

# Independent Technical Report for the Minera Don Nicolás Gold Project, Santa Cruz, Argentina

Prepared for

Cerrado Gold Inc.





SRK Consulting (Canada) Inc. 2CC070.000 August 2020

## Independent Technical Report for the Minera Don Nicolás Gold Project, Santa Cruz, Argentina

August 2020

#### **Prepared for**

Prepared by

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## **1** Executive Summary

#### Introduction

This technical report documents a Mineral Resource Statement for the Minera Don Nicolás (MDN) Project prepared by SRK Consulting (Canada) Inc (SRK). It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines."

The Mineral Resource Statement reported herein is a collaborative effort between Cerrado Gold Inc. (Cerrado Gold or Cerrado) and SRK personnel. The exploration database was compiled and maintained by Cerrado and was audited and validated by SRK. The geological model and outlines for the gold mineralisation were constructed by Cerrado using Leapfrog® Geo and reviewed by SRK.

## **Property Description and Ownership**

The Don Nicolás Gold (Au) and Silver (Ag) Mine is located approximately 2,000 kilometres (km), by road, south of Buenos Aires in the mining friendly Santa Cruz province of the Patagonia region of Southern Argentina. The MDN operation consists of nine separate deposits and 12 high priority targets within one contiguous irregular shaped block surrounding two former tenements (La Paloma and Martinetas), approximately 40 km apart. The MDN Project is owned and operated by Cerrado Gold Inc., a privately held company.

## **Geology and Mineralisation**

Gold and silver mineralisation are hosted in low sulphidation, epithermal deposits where mineralisation occurs within sub-vertically oriented quartz-breccia veins.

At La Paloma, the Sulfuro-Esperanza-Rocio vein system comprises narrow, arcuate, steeply dipping quartz-breccia veins. Drilling has defined four resource areas. The Sulfuro vein is the main deposit and is represented by a single, well developed quartz vein typically 2 to 8 metres (m) in thickness and has a primarily northwest-south southeast orientation with a steep southwest dip. Associated sulphide minerals include pyrite and minor galena and sphalerite.

The La Paloma veins remain open-ended at depth. Geological interpretation of the results of recent geophysical studies strongly suggests that the main Sulfuro vein is additionally open ended towards the south.

At Martinetas, multiple mineralised structures occur as "vein swarms" with the development of minor intervening stockwork veins and veinlets. A number of resource areas have been delineated at Martinetas. The principal resource is obtained from the Coyote and Cerro Oro deposits which comprise a series of narrow, sub-parallel, anastomosing quartz veins varying in width from tens of centimetres (cm) to several metres, and typically averaging 1 m or less in thickness.

Precious metal gold and silver mineralisation is presented in quartz and quartz-breccia veins and structures, generally east-west trending and sub-vertical in orientation.

The host lithologies generally comprise a monotonous sequence of bi-modal shallow mafic intrusive, intermediate to felsic flows, tuffs and volcaniclastics of Jurassic age. The stratigraphy is interpreted to be flat lying throughout the deposit areas. Each of the Project areas comprises of several mineralised zones.

## **Exploration Status**

The MDN Project is an active gold-silver mining operation. The exploration program is focused on expanding the known mineralisation either on-strike or down dip. On-going exploration programs have continued to generate numerous exciting gold targets within a relatively short distance of known deposits. Current exploration programs include surface mapping, trenching and reverse circulation drilling.

## **Development and Operations**

MDN began operations of a series of conventional open pit mines with a carbon-in-leach facility. Ramp up continued until late 2019. Currently the operation is mining from three (3) active pits (Coyote, Cerro Oro and Sulfuro) at a rate of +1,000 tpd and the mill is able to handle the throughput. As of the effective date of the technical report, further optimisation is being done to both the mining and milling operation.

MDN consists of two fully permitted mining areas, each containing a clustered, shallow pits. They are the Martinetas areas adjacent to the process plant, and the La Paloma area approximately 60 km by road to the north. At Martinetas, close to the plant are camp & offices as well as maintenance shops.

## **Mineral Resource Estimates**

The MDN database contains 911 diamond drill holes and 3,440 reverse circulation (RC) holes representing 124,923 m of drilling. Also included in the database are 1,352 trenches totalling 60,471 m. The mineral resource model prepared by SRK considers 750 core holes, 3,138 RC holes drilled by the owners of the MDN Property during the period of 1994 to 2020. The resource also includes data from 986 trenches. The resource estimation work was completed by Dr. Gilles Arseneau, P.Geo (APEGBC, 23474) an appropriate "independent Qualified Person" as this term is defined in NI 43-101. The effective date of the resource statement is August 31, 2020.

The database used to estimate the MDN Project mineral resources was reviewed and audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for the epithermal precious metal mineralisation and that the assay data are sufficiently reliable to support mineral resource estimation.

Mineral resources were estimated by ordinary kriging or inverse distance cubed (ID<sup>3</sup>) in Leapfrog® Edge by Cid Bonfim, P.Geo of Cerrado and validated by SRK using GEOVIA GEMS<sup>™</sup> Version 6.8.3. Mineralisation wireframes were constructed using Leapfrog Geo and validated using

GEMS 6.8.3. Geostatistical analysis and capping were evaluated using Sage2001 and GSLIB. Block models were constructed in Leapfrog and GEMSs 6.8.3.

Mineral resources as estimated by SRK are summarised in Table 1.1.

Table 1	.1: Mineral	Resource	Statement*,	Minera	Don	Nicolás	Project,	Santa	Cruz,	Argentina,	SRK
	Consult	ing, Augus	t 31, 2020				• •			•	

	Quantity	Gra	ade	Metal	
Category	Quantity	Au	Ag	Au	Ag
	tonne	gpt	gpt	oz	oz
Open Pit** Cut-off 0.3 g/t gold					
Measured	249,400	4.32	5.50	34,668	44,100
Indicated	820,600	5.77	9.61	152,237	183,126
Measured and Indicated	1,070,000	5.43	8.39	186,905	227,226
Inferred	4,108,400	1.59	3.75	210,476	195,252
Underground** Cut-off 3.0 g/t	gold				
Measured	0	0.00	0.00	0	0
Indicated	56,200	6.59	8.12	11,903	14,677
Measured and Indicated	56,200	6.59	8.12	11,903	14,677
Inferred	555,300	7.74	8.41	138,217	124,867
Combined Mining					
Measured	249,400	4.32	5.50	34,668	44,100
Indicated	876,800	5.82	9.48	164,140	197,803
Measured and Indicated	1,126,200	5.49	8.37	198,808	241,903
Inferred	4,663,700	2.33	4.78	348,693	320,118

Notes:

\*- Mineral resources are reported in relation to a conceptual pit shell. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

\*\*- Open pit mineral resources are reported at a cut-off grade of 0.3 g/t gold for the open pit portion and 3.0 g/t gold for the underground deposits. Cut-off grades are based on a price of US\$1,550 per ounce of gold and gold recoveries of 95 percent at Martinetas and 88 percent at La Paloma, without considering revenues from other metals.

## **Conclusion and Recommendations**

The MDN operation is currently a producing gold mine. The mine began operations with a series of conventional open pit mines with a carbon-in-leach facility. Currently the operation is mining from three active pits (Coyote, Cerro Oro and Sulfuro) at a rate of +1,000 tpd and the mill is able to handle the throughput. MDN consists of two fully permitted mining areas about 60 km apart by road, each containing a clustered, shallow pits. The MDN Project has 365 people consisting of 301 employees and 64 contractors.

Drilling at Sulfuro and Cerro Oro has an adequate density to define Measured, Indicated and Inferred mineral resources. Mineralisation is still open at depth at Sulfuro and offers good exploration potential particularly south-eastwards along strike as well as in under-explored mineralised structures sub-paralleling the Sulfuro structure. Within the Martinetas region, additional drilling within Cerro Oro and Coyote has shown the controls on mineralisation to be more complex than previously modelled. This area has not been closed off a depth and has a high probability on improving the known resource, especially between individual identified deposits (mainly between Cerro Oro and Coyote).

The property has some promising opportunities to extend mine life and improve costs. In particular, heap leaching of lower grade gold resources. In addition, ongoing exploration, drilling, in surrounding areas such as Baritina-Chulengo (Paula Andrea Target) and Goleta (Cangrejo) could provide additional mineral resources with additional drilling.

SRK recommends that Cerro Oro proceed to the definition of mineral resources for the MDN Project. The process of mineral resource definition will require additional geotechnical drilling and the preparation of a pre-feasibility document in compliance with NI 43-101. SRK estimates that these tasks will cost approximately US\$700,000.

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## 2 Introduction and Terms of Reference

The Minera Don Nicolás Project (MDN Project or the Project) is an operating gold and silver mine located in Santa Cruz Province of Southern Argentina. It is located approximately 2,000 km south of Buenos Aires. Cerrado Gold Inc. acquired a 100 percent (%) interest in the Project in March of 2020 through the acquisition of Minera Don Nicolás.

In June of 2020, Cerrado commissioned SRK Consulting (Canada) Inc. to prepare a technical report for the MDN Project. The services were rendered between July and August of 2020 leading to the preparation of the Mineral Resource Statement reported herein that was disclosed publicly by Cerrado in a news release on August 31, 2020.

This technical report documents a Mineral Resource Statement for the MDN Project prepared by SRK. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 (NI 43-101) and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines."

## 2.1 Scope of Work

The scope of work, as defined in a letter of engagement executed in June 2020 between Cerrado and SRK includes the construction of a mineral resource model for the epithermal gold and silver mineralisation delineated by drilling on the MDN Project and the preparation of an independent technical report in compliance with NI 43-101 and Form 43-101F1 guidelines. This work typically involves the assessment of the following aspects of this Project:

- Topography, landscape, access;
- Regional and local geology;
- Exploration history;
- Audit of exploration work carried out on the Project;
- Geological modelling;
- Mineral resource estimation and validation;
- Preparation of a Mineral Resource Statement; and
- Recommendations for additional work.

## 2.2 Work Program

The Mineral Resource Statement reported herein is a collaborative effort between Cerrado and SRK personnel. The exploration database was compiled and maintained by Cerrado and was audited and validated by SRK. The geological model and outlines for the gold mineralisation were constructed by Cerrado using Leapfrog Geo and reviewed by SRK. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralisation at the current level of sampling. The geostatistical analysis, variography and grade models were

completed by Cerrado and validated by SRK during the months of July and August 2020. The Mineral Resource Statement reported herein was presented to Cerrado in a memorandum report on August 31, 2020 and disclosed publicly in a news release dated August 31, 2020.

The Mineral Resource Statement reported herein was prepared in conformity with generally accepted CIM "Exploration Best Practices" and "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. This technical report was prepared following the guidelines of the Canadian Securities Administrators' NI 43-101 and Form 43-101F1.

The technical report was assembled in SRK Vancouver during the month of August 2020. The effective date of the technical report is August 31, 2020.

## 2.3 Source of Information

This report is based on information collected by SRK during a site visit. The author has relied extensively on information provided by Cerrado and on discussions with Cerrado technical personnel. The principal sources of information used to compile this report comprised of digital data and some published information relevant to the operation area and the region in general.

Assay data was mostly provided by independent, internationally recognised laboratories and standards used included a combination of standard samples especially prepared for Cerrado as well as those provided by an independent company. Data for the MDN operation is stored in a Datamine Fusion Database appropriately configurated with MDN codes.

In summary, the following key digital data were provided:

- Drill hole database containing collar location, downhole survey, assay and geology data.
- A three-dimensional model of the topography.
- All original assay and survey certificates.
- Quality control procedures and results.
- Internal and external quality control data.
- A bulk density dataset.
- Representative geological cross-sections.

SRK has made all reasonable enquiries to establish the completeness and authenticity of the information provided and identified, and a final draft of this report was provided to Cerrado along with a written request to identify any material errors or omissions prior to resource estimation.

## 2.4 Qualifications of SRK and SRK Team

The SRK Group comprises over 1,500 professionals, offering expertise in a wide range of resource engineering disciplines. The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This fact permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues.

SRK has a demonstrated track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

The resource evaluation work and the compilation of this technical report was completed by Dr. Gilles Arseneau, P.Geo (APEGBC, 23474). By virtue of his education, membership to a recognised professional association and relevant work experience, Dr. Arseneau is an independent Qualified Person as this term is defined by National Instrument 43-101.

Mr. Casey Hetman, P.Geo (APEGBC, 30185), a Corporate Consultant with SRK, reviewed drafts of this technical report prior to their delivery to Cerrado as per SRK's internal quality management procedures. Mr. Hetman did not visit the Project.

#### 2.5 Site Visit

In accordance with NI 43-101 guidelines, Dr. Arseneau visited the MDN Project on December 10 to 14, 2019 accompanied with Mr. Robert Campbell of Cerrado Gold.

The purpose of the site visit was to review the digitalisation of the exploration database and validation procedures, review exploration procedures, define geological modelling procedures, examine drill core, interview Project personnel and to collect all relevant information for the preparation of a mineral resource model and the compilation of a technical report. During the visit, the mining operation and processing plant were also examined.

The site visit also aimed at investigating the geological and structural controls on the distribution of the gold mineralisation in order to aid the construction of three-dimensional gold mineralisation domains.

SRK was given full access to relevant data and conducted interviews with MDN and Cerrado personnel to obtain information on the past exploration work, to understand procedures used to collect, record, store and analyse historical and current exploration data.

## 2.6 Acknowledgement

SRK would like to acknowledge the support and collaboration provided by Cerrado personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this Project.

## 2.7 Declaration

SRK's opinion contained herein and effective June 30, 2020, is based on information collected by SRK throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the time of writing. 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 favourable.

This report may include technical information that requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Cerrado Gold Inc., and neither SRK nor any affiliate has acted as advisor to Cerrado Gold Inc., its subsidiaries or its affiliates in connection with this Project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

## 3 Reliance on Other Experts

SRK has not performed an independent verification of land title and tenure information as summarised in Section 3 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but have relied on Cerrado Gold as expressed in a legal opinion provided by the firm of 'Rattagan Macchiavello Arocena" to Cerrado Gold on May 6, 2020. A copy of the title opinions is provided in Appendix A. The reliance applies solely to the legal status of the rights disclosed in Sections 4.1 and 4.2 below.

SRK was informed by Cerrado Gold Inc. that there are no known litigations potentially affecting the MDN Project.

## 4 **Property Description and Location**

The MDN gold and silver Project is located approximately 2,000 km south of Buenos Aires in the Patagonia region of Southern Argentina. The MDN Project comprises a series of tenements, within a greater block of exploration leases totalling some 2,730 km<sup>2</sup> in area, with mining activities having been carried out on two main areas, the Martinetas and the La Paloma. The two areas being approximately 40 km apart.

The Project area is centred at latitude 48°00'S and longitude 67°30' W approximately 100 km inland from the South Atlantic Ocean. Elevations at the Project vary between 120 metres above sea level (masl) for La Paloma and 160 for the Martinetas area. Figure 4.1 shows the irregular contiguous block of concessions controlled by MDN as of March 2020 which totals 272,598.17 hectares (ha).



Source: Presentation – MDN-2020, Cerrado Gold Website (https://www.cerradogold.com/) Figure 4.1: Mineral Licenses and Project Location Map

## 4.1 Mineral Tenure

Mineral titles in Argentina are held as Cateos, Manifestaciones de Descubrimiento (MD) or mining permits known as Minas. The current property including all Cateos, MD and Minas cover 272,598.17 ha (Figure 4.2).

Table 4.1 provides details of the current mining claim.

#### **Table 4.1: Mineral Tenure Information**

Name	Number	Туре	Area (ha)
Tormenta	427.645/IRL/13	Cateo	5646
Blanca I	400.210/H/07	GM La Paloma	1,251.23
La Lechuza 1	415.448/HA/07	GM La Paloma	5,902.85
LA Paloma I	404.392/PS/02	GM La Paloma	2,496.88
La Paloma II	413.218/H/06	GM La Paloma	2,499.1
Paula Andrea	415.446/HA/07	GM La Paloma	3,699
SYRAH	403.975/RY/05	GM La Paloma	3,500
Syrah I	420.371/IRL/12	GM La Paloma	3,212.13
ARMADILLO	406.200/RY/02	GM Martinteas	3,342.63
GOL I	406.196/P/97	GM Martinteas	100
GOL II	406.197/P/97	GM Martinteas	100
MAR III	415.232/P/96	GM Martinteas	600
MAR IV	410.767/P/99	GM Martinteas	100
MARA	405.498/RY/02	GM Martinteas	6,785
MICRO I	411.825/P/95	GM Martinteas	200
MICRO II	411.826/P/95	GM Martinteas	200
Alberto I	413.204/MSA/06	MD	2,500
Alberto II A	414.172/MSA/07	MD	2,400
Alberto II B	414.173/MSA/07	MD	1,100
Alberto III A	401.814/MS/07	MD	309
Armadillo I	427.476/IRL/13	MD	678
Armadillo II	427.474/IRL/13	MD	1,074
Armadillo III	427.469/IRL/13	MD	1,692
Babieca I	420.271/EB/12	MD	3,781.63
Babieca II	426.429/IRL/13	MD	1,439.29
Babieca III	429.388/IRL/14	MD	3446
Balio I	432.237/IRL/15	MD	3,987.9
Balio II	435.570/MDN/16	MD	1,998
Bucefalo I	422.242/EB/12	MD	3,986.54
Bucefalo II	427.652/IRL/13	MD	1,998.78
Bucéfalo III	430.340/IRL/14	MD	3,990
Cecilia I	413.770/H/06	MD	4,081
Cecilia II	408.198/HA/08	MD	2,130
Cecilia III	420.101/H/10	MD	3,801

Name	Number	Туре	Area (ha)
DORCON 3	409.022/P/98	MD	400
DORCON 4	410.966/P/99	MD	400
Escondido I	400.211/H/07	MD	3,992
Escondido II	440.226/MDN/19	MD	3,991.98
ESTRELLA I	412.999/P/00	MD	300
ESTRELLA II	413.000/P/00	MD	200
Gato I	432.235/IRL/15	MD	3,369
Gato II	435.568/MDN/16	MD	2,179.82
GAVIOTA I	405.699/RY/05	MD	840
Gaviota II	415.447/H/07	MD	2,013
Gaviota III vetiforme	409.237/H/08	MD	840
Gaviota IV	425.587/HA/09	MD	3,146
GAVIOTA IX	431.837/IRL/15	MD	840
GAVIOTA V	431.833/IRL/15	MD	840
GAVIOTA VI	431.834/IRL/15	MD	840
GAVIOTA VII	431.835/IRL/15	MD	840
GAVIOTA VIII	431.836/IRL/15	MD	840
GAVIOTA X	431.838/IRL/15	MD	840
Genitor II	434.831/MDN/16	MD	2,109
Golondrina I	404.121/HA/07	MD	3,958
Golondrina II	424.366/HA/09	MD	2,200
Golondrina III	424.172/HA/10	MD	3,740
Guanaco I	407.544/HA/08	MD	840
Guanaco II	423.837/H/09	MD	3,978
Guanaco III	428.891/IRL/14	MD	840
Guanaco IV	428.892/IRL/14	MD	310
Janto I	422.243/EB/12	MD	4,017.16
Janto II	427.653/IRL/13	MD	2,006
Janto III	430.339/IRL/14	MD	3,954
La Lechuza II	440.337/MDN/19	MD	4,598.64
La Paloma III	427.473/IRL/13	MD	4,507
La Paloma IV	427.475/IRL/13	MD	3,059
Lampos I	424.657/IRL/13	MD	3,896.05
Lampos II	428.728/IRL/14	MD	1,939.72
Lampos III	431.645/IRL/15	MD	3,854

Name	Number	Туре	Area (ha)
Lazlos I	429.101/IRL/14	MD	3,952
Lazlos II	432.238/IRL/15	MD	1,796
Lazlos III	435.185/MDN/16	MD	3,435
Mancha I	420.269/EB/12	MD	3,999.65
Mancha II	424.747/EB/13	MD	1,991.6
Mancha III	428.935/IRL/14	MD	3,957
Mara I	440.335/MDN/19	MD	967.86
Mara II	440.333/MDN/19	MD	3,832.68
Micaela	413.048/H/06	MD	554.05
Michelle III	415.840/H/07	MD	2,019
Paula Andrea I	440.332/MDN/19	MD	1,166.9
Pegaso I	432.236/IRL/15	MD	3,982.22
Pegaso II	435.569/MDN/16	MD	1,882.1
Podarga I	422.238/EB/12	MD	3,905.67
Podarga II	428.123/IRL/14	MD	1,951
Podarga III	430.342/IRL/14	MD	3,948
Rocinante I	422.244/EB/12	MD	3,982.63
Rocinante II	426.788/IRL/13	MD	840
Rocinante III	429.870/IRL/14	MD	594
Rocinante IV	430.781/IRL/15	MD	840
Rocinante IX	436.776/MDN/17	MD	274.6
Rocinante V	430.782/IRL/15	MD	840
Rocinante VI	430783/IRL/15	MD	840
Rocinante VII	430.784/IRL/15	MD	840
Rocinante VIII	436.775/MDN/17	MD	840
Sombra Gris I	422.957/EB/12	MD	4,050.11
Sombra Gris II	427.477/IRL/13	MD	2,592
Sombra Gris III	430.341/IRL/14	MD	3,316
SPARK	403.957/P/02	MD	7,000
Spark I	440.334/MDN/19	MD	6,100
Strategus I	421.594/M/12	MD	4,043.09
Strategus II	427.651/IRL/13	MD	839.91
Strategus III	428.795/IRL/14	MD	840
Strategus IV	428.796/IRL/14	MD	396
Strategus V	430.338/IRL/14	MD	3899

Name	Number	Туре	Area (ha)
Yatasto I	420.268/EB/12	MD	3,959.9
Yatasto II	426.430/IRL/13	MD	2,033.34
Yatasto III	429.814/IRL/14	MD	840
Yatasto IV	430.785/IRL/15	MD	840
Yatasto V	430.786/IRL/15	MD	840
Yatasto VI	430.988/IRL/15	MD	840
Yatasto VII	430.989/IRL/15	MD	565.66
Zefiro I	428.597/IRL/14	MD	4,107.25
Zefiro II	431.832/IRL/15	MD	1925
Zefiro III	434.818/MDN/16	MD	3,775.92
Balio III	437.521/MDN/17	MD	4,016.7
Golondrina IV	439.013/MDN/18	MD	400
Golondrina V	439.014/MDN/18	MD	1,600



Source: Cerrado Gold, 2020
Figure 4.2: Land Tenure Map

## 4.2 Underlying Agreements

On March 17, 2020 Cerrado Gold entered into an agreement with Compañía Invesora En Minas S.A. and Compañía Invesora Argentina Para La Exportacion SA (the Sellers) to acquire Minera Don Nicolás S.A. (MDN) and its namesake operating mine and surrounding properties in Santa Cruz Province, Argentina. Under the terms of the agreement Cerrado paid the Sellers an initial payment of US\$15 million at closing, with future payments of US\$10 million in 24 months, US\$10 million in 48 months and US\$10 million in 60 months from closing. The Sellers are also entitled to a performance bonus based upon an increase in reserves in the future.

The MDN Project is also subject to 3% mine head sale provincial royalty defined as the price for the sale of the corresponding metal minus certain costs and expenses. A two percent net smelter royalty is payable to Royal Gold Inc. pursuant to agreements dated February 1, 2000 (Polimet Royalty Agreement) and January 1, 2002, with Yamana and associate companies (La Paloma Royalty Agreement). The first agreement includes the following Minera IRL mineral rights Gol I, Gol II, Mar III, Mar IV, Micro I and Micro II along with other mining rights that are not included in the MDN Project or that do not even belong to Minera IRL. The latter covers the Syrah declaration of discovery.

A US\$3.00/oz gold royalty to a cap of US\$2 million payable to Yamana. This is applicable to all of the current resource areas and, effectively, those key licenses covered by the Royal Gold agreement.

Production at the Minera Don Nicolás is subject to a precious metal streaming agreement executed between Cerrado Gold Inc. and Sprott Private Resource Streaming and Royalty (B) Corp ("Sprott"), dated March 16, 2020 (the "Agreement"), consisting of 6.25% payable gold and 6.25% payable silver for an initial term of forty (40) years which can be extended for successive ten (10) year periods. Following the delivery of 21,250 gold equivalent ounces to Sprott, the percentage of payable gold and payable silver will be amended by reducing the percentage of each from 6.25% to 2.5% (the "Step Down"). The Agreement also gives the option to Cerrado at any time within the 12 months following the Step Down to further reduce the percentage of payable gold and payable silver from 2.5% to 1.25% by paying an amount equal to US\$2,500,000 to Sprott. Upon execution of the Agreement, Cerrado received a deposit in the amount of US\$15,000,000.

## 4.3 Permits and Authorisation

All permits necessary to carry out exploration work on the MDN Project area have been obtained by Minera IRL Patagonia S.A.

## 4.4 Environmental Considerations

The Project area is an active mining area with operating plant and tailing pond. The Project is fully permitted and subject to regular inspections by government inspectors. There are no known environmental liabilities to which the Project is currently subject to.

## 4.5 Mining Rights in Argentina

Mineral rights in Argentina have been broadly regulated by the Federal Government since the enactment of the original Mining Code in 1822. Since then the rules and regulations have been modified several times, particularly in 1993 with the introduction of the Mining Investment Law that provided an updated legal and taxation framework for mineral exploration and mine production.

However, individual provinces hold domain over the mineral resources within their territories and administer the exploitation of mineral resources. The provinces therefore are the key to acquiring, owning, producing, and selling mineral products located within specified parcels of land known as Cateos, Manifestaciones de Descubrimiento, and Minas:

- **Cateo:** A cateo is a parcel of land measuring 500 ha and can vary in size from a single unit to a maximum of 20 units (10,000 ha). The holding of a cateo is associated with relinquishing ground based on a formula varying from 300 to 700 days and reduction in ground held to 50% of that originally claimed.
- Manifestación de Descubrimiento (MD): On discovering a mineral occurrence of interest within a cateo, the owner can apply for an MD around his discovery at any time within the period of the corresponding cateo. The maximum area of an MD is 3,000 ha and remains in force until such time as the property is legally surveyed, an essential prior step to the longer term granting of a "mina".
- Mina: Minas are mining concessions or leases which permit mining on a commercial basis. The area of a mina is measured in "pertenencias" and will vary in size according to the distinction between vein and disseminated targets believed to occur on the property. Individual mining authorities (the provinces) may determine the number of pertenencias required to cover the geologic extent of the mineral deposit in question. Once granted, minas have an indefinite term assuming exploration, development or mining is in progress.

All mineral rights described above are considered forms of real property and can be sold, leased or assigned to third parties on a commercial basis. The mining code contains environmental and safety provisions, administered by the provinces. Prior to conducting operations, operators must submit an environmental impact report to the provincial government, describing the proposed operation and the methods to be used to prevent undue environmental damage.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

## 5.1 Accessibility

The Project is easily reached from the coastal port city of Comodoro Rivadavia, which is serviced daily by commercial jet flights from Buenos Aires approximately 1,750 km to the north. Comodoro Rivadavia is a regional centre of approximately 183,000 population that services the Argentine oil and gas industry.

From Comodoro Rivadavia, the MDN Project is accessed by driving south along the paved National Route 3 for approximately 280 km. This road is part of the main north-south road traversing the length of the country and is in good condition (Figure 5.1).

From there, the La Paloma ranch is accessed by turning west onto the unpaved Route 49, and the El Cóndor and Bema ranches are accessed along private roads approximately 7 km and 25 km further south from the Route 49 turn-off, directly off National Route 3. Average driving time between Comodoro Rivadavia and the property is about four hours.

Access to the various prospects within the property from the ranches is along formed and unformed gravel roads that are generally in very good condition.



Source: Google Maps, 2020 Figure 5.1: MDN Project Location Map and Access

## 5.2 Local Resources and Infrastructure

Notwithstanding its proximity to National Route 3 highway, which transects the Project area, MDN is in a very sparsely populated region. There is little settlement other than scattered estancias (rural farms), which have largely been abandoned following the ashfalls from the 1991 eruption of Cerro Hudson.

The nearest settlements of significance are:

- Puerto Deseado 130 km east;
- Puerto San Julian 160 km south; and
- Rio Gallegos (Provincial Capital) 400 km southwest.

Basic services and supplies are readily available in Puerto San Julian.

A gas pipeline running parallel to National Route 3 transects the Project area. Communication is provided by satellite link, and accommodation and office facilities with domestic power and water services are available at the Martinetas site.

Water exploration in the area targeted at identifying sufficient water to support a mining operation has been successful in locating substantial quantities of groundwater.

#### 5.3 Climate

The Patagonian plains of Southern Argentina endure strong westerly winds that persist throughout most of the year, and particularly during the summer months. Based on data acquired regionally, average monthly temperatures above 10 degrees Celsius (°C) generally occur between November and March. Average monthly temperatures below 5°C generally occur from June through August. Annual precipitation is from 180 to 300 millimetres (mm), with occasional heavy snow falls in the winter. It is anticipated that exploration field work can generally be completed year-round, except for a few weeks during the winter when heavy snow may hinder the continuation of field exploration programs.

#### 5.4 Physiography

The property area is located on the eastern Patagonian plains and is generally characterised by flat to gently undulating landforms dissected occasionally by incised shallow valleys (Figure 5.2). Some prospect areas such as La Paloma exhibit hilly terrain but this does not generally impede access to the entire Project area (Figure 5.3). Elevation ranges from 130 masl to 220 masl.

Vegetation is sparse and dominated by grasses and low shrubs. Some cattle and sheep grazing activities persist. However, these are limited in extent as the pastoral industry has not fully recovered from the effects of the ash blanket from the Cerro Hudson, located in Chile approximately 500 km to the northwest of the Project area. Prior to this eruption, cattle and sheep grazing predominated; however, the area is now largely uninhabited.



Source: Courtesy of Cerrado Gold Figure 5.2: General Physiography of the Martinetas area



Source: Courtesy of Cerrado Gold Figure 5.3: General Physiography of La Paloma area

## 6 History

The following historical summary is taken from Tetra Tech (2012) with minor modifications.

The Project area was first explored in the early 1990's following the discovery and subsequent development of the Cerro Vanguardia gold mine by AngloGold Ashanti Ltd. (AngloGold) and Fomicruz (a Santa Cruz provincial mining holding entity).

The claim areas (cateos) within and around the MDN Project were originally explored by a number of companies including Newcrest Mining Ltd. (Newcrest), Compañía de Minas Buenaventura S.A.A., Yamana Gold Inc., Rio Algom Ltd., Hochschild Mining and Hidefield Gold PLC (Hidefield). This exploration work included surface sampling, trenching and limited drilling, both core and percussion.

Early historical drilling on the Martinetas area consisted of:

- 12 RC drill holes completed by Newcrest in 1994.
- 75 RC drill holes completed by Yamana in 1995–1996.
- 200 RC and 33 core holes completed by Yamana between 1997 and 1999.
- 32 core holes drilled by RYSA (a Yamana Joint Venture) on 2004.
- 165 core holes drilled by Hidefield in 2004–2006.
- 279 RC hole and 383 core holes completed by Minera IRL between 2010 and 2014.
- 2,461 RC holes and 297 core holes were drilled by MDN between 2015 and 2019.

Between 2006 and 2009, Hidefield completed a total of 165 core holes (HQ) at a number of vein showings in La Paloma (87 holes for 11,382 m) and Martinetas (60 holes for 7,220 m). In additional 18 holes for 1,738 m were drilled on regional exploration targets and a substantial number of trenches were completed in the Project area.

In 2009, Minera IRL acquired Hidefield and the MDN Project. Since the acquisition, Minera IRL drilled over 48,300 m of in-fill and extensional diamond drill hole (DDH) core and 23,900 m of RC drilling on both; La Paloma and Martinetas areas, as well as over 15,500 m of extra trench sampling at the Martinetas area (Cerro Oro and Coyote deposits).

In 2012, Minera IRL engaged Tetra Tech to prepare a feasibility study for the Project (Tetra Tech, 2012). This included various field programs of drilling to upgrade mineral resources, geotechnical investigations to establish mining and construction parameters, environmental base line studies, water resource investigations, and technical studies into mining and processing alternatives.

In 2016, the Project was acquired by a consortium of Argentine investors and the Project went into production in 2017 with gold production in 2018. Gold mining is by conventional open-pit mining with a 1,000 tpd carbon in leach (CIL) plant.

Cerrado Gold Inc. acquired the Project from the Argentine investor in March of 2020.

## 6.1 Historical Mineral Resource Estimates

Mineral resources were last estimated for the Project when the area was controlled by Minera IRL, prior to any production being done on the Project. In 2012, Coffey Mining (Pty) Ltd (Coffey) estimated that the MDN Project contained 1.46 million tonnes of Measured Plus Indicated mineral resources grading 5.9 grams per tonne (g/t) gold and 0.7 million tonnes of Inferred mineral resources grading 4.0 g/t gold at a 1.6 g/t cut-off (Tetra Tech, 2012).

The historical estimate was prepared by ordinary kriging inside geological wireframes representing the mineralised intervals. The estimate is no longer relevant because it was prepared before any production was achieved from the Project. SRK has not done the work necessary to verify the historical estimate but believes it to be reliable in that it was prepared by independent Qualified Persons following the general guidelines and mineral resource categories as outlined in NI 43-101. The Company is not treating the historical estimate as a current mineral resource estimate and it should not be relied upon as it is superseded by the estimates presented in Section 14 of this report.

## 6.2 Historical Production

Mining operations began at MDN in 2017 with the first gold production being achieved in the third quarter of 2017. The mine, so far, has produced 54,600 ounces of gold and 95,700 ounces of silver shown in Table 6.1. The mine is currently operating at a rate of 1,000 tonnes per day (tpd).

Production Records	Unit	2017	2018	2019
Ore Mined	tonnes	152,476	156,651	242,232
Waste Moved	tonnes	2,407,108	3,470,372	5,387,105
Strip Ratio	waste:ore	15.8	22.2	22.2
Ore Milled	tonnes	109,692	286,457	277,029
Gold Grade	g/t	1.97	2.98	3.33
Silver Grade	g/t	7.25	8.11	6.80
Gold Recovery	%	45%	91%	92%
Silver Recovery	%	37%	68%	59%
Gold Production	Ozs	3,154	24,882	26,572
Silver Production	Ozs	9,364	50,596	35,757

Table 6.1: Past Production Records for MDN Project

## 7 Geological Setting and Mineralisation

## 7.1 Regional Geology

The MDN Project is in the Patagonia region of Argentina within an uplifted fault block area known as the Deseado Massif of Santa Cruz province (Figure 7.1). Covering a surface area of approximately 60,000 km<sup>2</sup>, the Deseado Massif is predominantly underlain by volcanic rocks of Jurassic age and is host to several epithermal Au-Ag deposits such as MDN.

The Massif is dominated by bi-modal volcanism including rhyolitic and andesitic flow and tuffaceous volcaniclastic lithologies of Middle to Upper Jurassic age (130 ma to 170 ma). Rock of the Massif are crisscrossed by numerous extensive fault and fracture zones which served as conduits for hydrothermal activity during periods of Jurassic volcanism. The result of this activity is a widespread network of shallow level mineralised "epithermal" fissure veins, breccias, and stock-work systems, many of which carry potentially economic Au and Ag mineralisation.



Source: Coffey, 2012 Figure 7.1: Regional Geology Setting

## 7.2 Property Geology

The MDN Project area consists of two main mining areas, the La Paloma and the Martinetas (also the location of the process plant and tailing impoundment area). The two areas are about 40 km apart but share broad similarities. Each are hosted within rhyolitic to andesitic volcaniclastic lithologies which are interpreted to be flat to shallow dipping. Figure 7.2 shows the general geological units in and around the La Paloma area and Figure 7.3 shows the geological units around the Martinetas area.



Source: Cerrado Gold, 2020

Figure 7.2: General Geology of the La Paloma Area



Source: Cerrado Gold, 2020 Figure 7.3: Local Geology Around Martinetas Area

There is limited outcrop on the property, but overburden cover is generally less than 5 m and bedrock can generally be easily accessed by trenching (Figure 7.4). Gold and silver deposits occur as low sulphidation, epithermal mineralisation within sub-vertically oriented quartz-breccia veins.



Figure 7.4: Trench Exposing Bedrock in the La Paloma Area

## 7.3 Mineralisation

At La Paloma, the Sulfuro-Rocio vein system comprises narrow, arcuate, steeply dipping quartzbreccia veins. Drilling has defined four areas of interest (Figure 7.5):

- The Sulfuro vein, the principal deposit of economic interest, is represented by a single, well
  developed quartz vein typically 2 m to 4 m in thickness and has a primarily northwest-south
  southeast orientation with a steep southwestwardly dip. Associated sulphide minerals include
  pyrite and minor galena and sphalerite.
- The Ramal Sulfuro vein occurs at the northern end of the main Sulfuro vein and is strongly curved from a north-south orientation to east-west and is typically 2 m to 4 m in thickness.
- The Rocio vein occurs to the west of the main Sulfuro vein. The Rocio vein is typically 2 m to 5 m in thickness and dips steeply to the east. It is also arcuate in shape and sub-parallels the Sulfuro vein.
- The Esperanza vein system dips 75 degrees toward Sulfuro and has an average thickness of 0.3 m to 6 m.



Source: Cerrado Gold, 2020 Figure 7.5: Plan View Showing the Sulfuro Vein System

A near-surface oxidised resource has been estimated for the Arco Iris vein, located towards the north of the Sulfuro vein system. It is represented by a series of narrow, structurally displaced, sub-parallel aligned, sheared quartz veins hosting erratic precious metal mineralisation.

The La Paloma veins remain open-ended at depth. Geological interpretation of the results of recent geophysical studies strongly suggests that the main Sulfuro vein is additionally open-ended towards the south.

At Martinetas, multiple mineralised structures occurring as "vein swarms" with minor intervening stockwork development occur. Five resource areas have been delineated. The main resource is at the Coyote and Cerro Oro deposits comprising a series of narrow, sub-parallel, anastomosing quartz veins varying in width from tens of centimetres to several metres, and typically averaging 1 m or less in thickness. Au/Ag mineralisation is variable within the veins with some minor stockwork mineralisation extending into the host volcanic lithology. Conceptually, near-surface oxidised stockwork precious metal mineralisation might provide a low grade, conventional, heap-leachable resource.

Other resource areas at Martinetas include the Lucia, Calafate and Armadillo deposits. Precious metal mineralisation associated with these deposits is also hosted by narrow to moderately thick, steep dipping quartz veins of variable tenor.
# 8 Deposit Types

The gold-silver deposits of the Deseado Massif are hosted in silicic volcanic and volcanosedimentary Jurassic rocks related to arc or back-arc settings in Andean or extra-Andean settings. The ore geology, textures, mineralogy, restricted alteration, and geochemistry of these mineralised occurrences indicate that they belong to the epithermal class of precious metal deposits. The deposits are mainly associated with quartz +/- calcite +/- adularia +/- illite alteration assemblages interpreted to represent low and intermediate sulphidation epithermal type deposits.

Known deposits represent diverse levels of erosion ranging from sinter formed at the paleo-surface, to intermediate Au-Ag rich quartz veins, to base-metal bearing Au-Ag veins that represent deeper levels of the epithermal systems. Based on metallic associations, the different deposits can be divided into:

- Au-Ag or Ag>Au;
- Polymetallic with Ag-Au or only Ag or;
- Complex polymetallic with Ag-Au.

Mineralisation is generally associated with discrete banded quartz vein structures ranging in width from 0.5 m to over 5 m, although a disseminated form of weak stockwork quartz veining of less than 0.5 m width intermediate to the principal quartz structures does also occur in some instances.

Extension fracturing developed in the Jurassic volcanic rocks and the influx of meteoric waters into geothermal systems is considered the main control on ore genesis.

# 9 Exploration

The Minera Don Nicolás tenements now held by Cerrado Gold were acquired from a group of Argentinian investors in March 2020. These investors in turn had acquired it in 2014 from Minera IRL Patagonia (MIRLP) who had acquired them from Hidefield who in turn had acquired them from Yamana Resources Inc. (Yamana). Yamana identified the areas as having potential for Au/Ag mineralisation and commenced exploration work in the region in the early 1990's. Early exploration activities are discussed in Section 6 of this report.

# 9.1 Cerrado Gold Exploration Program

After acquisition, Cerrado initiated an extensive infill drilling campaign at MDN in the main deposit areas currently being exploited. This campaign is targeting 19,200 m, focusing on Cerro Oro, Coyote and Sulfuro deposits. One RC rig is working 24 hours on two shifts performing a closer drilling mesh at 10 m by 10 m targeting a year production, and 20 m by 20 m targeting a second year.

Cerrado's exploration team has been performing a review at MDN targets, including site visits, chip and channel sampling trenches. In some cases RC drill holes were drilled. The main focus of the exploration activity being the re-interpretation and understanding of the geological controls on mineralisation. During previous exploration campaigns the exploration was targeted to discover near surface mineralised veins. Current work is also examining breccia pipe style mineralisation which is known to contain high gold grades. Table 9.1 summarises the 2020 exploration sampling program.

MDN			Cerrado Gold				Total		
Project	January	February	March	April	May	June	July	August	Total
Arco Iris									
Channels		9							9
Trenches			4						4
Baritina									
RC Holes								10	10
Trenches						8	10		18
Cerro Oro									
Channels		7							7
RC Holes	157		80		16	76	65	9	403
Trenches	6	1					5		12
Chulengo									
Trenches								39	39
Coyote									
Channels						11		8	19
Sulfuro									
DDH	1								1

#### Table 9.1: Summary of 2020 Exploration Activity at MDN

# 9.2 In-Pit Drilling Program

The 2020 infill and delineation program with 3.5 inch diameter RC drilling for in-pit control of the mineralisation at MDN totals 19,200 m to the end of August (Table 9.2). The program began in March and was expected to take eight months to complete. There was a six week shutdown due to the COVID-19 pandemic and the new health protocols will push the completion of the drilling out to December 2020.

The infill drilling program uses one RC drill rig. The program is using both 10 m x 10 m and 20 m x 20 m mesh grids. Drilling is carried out over the pit bottom to generate a tighter drilling mesh to support a selective mine operation and to improve the overall feed grades.

Cerrado technicians control the RC sampling program and samples are generally collected at a 1 m interval. Sampling interval is reduced to 0.5 m where higher-grade mineralisation is predicted by the long-term resource model. The rig recovery is monitored by measuring the mass of recovered material. The chips of RC rig are stored and photographed to further analysis.

Target	Mar	Apr	Мау	Jun	Jul	Aug	Total
Cerro Oro Mineralisation Control	2,500		2,500	281			5,281
Cerro Oro Infill	1,000		1,000	24			2,024
Coyote Mineralisation Control				2,500	1,088		3,588
Coyote Infill				695	976		1,671
Martinetas Other Areas						328	328
Sulfuro Mineralisation Control		1,244					1,244
Sulfuro Infill		1,482			1,455	1,344	4,281
Arco Iris Mineralisation Control		783					783
Total Metres	3,500	3,509	3,500	3,500	3,519	1,672	19,200

Table 9.2: 2020 In-Pit RC Drilling Program, Total Metres per Month

## 9.3 Regional Exploration

The significant targets have been explored during the first months of 2020 by Cerrado, these include: Baritina, Chulengo, Cerro Caracol, Araña, Arco Iris, Polvorin, Antena (Figure 9.1). The exploration work will be summarised in the sections below.



Source: Cerrado Gold, 2020



#### 9.3.1 Baritina

Baritina is one of a cluster of breccia pipe type targets that is part of a larger area referred to as the Paula Andrea Prospect.

Two well-marked volcanoclastic sequences predominate the area. One is an argilized polymictic andesitic breccias found in the trenches surrounding the hill at Baritina. The other are ignimbrites with a notable presence of fiamme. The mineralisation is associated with the first unit, this one being brecciated and forms a "breccia pipe". A concentration of minor fragments of tuffs is observed in the main conduit and therefore a greater presence of matrix formed by rock dust, barite and cemented by small silicified angular clasts. These possibly mark a zone of collapse and form an inverted cone shape. The east contact is well marked by a subvertical fault trending 20 degrees (°), while the rest of the body has a circular shape (Figure 9.2). The breccia is generally matrix supported with the matrix consisting of gray massive cryptocrystalline quartz, abundant hematite and jarosite ± goethite and barite crystals. Hematite is common at the top of the hill and to the east, while jarosite is normally found at the limits of the pipe. Barite occurs normally at the top of the hill and to the west.

The blocks of wall-rock range in sizes from 10 cm up to 3 m, they are intensely replaced and exhibit vuggy-like texture.



Source: Cerrado Gold, 2020

Figure 9.2: Fault Cutting Baritina Breccia Pipe Exposed in Trench

Northwards of Cerro Baritina in trenches BA-T20-029 and BA-T20-030, a stratigraphic contact between the polymictic breccia and the ignimbrite units is observed. The polymictic breccia is sub-horizontal (<20°) and overlies the ignimbrite.

Southwards of Cerro Baritina in trenches BA-T20-027 and BA-T20-028, a 5 m to 10 m wide northwest (NW) striking fault zone occupies the contact between the breccia and the ignimbrite. Gypsum and iron oxides are common in this area, along with angular to sub-angular silicified fragments of wall rock.

Alteration within the breccia is zoned with a higher temperature assemblage occurring near the centre of the pipe, possibly associated with the probable mineralisation conduits. The system is bounded at both east and west sides by a smectite +/- gypsum zone (low temperature assemblage). Higher grade gold mineralisation coincides with a zone of pervasive zunyite in wall rock and a breccia matrix of dickite, hematite silica +/- barite (Figure 9.3).

Westward silica decreases and barite increases. In this area the alteration assemblage includes zunyite + barite + hematite/jarosite +/- silica. Laterally there is more dickite than zunyite.



Source: Cerrado Gold, 2020 Figure 9.3: Trench and Alteration Map of Baritina Area

Based on drill hole intersections and observations made in the trenches, the area that presents strong zunyite/barite/dickite/hematite/silica alteration is associated with the presence of smaller pyroclastic blocks with a higher concentration of matrix and cement (possibly representing the main conduit for fluids), this area is 20 m wide and 40 m long.

A total of eleven RC holes were drilled in the Baritina target in 2020. Figure 9.4 shows a typical section across the breccia pipe. The analysis of the drill chips shows multiple intersections of hydrothermal breccia and the oxidation levels.



Source: Cerrado Gold, 2020 Figure 9.4: Typical Cross Section Across Baritina Breccia Pipe

## 9.3.2 Baritina 2

At Baritina 2, a trench was opened exposing a subvertical N330° fault, with unknown horizontal displacement. The volcanoclastic rocks exposed are similar to the rocks at Baritina with moderate to strong dickite alteration with vuggy-to pervasive silica and crystalline quartz in millimetre veins. Testing of surface samples with a Niton<sup>©</sup> analyser returned values of up to 10 g/t Au.

Limited drilling carried out in the Baritina 2 area has not shown results of interest. The area is, however, worthy of continued exploration because of the favourable geological and alteration units present. The mineralisation found to date has been quite irregular, concentrated in fracture zones and or open spaces or in breccia zones (Figure 9.5).



Source: Cerrado Gold, 2020 Figure 9.5: Trench and Quarts-Jarosite Veinlet from Baritina 2 Area

#### 9.3.3 Chulengo

Geological investigation at the Chulengo area indicated that alteration was multi-phased but predominantly of high-sulphidation. The lithocap displays advanced argillic alteration locally associated with elevated values of gold and/or silver. Figure 9.6 shows what may be remnant of a volcanic vent or chimney with an advanced argillic alteration and gossan.



Source: Cerrado Gold, 2020 Figure 9.6: Possible Volcanic Vent at Chulengo

The gossan contains jarosite and limonite in pyroclasts (lapilli), hematite in epiclastic with strong dickite and the matrix contains vuggy silica (Figure 9.7).



Source: Cerrado Gold, 2020 Figure 9.7: Gossan at the Chulengo Area

### 9.3.4 Cerro Caracol

Cerro Caracol is located at the intersection of the NW and northeast (NE) structural corridors (Figure 9.8). These structures are often associated with the gold deposits of the El Deseado Massif.

Geological mapping has identified andesitic and ignimbrite lavas (Figure 9.9). They form wide sectors affected by a complex system of polymictic and hydrothermal breccias supported by fragments where the concentration of jarosite, hematite and vuggy silica is important. The contacts are associated with NW faults with advanced argillic alteration and gossan.



Source: Cerrado Gold, 2020

Figure 9.8: Location of Cerro Caracol at Intersection of NE-NW Faults

The advanced argillic alteration is characterised by the total destruction of feldspars, leading to the formation of kaolinite and/or alunite. Much of the rock minerals have been transformed into dickite, kaolinite, pyrophyllite, alunite and quartz.



Source: Cerrado Gold, 2020 Note: Andesitic lavas (green), ignimbrite strips (purple dash) and a hydrothermal chimney (red) Figure 9.9: Panoramic View of Cerro Caracol

#### 9.3.5 Araña

This area is located 950 m NE of Baritina, it is a breccia with a matrix of crystalline and coliform quartz and iron oxide veins. Also present are disseminated sulfides and traces of malachite (<1%). The wall rock corresponds to the rhyolitic dome, it presents strong silicification (pervasive), locally with breccia form textures.

Surface sampling has identified the presence of selected high-grade gold values (Figure 9.10 and Table 9.3).

The actual width of the structure has not been determined, although there is a clear structural control north-south (NS) and east-west (EW), the gap has a NE trend according to the location of the outcrops. The systems may be related to the presence of major faults with NW trend. Three RC holes cut anomalous but generally low-grade mineralisation at depth in the projection of the structure. The predominant alteration on the surface is kaolinite – dickite.



Source: Cerrado Gold, 2020

Figure 9.10: Location of Surface Grab Samples at Araña

Sample	Easting	Northing	Elevation	Au (g/t)
EG-4630	2595803	4714052	166	0.08
EG-4631	2595768	4714110	170	0.02
EG-4632	2595767	4714111	169	0.03
EG-4633	2595636	4713649	175	4.51
EG-4635	2595636	4713651	176	12.53
EG-4636	2595628	4713645	171	24.53
EG-4637	2595620	4713632	166	47.69
EG-4638	2595644	4713663	181	0.3
EG-4639	2596355	4713799	197	0.08

Table 9.3: Location and Results of Surface Samples Collected from Araña

#### 9.3.6 Arco Iris

Four trenches were excavated at Arco Iris in March. The sector is very important, the exploration program identified the presence of small high-grade bodies and surface sampling has identified several high-grade values over significant widths (Figure 9.11).



Source: Cerrado Gold, 2020

Figure 9.11: Location of Surface Sampling at Arco Iris Area

#### 9.3.7 Polvorin

The main outcrop is 500 m to the ENE of Sulfuro. The topographic highs of this sector were surveyed and the existence of three well-marked lithological units were noted (Figure 9.12 and Figure 9.13):

- a) Pyroclastic rocks or polymictic breccias with strong silicification occupies the highest topography.
- b) A flat lying andesitic volcaniclastic sequence with the silica and argillic alteration and containing oxides in veinlets and fractures.
- c) Andesite units with intense silicification, coincident with a magnetic anomaly.



Source: Cerrado Gold, 2020

Figure 9.12: Map Showing the Distribution of Mapped Rock Units at Polvorin



Source: Cerrado Gold, 2020 Figure 9.13: Example of Rock Unit A on the Left and Unit B on the Right

#### 9.3.8 Antena 1, 2, 3

The Antena targets are located 1,250 m to the SSE of the Sulfuro pit, the structure of Antena 1 and 2 has been mapped for about 800 m of strike length. The width of the structure varies from 1 m to 2 m and consists of a massive textured chalcedonic quartz filling emplaced in andesitic volcaniclastic rocks. Antenna 3 is a north-south trending vertical structure located in the same sequence but with a thickness reaching up to 12 m and an average of 1 g/t Au.

Throughout the Antena area, 22 RC holes, 15 trenches and 3 DDH have been performed (Figure 9.14). The best intersections were located in trench AN-T18-010, 0.5 m @ 5.73 g/t Au and in the RC hole AN-RC18-021, 1 m @ 5.16 g/t Au.



Figure 9.14: Location of Trenches at Antena

# 9.4 Assays Re-assay Program

In May 2020, a re-sampling program was initiated to evaluate and check some historical assays at the MDN Project. A total of 768 samples were sent to ALS Chemex Laboratories (ALS), 708 pulp and 60 control samples. The historical assay came from 102 drill holes drilled between 2000 to 2017. The results of the re-sampling program are discussed in Section 11 of this report.

# 10 Drilling

Since acquiring the Project in March of 2020, Cerrado has drilled 184 RC holes, excavated 62 trenches and collected nine channel samples. Most of the drilling and trenching discussed in this section were carried out by the previous owners of the Project.

Drilling on the MDN Project began in 1994 when Newcrest Mining Ltd. drilled 12 exploratory RC holes in the Arco Iris and Clara area. Yamana Gold Inc. started drilling the Martinetas Region in October 1996. Yamana continued drilling DDH and RC, and trench sampling the Martinetas Region between 1996 and 1999. In 2003, further drilling (DDH) and trench sampling was carried out by Recursos Yamana S.A. (RYSA), a joint venture between Yamana and Compañía de Minas Buenaventura (Buenaventura). From 2006 to 2009, Hidefield Gold PLC continued drilling (DDH) and trench sampling in the La Paloma and Martinetas regions.

Minera IRL Patagonia acquired the Property in 2009 and continued to in-fill drill (DDH and RC), and trench sample the known deposits within in the MDN Property area. In 2014, a company owned by the Argentine investors, acquired the Minera Don Nicolás continued to in-fill drill (DDH and RC), and trench sample the known deposits and eventually commences development and construction.

There is a total of 4,351 drill holes in the MDN database, the majority of which are RC holes. Diamond drill holes account for about one quarter of all holes drilled. A summary of the historical drilling programs is provided in Table 10.1.

Compony	DD	н	RC			
Company	No Holes	Metres	No Holes	Metres		
Yamana	33	2,550	275	24,592		
Newcrest	0	0	12	1402		
RYSA	32	4,202	0	0		
Hidefield	165	20,341	0	0		
MIRLP	383	48,319	279	23,933		
MDN	298	30,359	2,690	69,219		
Cerrado	0	0	184	5,777		
Total DDH	911	105,771	3,440	124,923		

 Table 10.1: Summary Characteristics of Drilling to August 31, 2020

Note: RYSA was a Yamana/Minera Buenaventura joint venture

# **10.1 Drilling Procedures**

Most drill holes are oriented to intersect the known mineralised intervals at right angle, some deeper drill holes intersect the mineralised zones obliquely with the true width being about 60% to 70% of the drill intercepts (Figure 10.1 and Table 10.2).

Prior to MDN most holes were surveyed with differential GPS and located in Gauss-Kruger Zone 2 Datum grid. MDN installed an RTK Trimble® system that consists of two bases (one on the Martinetas Mining lease and one at La Paloma) and three rovers. All the surveys are carried out by the MDN survey team, including pit surveys, stockpiles, drill holes, channel, and trench samples.

In general core holes drilled prior to 2010 were surveyed downhole at 50 m to 60 m intervals using Sperry-Sun single shot surveying tool or Reflex EZ-shot. Core holes drilled after 2010 have been surveyed at 3 m intervals downhole. RC holes were surveyed at the collar and at the end of each holes except for 2011 and 2012 when RC holes were surveyed every 3 m.

Most core holes were sampled at a 1 m interval with the smallest sample being 0.1 m and the longest interval being 6 m. All RC holes were sampled at 0.5 (44%) or 1.0 m (49%) interval.

Drill core was sampled by sawing the core with a diamond saw and half the core was bagged and shipped to the assay laboratory and the remaining half was returned to the core tray for storage.



Figure 10.1: Typical Cross Section of Sulfuro Deposit Looking Northwest Showing Drill Intersections and Mineralised Vein

 Table 10.2: Average Strike and Dip of Holes Drilled on Specific Targets

Target	Average Dip	Average Azimuth
Armadillo	-53	175
Baritina	-49	174
Breccia Trend	-53	159
Cangrejo VZ	-50	286
Cerro Oro	-51	47
Choique	-50	97
Chulengo	-51	168
Clara	-50	101
Coyote	-51	168
Esperanza	-51	256
Hermanas V	-27	188
Mara	-48	103
Palito	-50	127
Princesa	-46	238
Reyna	-48	50
Trofeu	-55	204
Violeta	-55	129
Zorro	-44	115

Dry RC holes were sampled by collecting the RC chips at the cyclone in a 20 litre bucket. The sample was split at the drill site using a Gilson type splitter. A 5 to 7 kilogram (kg) sample was collected for assay. Wet RC holes were sampled by discharging into a rotary wet splitter and passing the sample through a Jones type splitter. The sample was allowed to settle before decanting most of the water and collecting the sample for assay.

Drilling has been targeted to provide a 25 m by 50 m grid coverage in mineralised area and to a 15 m by 20 m grid in areas scheduled for mining activity (Figure 10.2).



Note: Grid lines are 20 m apart Figure 10.2: Planview Showing Drill Holes in the Cerro Oro deposit, Martinetas Area

## 10.1.1 Sample Recovery

Core recovery was generally good in fresh rock, 90% or better. A weathering profile exists to a depth of 20 m to 50 m resulting in the formation of clay rich lithologies, core recovery in these areas was reasonable about 60% to 70%.

## 10.2 Trenching

Trenching is an essential part of sampling at the MDN Project. Trenches have been used for exploration, to expose and sample bedrock (Figure 7.4 above) and as means to provide grade control inside the open pits (Figure 10.3).

There is a total of 1,249 trenches in the MDN database. Trenches are typically 1.2 m wide, 0.5 m to 1.5 m deep and of various lengths. Most trenches were channel sampled along one wall in 1 m intervals except where dictated by lithology, where samples could be less than 1 m. Some exploration trenches were chipped sampled with the sample generally collected from the floor or on occasion from the trench wall.



Source: Cerrado Gold, 2020 Figure 10.3: Typical Trench Sampling at Martinetas

# 10.3 SRK Comments

Given the high quality of the trench sampling at MDN, SRK is of the opinion that the trench data are of sufficient quality to be included in the estimation of mineral resource.

# 11 Sample Preparation, Analyses, and Security

Samples used in the preparation of the Mineral Resource Statement presented in this report were derived from multiple companies.

Drilling and trenching data were gathered by Newcrest in 1994, Yamana between 1995 and 2006, Hidefield between 2006 and 2009, MIRLP between 2010 and 2012 and MDN between 2017 and 2019.

## **11.1 Sample Preparation**

Sampling procedures have not varied much since implemented by Yamana in the mid-1990's (Small, 1997). Drill core and RC samples are delivered to the exploration office by the drill contractors. Drill core is in sealed wooden boxes while RC samples are in individual polyurethane sample bags in larger rice bags.

Once at the exploration camp, the core is unpacked and stored on logging trays (Figure 11.1). The core is examined for completeness and depth markers are examined. The core is then photographed. Geologists log the core and define sample intervals based on geological boundaries with a minimum sampling interval of 0.4 m and a maximum interval generally of 1 m or 2 m. Core is then cut in half using a diamond saw. Half core samples are then bagged and dispatched for preparation and analysis. The left side of the core was uniformly taken for analysis.



Source: Cerrado Gold, 2020 Figure 11.1: Core Logging Facility at MDN Exploration Camp

Two samples are collected from the RC drill holes, each about 10 kg in size. One sample is stored at the drill site and remains there in case questions arise with the sample shipped to the exploration

office. All RC samples are dried and then split with a Jones type splitter at the exploration office. Wet samples are generally split with a rotary type splitter and then dried.

Trench samples are collected by the field geologist and packed in clear plastic bags with unique sample tags. Prior to 2017, samples were brought to the exploration camp daily and stored there until shipping in a locked compartment. Trench samples are now delivered directly to the Alex Stewart International (ASA) laboratory daily.

## 11.2 Sample Analyses

Preparation and assaying of the primary samples from the MDN Project have been carried out at four principal independent laboratories since exploration commenced in 1995:

- SGS Laboratories (Santiago, Chile) operated the on-site Bema Polimet Laboratory (from 1995 to 1997 and 1999), used by Newcrest and Yamana.
- ACME Analytical Laboratories S.A. (Chile) (1997 and 1999), used by Yamana.
- ALS Chemex Laboratories Argentina S.A. (from 2003 to 2017), used by RYSA, Hidefield and MIRLP and MDN.
- Alex Stewart International (2017 to Present) on-site laboratory located at the El Cóndor Ranch exploration camp.

### 11.2.1 SGS Laboratory Assay Procedures

At SGS Laboratories, samples were dried in individual sample drying pans for drying with the original drill sample bag carrying the sample number. After drying, the samples were crushed to 90% passing 10 mesh (2,000 micrometres [ $\mu$ m]). Samples were then split with a Jones splitter to a 300 to 500 gram (g) size. The remaining portion of the sample that was kept was stored at the lab as coarse reject. The 300 g to 500 g sample was then pulverised to 90% passing -50 mesh (90  $\mu$ m), and 2.5 g and 30 g portions were selected for assay.

The 2.5 g pulp was digested with aqua regia and diluted to 50 ml for atomic adsorption (AA) analysis for Ag, As and Sb analyses.

The 30 g split was analysed gold by fire assay and if less than 20 parts per million (ppm) Au, the sample was digested with aqua regia and Au value was analysed by AA, if greater than 20 ppm Au, then a gravimetric assay for Au was applied.

The Bema Polimet on-site laboratory was an independent laboratory operated by SGS Laboratory Group with ISO 9001:2000 accreditation.

## 11.2.2 ACME Laboratory Assay Procedures

Samples shipped to ACME Analytical Laboratories S.A. (Chile) (ACME) were prepared by Bema Polimet Laboratory using the procedures described above in Section 11.2.1.

After pulverising, a 0.5 g split was collected for 4-acid digestion and dilution to 10 millilitre (ml) with aqua regia and analysed with Induced Coupled Plasma (ICP) analyser with a final analysis with Auger Electron Spectroscopy (AES) for 34 elements.

A 30 g split was collected and analysed via fire assay for Au by fire assay.

ACME Analytical Laboratories S.A. (Chile) was an independent laboratory. In 1996, ACME became the first commercial geochemical analysis and assaying lab in North America to be accredited under ISO 9001. AAL in Santiago, Chile received ISO 9001:2000 accreditation in 2005.

### 11.2.3 ALS Assay Procedures

Sample preparation was carried out at the ALS facility in Mendoza. Upon arrival at the laboratory, the samples were dried in a gas oven, at a temperature of  $105^{\circ}$ C, the samples were then crushed to 70% passing a 2 millimetre (mm) screen. The sample was then split so that a 1,000 g portion was generated. The entire 1,000 g portion was pulverised to 85% being less than 75 µm.

Prepared pulp samples are flown to the ALS at La Serena in Chile for analysis where the analytical procedure is as follows:

A 50 g charge was prepared for gold and silver fire assay with an AA Finish (Au/Ag-AA24). All gold values greater than 10 ppm were re-analysed using a gravimetric method (Au-GRA22).

Samples returning silver values 100 ppm were re-analysed using a gravimetric method (Ag-GRA22). Trace mercury was analysed by aqua-regia digestion, cold vapour with AAS finish.

A further 27 elements were analysed by 4-acid digest with ICP-AES finish (ME-ICP61) or with AAS finish if greater than upper detection limit for Mo, Pb and Zn.

ALS Chemex Laboratories are accredited to ISO 9001 by QMI and the laboratory is accredited ISO 17025 by the Standards Council of Canada for a number of specific test procedures, including the method used to assay samples submitted from the MDN Project. ALS also participate in a number of international proficiency tests, such as those managed by CANMET and Geostats.

#### 11.2.4 ASA Laboratory Assay Procedures

Upon arrival at the on-site laboratory, the samples are weighed and dried in an oven, at a temperature of  $110^{\circ}$ C, the samples were then crushed to 85% passing a 10-mesh (2,000 µm) screen. The sample was then split to generate a 100 g portion. The entire 100 g portion was pulverised to 95% being less than 140 mesh (105 µm).

Prepared pulp samples are analysed on-site for gold and silver using standard fire assay with gravimetric or AA finish.

A 50 g charge was prepared for gold and silver fire assay with an AA Finish as outlined in Figure 11.2).



Source: ASI Alex Stewart International, 2020

#### Figure 11.2: Alex Stewart International Gold and Silver Analytical Procedures

All Alex Stewart International laboratories are accredited to ISO 9001, 14001 and 17025 standards and participate in inter-laboratory tests and international round robins.

# 11.3 Sample Security

Since 2017, all samples collected from drilling and trenching have been delivered daily by MDN technicians to the on-site independent assay laboratory operated by ASA. Prior to 2017, assays were packed in rice bags, sealed with tamper-proof seals and transported by truck to the ALS assay laboratory in Mendoza, Argentina.

Reference material is retained and stored at the exploration camp at El Cóndor Ranch, as well as chips derived from RC drilling, half-core and photographs generated by diamond drilling, and duplicate pulps and residues of all submitted samples.

## **11.4 Quality Assurance and Quality Control Programs**

Quality control sampling and assaying at the MDN Project follows a clearly defined procedure which has been documented by Linda Bloom in 2008 (Bloom, 2008). The program includes the inclusion of blanks, duplicates, and standard reference material (SRM) into the sample stream sent to the laboratory for analysis.

Blank samples are inserted at a rate of one blank for every 50 samples submitted. SRM samples are inserted at a rate of one sample for every 25 samples submitted. Duplicates are inserted at a rate of one for every 25 samples.

Quality control and quality check (QA/QC) data were reviewed by Linda Bloom in 2006 and 2008, and by Barry Smee in 2010 (Bloom, 2006 & 2008; Smee, 2010). Coffey carried out a QA/QC review in 2012 as part of the feasibility study compiled by Tetra Tech (Tetra Tech, 2012).

All previous studies didn't identify any global or specific biases in the gold or silver assays at MDN. The reviews indicated that some standards were occasionally incorrectly recorded but that overall, the assay data were in good quality.

SRK reviewed all of the historical QA/QC data reports and is in general agreement with the report's conclusions. All data collected by Yamana, RYSA, Hidefield and MIRLP seem to be of sufficient quality to be utilised in resource estimation. Only limited QA/QC information is available for the Newcrest drill holes but given that there are only 12 Newcrest holes in the database, SRK is of the opinion that excluding or including the Newcrest holes is not material. SRK reviewed the Newcrest drill holes and didn't see any reason to exclude these holes based on their assay distribution.

In addition, SRK reviewed all of the QA/QC reports prepared by MIRLP and MDN between 2012 and 2019. The reports show that MIRLP increased their use of control samples in 2013 so that 7% to 8% of all samples submitted were a QA/QC sample.

MDN further increase the rate of control samples in 2017 from 7% for exploration areas to 13.5% for development areas. The ratio of SRM, banks and field duplicates being split evenly. Analysis of the blank samples show very little evidence of contamination and the rate of SRM failures remained very low. Any batch of samples associated with SRM values falling outside of 3 standard deviation were re-assayed and the corrected values were inserted into the DataShed database.

#### 11.4.1 Standards and Blanks

Certified reference material used by Yamana, RYSA and Hidefield were purchased from; Rocklabs® Ltd., New Zealand (OxC58 and OxN49), Geostats Pty Ltd, Western Australia (G397-2 and G398-2), Ore Research and Exploration Pty Ltd, Victoria, Australia (OREAS 10b, 51P, 52Pb, 53P and 62Pa). MIRLP used their own in-house standards, which have been certified by ACME., as part of a 5-laboratory certification process.

Twelve samples from each standard (8006 to 8012) were sent to each laboratory, which used a 30 g Fire Assay analysis, with an Atomic Absorption finish (except for standard 8009, which had a gravimetric finish). The 60 resulting assays for each standard were compiled by ACME, to determine the appropriate confidence intervals.

In 2012, MIRLP noticed that their in-house standards were retuning erratic values at times and decided to stop using the in-house standard in favour for standard purchased from ACME. The ACME standards were used until 2017 when MDN purchased new standards from CDN Resource Laboratories Ltd (CDN). The CDN standard remained in use until today. Figure 11.3 shows the performance of CDN standard GS-P5D for 2017. As can be seen, the standard performed very well on deviating outside of the 2-standard deviation (green line) on a few occasions.



Source: MDN, 2017 Figure 11.3: Shewhart Control Chart for Standard GS-P5D for 2017

#### 11.4.2 Umpire Lab Assays

Umpire Laboratory testing was carried out by Yamana from 1996 to 1999, at various South American laboratories, including American Assay Laboratories (AAL) Mendoza and ALS-Geolabs in Chile (Small, 1997). Results of the inter-lab testing didn't identify any significant biases. SRM all reported within the acceptable limit boundaries but overall, the SGS assays seem slightly lower than the Umpire lab by about 8% (Small, 1997).

Neither MIRLP nor MDN employed umpire labs but both companies submitted duplicate samples to their primary laboratory. Sending material to a second laboratory can provide additional QA information but generally the use of blanks, SRM and duplicate samples is usually sufficient to assure good data quality.

#### 11.4.3 Duplicate Sampling Program (2020)

In May 2020, a re-sampling program was initiated to evaluate and check some historical assays at the MDN Project. A total of 768 pulps were sent to ALS, 708 pulp and 60 control samples. The historical assay came from 102 drill holes drilled between 2000 to 2017. The samples were selected to offer a good representation of the entire Project area and to cover a wide period of time as so to identify any potential biases with the assay population.

Certified Reference Material (CRM) samples from CDN were inserted at a rate of 1 to 25 samples. Fine blanks were also included in the assay stream at a rate of 1 to 25.

Results of the re-sampling program didn't identify any biases with the original assay data in the database and the re-assayed samples agreed reasonably well with the original assays (Figure 11.4).



Source: Cerrado Gold, 2020

Figure 11.4: QQ Plot of Re-assayed Samples and Original Assays from MDN Project

## 11.5 SRK Comments

In the opinion of SRK the sampling preparation, security and analytical procedures used by at the MDN Project are consistent with generally accepted industry best practices and are therefore adequate for inclusion in the estimation of mineral resources.

# 12 Data Verification

# 12.1 Verifications by SRK

SRK carried out a site visit to the MDN Project between December 10 and 14, 2019 accompanied with Mr. Robert Campbell of Cerrado Gold.

The purpose of the site visit was to review the digitalisation of the exploration database and validation procedures, review exploration procedures, examine drill core, review grade control procedures. The site visit also provided an opportunity to interview Project personnel and to collect all relevant information for the preparation of a mineral resource model and the compilation of a technical report. During the visit, the mining operation, processing plant and assay laboratory were also examined.

The site visit also aimed at investigating the geological and structural controls on the distribution of the gold mineralisation in order to aid the construction of three-dimensional gold mineralisation domains.

SRK was given full access to relevant data and conducted interviews with MDN and Cerrado personnel to obtain information on the past exploration work, to understand procedures used to collect, record, store and analyse historical and current exploration data.

### 12.1.1 Verifications of Analytical Quality Control Data

In addition to the site visit observations, SRK carried out a review of all QA/QC sampling that have been in place at the Project. SRK reviewed all QA/QC protocols and results of QA/QC analyses.

SRK reviewed the assay database integrity by verifying the digital data used to prepare the resource estimates against original assay data provided directly from the assay lab. There are 237,279 assay records in the MDN database. Of those records, 23,290 pre-date 2006 and don't have original assay certificates. All ALS assays from 2006 to 2017 were provided to SRK for validation. Of the 132,758 records provided by ALS, SRK validated about 14% or 18,535 records and only noted one significant error but the sample was not from the mineral resource area. All pre-2006 assay data were reviewed by Coffey as part of their work in 2012 and no errors were noted (Coffey, 2012).

SRK also reviewed all assay data generated by ASA since 2017 by comparing all digital assay data against data provided directly from the assay lab and found no significant errors. A total of 18,535 assay records processed by ASA were verified and no significant errors were noted.

Overall, SRK verified about 15% of the entire assay data and didn't identify any significant errors between the digital data provided by Cerrado and the data provided by the assay laboratories.

#### 12.1.2 Independent Verification Sampling

Because the MDN Project is an operating mine producing gold and silver. SRK decided not to collect independent samples to verify the presence of gold or silver mineralisation as the mine is clearly producing the metals in economic quantities.

## 12.2 SRK Comments

In the opinion of SRK the digital assay data at the MDN Project are acceptable for use in the estimation of mineral resources.

# **13** Mineral Processing and Metallurgical Testing

## 13.1 Introduction

The following description of the metallurgical test program was provided by Cerrado. The information was reviewed, modified and accepted by SRK.

Minera Don Nicolás Gold mine processes +1,000 tpd of gold-silver bearing material. The plant is a carbon in leach (CIL) process that is at or exceeded capacity. The design of the plant and process is as outlined in the 2012 Feasibility Study completed for a previous owner (Tetra Tech, 2012). The mineral processing and metallurgical test work done on the property is outlined in the study and summarised in this section.

A number of metallurgical test work programs have been conducted on sample material from the La Paloma and Las Martinetas deposits.

## **13.2 Historical Test Programs**

Table 13.1 summarises the list of the test programs conducted since 2007.

Document or Test Program	Facility or Laboratory	Test Programs Conducted	Date	
Report A10681	AMMTEC	Crushing and grinding parameters, head assays, mineralogy, flotation and leaching tests	June 2007	
Report A10830	AMMTEC	Assays	July 2007	
Report A12879	AMMTEC	Gravity concentration and leaching tests	September 2010	
Report A13483-A	ALS AMMTEC	Grinding parameters, assays and leaching tests	August 2011	
Report A13483-B	ALS AMMTEC	Gravity concentration and leaching tests and cyanide detoxification tests	September 2011	
Report A13097-A	ALS AMMTEC	Gravity concentration and leaching tests	September 2011	
Report A13097-B	ALS AMMTEC	Gravity concentration and leaching tests	October 2011	
Report A13097-C	ALS AMMTEC	Leaching and filtration tests	October 2011	
Report S1828T-B	S1828T-B Outotec Thickener settling tests		September 2011	

Table 13.1: Historical Test Work Programs and Reports

# 13.3 Mineralogy

Sub-samples from oxide and sulphide composite were subjected to mineralogical examination to determine the deportment of gold and silver. The test results summarised below are consistent with the current operating performance.

#### 13.3.1 Oxide Sample Mineralogy

The oxide sample was described as predominantly a goethite concentrate with some pyrite and marcasite. Free gold was observed optically. Gold particles were observed in grain sizes ranging

from 3  $\mu$ m to 45  $\mu$ m. The gold occurrence was predominantly associated with goethite, and minor gold was observed to be associated with quartz.

#### 13.3.2 Sulphide Sample Mineralogy

The sulphide composite was determined to be predominantly composed of three sulphide minerals, pyrite, sphalerite and galena. Galena was identified as the primary lead mineral present, and occasionally occurred as discrete grains, or more frequently locked with sphalerite.

Visible gold was reported in the plus 1 mm size of the sulphide composite fraction with grain sizes ranging between 5  $\mu$ m and 40  $\mu$ m. Gold was locked with pyrite, quartz and kaolin. Visible gold was not reported in the size minus 1 mm fraction of the sulphide composite.

### 13.4 Head Grade Analyses

There were 18 samples that were classified by rock type as sulphide samples, oxide samples or mixed oxide-sulphide samples. The samples were composited for use in the metallurgical test program.

The individual samples were combined into one sulphide and one oxide composite. The sulphideoxide samples were combined with the sulphide samples to form the sulphide composite sample.

A multi-element analysis was also conducted on the composite samples and some variance reported. The possible presence of coarse gold may explain this difference.

Analytical head assays were performed on samples. Three composite samples were prepared, and in addition, two individual samples were submitted for head grade analysis. No further metallurgical testing was done on these samples. The results indicate that the samples were predominantly oxide-type since the copper, zinc and lead concentrations were relatively low, while the sulphide sulphur content did not exceed one percent sulphur.

Head assays were performed on 28 drill core samples from the samples identified as coming from the Las Martinetas area. A 36 element head assay ICP scan was performed, and the samples were also analysed using screen fire assayed for gold at a 75  $\mu$ m fraction.

Major variation is expected when comparing the head assay results from the individual samples with those samples used in the testwork. However, the following observations relate to the major elements of interest:

- **Gold:** The average Martinetas value of 3.29 g/t Au was significantly lower than the head grade value of the sulphide composite sample.
- **Silver:** The average Martinetas value of 10 g/t Ag approximated the oxide composite head grade; although it was significantly lower than the sulphide composite head grade value.

Gold and silver assays for sulphide samples from 30 drill samples identified as the Sulfuro area of the deposit indicated that gold head values varied from 0.64 to 29.6 g/t Au, with an average value of 7.4 g/t Au. The average silver head value was 27.8 g/t Ag.

The Sulfuro composite samples contained significantly higher values of copper, lead and zinc than previous samples tested.

## **13.5 Comminution Testwork**

Comminution testwork was performed according to the Bond standardised test procedures.

#### 13.5.1 Unconfined Compressive Strength Test

The Unconfined Compressive Strength (UCS) test was performed on individual sulphide and oxidesulphide samples as per industry standards. The oxide sample was not tested by this method.

The UCS value results indicated that the sulphide samples were consistent with weak to medium strength rock type samples while the oxide-sulphide samples were consistent with very weak strength rock type samples.

#### 13.5.2 Crushing Work Index-Test

The Crushing Work Index (CWi) test was also performed according to the Bond standardised procedures.

The sulphide samples were tested in duplicate and the CWi was found to vary between 7 and 20 kWh/t. The average CWi for sulfide samples was 11.4 kWh/t.

The oxide-sulphide samples were also tested in duplicate. The results from the tests showed discordance between duplicate values. No explanation is given nor were tests repeated. The CWi values ranged from 17.6 to 3.6 kWh/t with an average CWi for the oxide-sulphide samples of 8.0 kWh/t. The specific gravity was also measured and was found to be 2.72.

#### 13.5.3 Bond Mill Work Index Tests and Abrasion Index Test

The Abrasion Index (Ai), the Rod Mill Work Index (RWi) and Ball Mill Work Index (BWi) tests were performed on oxide and sulphide samples throughout the various test programs. The tests used the standard procedure developed by F.C. Bond.

Results obtained from the comminution testwork indicated that the sample material tested was moderately hard and abrasive.

The comminution test was done to determine the BWi conducted on a sulphide sample using a closing screen size of 106  $\mu$ m. The BWi reported was 19.7 kWh/t which was significantly higher than the previously obtained value of 17.6 kWh/t.

The result obtained from the Bond BWi determination was a BWi value of 14.9 kWh/t using 106  $\mu$ m as the closing screen size. The grinding circuit was designed using the BWi of 17.6 kWh/t.

# 13.6 Leach Testing

Testwork programs followed a path of various leaching options. The types of leach programs followed were:

- Gravity concentration followed by leaching of the gravity tailings gravity tests aimed to report any free gold and silver amenable to recovery by gravity separation. Subsequently, leaching tests were performed on the gravity tailings in order to compare gravity tailings extraction kinetics versus whole ore leaching kinetics.
- Whole Ore Leaching.
- Coarse Ore Leaching.
- Sulphide flotation followed by leaching of the flotation tailings.

#### 13.6.1 Gravity Concentration Methodology

The gravity recovery gold content of each composite was determined using a combined Knelson concentrator-amalgamation process at a primary grind particle size of  $P_{80}$  passing 75 µm. The milled pulp was fed through the Knelson concentrator to produce a gravity concentrate. The gravity concentrate was removed and amalgamated with mercury. The obtained amalgam was submitted for assay in its entirety. The amalgam tailings were mixed with the Knelson tailings to form the gravity tailings sample that was subsequently used for leach testing.

Although termed gravity recoverable gold (GRG), the technique adopted for the testwork by AMMTEC Consultants PLLC (AMMTEC) is not the standard GRG procedure utilised in North American laboratories. The results obtained can therefore only be used as a general guide.

#### 13.6.2 Leaching Methodology

Leaching of the test samples was carried out under similar test conditions with the feed source the only change in parameter. Leach feed could be as new feed, gravity tailings or flotation tailings. In one instance coarse feed was used as an alternative parameter.

Standard leach conditions applied to all the tests as follows:

- Particle Size of P80 < 75 µm.
- Pulp Density 40% (w/w).
- Initial pH 10.5.
- Sodium Cyanide Concentration: 500 ppm.
- Sampling was performed at 2, 4, 6, 8, 24 and 48 hours.

#### 13.6.3 Gravity Concentration Results

Gravity concentration and leaching test were carried out on the sulphide and oxide composite samples.

Very low gravity recovery was shown in the sulphide sample partially due to the methodology used for gravity separation. The results obtained for the sulphide samples tested confirmed the low gold and silver recoveries obtained previously. In these tests, the sulphide composite recorded a gold recovery of 3.8% (compared with 4.5% obtained previously). The two other samples tested recovered negligible gold recovery values of 0.7% and 0.9% respectively.

High GRGC values between 70% and 74% were reported for the oxide sample. The sulphide and transitional samples reported between 18% and 35% gold recovery.

#### 13.6.4 Gravity Concentration and Tailings Leach Test vs Whole Ore Leaching

For the sulphide composite, whole ore leaching and gravity recovery followed by gravity tailings leaching presented similar results for gold and silver recoveries. An overall gold extraction of 84% was realised using either test procedure. Gold extraction appeared to occur at the same rate in either case. A diagnostic leach analysis of the sulphide composite on the gravity-leach tailings residue determined that over 86% of the contained gold in the leach residue was locked in sulphide minerals.

For the oxide composite, the reported oxide gold extraction by whole ore leaching was 98.8% and the reported gold recovery by gravity concentration followed by gravity tailings leaching was 97.7%. Once again, the results were similar to those previously obtained. However, the gravity tailings leached at a faster rate.

The lime consumption for the oxide sample of gravity tailings leach sample was significantly higher than the whole ore leach sample for undetermined reasons related to the test procedure possibly related to the washing out of soluble oxidised material. The cyanide consumption for both samples and the lime consumption for the sulphide samples were relatively consistent.

## **Gravity Concentration and Tailings Leach Tests**

Finer grinding enhanced the gravity recovery in the sulphide samples. However, the overall final recovery after cyanidation did not show the same amount of recovery increase.

The results confirmed the generally high gold recovery values attainable using gravity concentration followed by leaching. The results also confirmed the very low gravity concentration recoveries for silver. Lime and cyanide consumption values were consistent at generally below 0.5 kg/t for both reagents. The results also clearly indicated that there is no advantage to implementing a staged grinding and recovery process.

## **Coarse Ore Leach Tests**

The concept of coarse ore leaching was also tested to determine the amenability of this material to heap leaching. Although not completely relevant to the present design of the plant. A total of 17 samples from Martinetas were selected with a feed size of 12.5 mm. The leaching time was 120 hours. The leach residue was screened, and each size fraction assayed for gold, silver and copper.

The size fraction analysis confirmed that the majority of the samples required comminution to <2.5 mm for dissolution values of 75% or better to be attained.

# 13.7 Sulphide Sample CIP Tests (Carbon kinetics)

The outcomes of the carbon parameters which are required in the design of the carbon circuit. The 'k' and 'n' values were found to be as follows:

- An 'n' value of 0.742; and
- the 'k' value of 168.2 (hr<sup>-1</sup>).

In addition, the equilibrium loading tests resulted in the following Freundlich isotherm parameters of 'k'= 2.926 and 'm' = 0.28 for the sample tested.

## **13.8 Sulphide Sample Flotation and Tailings Flotation Leach Tests**

The sulphide composite sample was subjected to a bulk rougher flotation test to produce a gold/silver concentrate followed by the leaching of the flotation tailings. The objective was to use flotation as a pre-concentration step in order to allow further treatment for gold and silver recovery to be performed on a smaller mass fraction of the material.

The sample was ground to a particle size of  $P_{80}$  of 75 µm for the bulk flotation test. Flotation was performed at a pH between 6 and 6.7, with a pulp density of 34% and using copper sulphate as an activator and potassium amyl xanthate (PAX) as the collector reagent, and with MIBC as the frother reagent.

The results obtained indicated that up to 75% of the gold and 85% of the silver present in the sample can be recovered into the flotation concentrate.

The resulting tailings from the flotation tests were subjected to cyanide leaching in order to improve the recovery of the gold and silver.

The lime consumption for the leach test was found to be 0.73 kg/t while the sodium cyanide used was 1.2 kg/t. The results showed that a combined flotation and flotation tailings leaching step would present a combined gold and silver recovery of 95% and 96% respectively. However, the extraction of the gold and silver from the flotation concentrate was not characterised.

## 13.9 Diagnostic Leach Test

On completion of the testing, a diagnostic leach analysis of the sulphide composite on the gravityleach tailings residue determined that over 86% of the contained gold in the leach residue was locked in sulphide minerals.

Results of a basic diagnostic leach procedure test conducted on the leach residue from a sample from the Sulfuro Met-01 composite material indicated that the standard cyanide leach was incomplete. It also indicated that the major proportion of the gold loss occurs as a result of the gold being non-liberated and/or exposed, and present within the sulphide minerals such as pyrite, galena and sphalerite.
#### 13.10 Settling Tests and Filtration

A composite sample was tested to determine the type and dosage rate required for use for thickening/dewatering. The sample tested was ground to a particle size P80 of 100  $\mu$ m. The flocculant with the trade name Magnafloc (MF336) was added at a dosage rate of 25 g/t and the sample was allowed to settle for three days. The results showed that a clear solution was not obtained after a settling time of up to three days.

Further dewatering tests were subsequently conducted. The moisture contents obtained for all three grind sizes were consistent at 24% to 25%. However, since dry-stack tailings is no longer being considered in the design of the plant, this aspect was not investigated any further.

Additional settling tests were conducted at three grind sizes using the SD-10 sample material. A settled density of 65% was obtained with the resulting supernatant solution being clear.

#### 13.11 Outotec (Thickening Testwork)

Outotec (Australia) Pty Ltd (Quotec) performed settling tests on selected samples used for leaching testwork done at AMMTEC. Settling tests on leach residue samples from Martinetas (primary and oxide) and Sulfuro were performed according to the Outotec procedure using dynamic bench scale testing apparatus. The detoxified and non-detoxified samples of the Martinetas samples were tested while only detoxified samples of Sulfuro were investigated. Tests were done on the basis of a 45 tph treatment rate. The flocculant used during testing was Magnafloc 342.

Results showed that the flux rate had a dramatic impact on the diameter of thickener required. Acceptable suspended solids levels were obtained in all cases at the 11 m sizing. Good overflow quality was obtained on the 17 m diameter thickener. Flocculant requirement varied dramatically between feed samples with up to 80 g/t required for reasonable clarity with acceptable underflow density for the Sulfuro sample. Outotec stated that a full-size thickener based on their test results will have a 2% to 3% increase in underflow density.

Based on the results obtained, a tailings thickener diameter of 13 m was selected for the design of the plant.

#### **13.12 Cyanide Detoxification**

Oxide and sulphide/primary samples were subjected to cyanide detoxification tests. The gravity concentration step was initially conducted, followed by cyanidation. The design grind size  $P_{80}$  of 75 µm was used for this testwork program.

The final slurry was utilised for cyanide detoxification testwork using the  $SO_2$ /air test procedure with a target weak acid dissociable ( $CN_{WAD}$ ) cyanide level of below 5 ppm. The tests showed that a duration of 55 minutes was adequate to reduce the cyanide concentration to permissible concentration and that the primary/sulphide sample required comparatively more reagent addition than the oxide sample.

## **14 Mineral Resource Estimates**

#### 14.1 Introduction

The Mineral Resource Statement presented herein represents the first mineral resource evaluation prepared for Cerrado Gold for the MDN Project. This resource estimate represents the second mineral resource prepared for the MDN Project in accordance with the Canadian Securities Administrators' NI 43-101.

The MDN database contains 911 diamond drill holes and 3,440 RC holes representing 124,923 m of drilling. Also included in the database are 1,352 trenches totalling 60,471 m. The mineral resource model prepared by SRK considers 750 core holes, 3,138 RC holes drilled by the owners of the MDN Project between 1994 and 2020. The resource also includes data from 986 trenches. The resource estimation work was completed by Dr. Gilles Arseneau, P.Geo (APEGBC, 23474), an appropriate "independent Qualified Person" as this term is defined in NI 43-101. The effective date of the resource statement is August 31, 2020.

This section describes the resource estimation methodology and summarises the key assumptions considered by SRK. In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the global gold and silver mineralisation found in the MDN Project at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with the Canadian Securities Administrators' NI 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The database used to estimate the MDN Project mineral resources was reviewed and audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for the epithermal precious metal mineralisation and that the assay data are sufficiently reliable to support mineral resource estimation.

Mineral resources were estimated by Cid Bonfim, P.Geo (Chilean Mining Commission, 0291) for Cerrado Gold in Leapfrog Edge. SRK verified and validated the resource estimates using Geovia GEMS Version 6.8.3.

Dr. Arseneau takes responsibility for the mineral resources presented in this section of the report. Mineralisation wireframes were constructed using Leapfrog Geo and validated using GEMS 6.8.3. Geostatistical analysis and capping were evaluated using Sage2001 and GSLIB. Block models were constructed in Leapfrog and GEMS 6.8.3.

#### 14.2 Resource Estimation Procedures

The resource evaluation methodology involved the following procedures:

- Database compilation and verification;
- Construction of wireframe models for the boundaries of the gold and silver mineralisation;

- Definition of resource domains;
- Data conditioning (compositing and capping) for geostatistical analysis and Variography;
- Block modelling and grade interpolation;
- Resource classification and validation;
- Assessment of "reasonable prospects for economic extraction" and selection of appropriate cut-off grades; and
- Preparation of the Mineral Resource Statement.

#### 14.3 Resource Database

The MDN resource database contains diamond drill data, reverse circulation drill data and trench chip data. Information was gathered by various operators from 1994 to 2020. The information collected defined mineral resources in 13 discrete areas over the property. All resources defined are situated either on the La Paloma or Martinetas mining leases (Figure 14.1).



Figure 14.1: Location of Defined Mineral Resources at MDN Property

#### 14.4 Solid Body Modelling

Mineralisation wireframes were generated by implicit modelling using Leapfrog Geo 5.1. The wireframes constructed around the mineralised veins at La Paloma generally follow the mapped vein outline (Figure 14.2). At the Martinetas, because gold mineralisation occurs in narrow, centimetre wide veinlets, the wireframes were constructed to include area of higher-grade

mineralisation (Figure 14.3). Two wireframes were generated to represent potentially economic gold mineralisation, a higher-grade domain encompassing mineralisation greater than 1.3 g/t gold and a lower grade domain encompassing mineralisation greater than 0.3 g/t gold. (Figure 14.4).



Figure 14.2: Well Defined Sulfuro Vein Defining High-Grade Wireframe



Source: MDN, 2019

Figure 14.3: Bench Plan of Cerro Oro Pit Showing Mineralised Veinlets on the Left and High-Grade Wireframe Construction on the Right



Figure 14.4: Vertical Section of Cerro Oro Deposit Showing High-Grade Domain and Composites on Left and Low-Grade Domain and Composites on the Right

Wireframes were generated by Cerrado. SRK verified and validated the mineralised wireframes and made recommendations for modifications where applicable. SRK accepted the wireframes as depicting a reasonable interpretation of the gold and silver mineralisation at the MDN Project.

#### 14.5 Compositing

SKR evaluated the assay data contained within the mineralised wireframes and found that of the 16,688 assays found within the mineralised wireframes, 16,327 (98%) are 1 m or less. SRK therefore concluded that a 1 m assay length was appropriate for the style of mineralisation present at the MDN Project.

#### 14.6 Evaluation of Outliers

Block grade estimates may be unduly affected by very high-grade assays. Therefore, the assay data were evaluated for the high-grade outliers. Each deposit area was evaluated independently. Capping levels were defined based on local assay population distribution and cumulative frequency probability plots. Capping was applied to the 1 m composited data as most of the assay data were 1 m in length. Table 14.1 summarises the capping levels applied to each of the mineral resource areas.

Mining Lease	Deposit	Cap Level Au (g/t)	Number Capped	CV <sup>1</sup> Uncapped	CV Capped
	Armadillo	60	10	2.54	1.65
	Baritina	55	5	1.98	1.51
	Cangrejo	8	14	2.91	1.27
	Cerro Oro	30	41	3.04	1.18
	Choique	15	16	1.23	0.88
• • •	Chulengo	50	3	6.34	1.95
wartmetas	Coyote	80	34	5.23	1.03
	Mara	15	9	2.08	0.88
	Hermanas	3	4	2.09	0.91
	Trofeu	9	6	1.64	1.48
	Breccia Trend	6	4	2.86	0.72
	Zorro	No cap	0	0.69	0.69
	Arco Iris	30	7	2.69	1.84
La Faioma	Sulfuro	50	17	2.92	2.15

Table 14.1: Gold Capping Levels Applied to Each of the Resource Areas

Note: 1- CV is the coefficient of variance (standard deviation/mean)

## 14.7 Variography

Experimental variogram and model were generated using Leapfrog Geo and verified in Sage2001. Variogram models for the high-grade portion of the mineralised zones are summarised below in Table 14.2. Variogram model rotations were based on the general attitude of the mineralised zones. The nugget effects (that is, gold variability at very close distance) were established from down hole variograms for each of the mineralised zones. The nugget values range from 5% to 60% averaging 29% of the total sill. Note that the sill represents the grade variability at a distance beyond which there is no correlation in grade.

Model	Nuggot C.	SILC	Rotation			Ranges			
woder	Nugget Co		Strike	Dip	Plunge	X-Rot	Y-Rot	Z-Rot	
Armadillo	0.10	0.90	16	70	145	20	16	2	
Baritina	0.30	0.70	106	90	126	50	55	8	
Cangrejo	0.20	0.80	127	32	10	50	31	3	
Cerro Oro	0.25	0.75	224	85	145	50	35	8	
Choique	0.40	0.60	197	89	53	15	14	5	
Chulengo	0.04	0.96	359	85	57	77	88	4	
Coyote	0.25	0.75	224	85	145	40	20	5	
Mara	0.30	0.70	41	86	11	18	20	2	
Trofeu	0.10	0.90	340	85	155	80	75	3	
Breccia Trend	0.1	0.9	90	40	10	100	70	2	
Zorro	0.30	0.70	189	57	63	25	19	3	
Arco Iris	ID <sup>3</sup> estir	mate	310	68	160	40	10	4	
Sulfuro	0.05	0.95	256	77	54	55	40	4	

 Table 14.2: Variogram Parameters Used for Ordinary Kriging

#### 14.8 Block Model and Grade Estimation

Mineral resources at MDN are outlined in 14 separate block models. All models were defined in Leapfrog and converted into Geovia GEMS Version 8.3.2 software for evaluation and validation. The models are based in Gauss-Kruger Zone 2 Datum and the block model parameters are summarised in Table 14.3.

Three different samples types were used, diamond drill holes, reverse circulation drill holes and trench samples. All those samples were used at the same base for modelling and estimation; no weight was applied at calculations due to different sample support.

Deposit	Model Origin			Rotation	Block Size (m)			Number of Blocks		
	Easting	Northing	Elevation	Degrees	Х	Υ	Ζ	Х	Y	Z
Armadillo	2,620,200	4,691,200	0	0	1	1	1	300	200	200
Baritina	2,594,800	4,713,090	-1	0	3	3	3	44	34	57
Baritina NE	2,594,380	4,713,280	18	0	1	1	1	620	240	152
Cangrejo	2,622,370	4,698,380	90	0	1	1	1	220	240	85
Cerro Oro	2,620,900	4,692,600	-30	45	5	1	5	96	300	46
Choique	2,820,789	4,691,508	-31	0	1	1	1	156	164	231
Chulengo	2,595,440	4,712,940	50	0	1	1	1	336	160	150
Coyote	2,621,000	4,692,860	-30	45	5	1	5	56	375	46
Mara	2,619,085	4,691,380	30	35	1	1	1	490	280	130
Trofeu	2,612,220	4,688,760	-50	0	1	1	1	380	230	270
Breccia	2,613,900	4,723,680	-30	0	1	1	1	1,360	750	210
Zorro	2,621,030	4,692,079	-31	0	1	1	1	211	272	231
Arco Iris	2,591,245	4,717,760	30	0	1	1	1	450	1,310	200
Sulfuro	2,592,500	4,715,450	-130	0	3	3	3	184	317	110

Table 14.3: MDN Block Model Parameters

Gold grades within the mineralised domains were estimated by ordinary kriging where data were adequate to generate reasonable variograms. For models where data were too sparse, grade estimation was done by inverse distance cube (ID<sup>3</sup>). Grade estimation were done in two or three successive passes considering the variogram range as the maximum search ellipsoid as outlined in Table 14.4. The first pass considered a larger number of drill holes and composites while for the second and third pass searches allowed for fewer composites within the search ellipsoid.

Table 14.4: Gold and Silver Interpolation Parameters

Model	Search		Rotatio	n	Search Radii			Number of Composites		Max Samples
	Pass	Strike	Dip	Plunge	Max	Inter	Min	Min	Max	per DDH
	1	16	70	145	20	15	2	8	15	2
Armadillo	2	16	70	145	20	15	2	4	15	2
	3	16	70	145	20	15	2	2	15	2
Devitine	1	105.5 9	90	126.45	50	55	8	4	16	2
Danuna	2	105.5 9	90	126.45	100	110	16	2	16	1
Congraio	1	varia	able para contac	allel to t	50	31	3	4	16	2
Cangrejo	2	varia	able para contac	allel to t	100	62	6	4	16	1
	1	224	85	145	50	35	8	8	15	4
Cerro Oro	2	224	85	145	100	70	15. 6	4	15	2
	3	224	85	145	100	70	15. 6	2	15	1
	1	196	89	53	15	14	5	8	15	4
Choique	2	196	89	53	15	14	5	4	15	2
	3	196	89	53	15	14	5	2	15	1
Chulengo	1	varia	able para contac	allel to t	50	50	5	4	16	2
Chulengo	2	varia	able para contac	allel to t	100	100	10	2	16	1
Coyote	1	224	85	145	40	20	5	8	15	4
	2	224	85	145	40	20	5	4	15	2
	3	224	85	145	40	20	5	2	15	1
	1	41	86	11	18	20	2	8	15	4
Mara	2	41	86	11	18	20	2	4	15	2
	3	41	86	11	18	20	2	2	15	1
Trofeu	1	varia	able para contac	allel to t	80	75	2.5	4	16	2
	2	varia	able para contac	allel to t	80	75	2.5	2	16	1
Breccia	1	90	40	10	50	35	2	4	16	2
Trend	2	90	40	10	100	70	2	2	16	2
	1	varia	able para contac	allel to t	25	19	3	8	15	4
Zorro	2	varia	able para contac	allel to t	25	19	3	4	15	2
	3	varia	able para contac	allel to t	25	19	3	2	15	1
	1	varia	able para contac	allel to t	40	10	4	8	20	2
Arco Iris	2	varia	able para contac	allel to t	40	10	4	4	20	2
	3	varia	able para contac	allel to t	40	10	4	2	20	1
	1	varia	able para contac	allel to t	50	20	4	8	20	2
Arco Iris/ Violeta	2	varia	able para contac	allel to t	50	20	4	4	20	2
	3	varia	able para contac	allel to t	50	20	4	2	20	1

Model Search Pass			Rotatio	'n	Search Radii			Number of Composites		Max Samples
		Strike	Dip	Plunge	Max	Inter	Min	Min	Max	per DDH
	1	varia	ble para contac	allel to t	40	10	4	8	20	4
Arco Iris/ Palito	2	varia	ble para contac	allel to t	80	20	8	4	20	2
	3	varia	ble para contac	allel to t	80	20	8	2	20	1
	1	varia	variable parallel to contact		48	54	3	8	20	4
Sulfuro	2	varia	ble para	allel to t	48	54	3	4	20	2
	3	varia	variable parallel to contact		48	54	3	2	20	1
	1	varia	ble para contac	allel to t	25	25	2	8	20	4
Sulfuro/ Esperanza	2	varia	ble para contac	allel to t	50	50	4	4	20	2
	3	varia	ble para contac	allel to t	50	50	4	2	20	1
	1	varia	ble para contac	allel to t	25	25	2	8	20	4
Sulfuro/ Rocio	2	varia	ble para contac	allel to t	50	50	4	4	20	2
	3	varia	ble para	allel to	50	50	4	2	20	1

#### 14.9 Bulk Density

A total of 3,166 bulk density measurements have been collected from the MDN Project. Most data were collected since 2016 when the mine began ramping up for production.

Density measurements were collected using the water immersion method and most data were collected from core without wax coating. Of the 3,166 measurements, only 342 were coated with wax before water immersion. The wax coated samples, on average, returned bulk densities that were about 8% lighter than the samples not coated with wax. While the bulk density database is good, there are insufficient data to estimate bulk density in most models, for this reason, an average bulk density value was used in all of the resource models (Table 14.5).

	Water Immersion Wax Coating		Coating		
Model	Non-Wax Count	Average Density	Wax Count	Wax Density	Density Used in Model
Armadillo	0	NC	0	NC	2.34
Baritina	263	2.26	0	NC	2.26
Baritina NE	0	0	0	0	2.26
Cangrejo	42	2.18	0	NC	2.26
Cerro Oro	27	2.34	291	2.14	2.34
Choique	0	NC	0	NC	2.34
Chulengo	144	2.28	0	NC	2.28
Coyote	18	2.32	0	NC	2.34
Mara	0	NC	0	NC	2.34
Trofeu	0	NC	0	NC	2.26
Breccia	0	NC	0	NC	2.26
Zorro	0	NC	0	NC	2.34
Arco Iris	310	2.1	0	NC	2.10
Sulfuro	1,887	2.28	51	2.22	2.28
Regional	133	2.36	0	NC	
Total	2,824	2.26	342	2.15	

Table 14.5: Summar	v of Bulk Densit	y Measurements ar	nd Model Densities
	<b>j</b>	<b>,</b>	

Note: NC = not calculated

#### 14.10 Model Validation

The MDN resource block models were validated by completing a series of visual inspections and by:

- Comparison of estimated block grades against composited grades on sections and in plan view;
- Comparing the estimated grades with the average grades of the composites piercing the blocks (well-informed blocks) and;
- Comparison of average assay grades with average block estimates along different directions

   swath plots.

Figure 14.5 shows the estimated gold grade for the Cerro Oro deposit against the grade of the composites. As can be seen the block grades agree reasonably well with the composite grades, and Figure 14.6 shows the same for the Sulfuro block model.



Figure 14.5: Cross Section of Cerro Oro Model Showing Composite Gold Grade and Estimated Block Values



Figure 14.6: Cross Section of Sulfuro Model Showing Composite Gold Grade and Estimated Block Values

Figure 14.7 and Figure 14.8 show the grades of well-informed block (blocks pierced by drill holes) against the composites grades of the drill hole piercing the blocks for the Cerro Oro and Sulfuro block models. The Cerro Oro model shows a good agreement with the drill hole composites for

grades below 5 g/t. For grades above 5 g/t the block model grades are lower than the composites piercing these blocks. This is somewhat caused by the fact that block grades are estimated with data from at least two drill holes and not all very few drill holes contain very high-grade values. Also, there are very few data point for grades above 5 g/t. Overall, the model shows a reasonable agreement with the drill holes piercing the blocks.



Figure 14.7: QQ Plot Showing Estimated Block Grades and Grades Of Composites Piercing the Blocks for the Cerro Oro Model



Figure 14.8: QQ Plot Showing Estimated Block Grades and Grades of Composites Piercing the Blocks for the High-Grade Zone at Sulfuro

The Sulfuro model shows a good agreement with the composites piercing the blocks for grade above 2 g/t. for grades below 2 g/t, the composite grades seem higher than the block model grades this is caused by the fact that the low grade blocks were not included on the QQ Plot.

As a final check, average composite grades and average block estimates were compared along different directions. This involved calculating de-clustered average composite grades and comparison with average block estimates along east-west, north-south, and horizontal swaths. Figure 14.9 shows the east-west swath plot for the Cerro Oro deposit and Figure 14.10 shows the east-west swath plot for the Sulfuro deposit. The average composite grades and the average estimated block grades are quite similar in all directions. Overall, the validation shows that current resource estimates are good reflection of drill hole assay data.



Figure 14.9: Swath Plot Showing De-Clustered Composite Grades in Red and Estimated Block Values in Blue for Cerro Oro Model



Figure 14.10: Swath Plot Showing De-Clustered Composite Grades in Red and Estimated Block Grades in Blue for Sulfuro Model

## 14.11 Mineral Resource Classification

Block model quantities and grade estimates for the MDN gold-silver Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) by Dr. Gilles Arseneau, P.Geo (APEGBC, 23474), an appropriate independent Qualified Person for the purpose of National Instrument 43-101.

Mineral resource classification is typically a subjective concept, industry best practices suggest that resource classification should consider both the confidence in the geological continuity of the mineralised structures, the quality and quantity of exploration data supporting the estimates and

the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating both concepts to delineate regular areas at similar resource classification.

SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. The sampling information was acquired primarily by core, RC and trench sampling drilling on sections spaced at 20 m to 30 m in the resource areas.

Generally, for mineralisation exhibiting good geological continuity investigated at an adequate spacing with reliable sampling information accurately located, SRK considers that blocks estimated during the first estimation run can be classified in the Indicated category within the meaning of the CIM Definition Standards for Mineral Resources and Mineral Reserves. For those blocks, SRK considers that the level of confidence is sufficient to allow appropriate application of technical and economic parameters to support mine planning and to allow evaluation of the economic viability of the deposit. Those blocks can be appropriately classified as Indicated. In addition, SRK decided to upgrade all the Indicated blocks that were within 15 m of the current pit surface, equivalent to three bench height, to Measured classification.

Because of the narrow nature of the mineralisation at Cerro Oro and Choique, SRK downgraded any Indicated and Measured blocks to Inferred if the blocks had a less than 80% probability of being above the 1.3 g/t cut-off.

All blocks estimated during the second and third passes were classified in the Inferred category because the confidence in the estimate is insufficient to allow for the meaningful application of technical and economic parameters or to enable an evaluation of economic viability.

#### 14.12 Mineral Resource Statement

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

"A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling."

The "material of economic interest" refers to diamonds, natural solid inorganic material, or natural solid fossilised organic material including base and precious metals, coal, and industrial minerals.

The "reasonable prospects for economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that major portions of the MDN Project are amenable for open pit extraction.

In order to determine the quantities of material offering "reasonable prospects for eventual economic extraction" by an open pit, SRK used a pit optimiser and reasonable mining assumptions

to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be "reasonably expected" to be mined from an open pit.

The optimisation parameters were selected based on experience and benchmarking against similar projects. The parameters used to prepare mineral resources shells on the Martinetas lease are summarised in Table 14.6, and Table 14.7 summarises the parameters used to prepare the mineral resource shell at La Paloma.

The reader is cautioned that the results from the pit optimisation are used solely for the purpose of testing the "reasonable prospects for eventual economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the MDN Project. The results are used as a guide to assist in the preparation of a Mineral Resource Statement and to select an appropriate resource reporting cut-off grade.

 Table 14.6:
 Assumptions Considered for Conceptual Open Pit Optimisation at Martinetas

Parameter	Value	Unit
Gold Price	1,550.00	US\$ per ounce
Selling Costs	127.00	US\$ per ounce
Mining Costs	2.65	US\$ per tonne
Bench Height	5.00	Metre
G & A	15.35	US\$ per tonne of feed
Processing Costs	32.00	US\$ per tonne of feed
Recovery	95	percent
Slope Angle	45 to 53	degrees
Martinetas Open Pit Cut-Off	1.15	g/t gold

Table 14.7: Assumptions Considered for	r Conceptual Open Pit	Optimisation at La Paloma
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Parameter	Value	Unit
Gold Price	1,550.00	US\$ per ounce
Selling Costs	127.00	US\$ per ounce
Mining Costs	2.65	US\$ per tonne
Bench Height	5.00	Metre
Haul Costs	8.90	US\$ per tonne
G & A	15.35	US\$ per tonne of feed
Processing Costs	32.00	US\$ per tonne of feed
Recovery	88	percent
Slope Angle	48	degrees
La Paloma Open-Pit Cut-Off	1.46	g/t gold

The block model quantities and grade estimates were also reviewed to determine the portions of the MDN deposits having "reasonable prospects for eventual economic extraction" from an underground mine, based on parameters summarised in Table 14.8.

Parameter	Value	Unit
Gold Price	1,550.00	US\$ per ounce
Mining Costs	60.00	US\$ per tonne mined
Process Cost	32.00	US\$ per tonne of feed
General & Administrative	15.35	US\$ per tonne of feed
Mining Dilution	20	percent
Mining Recoveries	95	percent
Process Recovery	88	percent
Assumed Mining Rate	250	Tonnes per day
Underground Mining Cut-Off	3	g/t gold

#### Table 14.8: Conceptual Assumptions Considered for Underground Resource Reporting

SRK considers that the blocks located within the conceptual pit envelope satisfy the "reasonable prospects for eventual economic extraction" and can be reported as a near surface mineral resource potentially accessible by open pit mining techniques. Blocks that are below the resource shell satisfy the reasonable prospect of eventual economic extraction by underground mining method if they satisfy the assumptions of Table 14.8, are reasonably accessible from the resource shell and collectively contain sufficient tonnage above the underground cut-off to render them potentially economic.

Table 14.9 summarises the near surface mineral resources present on the MDN Project area as of August 31, 2020 as estimated by SRK. The near surface mineral resource assumes gold extraction by heap leaching. Current processing for gold at MDN is by milling and CIL processing. Table 14.10 summarises the mineral resources that satisfy the economic parameters for milling and CIL processing. The mineral resources represented in Table 14.10 form a sub-set of the near surface mineral resources outlined in Table 14.9. In addition to the near surface mineral resources represented in Table 14.9, SRK also identified resources that are amenable to possible underground extraction. Table 14.11 summarises the underground accessible mineral resources.

The combined open pit and underground mineral resources are summarised in Table 14.12.

Table 14.9: Near Surface Mineral Resources, Minera Don Nicolás Project, Santa Cruz, Argentina, SRKConsulting, August 31, 2020, Heap Leach Cut-Off 0.3 g/t Au

Deposit	Class	Tonnes	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
Armodillo	Indicated	50,600	0.69		1,123	NE <sup>1</sup>
Armadillo	Inferred	84,000	1.89		5,104	NE
Baritina	Inferred	100,000	3.36		10,803	NE
Baritina NE	Inferred	10,700	2.65		912	NE
Breccia Trend	Inferred	1,698,300	1.17		63,885	NE
Cangrego	Inferred	29,900	2.06		1,980	NE
	Measured	210,100	3.98	4.57	26,885	30,870
Cerro Oro	Indicated	375,000	5.19	7.17	62,574	86,447
	Inferred	1,499,100	0.85	3.19	40,968	153,751
Chairwa	Indicated	11,900	3.31		1,266	NE
Choique	Inferred	53,900	2.33		4,038	NE
Chulengo	Inferred	62,200	3.86		7,719	NE
	Indicated	68,500	6.36		14,007	NE
Coyole	Inferred	93,700	5.19		15,635	NE
Mara	Indicated	31,200	2.83		2,839	NE
Mara	Inferred	22,500	1.92		1,389	NE
Trofeu	Inferred	15,200	2.32		1,134	NE
Zorro	Indicated	20,600	2.36		1,563	NE
20110	Inferred	156,000	1.48		7,423	NE
Aroo Irio	Indicated	44,900	1.94		2,801	NE
AICO IIIS	Inferred	161,700	3.17		16,480	NE
	Measured	39,300	6.16	10.47	7,783	13,229
Sulfuro	Indicated	217,900	9.43	13.80	66,064	96,679
	Inferred	121,200	8.47	10.65	33,005	41,500
	Measured	249,400	4.32	5.50	34,668	44,100
	Indicated	820,600	5.77	9.61	152,237	183,126
Total Near Surface	Measured +Indicated	1,070,000	5.43	8.39	186,905	227,226
	Inferred	4,108,400	1.59	3.75	210,476	195,252

Note: 1- NE = not estimated, silver grades were only estimated for Cerro Oro and Sulfuro

Table	14.10:	Mineral	Resources	Amenable	to	Milling	And	Processing	by	CIL,	Martinetas	Cut-Off
	1.15 g/t, La Paloma Cut-Off 1.46 g/t Au											

Deposit	Class	Tonnes	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
Armodillo	Indicated	500	5.61		90	NE
Annadilio	Inferred	22,800	5.39		3,951	NE
Baritina	Inferred	31,200	9.54		9,570	NE
Baritina NE	Inferred	10,700	2.65		912	NE
Breccia Trend	Inferred	368,200	2.64		31,253	NE
Cangrego	Inferred	18,000	2.75		1,591	NE
	Measured	210,000	3.98	4.57	26,872	30,856
Cerro Oro	Indicated	375,000	5.19	7.17	62,574	86,447
	Inferred	100,100	4.59	4.73	14,772	15,223
Chaigua	Indicated	7,200	5		1,157	NE
Choique	Inferred	18,700	5.35		3,217	NE
Chulengo	Inferred	39,700	5.55		7,084	NE
Coyote	Indicated	68,500	6.36		14,007	NE
	Inferred	91,700	5.28		15,567	NE
Mara	Indicated	13,800	5.62		2,494	NE
IVIAIA	Inferred	5,700	5.86		1,074	NE
Trofeu	Inferred	7,700	3.63		899	NE
7.0110	Indicated	14,200	3.12		1,424	NE
20110	Inferred	51,700	3.21		5,336	NE
Area Iria	Indicated	25,400	2.67		2,180	NE
AICO IIIS	Inferred	104,700	4.41		14,845	NE
	Measured	38,500	6.26	10.63	7,749	13,158
Sulfuro	Indicated	214,200	9.57	13.96	65,907	96,140
	Inferred	118,300	8.65	10.81	32,900	41,116
	Measured	248,500	4.33	5.51	34,621	44,014
Total Near Surface <sup>1</sup>	Indicated	718,800	6.48	9.64	149,834	182,586
(mill and CIL sub- set)	Measured +Indicated	967,300	5.93	8.41	184,455	226,600
	Inferred	989,200	4.50	8.02	142,970	56,338

Note: 1- Mineral resources are a sub-set of the near surface mineral resources outlined in Table 14.9

#### Table 14.11: Underground Mineral Resources, Cut-Off 3.0 g/t Au

Deposit	Class	Tonnes	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
Baritina	Inferred	48,300	19.92		30,934	NE
Baritina NE	Inferred	11,800	3.87		1,468	NE
Corre Ore	Indicated	24,500	5.29	2.99	4,167	2,355
Cento Olo	Inferred	28,500	5.32	3.15	4,875	2,886
Coyote	Inferred	10,500	7.74		2,613	NE
Breccia Trend	Inferred	23,100	4.15		3,082	NE
Sulfuro	Indicated	31,700	7.59	12.09	7,736	12,322
Sulluio	Inferred	433,100	6.84	8.76	95,245	121,980
	Indicated	56,200	6.59	8.12	11,903	14,677
Total Underground	Measured +Indicated	56,200	6.59	8.12	11,903	14,677
	Inferred	555,300	7.74	8.41	138,217	124,867

	Quantitu	Gra	ade	Metal				
Category	Quantity	Au	Ag	Au	Ag			
	Tonne	gpt	gpt	oz	oz			
Open Pit** Cut-off 0.3 g/t gold								
Measured	249,400	4.32	5.50	34,668	44,100			
Indicated	820,600	5.77	9.61	152,237	183,126			
Measured and Indicated	1,070,000	5.43	8.39	186,905	227,226			
Inferred	4,108,400	1.59	3.75	210,476	195,252			
Underground** Cut-off 3.0 g/t gold								
Measured	0	0.00	0.00	0	0			
Indicated	56,200	6.59	8.12	11,903	14,677			
Measured and Indicated	56,200	6.59	8.12	11,903	14,677			
Inferred	555,300	7.74	8.41	138,217	124,867			
Combined Mining								
Measured	249,400	4.32	5.50	34,668	44,100			
Indicated	876,800	5.82	9.48	164,140	197,803			
Measured and Indicated	1,126,200	5.49	8.37	198,808	241,903			
Inferred	4,663,700	2.33	4.78	348,693	320,118			

#### Table 14.12: Mineral Resource Statement, Minera Don Nicolás, Santa Cruz, Argentina, SRK Consulting, August 31, 2020

Notes:

\*- Mineral resources are reported in relation to a conceptual pit shell. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

\*\*- Open pit mineral resources are reported at a cut-off grade of 0.3 g/t gold for the open pit portion and 3.0 g/t gold for the underground deposits. Cut-off grades are based on a price of US\$1,550 per ounce of gold and gold recoveries of 95 percent at Martinetas and 88 percent at La Paloma, without considering revenues from other metals.

## 14.13 Grade Sensitivity Analysis

The mineral resources of the MDN Project are sensitive to the selection of the reporting cut-off grade. To illustrate this sensitivity, the global in pit mineral resources for each deposit are summarised in Tabled 14.12, Table 14.13 and Table 14.14 below.

The reader is cautioned that the figures presented in these tables should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

Because the Measured and Indicated resources are confined to the high-grade portion of the deposit (>1.3 g/t) the Measured and Indicated resource do not change below the 1.0 g/t cut-off. The opposite is true of the Inferred resource which is mainly confined to the low-grade wireframe (> 0.3 g/t but < 1.3 g/t).

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	3.0	118.0	5.25	5.19	19,914	19,677
	2.0	191.9	4.19	4.69	25,837	28,916
	1.0	210.1	3.98	4.57	26,899	30,879
	0.8	210.1	3.98	4.57	26,899	30,879
Corro Oro	0.7	210.1	3.98	4.57	26,899	30,879
Cello Olo	0.6	210.1	3.98	4.57	26,899	30,879
	0.5	210.1	3.98	4.57	26,899	30,879
	0.4	210.1	3.98	4.57	26,899	30,879
	0.3	210.1	3.98	4.57	26,899	30,879
	0.2	216.9	3.87	4.51	26,958	31,410
	3.0	29.3	7.48	13.41	7,047	12,631
	2.0	36.6	6.49	12.95	7,646	15,252
	1.0	39.2	6.17	12.38	7,779	15,605
	0.8	39.3	6.16	12.38	7,782	15,647
Sulfuro	0.7	39.3	6.16	12.38	7,782	15,647
Sulluio	0.6	39.3	6.16	12.38	7,782	15,647
	0.5	39.3	6.16	12.38	7,782	15,647
	0.4	39.3	6.16	12.38	7,782	15,647
	0.3	39.3	6.16	12.38	7,782	15,647
	0.2	39.3	6.16	12.38	7,782	15,647

Table 14.13: Measured In-Pit Resources\*, at Minera Don Nicolás Project at Various Cut-Off Grades

Note: \*- The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

Table 14.14: Indicated In-Pit Resour	ces*, at Minera Don Nicola	ás Project at Various	Cut-Off Grades
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Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	3	0.3	7.1		79	
	2	0.5	5.94		88	
	1	0.5	5.26		91	
	0.8	4.3	1.41		196	
A 1'11	0.7	14	0.95		426	
Armadillo	0.6	32	0.78		802	
	0.5	45.9	0.71		1,051	
	0.4	49.9	0.69		1,110	
	0.3	50.6	0.69		1,119	
	0.2	50.6	0.69		1,119	
	3	269.8	6.27	7.65	54,358	66,346
	2	358.3	5.34	7.25	61,566	83,537
	1	375	5.19	7.17	62,541	86,403
	0.8	375	5.19	7.17	62,541	86.403
	0.7	375	5.19	7.17	62.541	86.403
Cerro Oro	0.6	375	5.19	7.17	62,541	86.403
	0.5	375	5.19	7.17	62,541	86,403
	0.4	375	5.19	7.17	62.541	86.403
	0.3	375	5.19	7.17	62,541	86,403
	0.2	375	5 19	7 17	62 541	86 403
	3	52	5.99		1 010	00,100
	2	6.9	5 14		1 147	
	1	7.3	4 99		1,165	
	0.8	7.0	4 65		1,183	
	0.7	9	4 19		1,100	
Choique	0.6	10.4	3 71		1,200	
	0.5	11.5	3.4		1,258	
	0.0	11.0	3 34		1,200	
	0.1	11.7	3 31		1,263	
	0.0	11.9	3.31		1,263	
	3	58	7.06		13 153	
	2	67.5	6.43		13,100	
	1	68.5	6.36		14,006	
	0.8	68.5	6.36		14,000	
	0.0	68.5	6.36		14,000	
Coyote	0.6	68.5	6.36		14,000	
	0.5	68.5	6 36		14,006	
	0.0	68.5	6 36		14,006	
	0.4	68.5	6.36		14,000	
	0.0	68.5	6.36		14,000	
	3	12.7	5.88		2 300	
	2	13.8	5.62		2,000	
	1	13.0	5.52		2,495	
	י <u>ר</u> א	15.5	5.05		2,+30	
	0.0	18.0	4 / 2		2,040	
Mara	0.7	22	3.66		2,009	
	0.0	23	3.00		2,700	
	0.5	21.0	0.14 2.07		2,100	
	0.4	30.7	2.01		2,000	
	0.3	21.2	2.00		2,000	
70110	0.2	31.2	2.03		2,030	
2010	ა	0.0	4.04		003	

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	2	11.8	3.38		1,285	
	1	14.2	3.12		1,424	
	0.8	14.9	3.01		1,444	
	0.7	16.3	2.82		1,477	
	0.6	18.5	2.56		1,524	
	0.5	20.3	2.39		1,554	
	0.4	20.6	2.36		1,560	
	0.3	20.6	2.36		1,560	
	0.2	20.6	2.36		1,560	
	3	5.8	4.99		938	
	2	13.7	3.5		1,537	
	1	35.9	2.25		2,598	
	0.8	39.2	2.14		2,694	
Aroo Irio	0.7	40.5	2.09		2,727	
AICOIIIS	0.6	41.9	2.05		2,755	
	0.5	44.2	1.97		2,795	
	0.4	44.9	1.94		2,806	
	0.3	44.9	1.94		2,806	
	0.2	44.9	1.94		2,806	
	3	179.6	10.98	15.58	63,389	89,993
	2	203.6	9.98	14.47	65,316	94,703
	1	217.1	9.46	13.83	66,043	96,528
	0.8	217.3	9.45	13.82	66,049	96,563
Culture	0.7	217.5	9.45	13.82	66,054	96,597
Sulluio	0.6	217.5	9.44	13.81	66,055	96,608
	0.5	217.6	9.44	13.81	66,056	96,628
	0.4	217.8	9.43	13.81	66,060	96,688
	0.3	217.9	9.43	13.8	66,061	96,705
	0.2	217.9	9.43	13.8	66,061	96,705

Note: \*- The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

Table 14.15: Inferred In-Pit Resources\*, at Minera Don Nicolás Project at Various Cut-Off Grades

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	3.0	11.2	8.57		3,090	
	2.0	19.8	5.94		3,779	
	1.0	22.9	5.37		3,954	
	0.8	25.8	4.87		4,033	
Armodillo	0.7	33.1	3.95		4,209	
Annaulio	0.6	49.6	2.85		4,550	
	0.5	68.9	2.21		4,892	
	0.4	82.0	1.93		5,084	
	0.3	84.0	1.89		5,107	
	0.2	84.0	1.89		5,107	
	3.0	25.9	11.06		9,197	
Baritina	2.0	29.8	9.91		9,506	
	1.0	31.5	9.48		9,593	

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	0.8	36.3	8.33		9,729	
	0.7	42.4	7.24		9,876	
	0.6	54.8	5.75		10,131	
	0.5	71.6	4.53		10,427	
	0.4	90.7	3.67		10,706	
	0.3	100.0	3.36		10,814	
	0.2	100.0	3.36		10,814	
	3.0	3.2	3.23		331	
	2.0	9.7	2.74		850	
	1.0	10.7	2.65		916	
	0.8	10.7	2.65		916	
	0.7	10.7	2.65		916	
Baritina NE	0.6	10.7	2.65		916	
	0.5	10.7	2.65		916	
	0.4	10.7	2.65		916	
	0.3	10.7	2.65		916	
	0.2	10.7	2.65		916	
Breccia Trend	3.0	72.8	5.18		12,122	
	2.0	198.0	3.42		21,759	
	1.0	622.9	2.05		41,137	
	0.8	804.0	1.79		46,323	
	0.7	938.3	1.64		49,560	
	0.6	1,129.4	1.47		53,528	
	0.5	1,318.1	1.34		56,884	
	0.4	1,527.6	1.22		59,954	
	0.3	1,613.8	1.17		60,943	
	0.2	1,681.5	1.14		61,478	
	3.0	23.1	8.01		5,938	
	2.0	32.7	6.37		6,698	
	1.0	47.9	4.81		7,406	
	0.8	52.5	4.47		7,539	
Chulengo	0.7	54.9	4.30		7,597	
ondiongo	0.6	57.4	4.15		7,649	
	0.5	60.0	3.99		7,695	
	0.4	61.7	3.89		7,720	
	0.3	62.2	3.86		7,726	
	0.2	62.2	3.86		7,726	
	3.0	5.9	5.07	2.6	958	500
	2.0	4.8	4.72	2.7	723	410
	1.0	4.5	4.67	2.7	670	382
Cerro Oro	0.8	3.3	4.33	2.6	464	279
-	0.7	2.2	3.93	2.5	273	174
	0.6	1.3	3.46	2.4	149	105
	0.5	1.0	3.27	2.4	104	78
	0.4	0.9	3.24	2.4	91	69

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	0.3	0.9	3.19	2.5	87	67
	0.2	0.9	3.19	2.5	87	67
	3.0	10.8	7.85		2,732	
	2.0	17.4	5.85		3,262	
	1.0	19.1	5.44		3,347	
	0.8	23.9	4.53		3,481	
Chairma	0.7	29.9	3.77		3,626	
Cholque	0.6	37.5	3.14		3,783	
	0.5	45.6	2.68		3,927	
	0.4	52.2	2.40		4,022	
	0.3	53.9	2.33		4,043	
	0.2	53.9	2.33		4,043	
	3.0	55.9	7.27		13,077	
	2.0	78.1	5.90		14,833	
	1.0	92.1	5.27		15,597	
	0.8	92.6	5.24		15,612	
Coveta	0.7	92.8	5.23		15,616	
Coyote	0.6	93.3	5.21		15,626	
	0.5	93.5	5.20		15,630	
	0.4	93.5	5.20		15,630	
	0.3	93.7	5.19		15,632	
	0.2	93.7	5.19		15,632	
	3.0	5.2	6.16		1,029	
	2.0	5.6	5.90		1,061	
	1.0	5.7	5.86		1,064	
	0.8	6.5	5.22		1,087	
Mara	0.7	9.8	3.71		1,166	
Mara	0.6	13.2	2.91		1,239	
	0.5	18.8	2.22		1,337	
	0.4	21.4	2.00		1,377	
	0.3	22.5	1.92		1,390	
	0.2	22.5	1.92		1,390	
	3.0	4.0	4.99		639	
	2.0	6.3	4.05		824	
	1.0	11.6	2.81		1,047	
	0.8	13.0	2.60		1,088	
Trofeu	0.7	13.9	2.48		1,110	
	0.6	14.5	2.41		1,121	
	0.5	14.9	2.36		1,129	
	0.4	15.0	2.35		1,130	
	0.3	15.2	2.32		1,132	
	0.2	15.2	2.32		1,132	
	3.0	6.0	4.17	0.00	800	
Cangrejo	2.0	11.7	3.32	0.00	1,247	
	1.0	24.5	2.35	0.00	1,854	

Deposit	Cut-off (g/t)	Tonnes (000)	Au (g/t)	Ag (g/t)	Au Oz	Ag Oz
	0.8	26.8	2.23	0.00	1,920	
	0.7	27.6	2.19	0.00	1,940	
	0.6	28.3	2.15	0.00	1,955	
	0.5	29.2	2.10	0.00	1,970	
	0.4	29.6	2.08	0.00	1,977	
	0.3	29.9	2.06	0.00	1,980	
	0.2	30.1	2.05	0.00	1,981	
	3.0	28.8	3.90		3,612	
	2.0	48.4	3.30		5,143	
	1.0	52.6	3.17		5,360	
	0.8	63.1	2.79		5,654	
_	0.7	81.7	2.32		6,099	
Zorro	0.6	105.4	1.95		6,594	
	0.5	132.8	1.66		7,081	
	0.4	149.4	1.52		7,326	
	0.3	156.0	1.48		7,404	
	0.2	156.0	1.48		7,404	
	3.0	63.3	5.88		11,969	
	2.0	87.8	4.93		13,909	
	1.0	127.4	3.84		15,724	
	0.8	137.6	3.62		16,020	
	0.7	146.3	3.45		16,228	
Arco Iris	0.6	151.9	3.35		16,346	
	0.5	157.6	3.25		16,446	
	0.4	160.3	3.20		16,486	
	0.3	161.7	3.17		16,502	
	0.2	161.7	3.17		16,502	
	3.0	101.2	9.75	11.92	31,709	38,781
	2.0	110.7	9.12	11.44	32,461	40,698
	1.0	120.6	8.51	10.67	32,979	41,389
	0.8	120.8	8.49	10.67	32,985	41,433
Sulfuro	0.7	121.0	8.48	10.65	32,989	41,434
	0.6	121.1	8.47	10.65	32,992	41,471
	0.5	121.1	8.47	10.65	32,992	41,471
	0.4	121.2	8.47	10.65	32,993	41,496
	0.3	121.2	8.47	10.65	32,993	41,496

Note: \*- The reader is cautioned that the figures in this table should not be misconstrued with a Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

Figure 14.11 shows the grade tonnage curve for the total Measured and Indicated mineral resources inside the resource shells and Figure 14.12 shows the grade tonnage curve for the Inferred mineral resource.



Figure 14.11: Grade Tonnage for Total Measured and Indicated Mineral Resource at Minera Don Nicolás



Figure 14.12: Grade Tonnage Curve for Inferred Mineral Resource at Minera Don Nicolás

#### 14.14 Target for Further Exploration

In addition to the mineral resources defined in this section of the report, the MDN property host several targets that are worthy of further exploration (Figure 14.3). These targets are at a too early stage of development to define a mineral resource, but they are excellent targets for further exploration. Collectively these targets represent about 250,000 to 550,000 tonnes (t) grading between 2.0 and 3.0 g/t gold (Table 14.16).



Note: Grid lines are 1,000 m apart

Figure 14.13: Location of Exploration Targets with Respect to Sulfuro Open Pit

Target	Tonnage Range (000)	Grade Range Au (g/t)			
Clara	170 to 250	3.6 to 4.8			
Hermanas	37 to 200	1.3 to 1.7			
Princesa	20 to 100	1.3 to 2.0			
Total	250 to 550	2.1 to 3.0			

Tabla	4446.	Evolaration	Tormato	for Curther	Evolaration
rable	14.10	<b>EXDIORATION</b>	Targets	tor Further	<b>E</b> XDIOFATION
10010		Exploration	1 41 9010		Enprotation

The potential quantity and grade of the exploration targets are conceptual in nature, there has been insufficient exploration to define a mineral resource at any of these targets and it is uncertain if further exploration will result in the targets being delineated as a mineral resource. The exploration targets have been defined by 20 DDH 33 RC holes and 154 trenches totalling 10,000 m of sampling.

#### 14.15 Previous Mineral Resource Estimates

In 2012, Coffey prepared a mineral resource estimate for the MDN Project. Coffey estimated that the Project contained 1.46 million tonnes of Measured Plus Indicated mineral resources grading 5.9 g/t gold and 0.7 million tonnes of Inferred mineral resources grading 4.0 g/t gold at a 1.6 g/t cutoff (Tetra Tech, 2012).

The historical estimate was prepared by ordinary kriging inside geological wireframes representing the mineralised intervals. The estimate is no longer relevant because it was prepared before any production was achieved from the Project. SRK has not done the work necessary to verify the historical estimate but believes it to be reliable in that it was prepared by independent Qualified Persons following the general guidelines and mineral resource categories as outlined in NI 43-101.

The current estimate is not really comparable to the historical estimate because the current estimate considers more information and includes deposits that were unknown when Coffey prepared their estimate in 2012.

# 14.16 Recommendations for Conversion of Mineral Resources into Mineral Reserves

Mineral reserves are the economically mineable part of the Measured and/or Indicated mineral resources. Mineral reserves include diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at pre-feasibility or feasibility level as appropriate that include application of "modifying factors". Modifying factors are considerations used to convert mineral resources to mineral reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

SRK carried out a gap analysis to evaluate the best path forward to convert the current mineral resources to mineral reserves. In summary, SRK concluded that the existing mineral resources can be converted to mineral reserves with the collection of additional geotechnical data, and a review of the tailings dam facilities.

# **15 Mineral Reserve Estimates**

There are no mineral reserves at the MDN Project. Mining activities are being carried out on mineral resources defined by the on-site personnel.

# **16 Adjacent Properties**

MDN is in a region of Argentina that has seen significant exploration over the past few years, particularly for epithermal gold deposits. Several prominent discoveries have been made including Cerro Vanguardia (AngloGold Ashanti Ltd.), Cerro Negro (Goldcorp Inc.), Cerro Moro (Yamana Gold Inc.), Maniatial Espeje (Pan American silver Crop.), Mina Martha (Coeur d'Alene Mines Corp.) (Figure 16.1).



Source: Presentation – MDN-2020 (with modifications), Cerrado Gold website (https://www.cerradogold.com/) Figure 16.1: Location of Significant Discoveries Near MDN Project

In the immediate vicinity of the MDN property, the Las Calandrias exploration project belonging to New Dimension Resources Ltd. lies immediately to the north of MDN's Escondido property, northeast of the La Paloma claims. According to public information, this property of some 160,000 ha hosts two target areas of interest, Calandrias Norte and Calandrias Sur, the former a vein system and the latter interpreted as a disseminated precious metal mineralised system and a bulk-mining target.

MDN's claims are surrounded by ground held by several other exploration companies including AngloGold Ashanti Ltd., Goldcorp Inc., and Yamana Gold Inc., owners of the Cerro Moro advanced exploration project some 60 km to the east-south-east of the Martinetas deposits and plant site.

## **17** Other Relevant Data and Information

#### 17.1 Introduction

The MDN operation is currently a producing gold mine. The mine was constructed after Tetra Tech completed a NI 43-101 Feasibility Study (Technical Report) for previous owner MIRLP in February 2012 (Tetra Tech, 2012).

In July 2014, MIRLP sold the Project to Compañía Inversora en Mina S.A. (CIMINAS), a company owned by the Argentine investors. They follow the recommendations of the 2012 Feasibility Study and commenced development and construction shortly after. Final construction was completed December 2017 for the 1,000 tpd operation.

#### 17.2 Mining Operation

Commissioning of the operation began in December 2017. MDN began operations of a series of conventional open pit mines with a carbon-in-leach facility. Ramp up continued until late 2019. Currently the operation is mining from three active pits (Coyote, Cerro Oro and Sulfuro) at a rate of +1,000 tpd and the mill is able to handle the throughput. As of the effective date of the technical report, further optimisation is being done to both the mining and milling operation.

MDN consists of two fully permitted mining areas, each containing a clustered, shallow pits. They are the Martinetas areas adjacent to the process plant, and the La Paloma area approximately 60 km by road to the north. At Martinetas, close to the plant are camp & offices as well as maintenance shops (Figure 17.1).



Figure 17.1: Aerial View of MDN Plant and Tailings Area at Martinetas

The MDN Project has 365 people consisting of 301 employees and 64 contractors. Contractors comprise predominately security & catering but also run ore haulage from Paloma, bus drivers and various other miscellaneous services. All employees are Argentinian nationals, most having moved from nearby mines for better salary and rotation conditions. Employees live off-site in various parts of the country and are flown and then driven into the mine in small buses every two weeks on a rolling rotational calendar.

There are 139 people working in the mining department, 96 in the plant and 54 in general and administration. The crew is separated into four shifts, each working a 14 day on & 14 day off cycle of 12 hour shifts. All personnel are transported home at the Company's cost. Absenteeism is at 7% which is high.

The mine has been run "remotely" by a management based in Buenos Aires 1,800 km away, with site visits reportedly once per month. Senior site management consists of the finance & admin manager, the mine manager and the plant manager, who all work two week rotations with a one hour overlap (as does the entire workforce).

The mine was "designed" for 1,000 tpd and it has reached 1,200 tpd on occasion. The mine is unionised, and no issues have been reported between the union and management.

The site offices and accommodations are basic but relatively comfortable, prefabricated buildings. Dormitories are shared except for senior management who have their own. A catering company manages food around the clock for the site. Minor modifications would be required to accommodate anticipated expat management staff, focusing on improving living conditions and entertainment areas (Figure 17.2).



Figure 17.2: Camp Facilities at Martinetas

Production began with the same team in 2015 with removal of waste for the construction of the tailings storage facility. Marginal grade was stockpiled at the same time and now a long-term, low-

The mine is currently operating with the following fleet:

- 3 x Pantera blasthole drills
- 3 x Cat 980 front end loaders main loading equipment
- 1 x Cat 352 excavator high wall dressing & cleanup
- 6 x Cat 772 (60 t) dump trucks
- 1 x Komatsu 730 (40 t) dump truck
- 2 x Cat D8 dozers
- 1 x Cat 374 tyre dozer
- 2 x Cat 14H graders
- 1 x water cart

In addition, the mine uses a fleet of five contractor trucks for ore haulage from La Paloma to the mill and approximately 35 rental pickups for all departments.

Mining is currently split 70% - 30% between the Martinetas pits and the La Paloma pits 60 km away, largely due to the high stripping ratio at La Paloma.

The three Pantera drills typically drill out blast patterns on a double bench height of 10 m and a 5 m bench when mining mineralised material. Blast holes are typically 3.5" to 4" in diameter. Waste drilling and pre-splitting against the final pit wall is done using 5.5" hole diameters. MDN uses ammonium nitrate/fuel oil (ANFO) explosives with conventional primers and a shock tube ignition system for blasting. The ANFO is charged up by hand. Fragmentation in the muck piles is good and the powder index is 0.5 kg/t.

The grade control is the biggest challenge and is accomplished doing the following in order to increase the head grade to the mill:

- A dedicated grade control RC rig drills 45° angled holes to a depth of 15 m (three benches on current design) on a 10 m x 10 m spacing. Samples are taken each metre. Results go into a short-term grade control block model adjusted for local structural interpretation/vein orientations.
- Sampling of grade control trench continues on a smaller scale. Sampling results go into the short-term grade control model and updated on a regular basis for assistance in interpreting the subsequent benches.
- In-pit mapping of benches for visual geological contacts and structural interpretation/vein orientations is carried out by MDN personnel.
- The bench height of 5 m is used in all waste areas, but in mineralisation bench height is adjusted to 2.5 m.
### 17.3 Process Plant

The process plant is operated and maintained by the MDN team consisting of 106 employees.

Power for the plant and other services is provided by five 1 MVA gas fired generators of which two are on standby. A diesel back-up generator is also available to supply critical needs.

The MDN processing facility was designed to process a nominal 350,000 tonnes per annum (tpa), or 972 tpd, of gold-silver bearing material from an open pit operation. The concentrator was designed to produce a gold-silver doré product.

The processes selected were based on the results of metallurgical testing performed at AMMTEC, Australia, along with project-related parameters provided by MIRLP.

The process flowsheet follows conventional crushing and ball mill grinding and cyclone classification. The gravity concentration circuit in the grinding circuit includes the recovery of coarse and liberated gold using a centrifugal concentrator followed by the tabling of the gravity-gold product to up-grade the concentrate prior to smelting.

The ball mill cyclone overflow is treated in an 8-stage CIL circuit to recover gold from the feed material using activated carbon. Loaded carbon is transferred from the head CIL tank to the elution circuit on a daily basis, while regenerated and/or fresh carbon is brought from the carbon plant for adding to the CIL circuit.

The loaded carbon is initially acid-washed to remove calcium and other impurities, followed by the elution, or stripping, process. The gold is recovered by electrowinning. The eluted carbon is regenerated in a kiln prior to screening for the removal of carbon fines. The regenerated carbon is then returned to the adsorption circuit. The CIL tailings is discharged to the tailings thickener.

Tailings thickener underflow is pumped to the cyanide detoxification tank where cyanide levels are chemically reduced to acceptable environmental levels prior to disposal to the tailings storage pond. This thickening stage allows for greater control of water management and enable some of the cyanide present in the water to be re-circulated for re-use in the plant.

Process water is recycled from the tailings thickener overflow, and supplemented with process water recovered from the tailings dam. Fresh water is used for gland service, reagent preparation and gravity circuit fluidisation, as well as for water make-up purposes, as required.

The MDN processing facility includes the following unit operations:

- Two-stage Crushing and Screening.
- Fine Ore Bin Storage and Reclaim for Grinding.
- Ball Mill Grinding and Classification.
- Gravity Recovery Circuit.
- CIL Leaching.

- Carbon Handling and Treatment.
- Electrowinning and Smelting (gold refining).
- Tailings Thickening.
- Cyanide Detoxification.
- Thickened Tailings Deposition.
- Process Water Reclamation.

## **18** Interpretation and Conclusions

The MDN operation is currently a producing gold mine. Commissioning of the operation began in December 2017. The mine began operations of a series of conventional open pit mines with a carbon-in-leach facility. Ramp up continued until late 2019. Currently the operation is mining from three active pits (Coyote, Cerro Oro and Sulfuro) at a rate of +1,000 tpd and the mill is able to handle the throughput. Minera Don Nicolás consists of two fully permitted mining areas, each containing a clustered, shallow pits. They are the Martinetas areas adjacent to the process plant, and the La Paloma area approximately 60 km by road to the north. The MDN Project has 365 people consisting of 301 employees and 64 contractors.

Drilling at Sulfuro and Cerro Oro has an adequate density to define Measured, Indicated and Inferred mineral resources. Mineralisation is still open at depth at Sulfuro and offers good exploration potential particularly south-eastwards along strike as well as in under-explored mineralised structures sub-paralleling the Sulfuro structure.

Additional drilling at the Arco Iris deposit will be required in order to find additional mineral resource. Also, more work is required to understand the controls on mineralisation and additional potential in this area.

Within the Martinetas region, additional drilling within Cerro Oro and Coyote has shown the controls on mineralisation to be more complex than previously modelled. This area has not been closed off a depth and has a high probability on improving the known resource, especially between individual identified deposits (mainly between Cerro Oro and Coyote).

At the Armadillo, Choique, Zorro and Mara deposits, there is still some areas for improvement in mineral resources both along strike and at depth, and increased drilling will improve the confidence in the deposits.

The property has some promising opportunities to extend mine life and improve costs. In particular, heap leaching of lower grade gold resources. In addition, ongoing exploration, drilling, in surrounding areas such as Baritina-Chulengo (Paula Andrea Target) and Goleta (Cangrejos) could provide additional mineral resources with additional drilling.

SRK believes that the current QA/QC systems in place at MDN to monitor the precision and accuracy of the sampling and assaying are adequate and should continue to be implemented. Also, regular check assays by another independent laboratory is part of the QA/QC procedures.

Current mineral resources were estimated by Cerrado and verified and validated by SRK. Resources were estimated by ordinary kriging for 13 separate areas using 750 core holes, 3,138 RC holes drilled by the owners of the MDN Project between 1994 and 2020. The combined open pit and underground mineral resources effective August 31, 2020 are summarised in Table 18.1.

	Quantity	Grade		Metal	
Category		Au	Ag	Au	Ag
	Tonne	gpt	gpt	oz	oz
Open Pit** Cut-off 0.3 g/t gold					
Measured	249,400	4.32	5.50	34,668	44,100
Indicated	820,600	5.77	9.61	152,237	183,126
Measured and Indicated	1,070,000	5.43	8.39	186,905	227,226
Inferred	4,108,400	1.59	3.75	210,476	195,252
Underground** Cut-off 3.0 g/t gold					
Measured	0	0.00	0.00	0	0
Indicated	56,200	6.59	8.12	11,903	14,677
Measured and Indicated	56,200	6.59	8.12	11,903	14,677
Inferred	555,300	7.74	8.41	138,217	124,867
Combined Mining					
Measured	249,400	4.32	5.50	34,668	44,100
Indicated	876,800	5.82	9.48	164,140	197,803
Measured and Indicated	1,126,200	5.49	8.37	198,808	241,903
Inferred	4,663,700	2.33	4.78	348,693	320,118

#### Table 18.1: Combined Mineral Resources SRK Consulting, Minera Don Nicolás August 31, 2020

Notes:

\*- Mineral resources are reported in relation to a conceptual pit shell. Mineral resources are not mineral reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

\*\*- Open pit mineral resources are reported at a cut-off grade of 0.3 g/t gold for the open pit portion and 3.0 g/t gold for the underground deposits. Cut-off grades are based on a price of US\$1,550 per ounce of gold and gold recoveries of 95 percent at Martinetas and 88 percent at La Paloma, without considering revenues from other metals.

SRK is not aware of any significant risks and uncertainties that could be expected to affect the reliability or confidence in the mineral resource estimates discussed herein.

## **19** Recommendations

SRK recommends that Cerro Oro proceed to the definition of mineral resources for the MDN Project.

The process of mineral resource definition will require additional geotechnical drilling and the preparation of a pre-feasibility document in compliance with NI 43-101. SRK estimates that these tasks will cost approximately US\$700,000 as outlined in Table 19.1.

Table 19.1: Estimated Cost for the	<b>Exploration Program Propos</b>	sed for the Minera Don	Nicolás Project
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Item	Unit	Costs
Geotechnical Drilling	2,000 m	\$200,000
Heap Leach Study		\$300,000
NI 43-101 Feasibility Study		\$200,000
Total (US\$)		\$700,000

SRK is unaware of any other significant factors and risks that may affect access, title, or the right or ability to perform the exploration work recommended for the MDN Project.

## 20 Acronyms and Abbreviations

Distance			
μm	micron (micrometre)		
mm	millimetre		
cm	centimetre		
m	metre		
km	km		
"	inch		
in	inch		
,	foot		
ft	foot		
Area			
m <sup>2</sup>	square metre		
km <sup>2</sup>	square km		
ac	acre		
ha	hectare		
Volu	me		
	litre		
m <sup>3</sup>	cubic metre		
ft3	cubic foot		
usg			
ICM	loose cubic metre		
bcm	bank cubic metre		
Mass			
dmt	dry metric tonne		
g	gram		
kg	kilogram		
kt	kilotonne		
lb	pound		
Mt	megatonne		
OZ	troy ounce		
t	metric tonne		
wmt	wet metric tonne		
Press	sure		
kPa	kilopascal		
MPa	megapascal		
Pa	nascal		
psi	pounds per square inch		
Flem	Flements and Compounds		
Au	nold		
Δa	silver		
Λg	areonic		
	copper		
Fe	Iron		
NaCN	sodium cyanide		
Sb	antimony		
S	sulphur		
Conversion Factors			
1 tonne	2,204.62 lb		
1 oz	31.1035 g		

Other		
°C	degree Celsius	
°F	degree Fahrenheit	
cfm	cubic feet per minute	
hr	hour	
kW	kilowatt	
kWh	kilowatt hour	
Μ	Million	
Ма	Mega-annum	
mph	miles per hour	
ppb	parts per billion	
ppm	parts per million	
tph	tonnes per hour	
tpd	tonnes per day	
tpa	tonnes per annum	
masl	metres above sea level	
Mtpa	million tonnes per annum	
US\$	United States Dollars	
Ø	diam	
Acr	onyms	
AA	atomic absorption	
AAL	American Assay Laboratories	
ABA	acid-base accounting	
ACME	ACME Analytical Laboratories S.A. (Chile)	
Ai	abrasion index	
ALS	ALS Chemex Laboratories	
ANFO	ammonium nitrate/fuel oil	
AP	acid potential	
ASA	Alex Stewart International	
BWi	ball mill work index	
CIM	Canadian Institute of Mining	
COG	cut-off grade	
CWi	crushing work index	
GRG	gravity recoverable gold	
LOM	life of mine	
MDN	Minera Don Nicolás	
ML/ARD	metal leaching / acid rock drainage	
MVA	Mega Volt Amperes	
NAG	non-potentially acid generating	
NI 43-101	National Instrument 43-101	
NP	neutralisation potential	
NPV	net present value	
NSR	net smelter return	
PAG	potentially acid generating	
RC	reverse circulation	
RWi	rod mill work index	
SRK	SRK Consulting (Canada) Inc.	
SRM	standard reference material	
UCS	unconfined compressive strength	
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## 21 References

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## Date and Signature Page

This technical report was written by the following "Qualified Persons" and contributing authors. The effective date of this August 31, 2020.

Qualified Persons	Signature	Date
Dr. Gilles Arseneau, P.Geo	"Original signed"	September 25, 2020
Casey Hetman, P.Geo.	"Original signed"	September 25, 2020

Reviewed by

"Original signed"

Casey Hetman, P.Geo

Project Reviewer

"Original signed"

Dr. Gilles Arseneau, P.Geo

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices

Appendix A Title Opinion



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May 6, 2020

María Virginia Anzola General Counsel and Corporate Secretary **Cerrado Gold Inc.** 110 Yonge Street, Suite 501 Toronto, ON M5C1T4

Dear Sirs:

#### <u>Ref</u>: Legal Opinion: Mining claims and discovery permits granted to MDN

Ladies and Gentlemen,

We have acted as special Argentine legal counsel for Cerrado Gold Inc. in connection with the Metals Purchase and Sale Agreement (the "<u>Agreement</u>") entered into by and among Cerrado Gold Inc. (the "<u>Cerrado</u>") and Sprott Private Resource Streaming and Royalty (B) Corp. ("<u>Sprott</u>"), a corporation existing under the laws of the Province of Ontario.

This opinion is furnished to you pursuant to article 3.5. (m) (vii) of the Agreement and certain documents provided by Minera Don Nicolás S.A. ("<u>Minera Don Nicolás</u>").

All capitalized terms used in this opinion and not defined herein will have the meaning given to them in the Agreement.

In rendering this opinion, we have **<u>examined</u>** the certificates of ownership (*certificados de dominio*) issued by the Mining Secretariat of the Province of Santa Cruz on February 4, 2020, concerning the areas of exploration and the mines pertaining to the Project and certain rectification certificates as detailed herein.

We have examined a total of 117 certificates of ownership concerning the following mines and

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areas of exploration:

La Lechuza II, Mara I, Spark I, Mara II, Paula Andrea I, Escondido II, Lampos III, Lampos II, Lampos I, Zefiro III, Zefiro II, Zefiro I, Rocinante IX, Rocinante VIII, Rocinante VII, Rocinante VI, Rocinante V, Rocinante IV, Rocinante III, Rocinante II, Rocintante I, Strategus V, Strategus IV, Strategus III, Strategus II, Strategus I, Mancha III, Mancha II, Mancha I, Babieca III, Babieca II, Babieca I, Sombra Gris III, Sombra Gris II, Sombra Gris I, Podarga III, Podarga II, Podarga I, Bucéfalo III, Bucéfalo II, Bucéfalo I, Pegaso II, Pegaso I, Balio III, Balio II, Balio I, Lazlos III, Lazlos II, Lazlos I, Janto III, Janto II, Janto I, Yatasto VII, Yatasto VI, Yatasto V, Yatasto IV, Yatasto III, Yatasto II, Yatasto I, Gato II, Gato I, Genitor II, Gaviota X, Gaviota IX, Gaviota VIII, Gaviota VII, Gaviota VI, Gaviota V, Gaviota IV, Gaviota III, Gaviota II, Gaviota I, Paloma IV, Paloma III, Armadillo III, Armadillo II, Armadillo I, Michelle III, Guanaco IV, Guanaco III, Guanaco II, Guanaco I, Cecilia III, Cecilia II, Cecilia I, Golondrina V, Golondrina IV, Golondrina III, Golondrina II, Golondrina I, Alberto IIIA, Alberto IIB, Alberto IIA, Alberto I, Escondido I, Micaela, Spark, Dorcon 4, Dorcon 3, Estrella II, Estrella I, Lechuza I, Paula Andrea, Blanca I, Paloma II, Mara, Syrah I, Armadillo, Gol II, Gol I, Mar IV, Mar III, Micro II, Micro I, La Paloma I, Syrah, Tormenta.

For purposes of the opinions set forth herein we have **<u>assumed</u>**, without further inquiry or conducting any independent investigation or verification of any kind:

 (a) the authenticity and conformity to the original documents of all the certificates of ownership provided to us by Minera Don Nicolás;

 (b) the accuracy of the certificates before mentioned provided to us by Minera Don Nicolás; and,

(c) that the certificates of ownership submitted to us by Minera Don Nicolás are all the ones issued by the Mining Secretariat of the Province of Santa Cruz concerning the areas of exploration and the mines pertaining to the Project.

This opinion is <u>limited to Argentine law</u> as in effect and applied by the courts of Argentina as of the date of this opinion. We do not express any opinion as to the laws of any jurisdiction other than the laws of Argentina as in force at the date hereof and we have assumed that there is nothing in any other law that affects our opinion. In addition, we do not express any opinion regarding any mining activity conducted by Minera Don Nicolás outside Argentina or any effect the activities carried out in Argentina may have abroad. The term "laws" used hereunder will include, without limitation, laws, decrees, rules, regulations, communications, orders, statutes, ordinances and decisions of a legislative, judicial or

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executive nature issued by any governmental authority.

The opinions set forth herein are, however, subject to certain **<u>qualifications</u>**, namely:

1. This legal opinion is rendered based on the certificates of ownership regarding the areas of exploration and the mines pertaining to the Project, issued by the Mining Secretariat of the Province of Santa Cruz upon the request of Minera Don Nicolás.

2. Minera Don Nicolás emailed us scanned copies of the certificates before mentioned which were issued by the Mining Secretariat of the Province of Santa Cruz.

3. We did not submit any independent presentation before the Mining Secretariat of the Province of Santa Cruz in order to obtain any certificate of ownership regarding the areas of exploration or the mines pertaining to the Project.

4. The certificates of ownership concerning the mines named Dorcon 4, Dorcon 3, Estrella II, Estrella I, Armadillo, Gol II, Gol I, Mar IV, Mar III, Micro II, Micro I, La Paloma I and Syrah were issued by the Mining Secretariat of the Province of Santa Cruz on February 4, 2020 and wrongly stated that there was no precautionary measures, foreclosures, mortgages, encumbrances or any other real right registered before such secretariat, that prevented the disposition of the Properties.

5. We asked for a rectification of such certificates as we acknowledged in the due diligence we conducted that the mines mentioned in point 4 were mortgaged in favor of Royal Gold, Inc.

6. An officer of the Mining Secretariat of the Province of Santa Cruz informed Minera Don Nicolás through a non-official email to that the certificates mentioned before were inaccurate due to an administrative error.

7. Minera Don Nicolás emailed us a scanned copy of the rectified certificates of ownership dated as of February 4, 2020, which stated that the mines Dorcon 4, Dorcon 3, Estrella II, Estrella I, Armadillo, Gol II, Gol I, Mar IV, Mar III, Micro II, Micro I, La Paloma I and Syrah are subject to a mortgage passed by deed N° 001/13 dated as of November 5, 2013.

8. All the certificates of ownership regarding the mines and areas of exploration pertaining to the Project provided to us by Minera Don Nicolás were issued as not valid for notary files ("*no válido para actuaciones notariales*"). This implies that the petition for its issuance was done for the only

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purpose of research and the information contained in the certificates -even if valid and accurate- are not valid for notary transcription purposes (i.e., execution of a public deed).

9. All the certificates of ownership provided to us by Minera Don Nicolás do not contain any reference to the measures (*"mensuras"* or *"linderos"*) of the Properties.

10. Minera Don Nicolás informed us, through an email dated February 13, 2020, that certain areas lack of measures.

11. Based upon the foregoing examination and assumptions and subject to the qualifications set forth herein, our **findings** are as follows:

I. Minera Don Nicolas has been granted with the certificates of ownership regarding the <u>discovery permits</u> (manifestación de descubrimiento) of the areas pertaining to the Project named La Lechuza II, Mara I, Spark I, Mara II, Paula Andrea I, Escondido II where relevant stated that "the permit was being processed in compliance with the applicable local regulations and no record, foreclosure, encumbrances or other real rights was registered".

II. Minera Don Nicolas has been granted by the Mining Secretariat of the Province of Santa Cruz the respective certificates of ownership regarding the following mines pertaining to the Project: Lampos III, Lampos II, Lampos I, Zefiro III, Zefiro II, Zefiro I, Rocinante IX, Rocinante VIII, Rocinante VII, Rocinante VI, Rocinante IV, Rocinante III, Rocinante II, Rocintante I, Strategus V, Strategus IV, Strategus III, Strategus II, Strategus I, Mancha III, Mancha II, Mancha I, Babieca III, Babieca II, Babieca I, Sombra Gris III, Sombra Gris II, Sombra Gris I, Podarga III, Podarga II, Podarga I, Bucéfalo III, Bucéfalo II, Bucéfalo I, Pegaso I, Pegaso I, Balio III, Balio II, Balio I, Lazlos III, Lazlos II, Lazlos I, Janto II, Janto II, Janto I, Yatasto VI, Yatasto VI, Yatasto V, Yatasto IV, Yatasto III, Yatasto II, Yatasto I, Gato II, Gato I, Genitor II, Gaviota X, Gaviota IX, Gaviota VIII, Gaviota VII, Gaviota VI, Gaviota V, Gaviota IV, Gaviota III, Gaviota II, Gaviota I, Paloma IV, Paloma III, Armadillo III, Armadillo II, Armadillo I, Michelle III, Guanaco IV, Guanaco III, Guanaco II, Guanaco I, Cecilia III, Cecilia II, Cecilia I, Golondrina V, Golondrina IV, Golondrina III, Golondrina I, Alberto IIIA, Alberto IIB, Alberto IIA, Alberto I, Escondido I, Micaela, Spark, Lechuza I, Paula Andrea, Blanca I, Paloma II, Mara, Syrah I and Tormenta. These certificates stated that Minera Don Nicolás was the owner of the mines and that there was no precautionary measure, foreclosure, mortgage, encumbrance or other real right registered, that prevented the mines from their disposition.

III. The Mining Secretariat of the Province of Santa Cruz issued on February 4, 2020, the following rectified certificates of ownership concerning the mines named Dorcon 4, Dorcon 3, Estrella II, Estrella I, Armadillo, Gol II, Gol I, Mar IV, Mar III, Micro II, Micro I, La Paloma I, Syrah where relevant



stated: "*it is recorded by the Notary*'s *Protocol of Mortgages, Foreclosures and Restraint of Properties* and other Real Rights a mortgage granted by deed N° 001/13 dated as of November 5, 2013". According to our findings and information provided by Minera Don Nicolas these properties are mortgaged in favor of Royal Gold Inc.

IV. We were not provided with any certificate of ownership regarding the areas named Gato, Balio, Pegaso, Genitor and Genitor I. We were informed by Minera Don Nicolás that those names were originally granted in the relevant exploration permits (*permisos de cateo*) and have been renamed after obtaining the respective discovery permits (*manifestación de descubrimiento*) by the Mining Secretariat. Thus, we received the relevant certificates of ownership concerning the renamed areas.

Considering the aforementioned, we **conclude** that:

- Except as provided in point (II) below, the titles related to the Properties are free of liens or encumbrances as registered before the Mining Secretariat of the Province of Santa Cruz.
- (II) The mines pertaining to the Project named Dorcon 4, Dorcon 3, Estrella II, Estrella I, Armadillo, Gol II, Gol I, Mar IV, Mar III, Micro II, Micro I, La Paloma I and Syrah are subject to a mortgage as provided by deed N° 001/13 dated as of November 5, 2013.
- (III) The certificates of ownership issued by the Mining Secretariat of the Province of Santa Cruz concerning the areas of exploration and the mines pertaining to the Project that were provided to us by Minera Don Nicolás do not contain any reference to the approval of the measures (<u>mensuras</u>).
- (IV) We have been informed by Minera Don Nicolas through an email dated February 27, 2020 that certain mines pertaining to the Project do not have the relevant measures (*mensuras*) approved by the Mining Secretariat of the Province of Santa Cruz. We did not conduct any independent research on the measures status of the Project as this is typically done by a notary in Argentina.

This opinion is being furnished solely for the benefit of the addressees hereto and Sprott, in connection with the Agreement, and may not be relied upon by anyone else or furnished, used, circulated, quoted or otherwise referred to for any other purpose without our prior written consent. This opinion letter and the matters addressed herein are as of the date hereof, and we undertake no, and hereby disclaim any, obligation to advise you of any change in any matter set forth herein occurring after the date hereof.

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Very truly yours,

A

Ricardo Balestra

Partner

#### **CERTIFICATE OF QUALIFIED PERSON**

To accompany the report entitled: Independent Technical Report for the Mineral Don Nicolás Gold Project, Santa Cruz, Argentina, dated September 25, 2020 with an effective date of August 31, 2020.

I, Dr. Gilles Arseneau, residing in North Vancouver, BC do hereby certify that:

- 1) I am an Associate Consultant with the firm of SRK Consulting (Canada) Inc. ("SRK") with an office at Suite 2200-1066 West Hastings Street, Vancouver, BC, Canada;
- 2) I am a graduate of the University of New Brunswick with a B.Sc. (Geology) degree obtained in 1979, the University of Western Ontario with an M.Sc. (Geology) degree obtained in 1984 and the Colorado School of Mines with a Ph.D. (Geology) obtained in 1995. I have worked on several gold and silver epithermal deposits similar to the deposits found at Minera Don Nicolás in North and South America;
- 3) I am Professional Geoscientist registered as a member, in good standing, with the Association of Professional Engineers & Geoscientists of British Columbia (no. 23474);
- 4) I have personally inspected the subject Project on December 10 and 14, 2019;
- 5) I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- I, as a Qualified Person, I am independent of the issuer as defined in Section 1.5 of National Instrument 43-101;
- 7) I am the author of this report and responsible for all sections and accept professional responsibility for all sections of this technical report;
- 8) I have had no prior involvement with the subject property;
- 9) I have read National Instrument 43-101 and confirm that this technical report has been prepared in compliance therewith;
- 10) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Mineral Don Nicolás Project or securities of Cerrado Gold Inc.; and
- 11) That, at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

["Original signed and sealed"]

Vancouver, B.C. September 25, 2020 Dr. Gilles Arseneau, P.Geo Associate Consultant

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Project number: 2CC070.000

Vancouver, September 25, 2020

To: B. C. Securities Commission (BCSC) Alberta Securities Commission (ABC) Ontario Securities Commission (OSC) Toronto Stock Exchange (TSX)

#### CONSENT of AUTHOR

I, Dr. Gilles Arseneau, do hereby consent to the public filing of the technical report entitled "Independent Technical Report for the Mineral Don Nicolás Gold Project, Santa Cruz, Argentina", (the "Technical Report") and dated September 25, 2020 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Cerrado Gold Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 25th day of September 2020.

"Original signed and sealed"

Dr. Gilles Arseneau, P.Geo Associate Consultant

> Local Offices: Saskatoon Sudbury Toronto Vancouver Yellowknife

Group Offices: Africa Asia Australia Europe North America South America