. The minimum financing amount remains subject to adjustment.

## SURFACE RIGHTS

All of the surface rights associated with the claims making up the Property are held by the government of Chile.

#### LEGAL ACCESS

The holder of mineral claims where the surface rights are held by the government is granted surface access for prospecting and ground evaluation purposes. Access for operations that involve underground operations including drilling require a permit issued under Chilean mining law by Chilean mining authorities.

## 4e. Royalties, Back-in rights, etc.

The Property is not subject to any additional royalties, back-in rights or other encumbrances.

## 4f. Environmental Liabilities

The Author is not aware of any additional environmental liabilities associated with the Property.

## 4g. Permits

All required permits for work done on the Property to date were obtained in accordance with Chilean mining law. The drilling programs proposed as part of the Phase1 and 2 evaluation programs recommended in this report will require the filing of a standard Notice of Work with the Chilean Mining Authority, Servicio National de Geológica y Mineria ("SERNAGEOMIN").

## 4h. Other risks

To the extent known, there are no other significant factors and risks besides those noted in this Technical Report that may affect access, title, or the right or ability to perform work on the Property.

# 5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5a. Topography, Elevation & Vegetation

The Property boundary is located approximately 20 km inland from the Pacific Ocean coast. Hills and low mountains up to a few hundred meters above sea level are home to a fog and mist fed coastal desert ecosystem.

#### 5b. Access

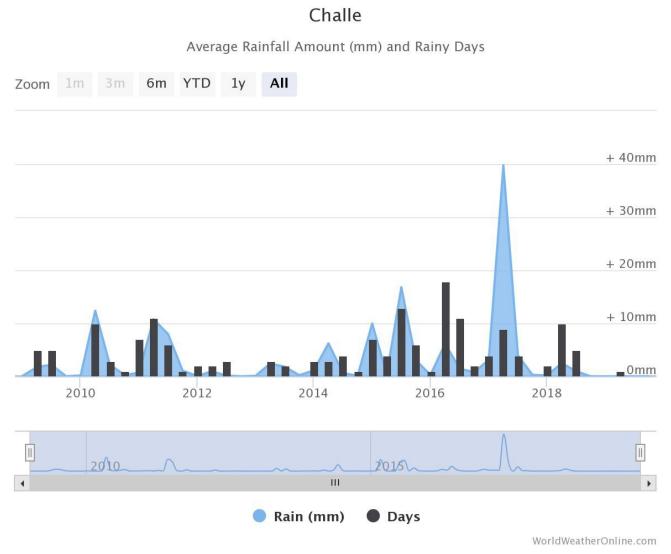
Access is possible year round with a network of paved, gravel, and dirt roads. Valley topography provides additional access.

## 5c. Proximity to Population Centres

The nearest town of consequence Vallenar, an inland city of 52,000 inhabitants with a skilled mining work force, is located approximately 55 km to the south south-east of the Property. Towards the coast is the harbour village of Carrizal Bajo, located approximately 18 km to the west north-west.

#### 5d. Climate and Operating Season

The climate is that of a fog and mist fed coastal desert. Rainfall is low, with individual rainfalls seldom more than 10 mm. Work is possible year round.



#### Figure 5-1: Historical Rainfall

Source: https://www.worldweatheronline.com/challe-weather-averages/atacama/cl.aspx

#### 5e. Surface Rights, Power & Water

There are no private landowners in the Property area. Surface rights are held by the state.

High tension power is available at least as near as the Los Colorados Mine which is approximately 21 km to the south-east of the property.

Water is available at the village of Canto de Agua and Quedrada Carrizal 5 km south of the Property area. Water rights in Chile, however, are controlled by the government using the General Water Directorate, known as the "Dirección General de Aguas". See <u>http://www.dga.cl/Paginas/default.aspx</u>

The Chilean State mining company, Empresa National de Mineria ("ENAMI") operates a mineral processing plant on the north edge of the town of Vallenar. ENAMI offers custom milling and processing services at cost to local small to medium sized (3,000 – 5,000 tons/month) mining companies.

## 6. HISTORY

## 6a. Prior Ownership

Prior to their acquisition by Andean Resources, the Teresa and La Fortuna exploitation claims were held by Compania Minera Romelio Alday Limitada a small artisanal mining company owned by the same Vallenar mining family for many decades (Walker, personal communication, 2020). The Coba 13-15 exploration claims were staked in 2019.

#### 6b. Work by Previous Owners/Operators

The Carrizal Alto district contains numerous old mines that exploited high grade gold, copper and cobalt mineralization from three extensive shear-vein systems. Historic production grades from the old mines, based on local miners reports (Walker, personal communication, 2020), ranged from lows of 5g/t gold, 3% copper and 0.5% cobalt to highs of 65g/t gold, 12% copper and 1.3% cobalt. Historic surface workings on these vein systems are 2 – 15 m wide, extend over 2 - 3 kilometers of strike and to depths of over 400 meters. Mining activities in the area ended in the early 1940s when the main mines were flooded after intense local rainstorms. It was reported that raw ore was shipped to the British Isles for processing. Both the Teresa claims and the La Fortuna claims have been subject to artisanal mining mainly at surface but also underground from two shafts on the Teresa 1 claim which are currently flooded below the 82m level observed in the north shaft. The dates during which such artisanal mining operations were conducted cannot be determined as the production therefrom is typically not officially reported.

## 6c. Historical Mineral Resources/Reserve Estimates

The Author is not aware of any reserve estimates having been completed in accordance with the requirements of NI 43-101.

## 6d. Production

Production volumes and grades from surface artisanal mining are not available. Historic surface workings on these vein systems are 2 - 15 m wide, extend over 2 - 3 kilometers of strike length.

Production volumes and grades from underground mining were limited to deeper mining from sulphide ores. Historic production grades from the old mines as noted above ranged from lows of 5g/t gold, 3% copper and 0.5% cobalt to highs of 65g/t gold, 12% copper and 1.3% cobalt to depths of over 400 meters. Mining activities in the area ended in the early 1940s when the main mines were flooded after intense local rainstorms.

## 7. GEOLOGICAL SETTING AND MINERALIZATION

## 7a. Regional, Local and Property Geology

The Property is located within the Coastal IOCG (Iron Oxide Copper Gold) Belt that parallels the Chilean coastline. This IOCG Belt is further subdivided and the Coba Southwest Project area is found within what is called the Coastal Metamorphic Terrane of Devonian-Jurassic age. Directly to the south southwest is the Freirina Fault Zone. See figure 7-1.

The government geological map (Mapa Geológico de Chile: versión digital. Publication Geológica Digital, No. 4, 2003. CD-ROM Version 1.0, 2003, Base Geológica Escala 1:1,000,000) shows the Property to be underlain by a meta-sedimentary sequence of "Sandstones, phyllites, and to a lesser extent, marbles" which are in contact with an intrusive unit of quartz bearing monzodiorites, diorite, and granodiorite on the east side of the property. Veins and faults trend north/north-east. See figure 7-2.

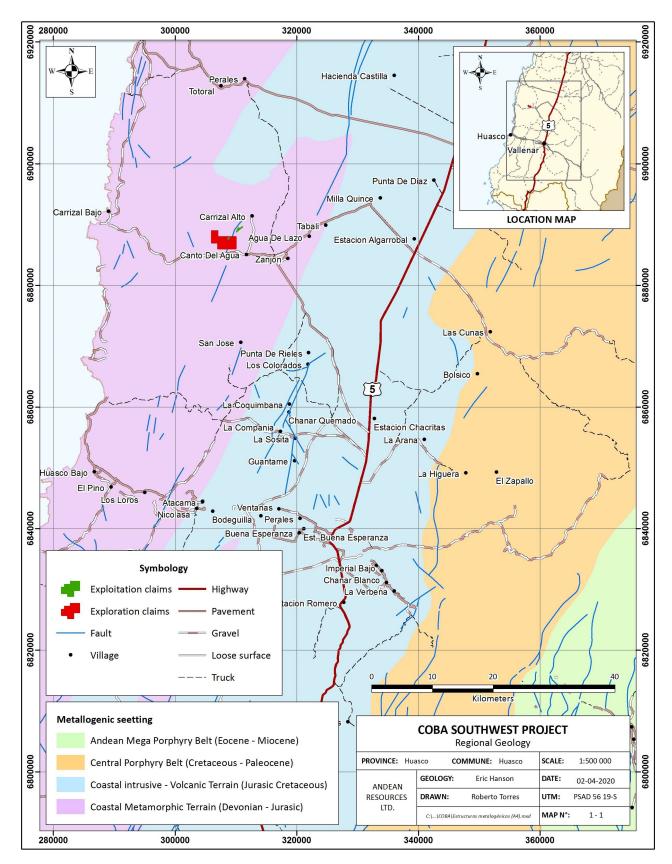


Figure 7-1: Regional Geology

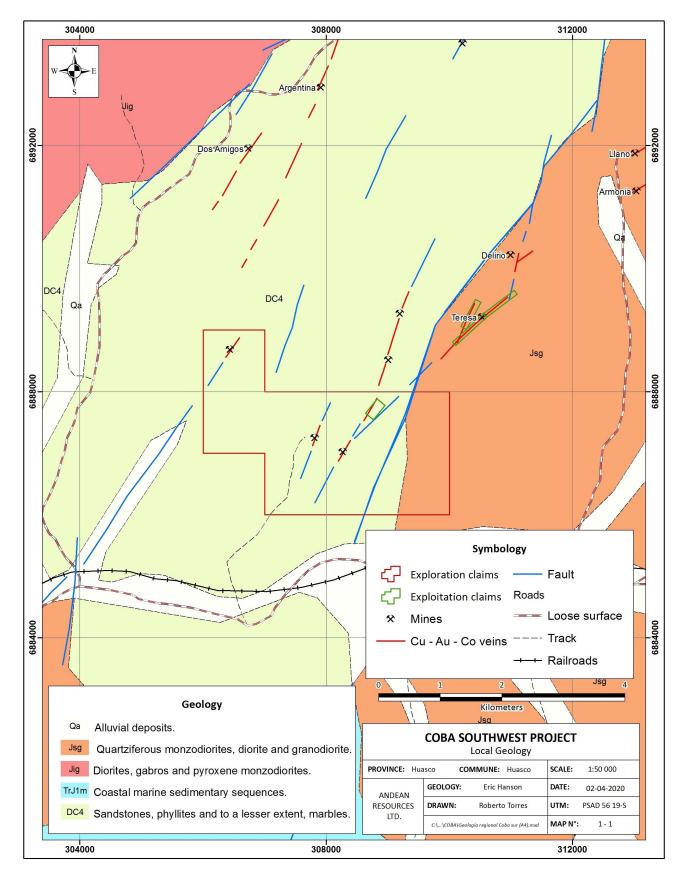


Figure 7-2: Local Geology

7b. Significant Mineralization, Geological Controls, etc.

The principal zone of interest is found on the Fortuna and Teresa portions of the north-west corner of the Property. This is a mineralized shear zone with associated splays. The shear zone has approximately 4 km of strike length and is generally 50 to 200m wide with various narrower veins located therein. Historically, the main productive veins at Carrizal Alto were reported to have been mined to depths of over 4000m. Rock types include andesitic volcanics, intrusives, and a meta-sedimentary sequence. The intrusives are of variable dioritic to granodioritic composition. The meta-sedimentary sequence consists of sandstones, phyllites, and marbles. The Author notes that the meta-sedimentary rocks, while present, are not a common as the government geological map indicates.

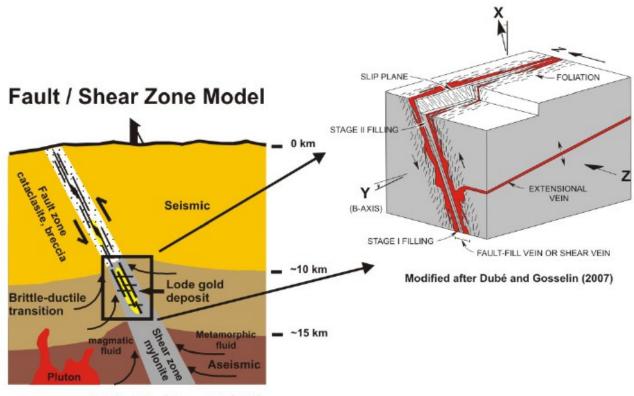
## 8. DEPOSIT TYPES

The deposit type is a mineralized shear zone found at a geological contact between lithological units. Mineralization is found principally in veins associated with the shear zone. Author Swapan Kumar Haldar describes a shear zone as follows.

"Shear zones are the result of huge volume of rock deformation due to intense stress in the region, typically in the zones of subduction at depths down to few kilometers. It may occur at the edges of tectonic blocks, forming discontinuities that mark a distinct structure. Shear zones often host orebodies as a result of syngenetic or epigenetic hydrothermal flow through orogenic belts. The rocks are commonly metasomatized, and often display some retrograde metamorphism assemblage. An intense fractured or shear zone is a favorable structure to trap mineralization." (S.K. Haldar, 2013).

Figure 8-1 is a schematic diagram that illustrates the shear zone related vein deposit model that is most appropriate for the property.

An alternative deposit model is offered by Lewis (2012) who interprets the Property as a "vein style IOCG" deposit.



Modified after Sibson et al. (1987)

#### Figure 8-1: Schematic Diagrams Illustrating the Shear Zone Related Vein Deposit Model

## 9. EXPLORATION

Andean Resources has not conducted any systematic exploration programs on the Property to date.

In May of 2018, the Author first visited the property and conducted preliminary prospecting and rock sampling on behalf of Mr. Terence Walker. In November of 2018 the Author performed more rock sampling and a soil sampling program in April of 2019. The November 2018 and April 2019 programs were conducted for Mr. Terence Walker as well. In February of 2020 the Author conducted his last visit to the Property to accompany an independent engineering consultant to inspect the north Teresa Mine shaft. This investigation was carried out on behalf of Andean Resources. During that visit, conducted on February 28, 2020, the water level in the north Teresa mine shaft was encountered at 82 meters below the surface level of the shaft. Mineralization observed at a depth of 82 meters was principally oxides with minor amounts of the secondary copper sulphide chalcocite plus pyrite.

All surface samples, be they rock or soil samples, were collected in the field, bagged and tagged, with the sample location recorded by hand held GPS. All samples were sent to ALS Global for analysis.

Figure 9-1 shows the locations of surface rock samples collected in 2018 by the Author.

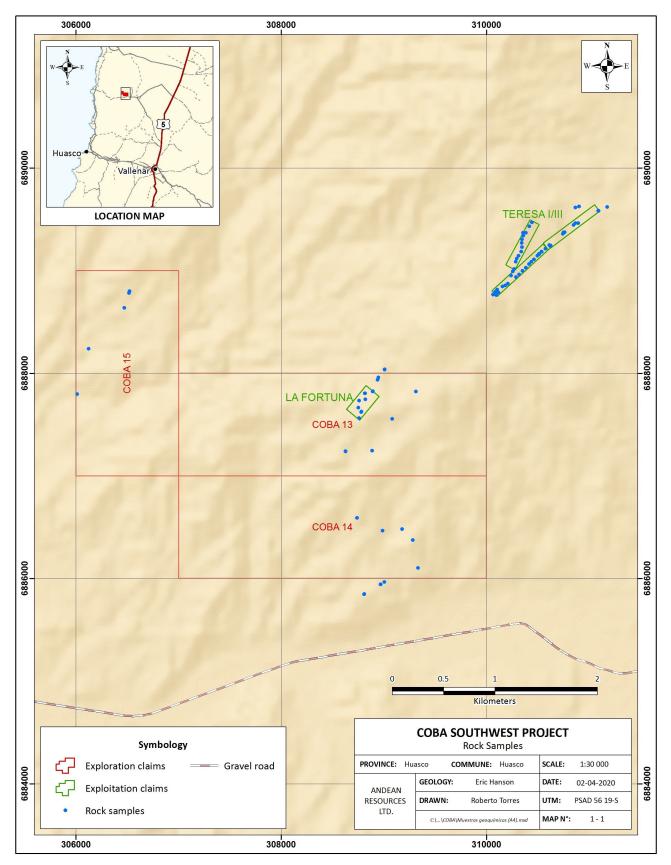


Figure 9-1: Modern Exploration Surface Rock Samples

In the various campaigns, a total of 94 surface rock samples were collected by the Author.

Table 9-1 below provides the high, low, and average values for the surface rock samples collected for gold, copper, and cobalt.

	Au – ppm	Cu – ppm	Co – ppm
Highest Value	9.32	49600	9320
Average	0.72	6291	868
Lowest Value	Below detection limit	11	Below detection limit

#### Table 9-1: Surface Rock Sampling Summary

Figures 9-2 and 9-3 show the locations and assays results of surface samples that assayed over 0.5% copper in and around the Teresa claims (Fig. 9-2) and the La Fortuna claims (Fig. 9-3). Surface samples that assayed less than 0.5% Cu are not plotted. In addition, a few surface samples at various locations in and around the Coba 13-15 claims assayed over 0.5% Cu.

Figures 9-4 and 9-5 show surface sample locations that assayed over 0.5 g/t Au. Again, a few prospecting samples in and around the Coba 13-15 claims also assayed over 0.5 g/t Au.

Figure 9-6 shows surface samples with cobalt values of over 800 ppm. All of these surface samples were on the Teresa claims.

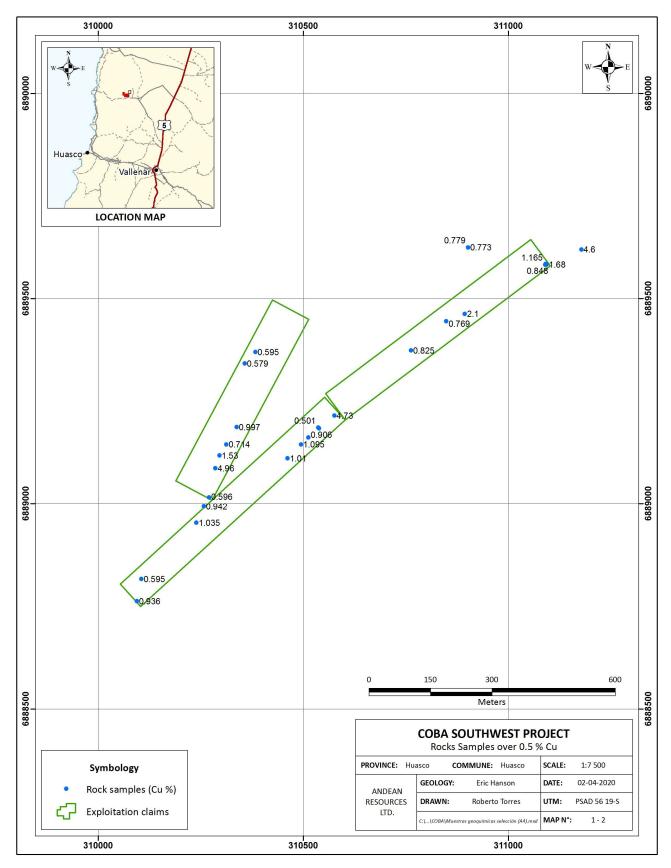


Figure 9-2: Surface rock samples with copper values over 0.5% Cu on Teresa claims

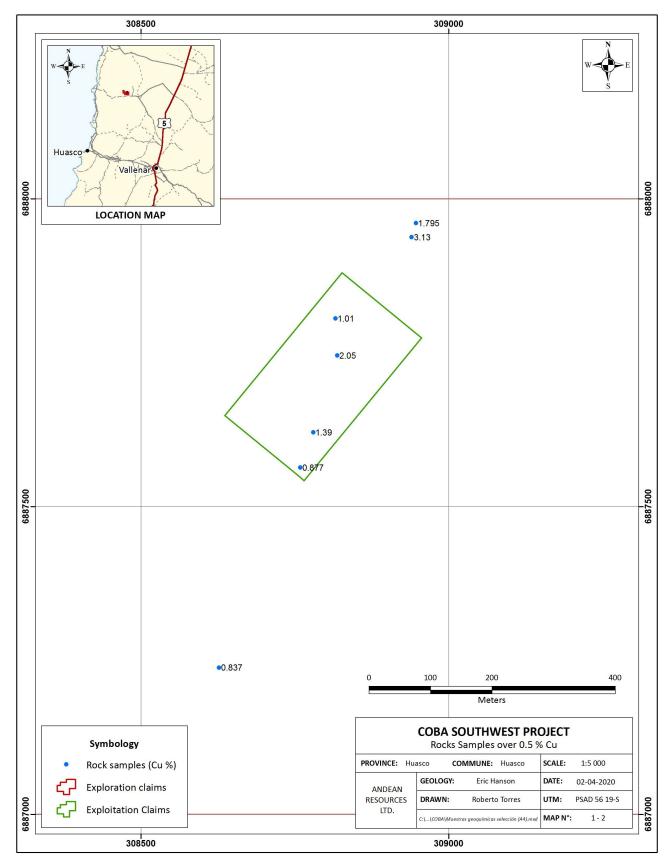


Figure 9-3: Surface rock samples with copper values over 0.5% on/near La Fortuna claims

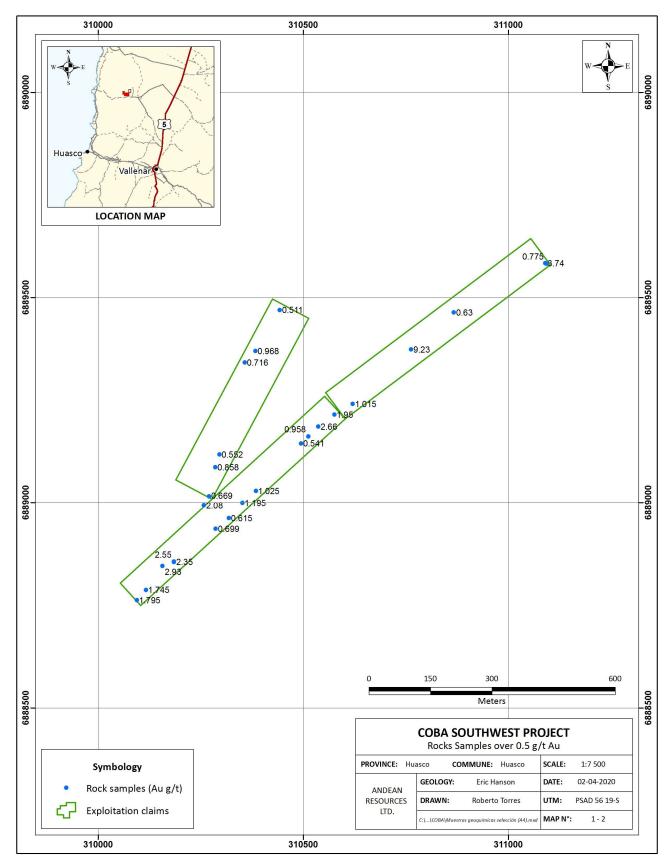


Figure 9-4: Surface rock samples over 0.5 g/t gold on Teresa claims

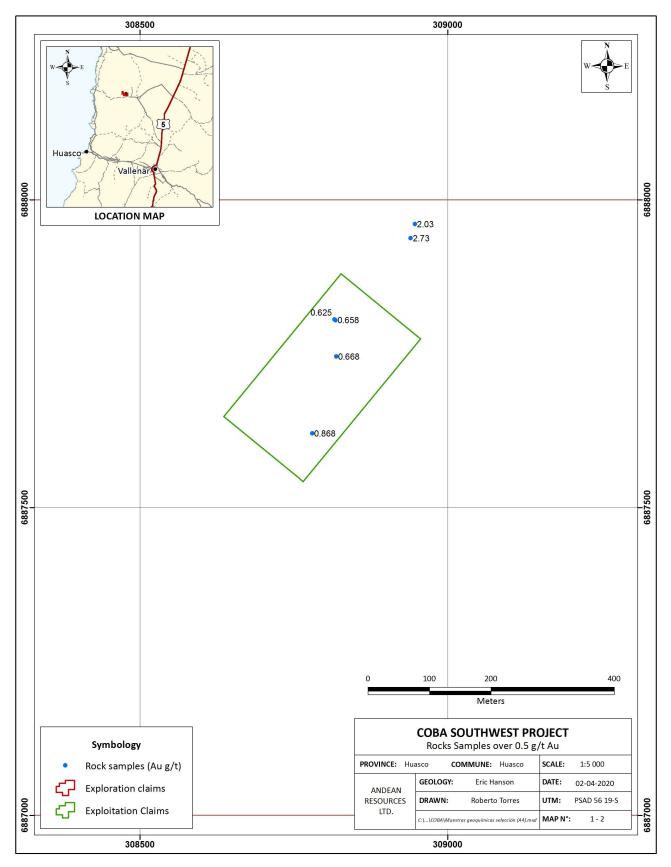


Figure 9-5: Surface rock samples over 0.5 g/t gold on and around the La Fortuna claims

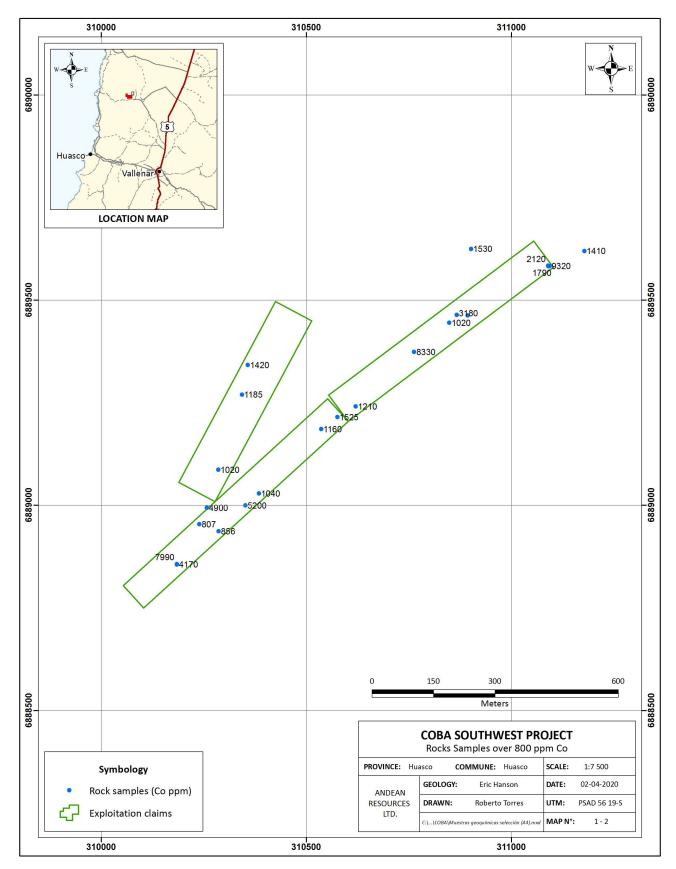


Figure 9-6: Surface rock samples with more than 800 ppm cobalt on Teresa claims

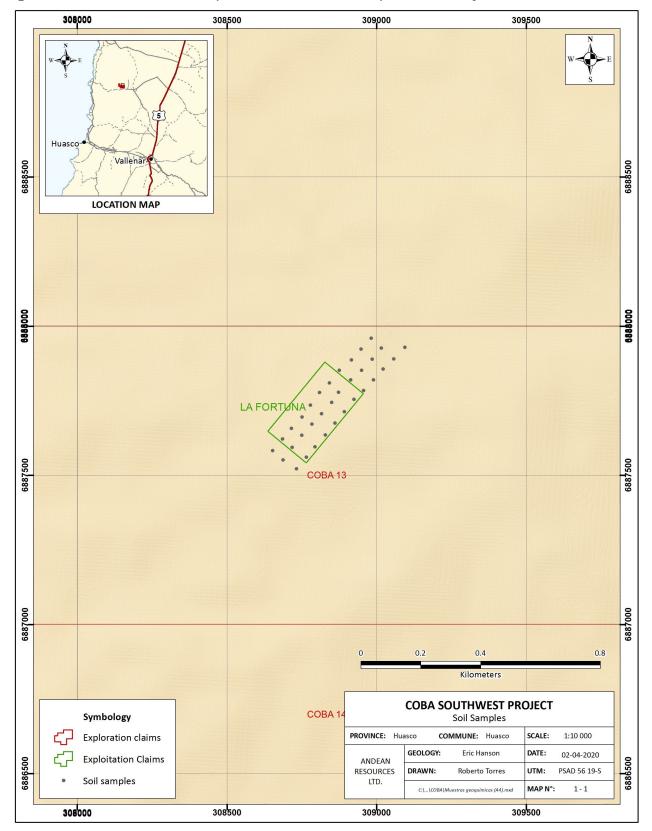


Figure 9-7 shows the soil sample locations taken in April of 2019 by the Author.

Figure 9-7: La Fortuna Soil Sample Grid

The soil sampling program was undertaken to provide an indication of the continuity of the mineralization in a part of the Property where the shear zone is believed to continue but outcrop is limited. The sampling procedure was to discard a small amount of material on the surface and collect soil material just below the surface. This material was sieved in the field and sent to the lab for standard soil sample preparation (drying, followed by sieving to -180 micron) and then analyzed.

See section 11 for more information on laboratory procedures for sample preparation and analysis.

The table below summarizes the results of the soil sampling program. 34 soil samples were collected on a grid pattern. It should be noted that there are abundant old workings from artisanal mines in the area of the soil grid. Some of the high values recorded are almost certainly from contamination, including the 4.58 g/t gold value. Nevertheless, some contamination notwithstanding, the results indicate that the mineralization is continuous.

	Au – ppm	Cu – ppm	Co – ppm
Highest Value	4.58	31400	2790
Average	0.26	1482	243
Lowest Value	Below detection limit	103	15

#### Table 9-2: Soil Sample Summary

## 10. DRILLING

Andean Resources has not conducted any drilling on the Property.

## 11. SAMPLE PREPARATION, ANALYSIS, & SECURITY

## 11a. Sample Preparation, QC, Splitting, Reduction & Security

With respect to the recent soil sampling program conducted by the Author, all of these samples were delivered to the ALS Global lab in La Serena, Chile, personally by the Author. Upon receiving a batch of samples, the lab weighs each individual sample and gives the sample a bar code label.

Rock samples were prepared using ALS Global's PREP-31 or PREP-31B procedures. The samples are dried and then the entire sample is crushed to 70% less than 2mm. A riffle splitter was then used to take either 250g or 1 kg of the crushed sample. This sub-sample is then pulverized to 85% passing 75 microns. A portion of this pulverized sample is then sent for analysis.

Soil samples prepared using ALS Global's PREP-41 procedure. The samples are dried at <60°C and then sieved to -180 microns (80 mesh)

## 11b. Assaying, Labs Used & Lab Accreditation

All samples received a standard 30g Fire Assay for gold, and a 35 element aqua regia digestion ICP analysis. Sample preparation was done at the ALS Global lab in La Serena, Chile. Sample analysis was done at another ALS Global lab, probably in Lima, Peru.

Procedure	ALS Global Code
Standard Rock Preparation	PREP-31 or 31B
Standard Soil Preparation	PREP-41
30g Fire Assay	Au-AA23
Aqua regia digestion 35 element ICP	ME-ICP41

Table 11-1: ALS Global Codes and Procedures.

ALS Global La Serena, Chile and Lima, Peru are fully accredited laboratories with ISO 9001 and ISO 1705 accreditation. ALS Global is not related to the Issuer nor to Andean Resources.

## 11c. Quality Control/Quality Assurance

No blanks, duplicates, or standards were inserted into the sample stream for the recent surface sampling program. The Author relied on the internal procedures of ALS Global.

## 11d. Author's Opinion

It is the opinion of the Author that the procedures followed for sample preparation, security, and analysis, were adequate.

## **12. DATA VERIFICATION**

## 12a. Data Verification

The Author was on the property for most of the recent soil sampling program. During this time, the Author reviewed data management, geological interpretations and the approach and procedures implemented for a quality assurance program designed to ensure the reliability and trustworthiness of exploration data acquired.

## 12b. Limitations and Failures of Data Verification

No limitations or failures of data verification are known to exist.

## 12c. Opinion of the QP

It is the opinion of the QP that procedures to ensure the adequacy of the data were sufficient.

# 13. MINERAL PROCESSING AND METALLURGICAL TESTING

No mineral processing or metallurgical testing has taken place on the modern samples.

## 14. MINERAL RESOURCE ESTIMATES

No mineral resource estimates have been undertaken with recent samples.

## 15. MINERAL RESERVE ESTIMATES

No mineral reserve estimates have been undertaken.

## **16. MINING METHODS**

The Author has not conducted investigations of appropriate mining techniques for purposes of this Technical Report.

## **17. RECOVERY METHODS**

This section is not applicable to an exploration project at this stage.

## **18. PROJECT INFRASTRUCTURE**

The Property is located in a well-established mining district with a large operation currently in production at the Los Colorados Mine owned by Compañía Anglo Pacifico ("CAP"), approximately 21 km to the south-east. In addition, as mentioned in section 5e above, ENAMI operates a custom mineral processing plant on the north edge of the town of Vallenar approximately 55 km to the south south-east. This plant is accessible year round by good gravel and paved roads that are maintained by CAP and the Chilean National Highway 5 to Vallenar. Hence, much of the necessary infrastructure is in place. No detailed study of infrastructure requirements has been conducted for purposes of this Technical Report.

## **19. MARKET STUDIES AND CONTRACTS**

This section is not applicable to an exploration project at this stage.

## 20. ENVIRONMENTAL STUDIES, PERMITTING, SOCIAL OR COMMUNITY IMPACT

## 20a. Environmental Studies

No environmental studies have been undertaken and no known environmental issues exist. The property is in a well-established mining area although it appears that the COBA exploration claims lie within the northern boundary of the Llanos de Challe Park. Work that disturbs the surface within the park would require written authorization from the Chilean authorities. This does not apply to the Teresa Claims that are outside of the park boundaries nor would it apply to the La Fortuna Claim which, while within the park boundary, is an old exploitation claim that predates the establishment of the park. Nothing in the proposed phase 1 and 2 exploration programs would require such additional authorization.

20b. Waste and Tailing Disposal & Water Management

This section is not applicable to an exploration project at this stage.

#### 20c. Permitting Requirements

This section is not applicable to an exploration project at this stage.

#### 20d. Social and Community Related Requirements

This section is not applicable to an exploration project at this stage. No one lives on or nearby the Property.

#### 20e. Mine Closure, Remediation & Reclamation

This section is not applicable to an exploration project at this stage.

# 21. CAPITAL AND OPERATING COSTS

No estimates of the capital or operating costs are made.

### 22. ECONOMIC ANALYSIS

This section is not applicable to an exploration project at this stage.

# 23. ADJACENT PROPERTIES

The Author has reviewed a report which was prepared by Minera Stamford S.A. ("**Minera Stamford**") during May 2000. The report was prepared on their nearby Azucar project which is located on what Minera Stamford refers to as the "Farellón claims" (the "**Minera Stamford Report**"). The Mineral Stamford Report indicates that 39 RC holes were drilled on the Azucar Project, of which the locations of 33 are known. The Minera Stamford Report does not attempt to report estimates of reserves volumes but does provide an estimate of "projected mineralization" of 7 million tonnes of sulphide ore. However, it should be noted that 30% of the mineralized intercepts reported were in oxide ore. The Minera Stamford Report makes no estimates of the tonnage of oxide ore. It should also be noted that the Minera Stamford Report is not compliant with the requirements of NI 43-101 and any estimates of "projected mineralization" contained in that report do not fall within accepted definitions proscribed within National Instrument 43-101.

The Author has been unable to verify the information contained within the Minera Stamford report and the information within is not necessarily indicative of mineralization on the subject Property.

During 2009 and 2011, Red Metal Resources Ltd., through its 99% owned subsidiary Polymet, drilled a further 19 holes on the Farellón claims. This drilling program included 3 twins of holes drilled by Minera Stamford.

Approximately 2.5 km northeast of the northeast corner of the Teresa claims, still within the Carrizal Alto mining camp, is the past producing Armonia Mine. See figure 23-1. Old workings can clearly be seen in the satellite image. Chilean government geological mapping (Mapa Geológico de Chile: versión digital. Publication Geologica Digital, No. 4, 2003. CD-ROM Version 1.0, 2003, Base Geologia Escala 1:1,000,000, "**Government Mapping**") shows the veins striking southwest towards the veins, workings and shafts of the Teresa claims.

Government Mapping Walker (2018), and a map from Osario (2002) all show Armonia vein strike length of approximately 1.8 km. Walker (2018) reports that the vein systems of the Armonia Mine can be traced to the veins of the Teresa claim, however this isn't immediately obvious when examining the satellite image. Historically, the Carrizal Alto mining camp produced copper from the 1820s until 1941. In 1941 the mines closed due to surface flooding, despite still being in strong mineralization over mineable widths in the order of 8m. The Minera Stamford Report states that the Carrizal Alto area produced in excess of 3 million tonnes of ore grading in excess of 5% copper and 19 grams gold based on the size and grades of the remnants of the old mine dumps. It also states that at the time of writing most of the old dumps had been removed and retreated in Copiapo. Historic records also indicate that copper ore of 12% copper was also produced (Lewis, 2012). The higher grade ore described above was reported to have been directly shipped to the British Isles for further processing during portions of the mines' lives.

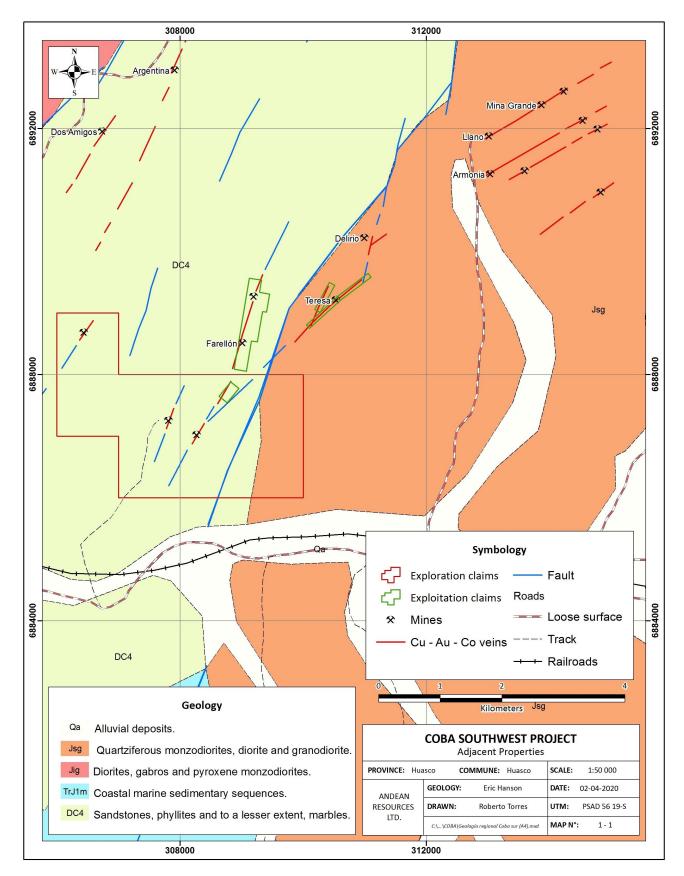


Figure 23-1: Adjacent Properties showing the Armonia Vein

Osorio (2002) describes a series of 6 veins named "Veta del Agua", "Veta Principal", "Veta Isla", "Veta Santa Rosa", Veta Armonia" and "Veta Santa Teresa". Figure 26-2 below is a map showing the vein system.

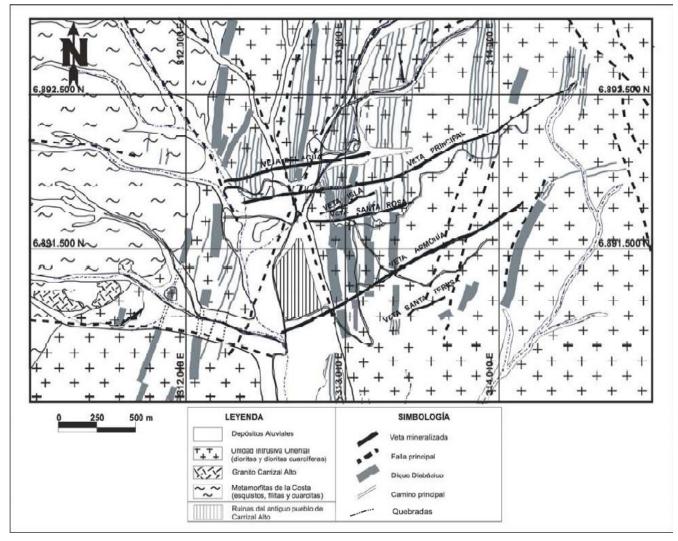


Figure 23-2: Vein system map of the Carrizal Alto Mining Camp. (Modified from Osorio, 2002)

## 24. OTHER RELEVANT DATA AND INFORMATION

It is the opinion of the Author that this Technical Report is clear and not misleading.

### 25. INTERPRETATIONS AND CONCLUSIONS

The Property hosts shear zone related mineralization of copper, gold, and cobalt. This is shown principally by recent surface work done in 2018 and 2019. Historical underground and surface artisanal mining has taken place on and nearby the Property.

#### 26. RECOMMENDATIONS

#### Proposed Phase 1 Exploration Program

An initial program of surface and underground geological mapping, Transient Electromagnetic (TEM) surveys and diamond drilling is recommended to investigate the copper, gold and cobalt grades distribution and continuity along the Teresa main zone.

The underground surveys are planned to investigate the old workings of the two shafts on the Teresa 1 claim, the north-eastern most of which is shown on the cover photo of this report. It has not been active for many years so care must be taken in surveying the shaft and any old workings.

Upon completion of all of the above, a follow up geophysics program over selected areas is recommended to investigate the continuity of the mineralisation below the surface showings and sub-surface strike extensions of the underground mines. There are various options as to what geophysical technique would be best used. The veins are believed to be oxidized down to approximately 80m depth. Below that depth, the mineralization is in a sulphide phase. Disseminated pyrite, in the order of 10% pyrite or less, would be a suitable target for IP (Induced Polarization) while for higher grade zones of semi-massive pyrite (in the order of 20% pyrite), a TEM (Transient Electromagnetic) survey, which detects zones of conductivity/resistivity, would be more suitable. Historically the higher grade copper-gold-cobalt mineralization mined in the Carrizal Alto camp was semi-massive sulphide hence TEM surveying is the recommended technique to use.

The recommended Phase 1 drilling program of 10 holes would be collared along the surface trace of the main vein system on the Teresa claims (Table 26-1, Figure 26-1).

The main objectives of the Phase 1 drilling program are: i) to test the continuity of the mineralization in the Teresa vein system within the oxidized layer which, from observations in the Teresa North shaft and the drilling on the adjacent Farellón property extends to depths of approximately 50 to 80 meters below surface; and ii) obtain, on a limited basis, grades within deeper levels of undisturbed sulphide mineralization.

Consequently, only a subset of the drilling program is initially planned to cut sulphide mineralization. However, the Author is of the view that the Phase 1 drilling programs must be flexible such that field observed results may vary the initially planned program. Specifically, it is recommended that should field results warrant, drilling may involve "fences" whereby a hole that intercepted interesting indications in the oxide layer may be followed up with a second, or possibly third, hole from the same surface location that tests mineralization at successively increasing depths including into undisturbed sulphide mineralization.

Hole #	Collar Location		Azimuth	Inclination	Length
	UTM E	UTM N	Azimuti	mennation	(m)
1	311060	6889625	145	-65	100
2	310990	6889570	155	-60	90
3	310900	6889520	150	-65	90
4	310735	6889400	145	-60	90
5	310550	6889250	140	-60	80
6	310320	6889035	135	-60	90
7	310235	6889100	110	-65	100
8	310300	6889230	135	-55	100
9	310150	6888890	140	-60	80
10	310070	6888810	135	-60	80

Table 26-1 Proposed Phase 1 Drill Hole Locations

DATUM: PSAD56, Zone 19S

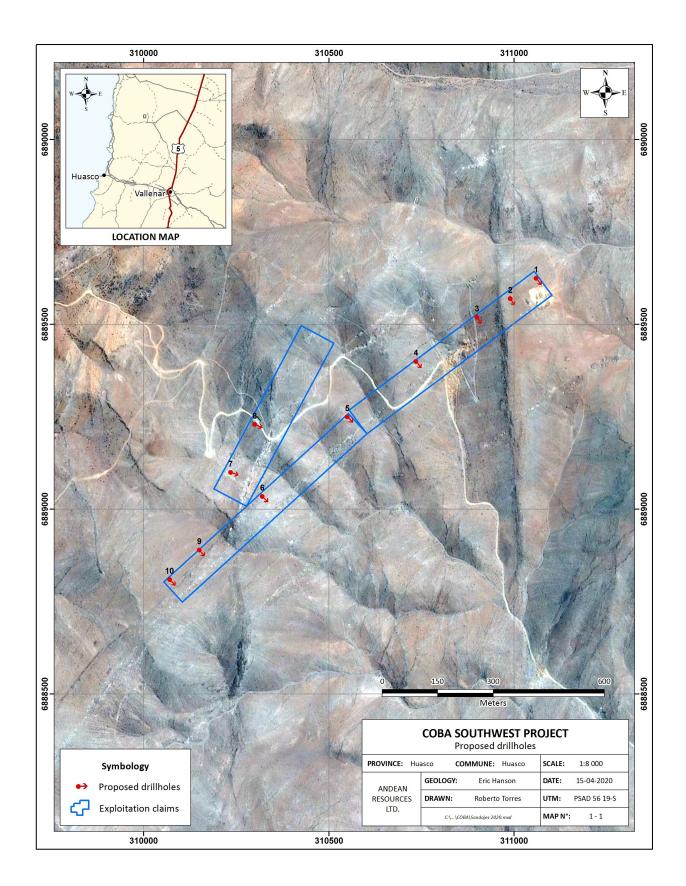


Figure 26-1: Proposed Phase 1 Drill Hole Locations

The table below outlines a proposed budget for the Phase 1 exploration program.

Budget Item	Days/Units	Rate (US\$)	Cost (US\$)
Surface and Underground Mapping and Sampling			
a) Surface			
Geologist, supervision and sampling	14	450	6300
Field Assistant	14	100	1400
Room and Board - 2 people	14	190	2660
Truck Rental	14	100	1400
Fuel and supplies	14	25	350
Assays	150	30	4500
b) Underground (Teresa N and S Shafts)			
Contract Specialists	6	750	4500
Assays	60	30	1800
Ground Geophysics			
Contract TEM Survey	11	1600	17600
Reconnaissance Drilling			
a) Site Preparation and Planning			
Geologist, planning site location etc	5	450	2250
Field Assistant	5	100	500
Room and Board - 2 people	5	190	950
Truck Rental	5	100	500
Fuel and supplies	5	25	125
Contract Access Road/Pad Construction	10	2500	25000
b) Drilling			
Contract Diamond Drilling	900	225	202500
Drilling Water Purchase	900	10	9000
Geologist, supervision, logging and sampling	12	450	5400
Field Assistant	12	100	1200
Room and Board - 2 people	12	190	2280
Truck Rental	12	100	1200
Fuel and supplies	12	25	300
Assays	120	30	3600
Core Yard Rental			1200
Sub-Total			\$296515
Contingency @5% on Contract Items only			\$12480
Project Total			\$308995
Canadian Dollar Equivalent (approx @ 1.4C\$: 1US\$)			\$432593

 Table 26-2: Proposed Phase 1 Exploration Budget

Proposed Phase 2 Exploration Program

A second phase of exploration would be contingent on favourable results from Phase 1.

A magnetometer survey is recommended to cover all of the COBA 13-15 claims together with the Teresa claims and a certain amount of ground in between. The survey could be ground based or could be done utilizing a drone. A total of 74 line–kilometres are recommended with lines orientated east – west and spaced 200m apart. See figure 26-1 below.

Field work to follow up on any interesting features identified by the magnetometer survey would be recommended – again, based on results of the survey - followed by additional infill TEM and a second phase of drilling. Again, this program is contingent upon favorable results from the phase one exploration programs and satisfactory indications from follow up field sampling and the magnetometer and TEM surveys. This additional 1000m drilling program would include the drilling of new targets identified by field sampling and the geophysical surveys, as well as infill drilling on the Teresa claims.

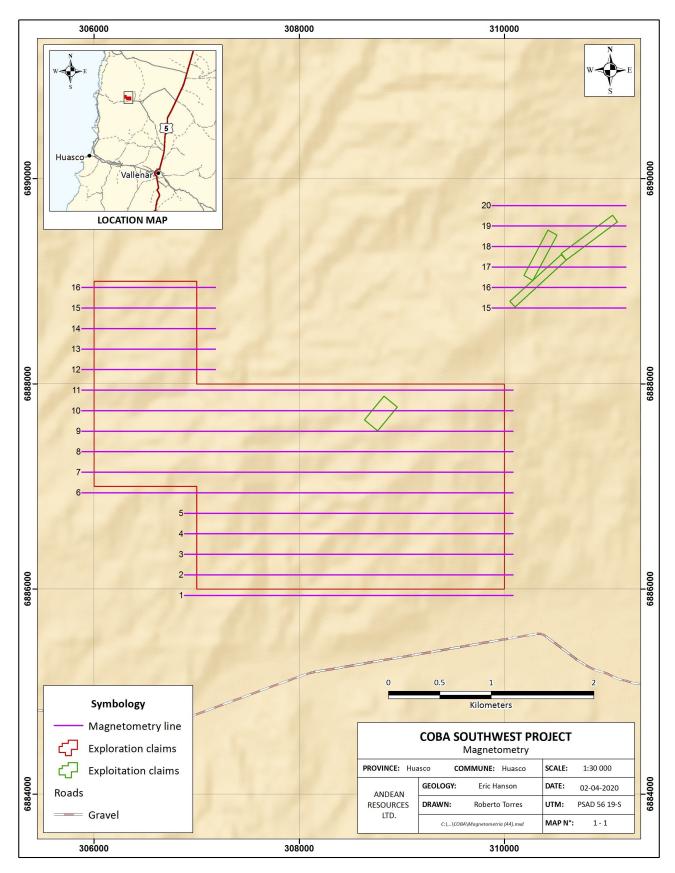


Figure 26-2: Proposed Magnetometer Survey

The table below outlines a proposed budget for a Phase 2 exploration program.

		Rate	Cost
Budget Item	Days/Units	(US\$)	(US\$)
Ground Geophysics			
Contract Magnetic Survey	74	180	13320
Contract TEM Survey	10	1600	16000
Phase 2 Drilling			
a) Site Preparation and Planning			
Geologist, planning site location etc	4	450	1800
Field Assistant	4	100	400
Room and Board - 2 people	4	190	760
Truck Rental	4	100	400
Fuel and supplies	4	25	100
Contract Access Road/Pad Construction	10	2500	25000
b) Drilling			
Contract Diamond Drilling	1000	225	225000
Drilling Water Purchase	1000	10	10000
Geologist, supervision, logging and sampling	14	450	6300
Field Assistant	14	100	1400
Room and Board - 2 people	14	190	2660
Truck Rental	14	100	1400
Fuel and supplies	14	25	350
Assays	140	30	4200
Core Yard Rental			1200
Sub-Total			310290
Contingency @5% on Contract Items only			13966
Project Total			324256
Canadian Dollar Equivalent (approx@ 1.4C\$: 1US\$)			453958

 Table 26-3: Proposed Phase 2 Exploration Budget

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Press release from Red Metal Resources, March 2, 2018. <u>https://www.newsfilecorp.com/release/33255/Red-Metal-Resources-reviews-cobalt-potential-of-Carrizal-properties</u>