TARON PROJECT
NI 43-101 TECHNICAL REPORT
Salta Province, Argentina

Prepared for

cascaderocopper

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Report Date: 14 September 2017

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Certain information and statements contained in this report are “forward looking” in nature. All information and statements in this report, other than statements of historical fact, that address events, results, outcomes or developments that Cascadero and/or the Qualified Persons who authored this report expect to occur are “forward-looking statements”. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the use of forward-looking terminology such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, “projects”, “potential”, “believes” or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will be taken”, “occur” or “be achieved” or the negative connotation of such terms. Forward-looking statements include, but are not limited to, statements with respect to estimates of mineral reserves and resources; potential environmental liabilities and related costs; and exploration potential.

All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted. Material assumptions regarding forward-looking statements are discussed in this report, where applicable. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any of the future results, performance or achievements expressed or implied by forward-looking statements. These risks, uncertainties and other factors include, but are not limited to, the assumptions underlying the technical report discussed herein not being realized; decreases in gold prices; actual recovery rates; actual results of current exploration; exchange rate fluctuations; title risks; regulatory risks and uncertainties; and other risks involved in the gold exploration and development industry; as well as those risk factors discussed elsewhere in this report, in Cascadero’s latest Annual Information Form, Management’s Discussion and Analysis and its other SEDAR filings from time to time. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. Cascadero and the Qualified Persons who authored of this report undertake no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law.

DATE AND SIGNATURE PAGE

The effective date of this NI 43-101 Technical report, entitled “NI 43-101 Technical Report, Taron Project” is 14 September 2017.

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Date: 14 September 2017

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1.0 SUMMARY

1.1 Introduction

Geosim Services Inc. (Geosim) was requested by Cascadero Copper Corp. (Cascadero) to prepare a Technical Report for the Taron Cesium Project located in Northwestern Argentina (the Project).

The Project is located 160 km northwest of the city of Salta, Argentina, and a three-hour drive from the town of San Antonio de los Cobres. It is readily accessible by roads that lead to several former manganese mines and currently producing borax mines.

The Property consists of five (5) Contiguous Mineral Tenures, approximating 8,179 hectares (83 Units) in area. The Tenures are registered to Cascadero Minerals S.A. (CMSA), which is 100% owned by Cascadero Minerals Corporation (CMC), a Canadian Company, which is 70% owned by Cascadero Copper Corporation (CCD) and 30 % owned by Regberg Ltd. (RB). CMC operates as a 70% CCD and 30% RB joint venture.

The Project lies on a gently west sloping plateau about 4,250 metres above sea level. The topography is subdued to moderately rugged and vertical relief above the local datum is about 80 metres. The climate is arid with annual rainfall in the summers of 200-400 mm. Mid-summer high temperatures range from 14-21 °C with overnight lows of 6 °C. Mid-winter temperatures range to -8 °C with extremes of -15 °C.

No permanent habitation is located within 30 km of the Taron deposit and no cultivated land exists in the area. Sheep and llama are pastured locally.

1.2 Project History

Manganese was mined on a small scale at Taron, beginning in the Second World War and continuing into the middle 1950s. Regional exploration by geologists working for Argentine Frontier Resources Inc. (AFRI), a private Vancouver based exploration Company, recognized the association of manganese with silver deposits in the area, and routine geochemical sampling led to the discovery of the Taron cesium deposit in 2004. AFRI was subsequently acquired by Cascadero Copper in June 2009.

In 2005 and 2006, 5600 metres of hand and mechanized trenching were completed, sampled and analyzed. Cascadero completed 7 HQ diamond drill holes totaling 907.2 metres. between May and June 2009.

In 2017, Cascadero completed a 35-hole diamond drilling campaign.

1.3 Geology and Mineralization

The project lies in the eastern part of the central Andes and straddles the contact between the Eastern Cordilleran Ranges and the Altiplano-Puna. Strata to the immediate east of the claimed area comprise sedimentary rocks of the Late Proterozoic Puncoviscana Group. West of Taron, the geologic framework is marked by a basin-and-range physiographic setting with wide linear valleys underlain by Middle to Late Tertiary continental volcanic and sedimentary rocks.

The Ochaqui Basin is an informal name assigned to the graben-like structure that host the Taron deposit in Late Tertiary sedimentary and volcanic rocks dominated by sandstone and conglomerate facies. An epithermal event, of Miocene age, metasomatized pre-existing rocks forming assemblages of cryptocrystalline silica, colloids, gels, manganates, arsenates, and oxides (collectively termed “geyserites”) and travertine within the porous sediments.

The main zone of +200 ppm cesium mineralization lies in the Core and North Zones which cover a 700x1500 metre area intermittently exposed over a vertical range of 80 to 100 metres. Within this zone, the average Cs grade based on the 2017 drill results is about 1400 ppm Cs.

A Petrographic, XRD, SEM study concluded that Cs reports predominantly as a Cs-substituted pharmacosiderite at levels of up to 12% Cs in this phase. Mixtures of Cs-pharmacosiderite and other phases are also present (Hamilton, 2005).

1.4 Metallurgical Testing

Metallurgical test work conducted by SGS Lakefield Research on two bulk samples in 2006 demonstrated amenability to processing with >78% cesium recoveries. Cesium solubility was excellent in both acid and caustic leaches; however, no attempt was made by SGS to further separate, purify or sequester the other elements in solution. This program was terminated in 2007 by a lack of funding.

Cascadero initiated a hydro metallurgical study at UBC in 2015 which so far has been able to demonstrate that cesium hydroxide and cesium formate can be produced from Taron drill core material with a recovery of 90% Cs. The next phase of metallurgical test work is designed to generate data which may enable the Company to demonstrate reasonable prospects of economic extraction in order to support a Mineral Resource Estimate.

1.5 Mineral Resource Estimate

No mineral resources have been estimated for the Project.

1.6 Interpretation and Conclusions

The Taron project contains a deposit enriched in cesium and rubidium. Other elements of potential interest are thallium, arsenic, and manganese. It has been demonstrated that potentially saleable products, Cs hydroxide and Cs Formate solutions, can be extracted from the mineralized material. However, it is uncertain at this time if the levels of these elements are potentially economic. Ongoing hydrometallurgical test work being conducted at UBC is designed to resolve this question.

1.7 Recommendations

Hydrometallurgical test work should be continued in order to determine prospects of economic extraction and determine a base case cut-off grade for a potential Mineral Resource.

Additional bulk density measurements should be taken on drill core over a range of lithologies.

A more accurate and higher resolution topographic base should be acquired.

All efforts should be made to locate analytical certificates for the historical trenching programs. If samples, pulps or rejects are available, a portion should be submitted for check analyses as there is presently no QA/QC data pertaining to these sample programs.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Geosim Services Inc (Geosim) was requested by Cascadero Copper Corp. (Cascadero) to prepare a National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101) Technical Report (the Report) for the wholly-owned Taron Project (the Project) located in Salta Province, Argentina.

2.1 Terms of Reference

Geosim is independent of Cascadero and has no beneficial interest in the Taron Project. Fees for this Technical Report are not dependent in whole or in part on any prior or future engagement or understanding resulting from the conclusions of this report.

All measurement units used in this report are metric, and currency is expressed in United States dollars unless stated otherwise.

The geographic projection used for the project maps and surveys is Posgar 94, Faja 3.

2.2 Qualified Persons

Ronald G. Simpson, P Geo. (Geosim Services Inc.) served as the Qualified Person (QPs) as defined in NI 43-101.

2.3 Site Visits and Scope of Personal Inspection

The author visited the site on May 20-21, 2017. The purpose of the visits was to review the drilling, sampling, and quality assurance/quality control procedures. The geology and mineralisation encountered in the drill holes completed to date were also reviewed. A detailed description of the site visit findings is included in Section 12.1.

2.4 Information Sources and References

Reports and documents listed in the Reliance on Other Experts (Section 3.0) and References (Section 19.0) sections of this Report were used to support the preparation of the Report.

2.5 Previous Technical Reports

No previous Technical Reports have been filed.

3.0 RELIANCE ON OTHER EXPERTS

The QP author of this Report states that they he is a qualified person for those areas as identified in the "Certificate of Qualified Person", as included in this Report. The author has not conducted independent land status evaluations and has relied, and believe there is a reasonable basis for this reliance, upon the following other expert reports and updated information from Cascadero regarding property status, and legal title for the Project (Sections 4.2 to 4.5), which the author believes to be accurate.

4.0 PROPERTY DESCRIPTION AND LOCATION

The Project is located in the province of Salta in northwestern Argentina centred at 24° 39' south latitude and 66° 30' west longitude (Figure 4-1). The property lies 160 km northwest of the city of Salta and is a three-hour drive from the town of San Antonio de los Cobres which lies 50 km to the NNE.

The closest town to the project is Santa Rosa de los Pastos Grande, with a population of 200 inhabitants. It is located 30 km to the northwest.

Figure 4-1 Project Location Plan

4.1 Tenure History

Regional exploration by geologists working for Argentine Frontier Resources Inc. (AFRI), a private Vancouver based exploration Company, recognized the association of manganese with silver deposits in the area, and routine geochemical sampling led to the discovery of the Taron cesium deposit in 2004. AFRI was subsequently acquired by Cascadero Copper in June 2009.

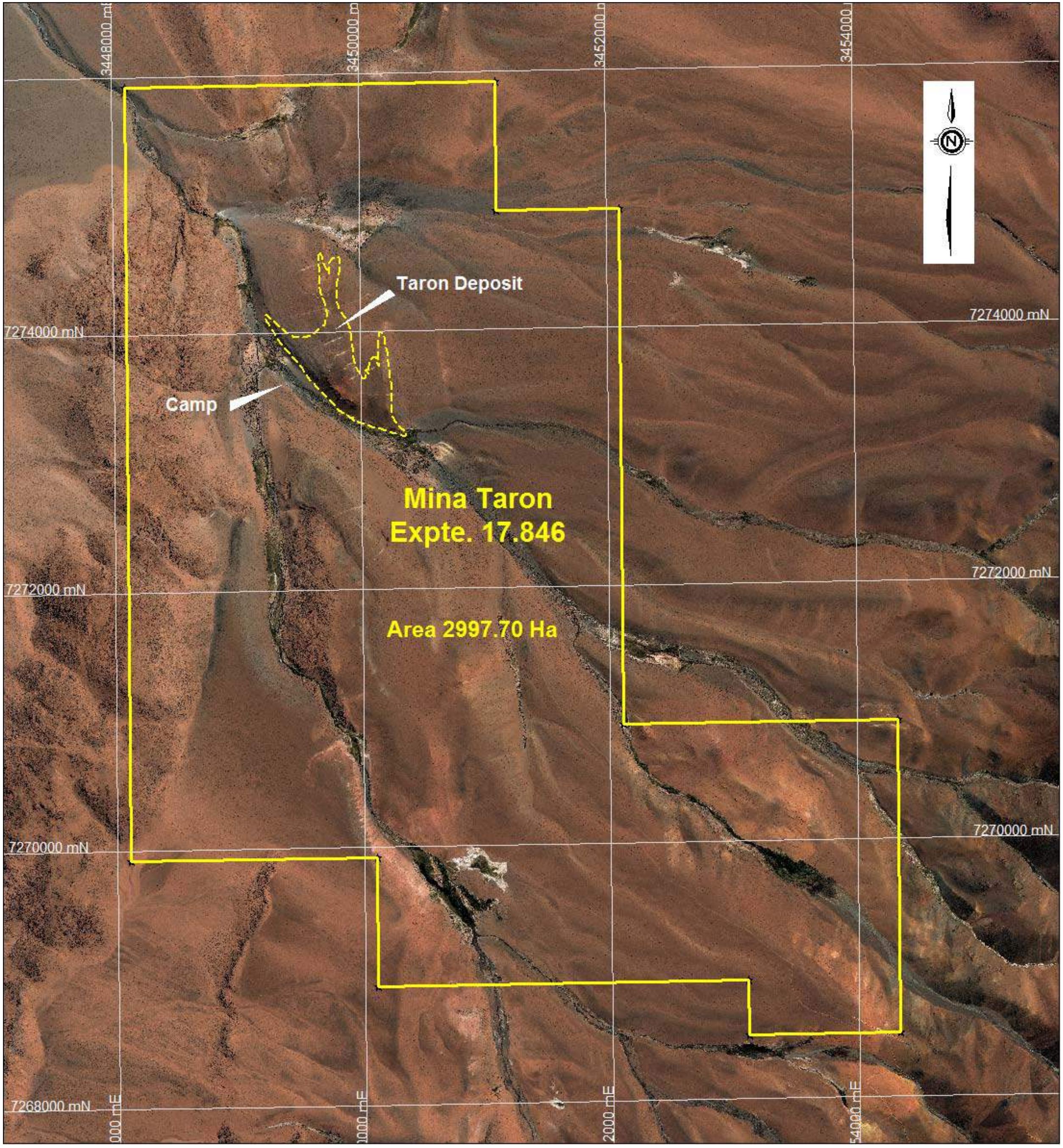
4.2 Mineral Tenure

The Property consists of five (5) Contiguous Mineral Tenures approximating 8,179 hectares (83 Units) in area. The Tenures are registered to Cascadero Minerals S.A. (CMSA), which is 100% owned by Cascadero Minerals Corporation (CMC), a Canadian Company, which is 70% owned by Cascadero Copper Corporation (CCD) and 30 % owned by Regberg Ltd. (RB). CMC operates as a 70% CCD and 30% RB joint venture. A 1% NSR is held by Northwestern Enterprises Ltd. The Mina Taron concession that covers the Taron deposit is illustrated in Figure 4-2.

Table 4-1 Taron Group Concessions

Property	File #	Units	Hectares	Registrant	Interest	NSR
Taron	17.846	30	2998	CMSA	100%	1%
La Intermedia	18.16	15	1425	CMSA	100%	1%
La Pacha I	18.161	5	465	CMSA	100%	1%
La Pacha II	20.114	3	300	CMSA	100%	1%
Taron Sur	18.083	30	2991	CMSA	100%	1%
5		**83**	**8,179**			

Figure 4-2 Mina Taron Concession



4.3 Surface Rights

Access over surface property rights in Argentina is obtained through the Ministry of Mines, which is required to communicate with the surface owners and ensure that they cooperate with the activities of the exploration/mining companies. Notice can be difficult due to delayed filing of personal property title changes and registry as well as limited staffing and mobility of the relevant authorities.

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

Taron lies in the Los Andes district. The surface land is owed by Salta province and belongs to plot 1480.

4.4 Royalties and Encumbrances

An agreement dated October 2014, CMSA assigned a 1% Net Smelter Return to Cyprus River Holdings Ltd. which was later transferred to Northwestern Enterprises Ltd.

4.5 Permits

A current Environmental Impact Assessment (EIA) was submitted in December 2016 (Chocobar, 2016).

4.6 Environmental Regulations

The Environmental Protection Mining Code of Argentina, enacted in 1996, establishes the guidelines for preparing the environmental impact statement for mining projects. The federal nature of the Argentine government leaves the application of this law to each province. Initially the provinces adhered to the mining law, and established the provincial mining secretary as the application authority. However, starting in 2002 several of the provinces have re-evaluated their approach to mining and have shifted the environmental criteria and authority to the environmental secretary.

A party wishing to commence or modify any mining-related activity as defined by the Mining Code, including prospecting, exploration, exploitation, development, preparation, extraction, and storage of mineral substances, as well as property abandonment or mine closure activity, must prepare and submit to the Provincial Environmental Management Unit (PEMU) an Informe de Impacto Ambiental or Environmental Impact Assessment (EIA) prior to commencing the work. Each EIA must describe the nature of the proposed work, its potential risk to the environment, and the measures that will be taken to mitigate that risk. The PEMU has a sixty-day period to review and either approve or reject the EIA; however, the EIA is not considered to be automatically approved if the PEMU has not responded within that period. If the PEMU deems that the EIA does not have sufficient con0074ent or scope, the party submitting the EIA is granted a thirty-day period in which to resubmit the document.

If accepted by the PEMU, the EIA is used as the basis to create a Declaración de Impacto Ambiental or Declaration of Environmental Impact (DEI) to which the party must agree to uphold during the mining-related activity in question. The DEI must be updated at least once every six months. Sanctions and penalties for non-compliance to the DEI are outlined in the Environmental Protection Mining Code, and may include warnings, fines, suspension of Environmental Quality Certification, restoration of the environment, temporary or permanent closure of activities, and removal of authorization to conduct mining-related activities.

4.6.1 Existing Environmental Liabilities

Prior to the 2017 drill program there were no existing environmental liabilities on the property. Trenches excavated during the 2005-2006 exploration programs were filled in and drill sites from the 2009 program were rehabilitated. The 2017 drill program resulted in some surface disturbance but all drill platforms have been rehabilitated and no environmental liabilities currently exist on the property.

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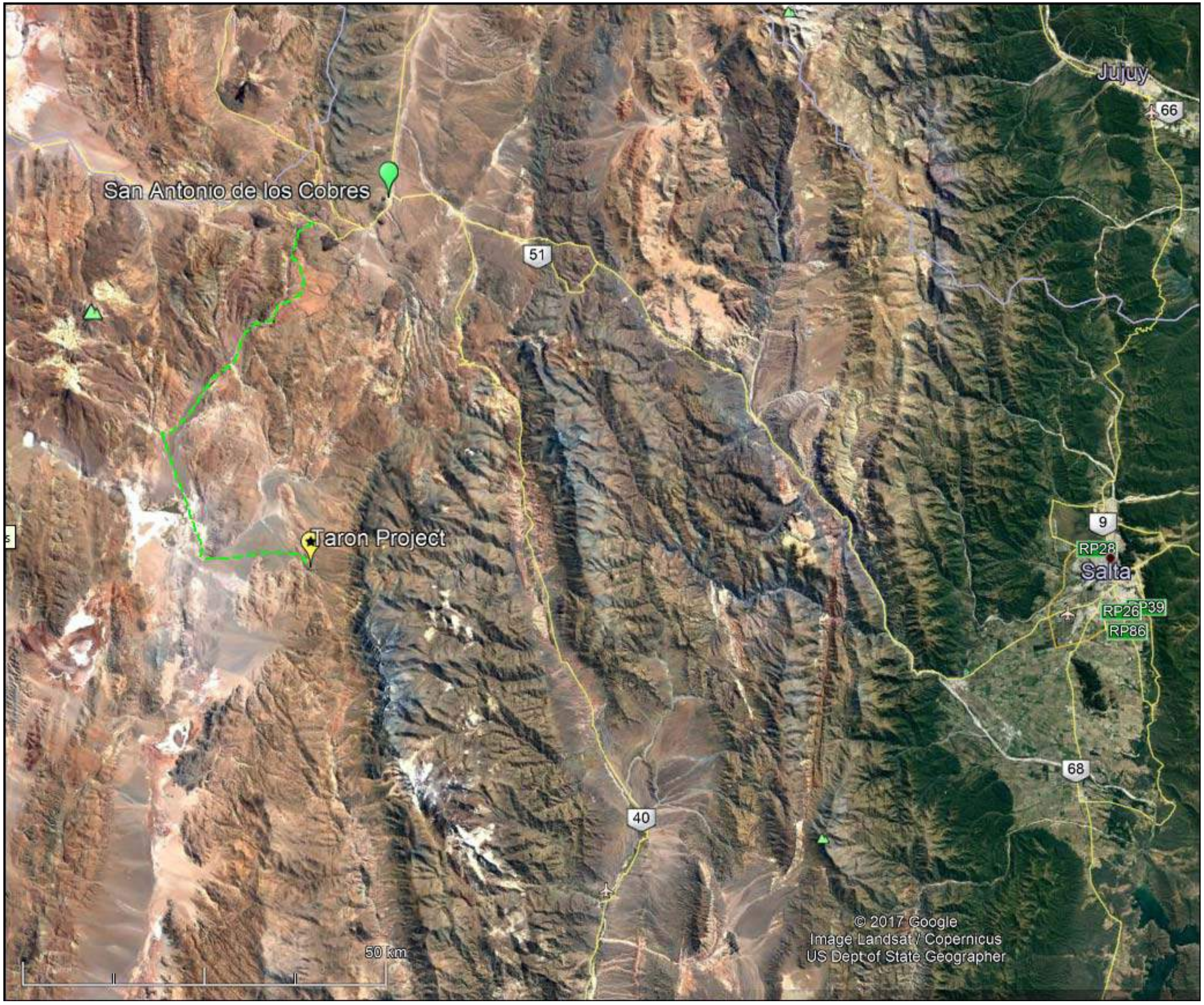
5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Accessibility

The Taron project is located 160 km northwest of the city of Salta and a three-hour drive from the town of San Antonio de los Cobres (Figure 5-1). It is readily accessible by roads that lead to a number of former manganese mines and currently producing borax mines.

Figure 5-1 Location and Access



5.2 Climate

The climate is arid with annual rainfall in the summers of 200-400 mm. Mid-summer high temperatures range from 14-21 °C with overnight lows of 6 °C. Mid-winter temperatures range to -8 °C with extremes of -15 °C.

5.3 Local Resources and Infrastructure

The property lies about 50 km south of the village of Pocitos on the rail line between Antofagasta, Chile and the City of Salta in Argentina. A major electrical transmission line between Argentina and Chile passes near the town of San Antonio de los Cobres and a gas pipe line deadheads at Pocitos. It services the FMC Hombre Muerto lithium mine operation to the south. There are open cast borax mines within 25 km of the Taron property, including the former Rio Tinto Sijes borax mine now owned and operated by Orocobre Limited.

No permanent habitation is located within 30 km of the Taron deposit and no cultivated land exists in the area. Sheep and llama are pastured locally.

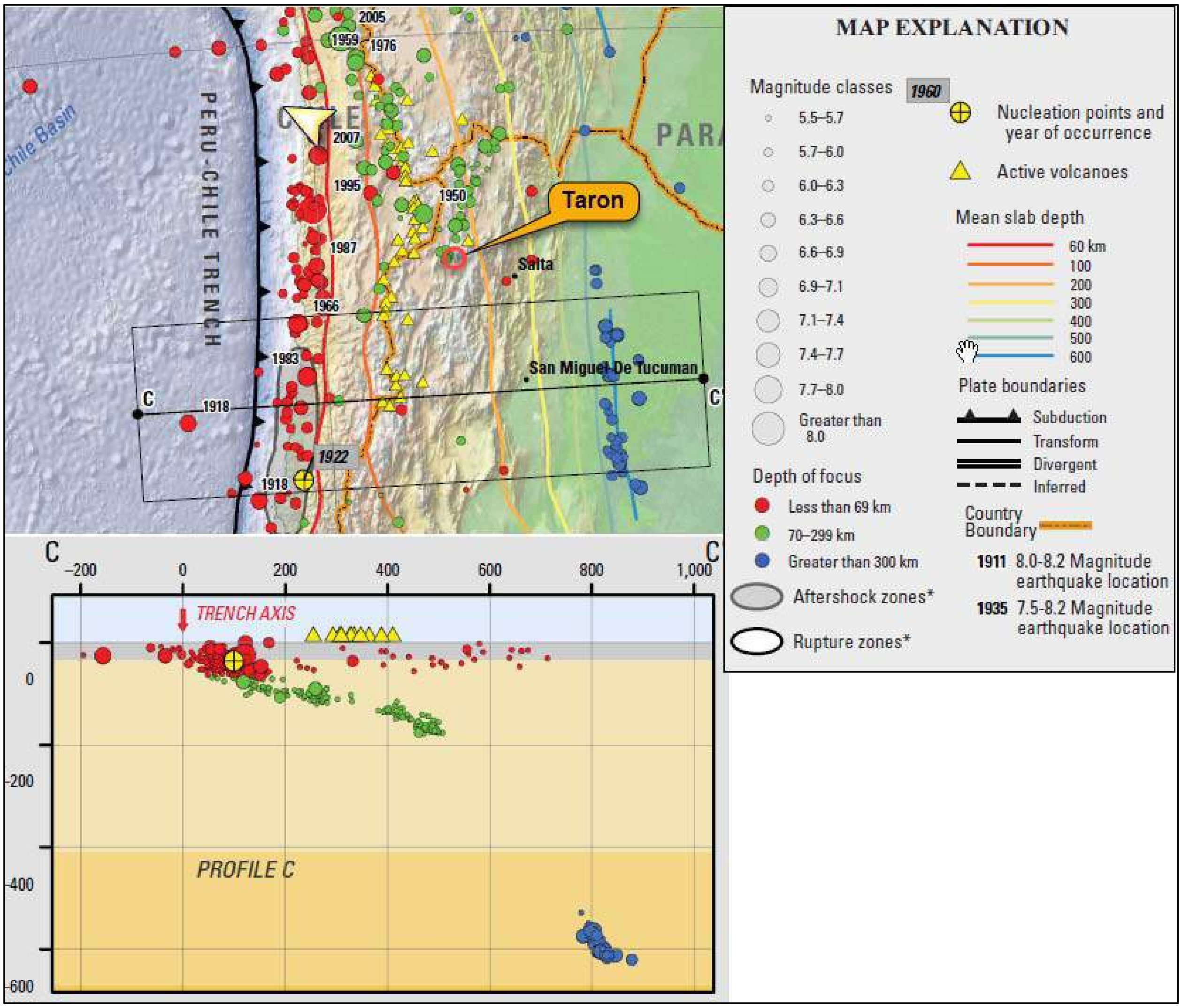
5.4 Physiography

The Taron deposit forms a broad, gently west sloping plateau about 4,250 metres above sea level. The topography is subdued to moderately rugged and vertical relief above the local datum is about 80 metres.

5.5 Regional Seismicity

The property lies in a zone of moderate earthquake hazard (Figure 5-2). This area corresponds to Zone 2 according to Instituto Nacional de Prevision Sismica (INPRES).

Figure 5-2 Seismotectonics



6.0 HISTORY

Manganese was mined on a small scale at Taron from the adjoining Ochaqui mine. This work began in the Second World War and continued into the middle 1950s.

Regional exploration by geologists working for Argentine Frontier Resources Inc. (AFRI), a private Vancouver based exploration Company, recognized the association of manganese with silver deposits in the area, and routine geochemical sampling led to the discovery of the Taron cesium deposit in 2004.

In 2005 and 2006, 5,600 metres of hand and mechanized trenching were completed, sampled and assayed.

In 2006, SGS Lakefield Research was retained for beneficiation studies of the Taron mineralization. This work demonstrated that the mineralization was soluble in both hot acid and alkali and that it showed excellent recoveries in both cases.

All of the work conducted on the Taron property was financed by MI SWACO, a related company to Schlumberger Ltd., under an option to acquire an interest in the deposit. This option was dropped in 2007 when Chemetall GmbH may have expressed concerns to MI SWACO about the arsenic content of the Taron deposit.

AFRI was acquired by Cascadero June 2009.

In May and June of 2009, Cascadero completed seven HQ diamond core holes for a total of 908 metres of drilling. The trenches and drill hole sites have since been reclaimed.

7.0 GEOLOGICAL SETTING AND MINERALISATION

The project lies at the eastern boundary of the Puna area of northwest Argentina. The Puna is a basin and range geomorphic province comprised of northerly trending mountain ranges and broad valleys. It makes up a broad, upland plateau surface with base elevations between 3500 and 4500 metres and locally in excess of 5000 metres.

The Puna geomorphic setting is defined by a system of northerly trending longitudinal faults modified by west-northwest trending transverse structures. It is also defined by an internal drainage system that has resulted in the development of numerous small to large (100 km across) saline basins known as salars. To the north, the Puna transitions into the Altiplano of Bolivia. To the west, along the Chilean frontier, the boundary of the Puna is defined by Late Tertiary volcanoes of the Central Volcanic Belt of the Andes. The eastern boundary is defined by a chain of rugged mountains and deep valleys of the Eastern Cordillera.

Rocks in the Puna range form Late Precambrian to Recent and have undergone a complex evolution to attain the present geologic configuration.

7.1 Regional Geology

The project lies in the eastern part of the central Andes and straddles the contact between the Eastern Cordilleran Ranges and the Altiplano-Puna (Figure 7-1 and Figure 7-2). Strata to the immediate east of the claimed area comprise sedimentary rocks of the Late Proterozoic Puncoviscana Group that extend for some 100 km across the width of the eastern Andes. Within this area, Lower and Upper Cretaceous strata of the Salta Group and Middle Tertiary sediments are preserved in regionally extensive, northerly trending, graben structures. West of Taron, the geologic framework is marked by a basin-and-range physiographic setting where wide linear valleys are underlain by Middle to Late Tertiary continental volcanic and sedimentary rocks and upland horst blocks are underlain mainly by Ordovician marine sedimentary rocks of the Famantina assemblage and granitic rocks of the Silurian Faja Eruptive suite. Mineralization at Taron straddles the transition between these two physiographic provinces.

Figure 7-1 Geology of the Taron area (Blasco et al, 1996)

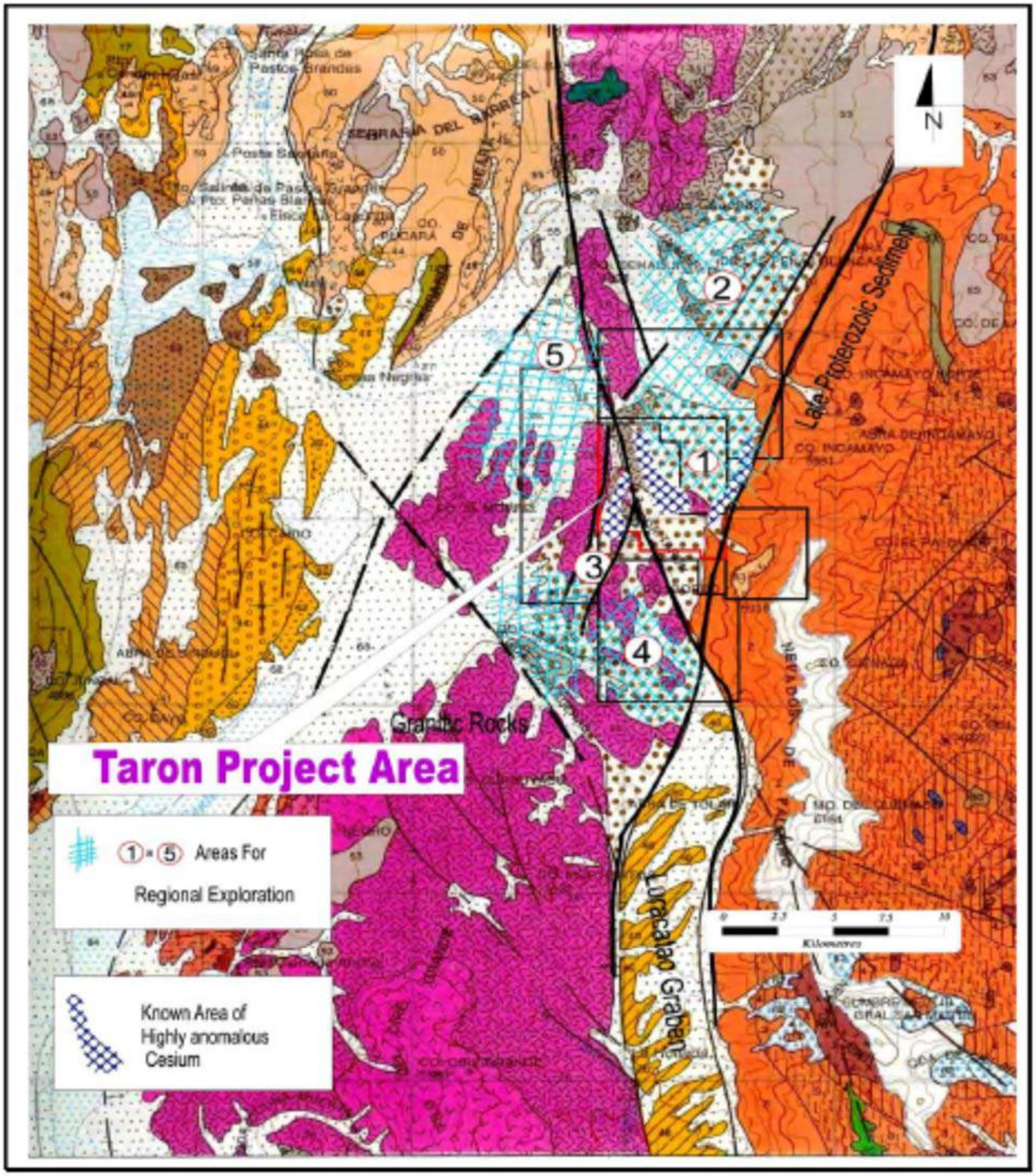
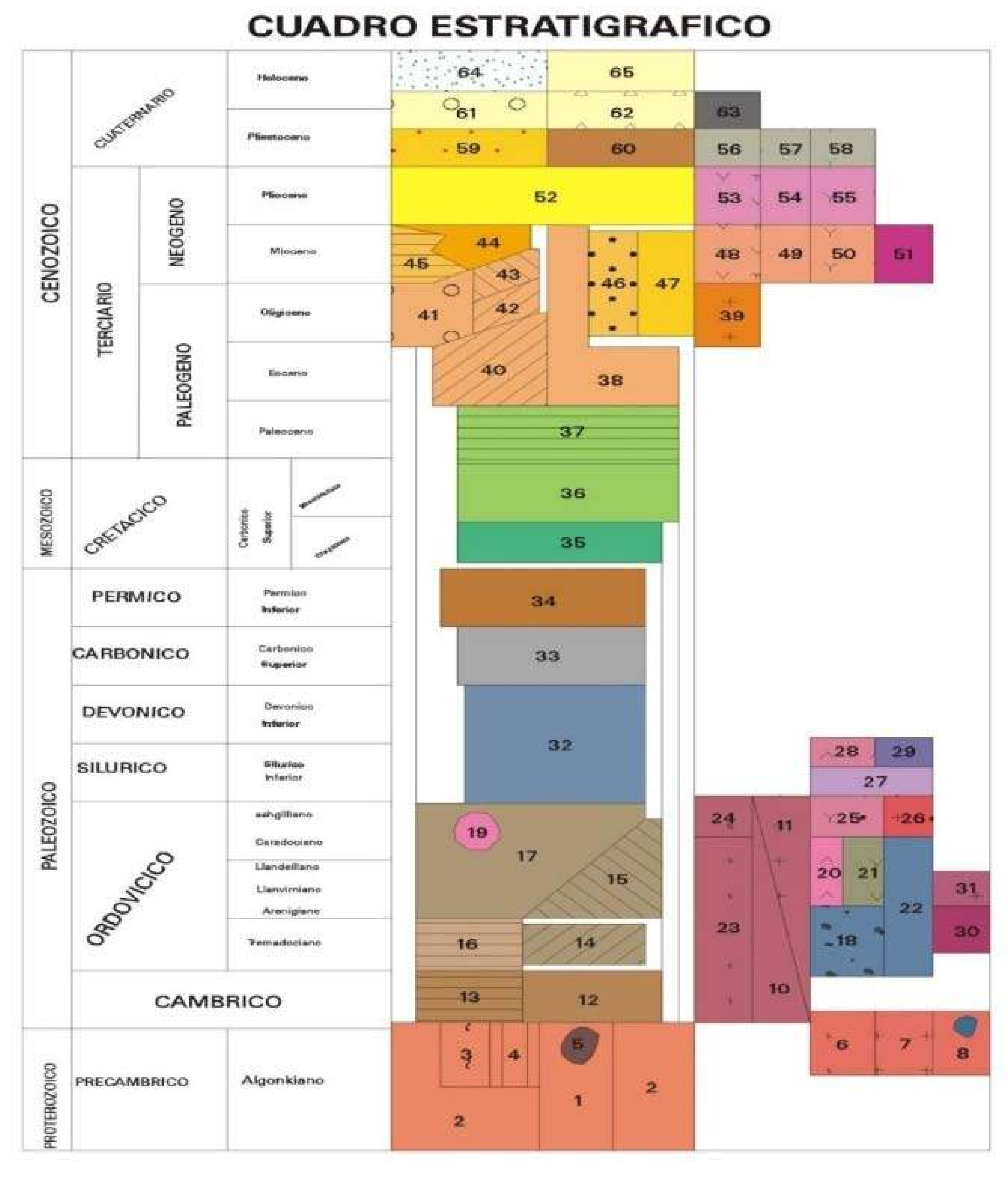
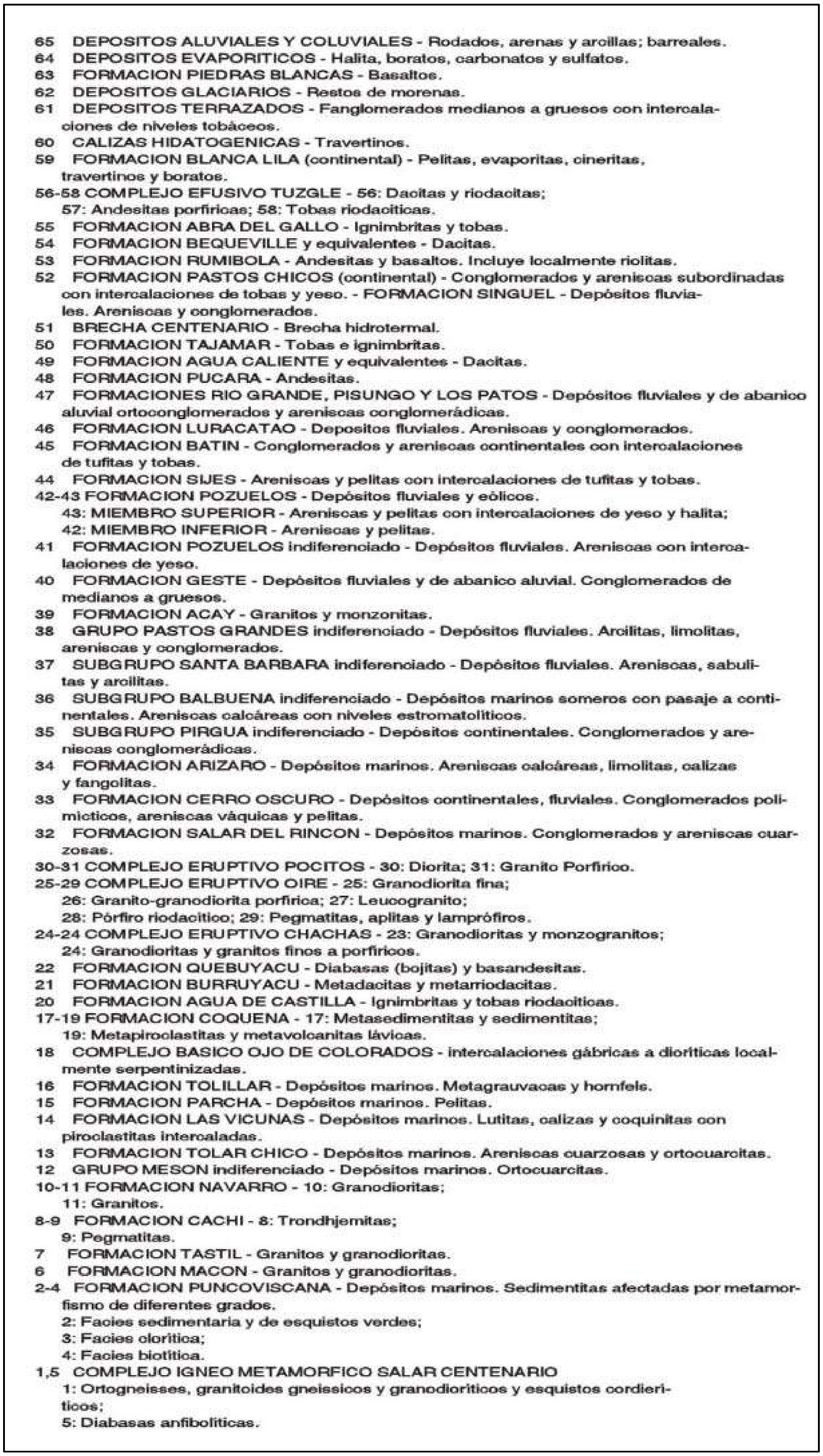


Figure 7-2 Stratigraphic Column





65 DEPOSITOS ALUVIALES Y COLUVIALES - Rodados, arenas y arcillas; barreales.
64 DEPOSITOS EVAPORITICOS - Halita, boratos, carbonatos y sulfatos.
63 FORMACION PIEDRAS BLANCAS - Basaltos.
62 DEPOSITOS GLACIARIOS - Restos de morenas.
61 DEPOSITOS TERRAZADOS - Fanglomerados medianos a gruesos con intercalaciones de niveles tobáceos.
60 CALIZAS HIDATOGENICAS - Travertinos.
59 FORMACION BLANCA LILA (continental) - Pelitas, evaporitas, cineritas, travertinos y boratos.
56-58 COMPLEJO EFUSIVO TUZGLE - 56: Dacitas y riodacitas;
57: Andesitas porfiricas; 58: Tobas riodaciticas.
55 FORMACION ABRA DEL GALLO - Ignimbritas y tobas.
54 FORMACION BEQUEVILLE y equivalentes - Dacitas.
53 FORMACION RUMIBOLA - Andesitas y basaltos. Incluye localmente riolitas.
52 FORMACION PASTOS CHICOS (continental) - Conglomerados y areniscas subordinadas con intercalaciones de tobas y yeso. - FORMACION SINGUEL - Depósitos fluviales. Areniscas y conglomerados.
51 BRECHA CENTENARIO - Brecha hidrotermal.
50 FORMACION TAJAMAR - Tobas e ignimbritas.
49 FORMACION AGUA CALIENTE y equivalentes - Dacitas.
48 FORMACION PUCARA - Andesitas.
47 FORMACIONES RIO GRANDE, PISUNGO Y LOS PATOS - Depósitos fluviales y de abanico aluvial ortoconglomerados y areniscas conglomerádicas.
46 FORMACION LURACATAO - Depositos fluviales. Areniscas y conglomerados.
45 FORMACION BATIN - Conglomerados y areniscas continentales con intercalaciones de tufitas y tobas.
44 FORMACION SIJES - Areniscas y pelitas con intercalaciones de tufitas y tobas.
42-43 FORMACION POZUELOS - Depósitos fluviales y eólicos.
43: MIEMBRO SUPERIOR - Areniscas y pelitas con intercalaciones de yeso y halita;
42: MIEMBRO INFERIOR - Areniscas y pelitas.
41 FORMACION POZUELOS indiferenciado - Depósitos fluviales. Areniscas con intercalaciones de yeso.
40 FORMACION GESTE - Depósitos fluviales y de abanico aluvial. Conglomerados de medianos a gruesos.
39 FORMACION ACAY - Granitos y monzonitas.
38 GRUPO PASTOS GRANDES indiferenciado - Depósitos fluviales. Arcilitas, limolitas, areniscas y conglomerados.
37 SUBGRUPO SANTA BARBARA indiferenciado - Depósitos fluviales. Areniscas, sabulitas y arcilitas.
36 SUBGRUPO BALBUENA indiferenciado - Depósitos marinos someros con pasaje a continentales. Areniscas calcáreas con niveles estromatoliticos.
35 SUBGRUPO PIRGUA indiferenciado - Depósitos continentales. Conglomerados y areniscas conglomerádicas.
34 FORMACION ARIZARO - Depósitos marinos. Areniscas calcáreas, limolitas, calizas y fangolitas.
33 FORMACION CERRO OSCURO - Depósitos continentales, fluviales. Conglomerados polimicticos, areniscas váquicas y pelitas.
32 FORMACION SALAR DEL RINCON - Depósitos marinos. Conglomerados y areniscas cuarzosas.
30-31 COMPLEJO ERUPTIVO POCITOS - 30: Diorita; 31: Granito Porfirico.
25-29 COMPLEJO ERUPTIVO OIRE - 25: Granodiorita fina;
26: Granito-granodiorita porfirica; 27: Leucogranito;
28: Pórfiro riodacitico; 29: Pegmatitas, aplitas y lamprófiros.
24-24 COMPLEJO ERUPTIVO CHACHAS - 23: Granodioritas y monzogranitos;
24: Granodioritas y granitos finos a porfiricos.
22 FORMACION QUEBUYACU - Diabasas (bojitas) y basandesitas.
21 FORMACION BURRUYACU - Metadacitas y metarriodacitas.
20 FORMACION AGUA DE CASTILLA - Ignimbritas y tobas riodaciticas.
17-19 FORMACION COQUENA - 17: Metasedimentitas y sedimentitas;
19: Metapiroclastitas y metavolcanitas lávicas.
18 COMPLEJO BASICO OJO DE COLORADOS - intercalaciones gábricas a dioriticas localmente serpentinizadas.
16 FORMACION TOLILLAR - Depósitos marinos. Metagrauvacas y hornfels.
15 FORMACION PARCHA - Depósitos marinos. Pelitas.
14 FORMACION LAS VICUNAS - Depósitos marinos. Lutitas, calizas y coquinitas con piroclastitas intercaladas.
13 FORMACION TOLAR CHICO - Depósitos marinos. Areniscas cuarzosas y ortocuarcitas.
12 GRUPO MESON indiferenciado - Depósitos marinos. Ortocuarcitas.
10-11 FORMACION NAVARRO - 10: Granodioritas;
11: Granitos.
8-9 FORMACION CACHI - 8: Trondhjemitas;
9: Pegmatitas.
7 FORMACION TASTIL - Granitos y granodioritas.
6 FORMACION MACON - Granitos y granodioritas.
2-4 FORMACION PUNCOVISCANA - Depósitos marinos. Sedimentitas afectadas por metamorfismo de diferentes grados.
2: Facies sedimentaria y de esquistos verdes;
3: Facies cloritica;
4: Facies biotitica.
1,5 COMPLEJO IGNEO METAMORFICO SALAR CENTENARIO
1: Ortogneisses, granitoides gneissicos y granodioriticos y esquistos cordieriticos;
5: Diabasas anfiboliticas.

7.2 Property Geology

This section is taken primarily from Richards (2005).

7.2.1 Basement Units

Intrusive granodiorite of the Faja Eruptiva forms the western boundary of the property and the graben hosting the mineralized sedimentary rocks. It is typically coarse grained porphyritic to porphyroblastic potash feldspar biotite granodiorite. Age dates range from 472 to 411 Ma.

The Puncoviscana Group, of Late Proterozoic age, underlies the eastern border of the project area. These strata comprise a thick sequence (>2000 m) of fine-grained argillite and siltstone interbedded with greywacke. Coarser-grained units are commonly graded and the assemblage resembles a deep water turbidite facies. The rocks are metamorphosed to greenschist-lower amphibolite facies marked by the presence of chlorite, epidote, and biotite. The finer-grained facies are commonly cleaved and comprise extensive phyllite zones.

7.2.2 Ochaqui Basin

The Ochaqui Basin is an informal name assigned to the graben-like structure that host the Taron deposit in Late Tertiary sedimentary and volcanic rocks. The western boundary of the basin is defined by exposures of Late Ordovician to Silurian Faja Eruptiva granitic rocks and the eastern boundary is defined by exposures of the Late Proterozoic Puncoviscana Group. The contact relationships of the Late Tertiary sedimentary rocks with the Faja Eruptiva are both unconformable and faulted. A shallow-dipping erosional surface appears to lie along this western contact. The eastern boundary of the basin is defined by a north-trending fault that is a tectonic boundary between the Puncoviscana Group and the Faja Eruptiva.

Strata within the basin comprise mainly coarse-grained, nonmarine fluvial and lacustrine sedimentary rocks and local to significant volcanic rocks. Sedimentary rocks are mainly exposed in the central part of the basin and volcanic rocks are more noted in the southern and northern parts. The sedimentary rocks are dominantly conglomerates and pebble to cobble sandstones. Pebbles and cobbles are comprised mainly of the adjacent Faja Eruptiva granitic and Puncoviscana metasedimentary rocks. Volcanic rocks include accumulations of felsic air-fall tuff, lacustrine tuff, breccias, volcaniclastic sandstone and conglomerate, dykes, and small intrusive plugs. No age-determinations are available for these rocks. They are mapped as Late Tertiary (Pliocene-Recent) on the San Antonio de los Cobres map sheet (Blasco et al, 1996). They have been subdivided into four informal formations comprising three sedimentary units (Units A, B, and C) and one volcanic unit. Volcanic rocks are locally an integral part of Unit B.

Although anomalous cesium mineralization has been found in all four units, unit B is the dominant host.

Unit C

Unit C is the lowermost recognized Tertiary sequence within the Ochaqui Basin. It is poorly exposed along the margins of the quebradas in the northwestern part of the area. Unit C is a variably coloured, ranging from grey, pinkish, white, yellow to red and black. Yellow and reddish sandstones commonly have a ferruginous matrix and black is dominated by manganiferous cement. The unit is typified by the presence of clasts of the Faja Eruptiva and quartz. The latter both as clasts of vein and magmatic quartz. Volcanic lithic detritus and magmatic detrital biotite are common. Sections comprise poorly consolidated, fine-grained sandstone and siltstone to coarse-grained conglomerates with boulder size clasts. Units are generally well bedded and well sorted. Conglomeratic facies are more common in the most northern exposures and well bedded sandstone with conglomeratic lenses and isolated pebbles to cobbles of granitic rock dominate its more southern exposures.

Sandstones are well sorted and commonly laminated. Isolated pebbles to rare cobbles of Faja Eruptiva granitic rocks within well sorted, laminated sandstones are common. Sedimentary structures such as cross bedding have not been observed. Basal scour of conglomerate into underlying sandy facies is present.

Unit C lies unconformably on the basement granitic rocks of the Faja Eruptiva and it is clear that the sources of the clastic rocks for this unit are very proximal. It has a variable contact relationship with Unit B. In its most northern exposures, the contact between the two units is interrupted by a 2-4 metre thickness of biotite-feldspar lithic air fall tuff. Along the west boundary of the Ochaqui basin, the contact is conformable and abrupt and locally marked by the presence of a 10 cm to 1.5 metre thickness of intense manganese cemented conglomerates of Unit B. In its most southern contacts, exposed in old workings, the contact is unconformable with Unit C beds steeply tilted to the east (20-40°). They are incised by up to 2-metre-deep erosional channels of polylithic greywacke-clast conglomerates. Dykes of biotite-feldspar-quartz porphyry cut Unit C at this location and are segmented by north-south faults that parallel the contact.

Unit B

Unit B strata comprises the most widespread sedimentary assemblage exposed in the Ochaqui Basin and are the main host to the cesium mineralization. Outcroppings are scarce except along quebradas slopes.

The strata of Unit B comprise recessive weathering, well-bedded siltstone and sandstone, commonly pebbly, and prominent and persistent conglomerate lenses and beds. Resistant conglomerates are the dominate outcropping although sandstone comprises more than 60% of the stratigraphic sections. Individual stratigraphic intervals tend to coarsen upwards from basal channel conglomeratic facies in to laminated sandstone facies and are interpreted to represent the channel and over-bank facies within a braided stream environment. Limited paleocurrent data from cross-bed determinations indicate that the paleoflow for Unit B trended towards the ESE with a mean flow direction of 110°-120° (Richards, 2005).

Pebbly sandstone is the major lithology of this unit. They are well washed, even grained and comprise rounded to well-rounded clasts of volcanics and quartz with common biotite. There is little to no silt or clay size fraction noted. The sandstones are mainly plane laminated with laminations marked by pebble lenses. Well-bedded, pebble-free sandstone is subordinate and the laminations comprise fine ripples and ripple drifts. Black manganese oxide cemented sandstones are common.

The Unit B sandstone facies are multicoloured and include yellow, yellow-brown, orange, red, grey, green, yellow-green, tan, cream, white, and black. The colour variation appears to be due to the presence of secondary fillings of clay minerals and opal as cements. Of significance is the high degree of sorting and winnowing of the sandstone and the sandstone matrix of the conglomerates which gave a high porosity to the sediments. The clay minerals include illite, montmorillonite, nontronite, beidellite, and kaolinite. The white colouration is due in part to opalization and in part to clay minerals while the black is attributed to manganese oxides. These secondary minerals occur as coatings on sand to cobble-sized grains, fill open spaces, parallel stratigraphic contacts and occur as fracture coatings, veinlets and rare veins (> 1 cm). Textures of secondary fillings are highly variable with the most common being coatings around sand grains and fillings of interstitial pore spaces. They occur throughout the Unit B stratigraphic sections, are most intense in the central Core Zone area, and visually show a positive correlation with anomalous levels of cesium.

Conglomerates comprise pebbles, cobbles and boulders. Clasts are angular to sub angular and the conglomerates are best termed “sharpstone conglomerates”. Many fragments, including the largest (> 1 m) have sharp, unbeveled edges indicative of a very proximal source. The sand matrix is mainly free of a finer-grained silt and/or clay matrix and is comprised of well rounded clasts. The conglomerates are variably cemented by the same secondary minerals noted cementing the sandstones.

Coarse-grained clasts are characterized by the presence of pebbles, cobbles and boulders of low grade metamorphic greywacke, siltstone, phyllite, minor sandstone, common vein quartz, and contemporaneous volcanic debris. The metamorphic clasts have textural similarities to the strata of the Puncoviscana Group. Coarse volcanic detritus is locally common and comprises mainly light-coloured biotite, feldspar ± quartz-eye porphyry identical to the volcanic facies interbedded with, and deposited within, the Ochaqui Basin. Euhedral detrital biotite and volcanic quartz are locally clasts within the sandy matrix of the conglomerates.

Volcanic rocks form an integral part of the Unit B stratigraphic sections. The volcanics occur throughout the section as cm to 3-metre-thick conformable beds. Most common are beds of opalized air-fall tuffs composed of crystals of euhedral brown biotite, feldspar, quartz, lithics of biotite-feldpsar-quartz porphyry, and a dominant vitric component of ash, now altered to opal. Most of the tuff beds are interbedded with the sandstone units with remnant lenses preserved within the conglomerates. The ash-tuff beds represent episodes of repeated pulses of volcanism that result in repeated, local tectonic activity within the Ochaqui Basin. This may have significance with respect to the sequence of sedimentation and with respect to hydrothermal pulses related to the deposition of the clay mineral cement and subsequent alkali metal mineralization.

Unit A

Unit A is represented by conglomerates and sandstones exposed along the western margin of the Ochaqui Basin. Rocks of this unit are defined by the presence of bimodal clasts of both Faja Eruptiva and greywacke. Strata are commonly reddish in colour and it is probable that Unit A represents an upper continuation of the lateral facies of Unit B.

7.2.3 Volcanic Rocks

Extensive exposures of volcanic rocks crop out in the southern and northern parts of the Ochaqui Basin. The volcanic rocks are a conspicuous light, whitish colour and are all felsic in composition, containing biotite, feldspar and locally quartz phenocrysts. Tuff, lapilli tuff and fine breccia are dominant. Intrusive equivalents appear to be exposed on small knolls in the eastern part of the basin. As previously noted, volcanic rocks are also interbedded with the sedimentary rocks in Unit B.

7.3 Structure

The sedimentary strata in the Taron area are reasonably undeformed. In the central Core Zone, the strata dip gently to the west at about 10° and steepen to 20-25° in the eastern part of the Core Zone.

Minor faults cut and offset strata in the Core Zone by up to 5 metres. A northerly trending fault structure is aligned with a prominent biotite-feldspar porphyry dyke in the eastern part of the North Zone.

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7.4 Mineralization

The Faja Eruptiva and Puncoviscana Group have been stacked by over thrust faulting and display protocataclastic to cataclastic fabrics which predate the epithermal mineralizing event. The epithermal event, of Miocene age, metasomatized those pre-existing rocks forming assemblages of cryptocrystalline silica, colloids, gels, manganates, arsenates, and oxides (collectively termed “geyserites”) and travertine within the porous sediments of the Ochaqui Basin.

The main zone of +200 ppm cesium mineralization lies in the Core and North Zones which cover a 700x1500 metre area intermittently exposed over a vertical range of 80 to 100 metres. Within this zone, the average Cs grade based on the 2017 drill results is about 1400 ppm Cs. Rb is closely correlated with Cs and averages about 220 ppm.

A sample from trench 109WW was submitted to SGS Mineral Services for petrographic, XRD, and SEM study (Hamilton, 2005). The initial sample analyses ran 7% Mn, 5% As, and 2% Cs. The study concluded the following:

- Arsenate cements account for about 25% of the sample and Mn-oxyhydroxides another 5%.
- Mn reports as both Mn-oxyhydroxides and as a suite of Ca-Fe- and Ca-Mn-Arsenate hydrate minerals, probably wallkilldellite. Only about 15% of Mn reports as Ca-Mn-Arsenate in the sample.
- Remaining Mn reports mostly as cryptomelane in massive form as well as radiating, concentrically banded Mn-oxyhydroxides. Among these minerals, coronadite, hollandite, and romanechite have been confirmed by XRD.
- There is a complex suite of arsenate mineral present, ranging from ludlockite, wallkilldellite and its Fe-analogue as well as pharmacosiderite, and yukonite.
- Cs reports predominantly as a Cs-substituted pharmacosiderite at levels of up to 12% Cs in this phase. Mixtures of Cs-pharmacosiderite and other phases are also present and as a result, producing a pure Cs-pharmacosiderite concentrate is unlikely.

A summary of the minerals identified in this study is presented in Table 7-1.

Table 7-1 Manganates, Silicates and Arsenates in the Taron deposit

Psilomelane	$Ba \bullet (H_2O)Mn^{3+}_5O_{10}$
Coronadite	$Pb_{1.1}Ba_{0.1}Mn^{4+}_{7.2}Mn^{2+}_{0.5}V^{5+}_{0.2}Al_{0.1}0_{16}$
Hollandite	$Ba_{0.8}Pb_{0.2}Na_{0.1}Mn^{4+}_{6.1}Fe^{3+}_{1.3}Mn^{2+}_{0.5}Al_{0.2}Si_{0.1}O_{16}$
Romanechite	$Ba_{0.7}Mn^{3+}_{4.8}Si_{0.1}O_{10} \bullet 1.2(H_2O)$
Cryptomelane	$KMn^{4+}_6Mn^{2+}_2O_{16}$
Ludlockite	$Fe^{2+}_{0.95}Pb_{0.05}As_2O_6$
Wallkilldellite	$Ca_4Mn^{2+}_6 As_4O_{16}(OH)_8 \bullet 18(H_2O)$
Pharmacosiderite	$KFe^{3+}_4(AsO_4)_3(OH)_4 \bullet 7(H_2O)$

Yukonite	$Ca_7Fe_{11}(AsO_4)_9 \bullet 24H_2O$
Pharmacosiderite	$KFe^{3+} (AsO_4)_3(OH)_3 \bullet 6H_2O$
Cesian opal	$(Cs)SiO_2 \bullet n\ H_2O$
Chalcedony	SiO_2
Kaolin	$Al_2(Si_2O_5)(OH)_4$
Quartz	SiO_2
Plagioclase	$Na(AlSi_3O_8)$ to $Ca(Al_2Si_2O_8)$
Microcline	$K(AlSi_3O_8)$
Amphibole	$AX_2Z_5((Si,Al,Ti)_8O_{22})(OH,F,Cl,O)_2$
Clinopyroxene	$CaFe^{2+}Si_2O_6$
Mica	$KAl_2(AlSi_3O_{10})(OH)_2$
Chlorite	$Mg_5Al(AlSi_3O_{10})(OH)_8$
Covellite	CuS

A petrographic/SEM study was also performed on a thallium-bearing sample of conglomeratic sandstone containing 2849 ppm Tl (Le Couteur, 2009). No thallium minerals could be identified. The minerals wallkilldellite, cryptomelane and several other arsenic-bearing minerals were identified as cements deposited in interstices between detrital grains. It was suggested that Tl may be present in substitution in these minerals.

Statistical analysis of the sample data shows that thallium is not correlated with cesium but has a strong correlation to manganese. Crittenden et al (1962), discussed the presence of thallium in some manganese oxides and in manganese nodules. In their conclusion, they state *'It seems probable that thallium is firmly fixed in the lattice of naturally occurring manganese oxides, presumably replacing potassium, barium, and lead'*.

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8.0 DEPOSIT TYPES

Taron represents a new class of alkali metal deposit enriched in cesium with anomalous concentrations of rubidium, arsenic, cobalt, thallium, sliver, manganese, lithium, and zinc. The deposit was formed in basement rocks during a Miocene epithermal event which erupted in geyser activity and travertine formation. A variety of minerals, colloids, glasses and clays collectively termed “geyserites” were formed within the porous sandstones and conglomerates of the Ochaqui Basin. There is evidence of paleo-microbial activity leading to selective enrichment of cesium.

The Taron deposit, albeit inactive, is one of six other active geysers which display selective cesium enrichment in the area, and the area itself is one of three locales in the world where this has been documented. Microbial activity resulting in the accumulation of cesium at Targejia, and other Cs-bearing hot springs in Tibet, has been studied (Zhao et al, 2008 and Kong et al, 2007).

Commercially significant cesium deposits in granitic pegmatites, although rare, have been well documented in Sweden, Canada, Zimbabwe, the PRC, and Southwest Africa. The main Cs-bearing minerals in the pegmatites are pollucite and lepidolite.

9.0 EXPLORATION

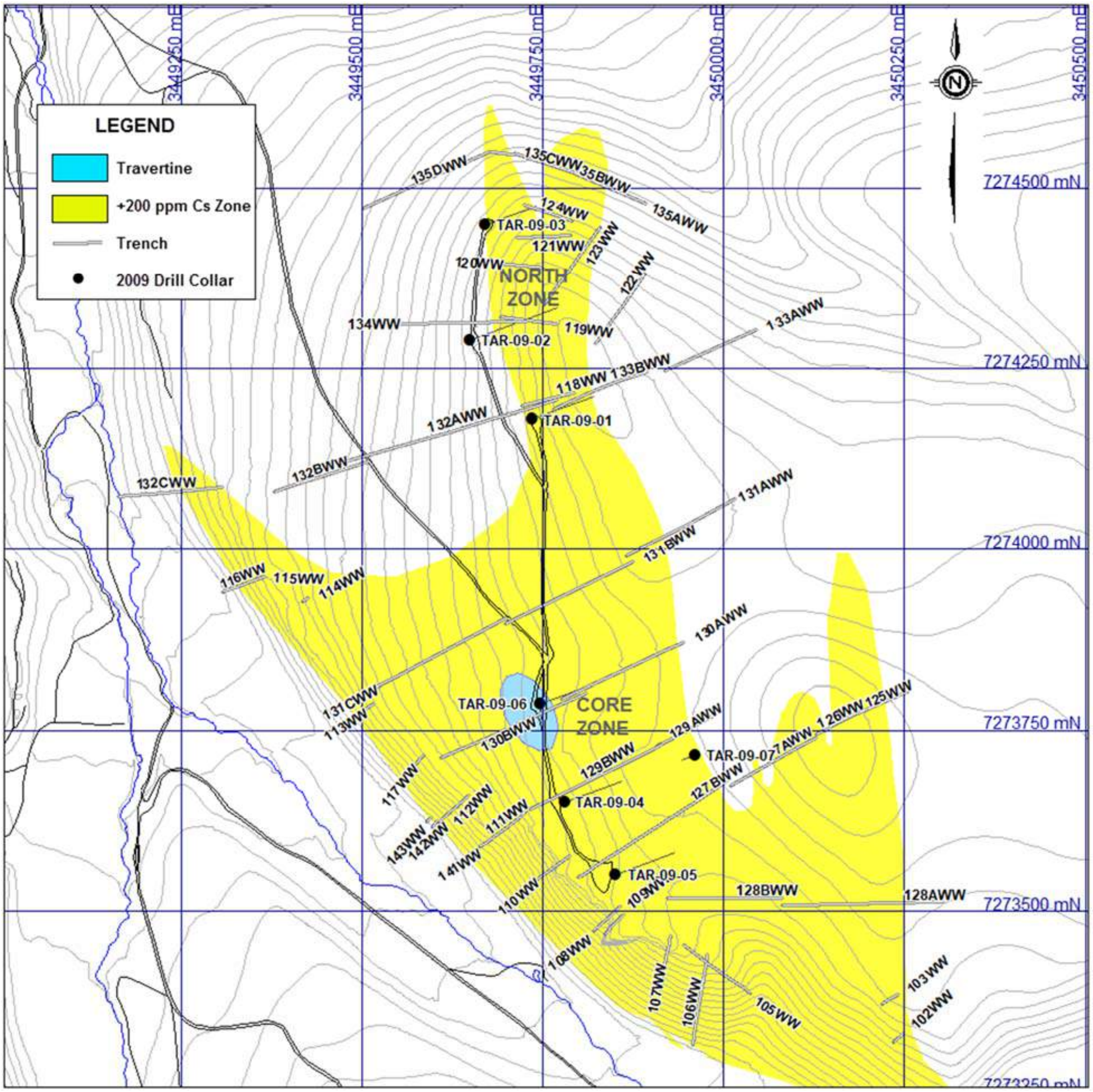
Manganese was mined on a small scale at Taron; this work beginning in the Second World War and continuing into the middle 1950s. A regional synthesis by geologists working for Argentine Frontier Resources Inc. (AFRI) recognized the association of manganese with silver deposits in the area, and routine geochemical sampling led to the discovery of the Taron cesium deposit in 2004.

9.1 Trenching

In 2005 and 2006, 5600 metres of hand and mechanized trenching were completed, sampled and assayed. Trenches 100-117 were hand-dug and channel sampled at 1 metre intervals. Analytical data from this series contains 203 over-limit Cs values at >2000ppm. Trenches 118-125 were dug with heavy machinery and channel sampled as 2 metre intervals. Trenches 126-153 were also dug with heavy machinery but sample methods varied depending on the interval. Channel sampling was used for 2 metre intervals and chip sampling for 4 and 10 metre intervals.

A total of 2,605 trench samples were analyzed. All of the trenches have since been reclaimed.

Figure 9-1 Historic Trench and Drill Hole Locations



10.0 DRILLING

Cascadero completed 35, HQ diamond drill holes for a total of 2,595.25 metres between April and May 2017. Collar locations and orientations are presented in Table 10-1 and illustrated in Figure 10-1. Higher grade intervals based on a cut-off grade of 1000 ppm Cs are shown in Table 10-2.

Figure 10-1 2017 Drill Hole Locations

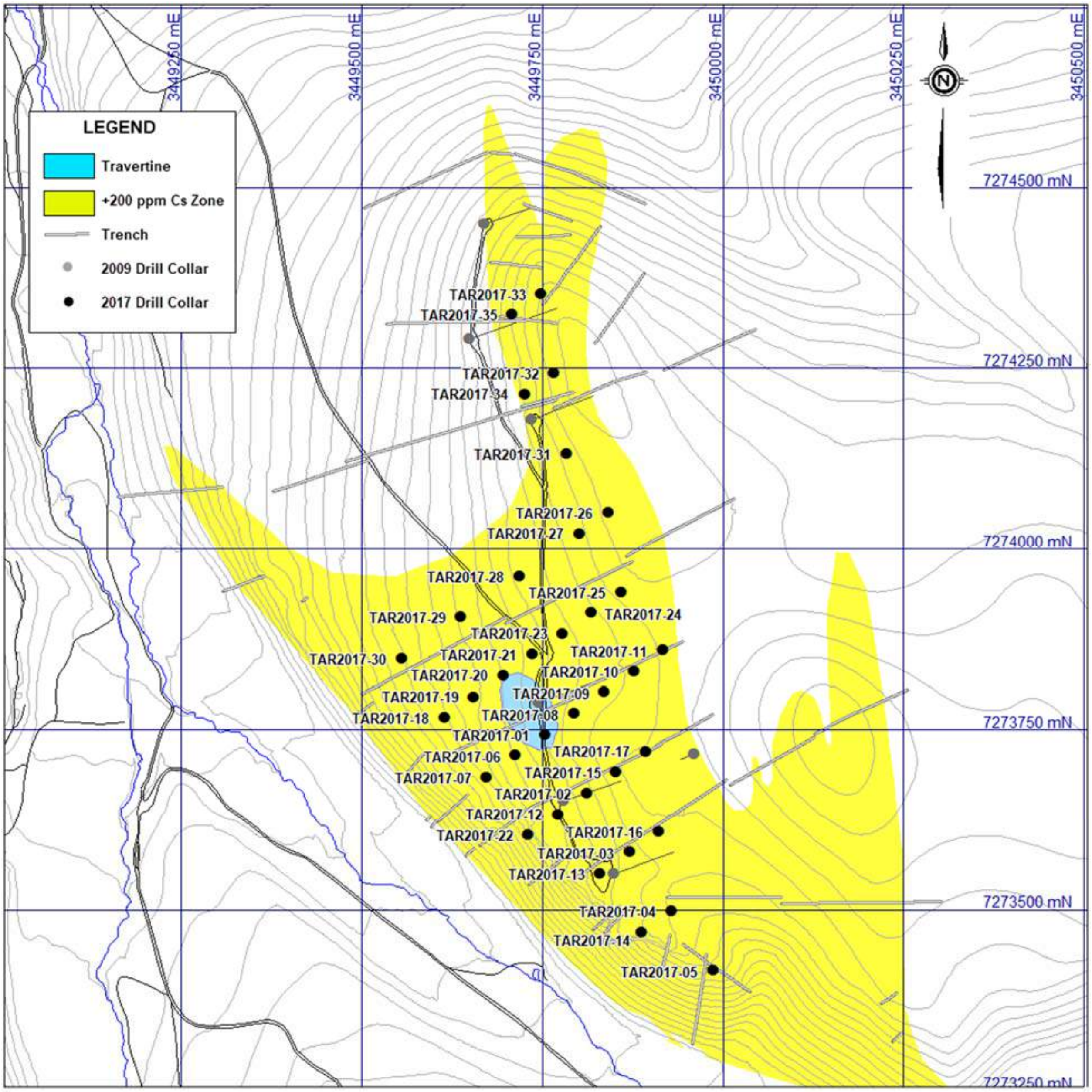


Table 10-1 2017 Drilling

Hole-ID	Easting	Northing	Elev	Length	Azimuth	Dip
TAR2017-01	3449755.00	7273743.00	4260.14	75.00	0.00	-90.00
TAR2017-02	3449813.00	7273661.00	4263.54	76.00	0.00	-90.00
TAR2017-03	3449871.00	7273580.00	4267.59	78.25	0.00	-90.00
TAR2017-04	3449929.00	7273498.00	4269.32	76.00	0.00	-90.00
TAR2017-05	3449987.00	7273417.00	4256.21	70.00	0.00	-90.00
TAR2017-06	3449714.00	7273714.00	4250.95	76.00	0.00	-90.00
TAR2017-07	3449673.00	7273684.00	4235.63	65.50	0.00	-90.00
TAR2017-08	3449795.00	7273772.00	4266.64	73.00	0.00	-90.00
TAR2017-09	3449836.00	7273801.00	4268.51	79.00	0.00	-90.00
TAR2017-10	3449877.00	7273830.00	4271.41	74.50	0.00	-90.00
TAR2017-11	3449917.50	7273859.00	4275.83	70.00	0.00	-90.00
TAR2017-12	3449772.00	7273632.00	4255.10	76.00	0.00	-90.00
TAR2017-13	3449830.00	7273550.00	4262.28	77.50	0.00	-90.00
TAR2017-14	3449888.20	7273469.00	4267.75	76.00	0.00	-90.00
TAR2017-15	3449853.00	7273690.00	4273.55	76.00	0.00	-90.00
TAR2017-16	3449911.00	7273608.00	4273.25	76.00	0.00	-90.00
TAR2017-17	3449894.00	7273719.00	4275.50	76.00	0.00	-90.00
TAR2017-18	3449615.00	7273766.00	4234.29	76.00	0.00	-90.00
TAR2017-19	3449656.00	7273795.00	4243.82	79.00	0.00	-90.00
TAR2017-20	3449697.00	7273824.00	4250.92	82.00	0.00	-90.00
TAR2017-21	3449737.00	7273853.00	4257.39	82.00	0.00	-90.00
TAR2017-22	3449731.39	7273603.08	4236.53	61.00	0.00	-90.00
TAR2017-23	3449778.07	7273882.04	4263.42	82.00	0.00	-90.00
TAR2017-24	3449818.77	7273911.08	4269.33	65.50	0.00	-90.00
TAR2017-25	3449859.48	7273940.11	4276.34	67.00	0.00	-90.00
TAR2017-26	3449842.12	7274050.56	4280.85	76.00	0.00	-90.00
TAR2017-27	3449801.41	7274021.52	4273.84	64.00	0.00	-90.00
TAR2017-28	3449719.00	7273962.00	4261.28	82.00	0.00	-90.00
TAR2017-29	3449638.00	7273905.00	4245.86	52.00	0.00	-90.00
TAR2017-30	3449556.00	7273847.00	4229.09	76.00	0.00	-90.00
TAR2017-31	3449784.05	7274131.97	4277.26	76.00	0.00	-90.00
TAR2017-32	3449766.68	7274242.42	4281.98	76.00	0.00	-90.00
TAR2017-33	3449749.32	7274352.86	4280.00	76.00	0.00	-90.00
TAR2017-34	3449726.00	7274213.00	4270.77	76.00	0.00	-90.00
TAR2017-35	3449709.00	7274324.00	4270.20	76.00	0.00	-90.00

Table 10-2 2017 Drilling - Significant Intervals

Hole-ID	From (m)	To (m)	Width (m)	Cs ppm	Rb ppm
TAR2017-01	10.00	66.00	56.00	2292	280
Including	22.00	32.00	10.00	5736	651
TAR2017-02	1.00	44.00	43.00	2571	292
Including	2.00	44.00	42.00	2591	295
TAR2017-03	2.00	54.00	52.00	3152	344
Including	2.00	20.00	18.00	4230	419
Including	26.00	32.00	6.00	7625	745
TAR2017-04	0.00	48.00	48.00	2507	296
Including	0.00	30.00	30.00	3140	342
TAR2017-05	30.00	46.00	16.00	1166	163
TAR2017-06	0.00	74.00	74.00	1888	238
Including	4.00	34.00	30.00	2684	326
TAR2017-07	12.00	22.00	10.00	2101	226
TAR2017-07	42.00	54.00	12.00	2012	201
Including	48.00	54.00	6.00	2577	217
TAR2017-08	15.00	73.00	58.00	1671	205
Including	19.00	27.00	8.00	2864	201
TAR2017-09	2.00	59.00	57.00	1168	215
Including	14.00	22.00	8.00	2419	346
TAR2017-10	42.00	56.00	14.00	1134	289
TAR2017-11	0.00	16.00	16.00	2343	333
Including	0.00	7.00	7.00	3663	468
TAR2017-12	0.00	73.00	73.00	2201	281
Including	0.00	44.00	44.00	2738	318
TAR2017-13	0.00	75.00	75.00	2224	270
Including	0.00	34.00	34.00	2963	335
TAR2017-14	0.00	74.50	74.50	2758	313
Including	0.00	42.00	42.00	3903	407
TAR2017-15	0.00	76.00	76.00	2326	299
Including	16.00	60.00	44.00	2964	405
TAR2017-16	48.00	76.00	28.00	1870	225
Including	0.00	34.00	34.00	3665	447
TAR2017-17	0.00	56.00	56.00	1533	247
Including	16.00	28.00	12.00	2249	311
TAR2017-19	54.00	75.00	21.00	1376	146
Including	5.00	34.00	29.00	2980	320
TAR2017-20	4.00	76.00	72.00	1993	237

Hole-ID	From (m)	To (m)	Width (m)	Cs ppm	Rb ppm
Including	10.00	38.00	28.00	3083	313
TAR2017-21	12.00	82.00	70.00	1545	212
TAR2017-22	0.00	8.00	8.00	1543	247
TAR2017-22	36.00	50.00	14.00	1280	182
TAR2017-23	24.00	80.50	56.50	2095	303
TAR2017-24	36.00	50.00	14.00	1584	283
TAR2017-25	16.00	26.00	10.00	1497	317
Including	42.00	52.00	10.00	3186	463
TAR2017-26	6.00	18.00	12.00	7422	618
Including	10.00	18.00	8.00	9891	781
TAR2017-27	53.00	64.00	11.00	1376	263
TAR2017-28	30.00	80.50	50.50	1871	255
TAR2017-29	14.50	52.00	37.50	1643	206
TAR2017-31	66.50	76.00	9.50	1316	181
TAR2017-32	0.00	20.00	20.00	2967	402
TAR2017-33	0.00	12.00	12.00	2251	271
Including	0.00	12.00	12.00	2251	271
TAR2017-35	2.00	16.00	14.00	1012	174

10.1 Legacy Drilling

Seven HQ diamond drill holes totaling 907.2 metres. were completed between May and June 2009. Locations and orientation are presented in Table 10-3and illustrated in Figure 9-1. A total of 386 cores samples were analyzed. Higher grade intervals based on a cut-off grade of 1000 ppm Cs are shown in Table 10-4.

Table 10-3 2009 Drilling

Hole-ID	Easting	Northing	Elev	Length	Azimuth	Dip
TAR-09-01	3449735.00	7274180.00	4272.16	142.50	70.00	-50.00
TAR-09-02	3449650.00	7274290.00	4253.81	200.20	70.00	-50.00
TAR-09-03	3449670.00	7274450.00	4248.03	118.00	70.00	-50.00
TAR-09-04	3449780.00	7273650.00	4257.03	132.50	70.00	-50.00
TAR-09-05	3449850.00	7273550.00	4264.74	137.50	70.00	-50.00
TAR-09-06	3449746.00	7273787.00	4259.56	142.50	70.00	-60.00
TAR-09-07	3449961.00	7273716.00	4279.24	34.00	250.00	-50.00

Table 10-4 2009 Drilling - Significant Intervals

Hole-ID	From (m)	To (m)	Width (m)	Cs ppm	Rb ppm
TAR-09-04	1.50	64.00	62.50	1922	212
Including	14.00	44.00	30.00	2607	289
TAR-09-05	2.00	86.00	84.00	2205	220
Including	2.00	38.00	36.00	3219	303
TAR-09-06	10.00	92.00	82.00	1513	137
Including	32.00	48.00	16.00	2163	233

10.2 Geological Logging

Core logging is carried out by company geologists. The logging involves recording lithological units, lithological descriptions, alteration type and intensity, mineralization type and intensity, mineralogy, veining and fracturing type, and structural orientation and intensity. Information is entered into hand written field logs and transferred to digital versions of the same field log format as Excel spreadsheets.

Measurements of core recovery and RQD are carried out by experienced geological assistants under the supervision of the geologists. Recovery and RQD measurements are first recorded in hand written sheets and subsequently entered into individual Excel spreadsheets.

When the logging of a specific hole is completed and all data are recoreded and assembled, a master log of the hole is created comprising an independent Excel spreadsheet for each hole with worksheet tabs corresponding to a Header sheet (with the drill hole ID, collar coordinates and elevation, and the start and completion dates of the hole), followed by sheets for Sample Intervals, Recovery, RQD, Field Log, Assays, Lithology, Alteration, Veins and Fractures, and NITON analytical data.

10.3 Recovery

Core recovery from the 2009 drill program averaged 74% with a median recovery of 80%. Core recovery from the 2017 drill program averaged 82% with a median recovery of 92%.

10.4 Collar Surveys

After completion, drill hole collars were marked by a concrete monument and PVC pipe with the hole identification label. Collars were surveyed with a differential GPS unit.

10.5 True Thickness

The mineralized zone and stratigraphy are close to horizontal so the vertical drilling is approximately the same as the true thickness.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Sampling Methods

After transport to the logging facility on site, core is photographed and sampling lengths marked (Figure 11-1). Drill core is sampled in a continuous sequential fashion commencing at the beginning of core recovery and terminating at the end of the hole. Drill core samples are routinely taken at regular 2.00-metre intervals. Individual sample lengths vary from this rule for the first and last sample of a drill hole when the depth of overburden (and hence the depth to the beginning of the first sample of the hole, is not a multiple of 2.00 metres) or when a hole ends at a depth that is not a multiple of 2.00 metres.

The drill core is split by well-trained and experienced personnel using an industry standard circular rotary rock saws with diamond saw blades, and using a constant flow of fresh clean water to cool and lubricate the saw blades. Core splitting is carried out under the direct supervision of the core splitting facility supervisor and is also monitored on a regular basis by a geologist. For each sample interval, the core is split in half according to the cutting line marked by the logging geologists at the project site. One half of the split core is stored in the wooden core boxes and the other half, constituting the sample to be assayed, is placed in clean new transparent high-strength plastic sample bags. The sealed sample bags are placed in new rice sacks in sequence and the rice sacks are then sealed with strap locks and stacked inside the core storage area awaiting transportation to the Primary Laboratory (Figure 11-2)

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Figure 11-1 Core Photography

Figure 11-2 Samples prepared for shipping

11.2 Density Determinations

Specific gravity measurements were made on 60 core and rock samples using the water immersion method. A total of 28 of these samples, representing the main deposit area, have an average SG of 2.63 and median of 2.59.

11.3 Analytical and Test Laboratories

The historic rock, trench and drill samples were analyzed by the ICP method at the Acme Analytical Laboratory in Vancouver using ICP Mass Spectrometry analysis (Group 1F-MS)

Sample preparation and analyses for the 2017 drill core samples were conducted at Bureau Veritas laboratory in Mendoza.

11.4 Sample Preparation and Analysis

Core samples from the 2017 drill program were crushed, split and 259 g were pulverized to 200 mesh. The MA220 procedure was used which incorporated 4 acid digestion with ICP-ESI/ICP-MS analysis.

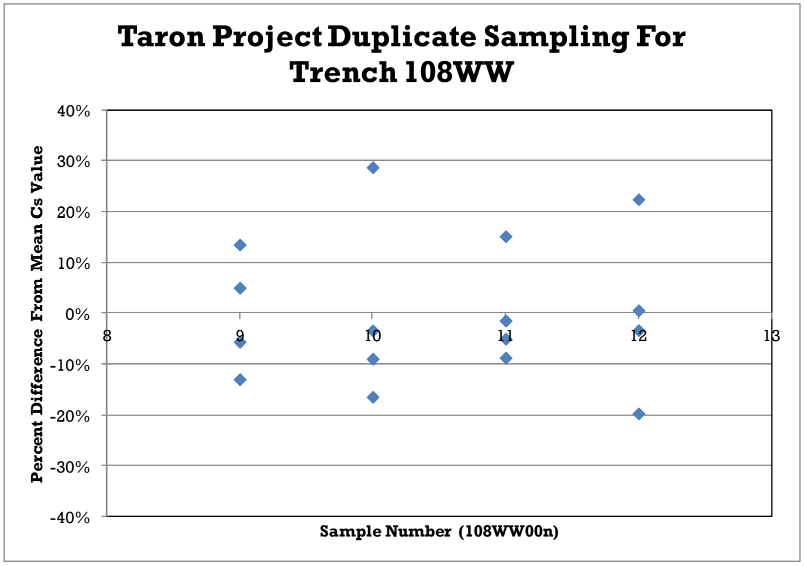
11.5 Quality Assurance and Quality Control

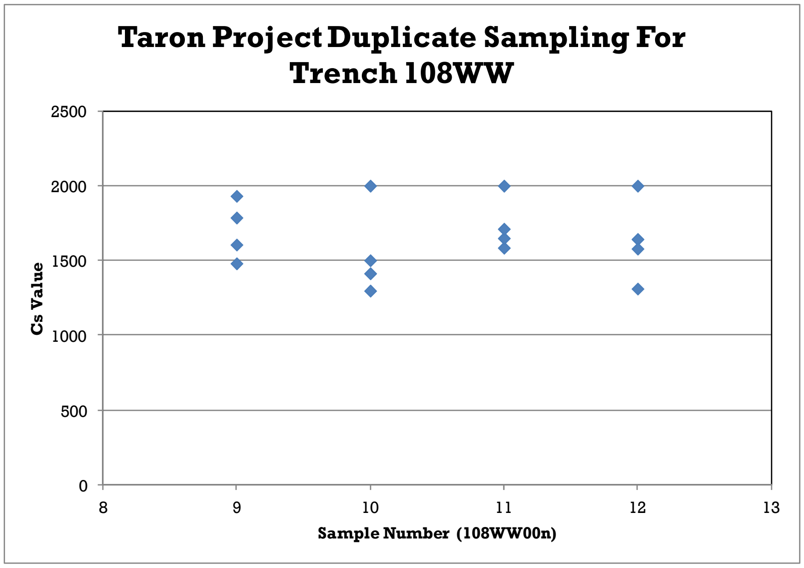
11.5.1 Legacy Drilling and Trenching

During the first trench program, several duplicate samples were taken for the intervals of trench 108WW from 4 metre to 16 metre. These samples are not enough to make any reliable quality assessment of precision or accuracy. No duplicate or standard samples were submitted with the diamond drilling samples so no quality assessment is possible.

Of the 12 intervals chosen from trench 108WW, only one set of four samples has no over-limit cesium assays (2000 ppm) while three other sets of four samples have one over-limit assay. Using these four intervals, the trench data have an estimated precision of +/- 11% calculated by the average of the percent difference from the mean of each sample group (Figure 11-3).

Figure 11-3 Duplicate Sample Results for Trench 108WW





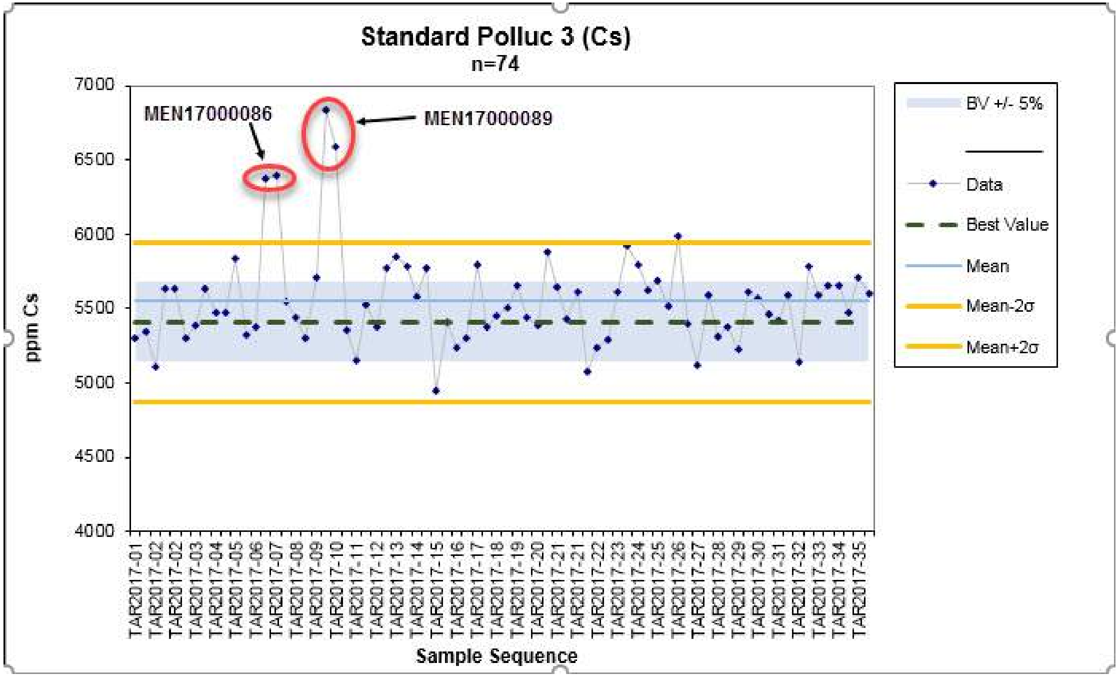
11.5.2 Standards

A standard or blank sample was inserted every 25m. Due to difficulty in getting the standards to the site, the reference pulps were inserted at the laboratory. The laboratory did not know if the pulp was a standard or blank.

A bulk standard was prepared by CDN Labs of Langley B.C. and certified by Smee & Associates Consulting Ltd. The certified mean value was 5410 ppm Cs. The sample control chart is shown in Figure 11-4.

Two sample batches had failed standard comparisons (greater than 2 standard deviations) and were re-analyzed.

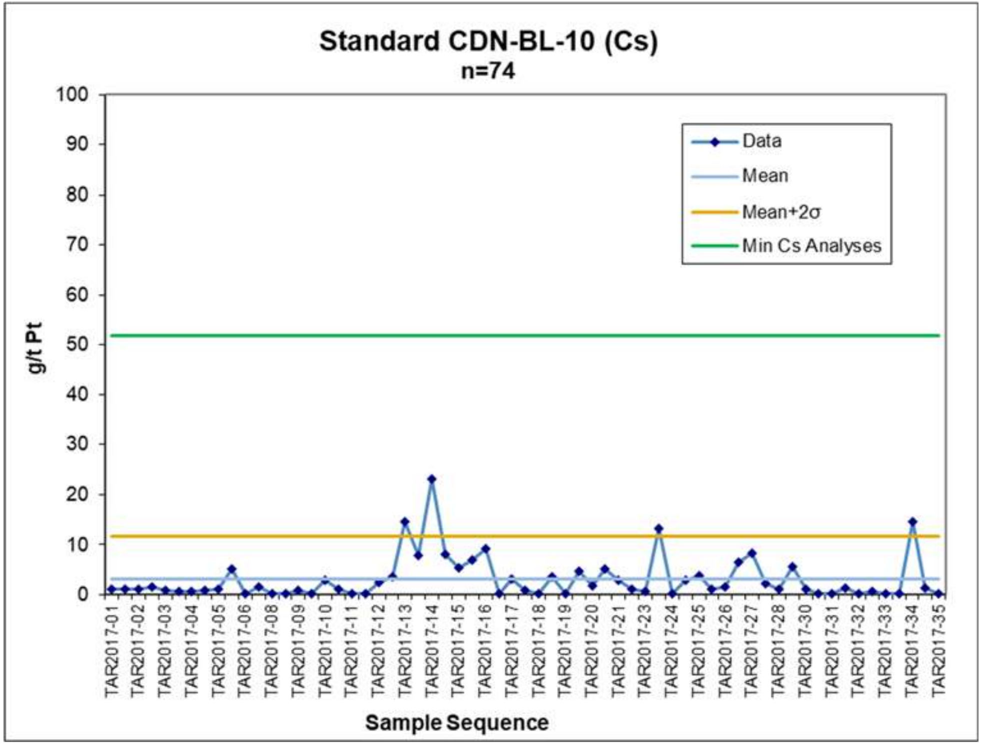
Figure 11-4 Standard Sequence Chart - Cs



11.5.3 Blank Samples

A blank standard from CDN Labs of Langley B.C. was used to check for contamination in sample preparation. No values exceeded the minimum value for Cs in the core samples (Figure 11-5).

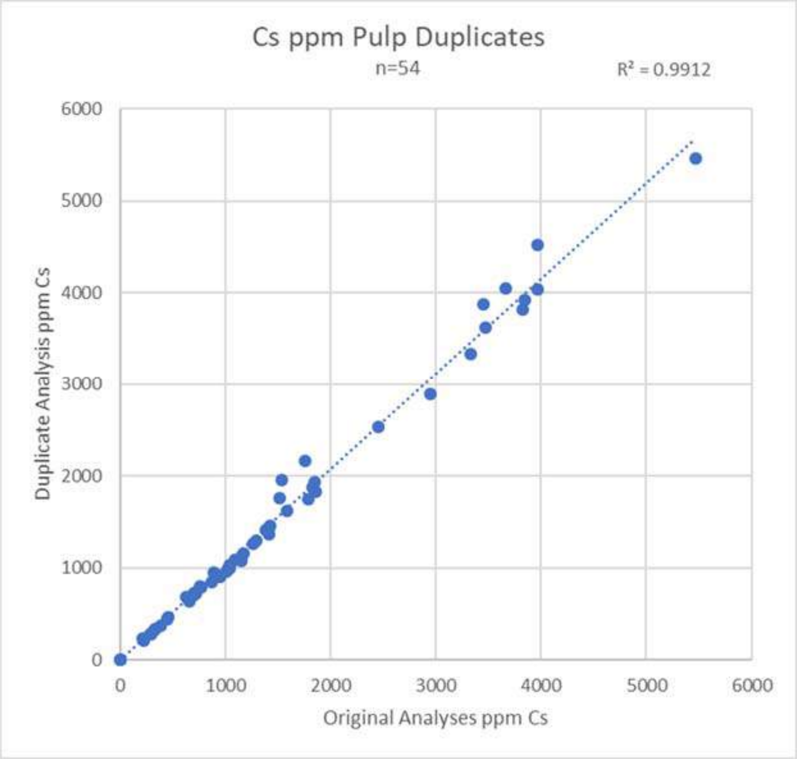
Figure 11-5 Blank Control Chart



11.5.4 Duplicates

A total of 54 pulp duplicates showed good correlation (Figure 11-6).

Figure 11-6 Pulp Duplicates - Cs



11.6 Sample Security

Cascadero uses Bureau Veritas laboratory in Mendoza as the primary analytical laboratory for sample preparation and analysis. Company employees regularly delivers the split core samples from the camp to the office in Salta and it is then shipped by transport truck to the laboratory in Mendoza.

At the conclusion of the drill programs, all core was transported to secure storage facilities in Salta where it is stored in racks or on pallets.

12.0 DATA VERIFICATION

12.1 Site Visit Verification

The author visited the site on May 20-21, 2017 while drilling was underway (Figure 12-2). The purpose of the visit was to review the drilling, sampling, and quality assurance/quality control procedures. The geology and mineralisation encountered in the drill holes completed to date were also reviewed. During the site visits the author verified:

- Collar locations are reasonably accurate by comparing several drill hole database collar locations with hand-held GPS readings.
- Drill hole collars are clearly marked with concrete monuments, and PVC pipes labeled with the drill hole identification (Figure 12-1).
- Down-holes surveys are routinely taken at approximately 40 metre intervals using a Reflex single-shot unit.
- Drill logs compare well with observed core intervals.
- Core recoveries were generally high through the mineralized zones

Figure 12-1 Drill Hole Collar Monument

Figure 12-2 Drill rig on site TAR2017-32

12.2 Database Verification

Drill data are typically verified prior to Mineral Resource estimation by comparing data in the Project database to data in original sources. For the 2009 and 2017 data, the original sources are electronic data files; therefore, the comparisons were performed using software tools. No significant errors were found with the database. However, laboratory reports could not be located for the earlier trench sampling programs.

Geosim examined the sample database for location accuracy, down hole survey errors, typographical errors, interval errors and missing sample intervals. A few minor corrections were made.

Verifying the accuracy of the assay database was carried out through a review of all quality control sample performance for data collected in 2017. Only internal lab checks were performed on the 2009 drill samples.

12.3 Conclusions

Based on the site visit observations, Geosim concludes that drilling, logging, and sampling of drill core during the exploration programs carried out by Cascadero and previous operators have been conducted in a manner appropriate to the style of mineralization present on the property.

The process of data verification performed by the QP indicates that the data collected by Cascadero in 2017 from the Project adequately reflect deposit dimensions, true widths of mineralization, and the style of the deposit.

QA/QC with respect to the results received for the 2017 exploration programs is acceptable, and protocols have been reasonably well documented. However, QAQC for previous trenching and drilling programs is inadequate for use in a Mineral Resource estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Metallurgical test work conducted by SGS Lakefield Research on two bulk samples in 2006 demonstrated amenability to processing with >78% cesium recoveries. Cesium solubility was excellent in both acid and caustic leaches. No attempt was made by SGS to further separate, purify or sequester the other elements in solution.

Results from initial flotation work at SGS showed that, in the sand fraction, cesium can be upgraded by flotation (Bulatovic, 2006). However, results obtained on individual samples demonstrated that cesium upgrading using scrubbing and desliming is not possible. This program was terminated in 2007 by a lack of funding.

Cascadero initiated a hydro metallurgical study at UBC in 2015 as part of a collaborate research agreement. In 2016 the testing demonstrated that cesium hydroxide and cesium formate could be produced from Taron drill core material with a recovery of 90% Cs (Dreisinger, 2016). The process involves acid leaching of ground material followed by the separation of the barren leach residue from the leach solution. Aluminum sulfate is added to the leach solution followed by cooling to low temperature to promote rapid formation of cesium alum.

The cesium alum (containing other monovalent cations) is then recovered by filtration and re-dissolved in warm water. The solids remaining after the resolution of the alum are filtered and discarded. The cesium alum is then reformed by cooling.

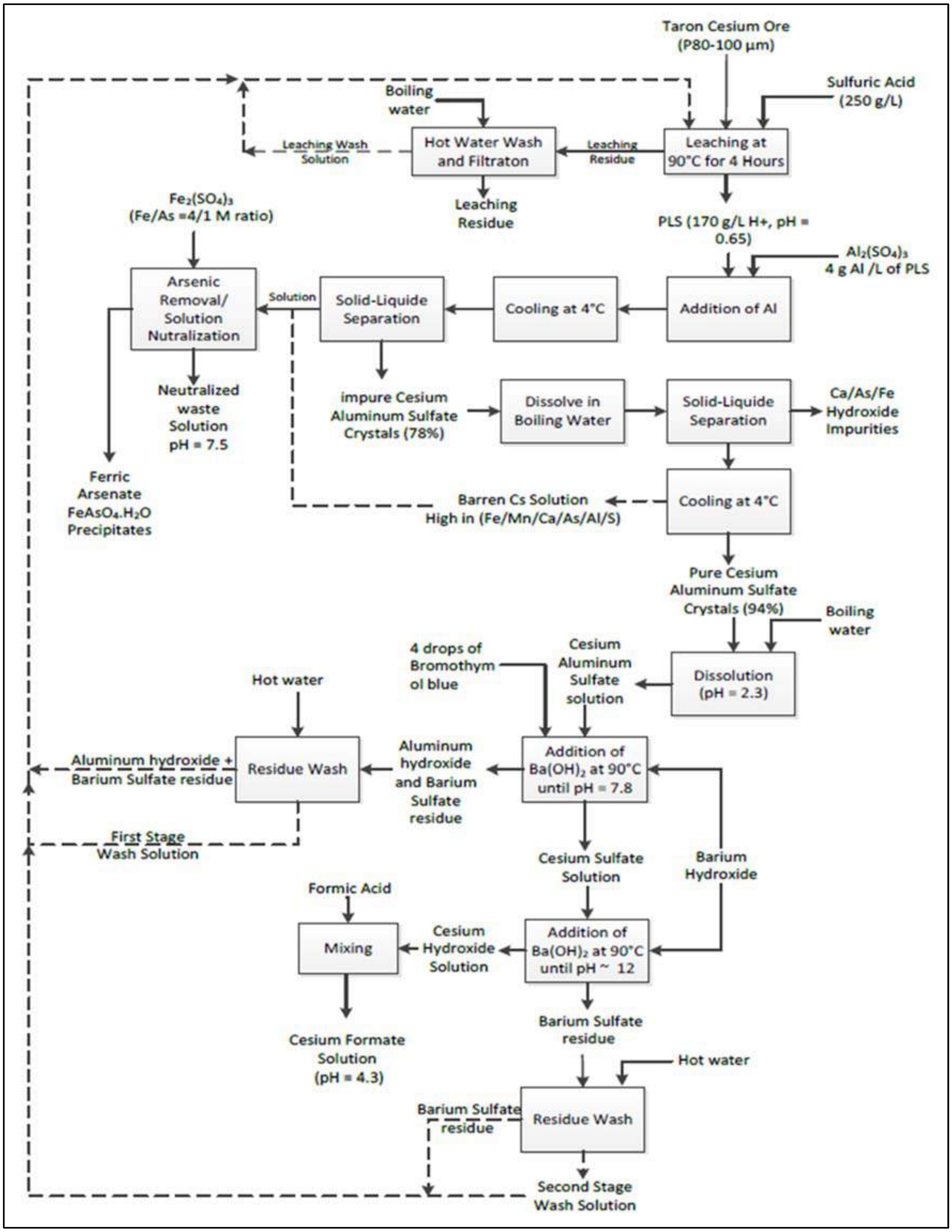
The pure cesium alum crystals are then dissolved again in hot water and treated with barium hydroxide in two stages. The first stage removes aluminum as aluminum hydroxide and some barium sulfate. The second stage then removes the balance of the sulfate as barium sulfate. The final solution contains cesium hydroxide. Cesium hydroxide may then be converted to a range of salts including cesium nitrate, cesium acetate, cesium chloride, etc. by addition of an acid to the cesium hydroxide solution. The flow sheet is illustrated in Figure 13-1.

The process was demonstrated via a series of bench scale tests. Several possible improvements to the process have been identified by the Cascadero Copper team that are now to be investigated through further lab scale work. The processes are;

1. Scrubbing to separate a fine fraction containing the bulk of the cesium and rejecting “gangue”.
2. Acid leaching of the upgraded fine fraction.
3. Reductive leaching of the ore
4. Reductive leaching of the upgraded fine fraction.
5. Precipitation of cesium alum from the leachate through addition of aluminum sulfate salt and solution cooling.

6. Thallium removal from solution using cementation on aluminum scrap.

Figure 13-1 Schematic Flowsheet for the Taron Process (Dreisinger, 2016)



The next phase of metallurgical test work is designed to generate data which may enable the Company to demonstrate reasonable prospects of economic extraction in order to carry out a Mineral Resource Estimate.

14.0 MINERAL RESOURCE ESTIMATE

No Mineral Resources have been estimated for the Project.

15.0 ADJACENT PROPERTIES

This section is not relevant to this Report.

16.0 OTHER RELEVANT DATA AND INFORMATION

There are no other data known to the author that are relevant to this Technical Report: therefore, there are no relevant data or information presented in this section.

17.0 INTERPRETATION AND CONCLUSIONS

The Taron project contains a deposit enriched in cesium and rubidium. Other elements of potential interest are thallium, arsenic, and manganese. It has been demonstrated that potentially saleable products, Cs hydroxide and Cs Formate solutions, can be extracted from the mineralized material. However, it is uncertain at this time if the levels of these elements are potentially economic. Ongoing hydrometallurgical test work being conducted at UBC is designed to resolve this question.

18.0 RECOMMENDATIONS

Hydrometallurgical test work should be continued in order to determine prospects of economic extraction and determine a base case cut-off grade for a potential Mineral Resource.

Additional bulk density measurements should be taken on drill core over a range of lithologies.

A more accurate and higher resolution topographic base should be acquired.

All efforts should be made to locate analytical certificates for the historical trenching programs. If samples, pulps or rejects are available, a portion should be submitted for check analyses as there is presently no QAQC data pertaining to these sample programs.

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I, Ronald G. Simpson, P.Geo., am employed as a Professional Geoscientist with GeoSim Services Inc.

This certificate applies to the technical report titled "**Taron Project Technical Report**" with an effective date of September 14, 2017 (the "**Technical Report**").

I am a Professional Geoscientist (19513) with the Association of Professional Engineers and Geoscientists of British Columbia. I graduated with a Bachelor of Science in Geology from the University of British Columbia, May 1975.

I have practiced my profession continuously for 42 years. I have been directly involved in mineral exploration, mine geology and resource estimation with practical experience from feasibility studies.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* ("**NI 43–101"**).

I visited the property from May 20 to May 21, 2017.

I am responsible for all sections of the technical report.

I am independent of Cascadero Copper Corp. and Cascadero Minerals S.A. as independence is described by Section 1.5 of NI 43–101.

I have had no prior involvement with the Property that is the subject of this Technical Report.

I have read NI 43–101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the Technical Report contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading

Dated: 14 September 2017

R. G. SIMPSON

Ronald G. Simpson, P.Geo.