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SERABI GOLD PLC.

CORINGA PROJECT

PRELIMINARY ECONOMIC ASSESSMENT

NI 43-101 TECHNICAL REPORT

PARÁ STATE, BRAZIL

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Report Prepared by

NCL Ingeniería y Construcción SpA

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1 Summary

1.1 Introduction

This report was prepared as a Canadian National Instrument 43-101 (NI 43-101) Technical Report ("Technical Report") for Serabi Gold plc ("Serabi" or "Company") by NCL Ingeniería y Construcción SpA ("NCL"), Santiago, Chile, for the Coringa Gold Project ("Coringa").

Coringa is located in north-central Brazil, in the State of Pará, 70 kilometres (km) southeast of the city of Novo Progresso. The project is in the southeastern part of the Tapajós gold district and artisanal mining at Coringa produced an estimated 10 tonnes of gold (322,600 ounces) from alluvial and primary sources. Other than the artisanal workings, no other production has occurred at Coringa. Serabi acquired Chapleau Exploração Mineral Ltda ("Chapleau") and its assets including Coringa from Anfield Gold Inc. (Anfield) on 21 December 2017. Management considers that Coringa is very much a "carbon-copy" of Palito in terms of the geology, size and mining operations that will be used.

Serabi engaged NCL to revise the resource estimate and perform a Preliminary Economic Analysis ("PEA") for the Coringa Gold Project. This technical report provides the results of the updated resource estimate, details the proposed mining plan, and provides the results of the economic analysis.

NCL was responsible for the compilation of information and preparation of the overall study.

1.2 Reliance on Other Experts

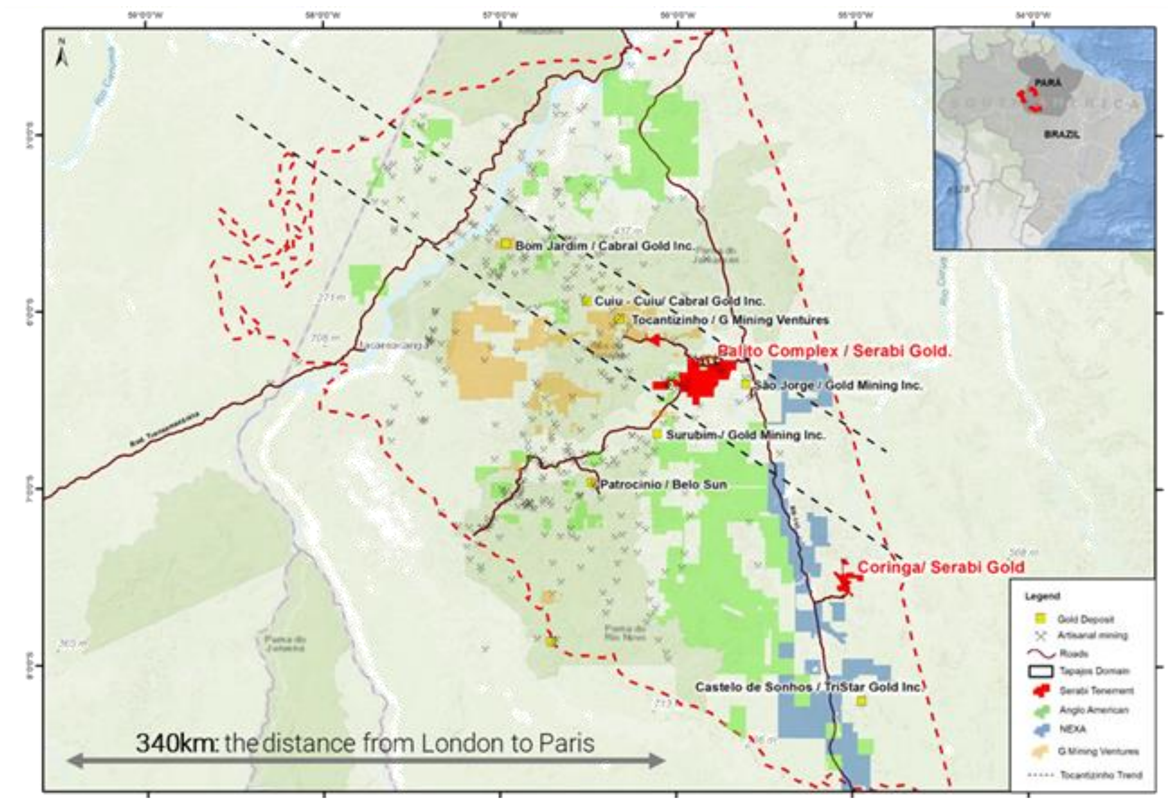
For the purpose of disclosure relating to ownership of data and information (mineral, surface, and access rights) in this technical report, the authors have relied exclusively on information provided by Serabi. As of the effective date of this report, all concessions owned by Serabi are in good standing, based on a title search conducted with the Ministry of Mines and Energy in Brazil. The authors have not researched the property title or mineral rights for the Coringa Gold Project and express no legal opinion as to the ownership status of the property.

1.3 Property Description and Location

The Coringa Gold Project is located in north-central Brazil, in the Province of Pará (Figure 4-1), 70 km southeast of the city of Novo Progresso. The UTM coordinates for the Coringa Gold Project are 9,166,700 North and 715,500 East (geographic projection: WGS84, Zone 21S). Access to the property is provided by paved (National Highway BR-163) and dirt roads. The Coringa Gold Project concession is situated near a boundary between primary forest areas reserved as an indigenous buffer zone, and land areas previously impacted by government-sponsored agricultural clearances and ongoing agriculture. As of the effective date of this technical report, Serabi is in compliance with all environmental regulations required for the Coringa Gold Project.

The Coringa Gold Project consists of eight exploration concessions or tenements totaling 23,620 hectares (ha). All concessions are owned by Chapleau, the 100% owned Brazilian subsidiary of Serabi. In Brazil, surface rights are not associated with title to either a mining lease or a claim and must be negotiated with the landowner. Discussions for long-term land access agreements are underway with INCRA, a government agency which claims ownership of the surface rights where the Coringa Gold Project is situated. The Brazilian government has a 1.5% net smelter return (NSR) on all gold and silver production. Also, Sandstorm Gold Ltd, a gold-streaming and royalty company based in Vancouver, Canada, holds a 2.5% NSR on all production from the Coringa Gold Project.

Figure 1-1: Coringa Gold Project



Source: Serabi, 2023

1.4 Geology and Mineralization

The Coringa Gold Project is located in the southeastern part of the Tapajós gold district which is located in the central part of the Amazon Craton. Regionally there are over 400 alluvial occurrences (Santos et al., 2001) and over 20 hard rock gold showings (Coutinho, 2008). A regional northwest-southeast-trending shear zone, the Tocantinzinho Trend, is associated with many of the gold occurrences in the district (e.g., Cuiú-Cuiú, Palito, Tocantinzinho, União, Coringa, and Mato Velho) (Reconsult Geofisica, 2008). Mineralization consists of native gold occurring in quartz-carbonate-sulphide veins or with disseminated sulphides. Pyrite is the dominant sulphide with minor sphalerite, chalcopyrite, and galena.

Mineralization at the Coringa Gold Project is associated with a shear/vein system that has a strike length of over 7 km. The mineralized zones vary in thickness from <1 centimeter (cm) up to 14 meters. Gold mineralization is almost exclusively associated with quartz-sulphide veining. Pyrite is the main sulphide, but minor concentrations of chalcopyrite, galena, and sphalerite are common. A genetic study of mineralization indicated that pyrite-chalcopyrite (+/- quartz) mineralization occurred first, followed by gold, with galena and sphalerite introduced late. Gold is typically free (or within electrum) and occupies fractures within sulphide grains.

The mineralized veins exposed on the Coringa Gold Project are similar to those found in Orogenic gold deposits. These deposits formed over a 3 Ga time frame with peaks at 3.1 Ga, 2.7 to 2.5 Ga, 2.1 to 1.8 Ga, and 0.6 to 0.05 Ga corresponding to the episodic growth of juvenile continental crust. These deposits were formed during the Archean eon of the Precambrian and are commonly referred to as Archean lode gold deposits. A large percentage of the world's gold resource is associated with these periods.

In the Coringa gold deposit, shear zones of anomalously high strain are clearly seen and are mappable units (Global Resource Engineering, 2012). Gold deposition occurs within the quartz veins which were emplaced in the secondary extensional structures associated with the primary shear zones. These shear zones (linear units) occur in generally predictable orientations and are located in certain preferred settings, that is perpendicular to the maximum tension direction.

Ore zones are lenticular, tabular or irregular shaped bodies composed of veins, breccias zones, and/or stockwork systems. Veins transect lithological contacts and are not restricted to a specific rock type. Veins can be classified as replacement, extension, breccias, and fracture type veins. There is also a vertical zonation of the gold deposit, which reflects a change in deformation style, from brittle to brittle-ductile.

Deposits in the Tapajós Gold District that are similar to the Coringa Gold Project include Serabi Gold plc's Palito deposit (Guzman, 2012) and Gold Mining Inc.'s São Jorge deposit (Rodriguez, et al., 2014). Other deposits similar to the Coringa Gold Project can be found in Ontario's Archean Gold District in Canada. One characteristic of the gold deposits in this district is their occurrence within major tectonic zones which comprise linear shear systems.

1.5 Exploration

The Coringa Gold Project property has only seen modern gold exploration since 2007. Highlights of the modern exploration are summarized in Table 1-1.

Table 1-1: Exploration Work Highligths Coringa Property (Source: NCL 2024)

Year	Owner	Description
January 2007 to June 2007	Chapleau Resources Ltd.	Structural interpretation using satellite images; locate garimpeiro workings; rock, soil, stream sediment samples; 22 HQ drill holes (1,774 meters), petrography
June 2007 to March 2008	Chapleau Resources Ltd.	Airborne survey – magnetics, radiometrics (549 square km with lines spaced at 200 meters); IP dipole-dipole (34 km) over Galena-Mãe de Leite; metallurgical testing (SGS); 44 HQ drill holes (5,032 meters)
March 2008 to December 2008	Chapleau Resources Ltd.	IP dipole-dipole survey (70.7 km) over Serra, Meio and Come Quieto veins; geotechnical airborne VTEM-mag (860 km); 15 HQ drill holes (1,979 meters)
January 2009 to September 2009	Chapleau Resources Ltd.	Geological mapping, trenching (18 trenches) between Mãe de Leite and Come Quieto; soil sampling
September 2009 to December 2009	Chapleau Resources Ltd.	Soil sampling
January 2010 to December 2010	Magellan Minerals Ltd.	Soil sampling; 28 HQ drill holes (3,396 meters)
January 2011 to December 2011	Magellan Minerals Ltd.	Soil sampling; trenching (Valdette – 14, Demetrio – 3); 51 HQ drill holes (11,912 meters)

Year	Owner	Description
January 2012 to December 2013	Magellan Minerals Ltd.	Soil sampling; 19 HQ drill holes (4,344 m)
2016–2017	Anfield Gold	Assaying of soil samples taken previously by Magellan; IP dipole-dipole survey (3.5 km); infill drilling – Serra, Meio veins (180 holes; 25,212 meters)
2018-2019	Serabi Gold Plc.	Extension drilling – Galena, Serra, and Meio (20 holes; 5619.83 meters)
2020-2024	Serabi Gold Plc.	Extension drilling – Serra (41 holes; 6,364 meters)
2020-2024	Serabi Gold Plc.	1,404 channel samples in Serra (CH, CM and LV)

1.6 Drilling

The following table summarizes the drilling completed on the property to date.

Table 1-2: 2007 to 2024 Drill Program.

Date	Zone	No. of Holes	Hole Numbers (BR-COR-DDH#)	Meters drilled
March 2007-August 2013	Galena-Boca	17	3-4-5-6-23-24-25-26-27-28-29-30-31-34-36-58-60	1,956.35
	Eloy-Juara-Mãe de Leite	23	17-32-33-35-40-44-51-53-54-56-96-98-99-100-101-102-103-104-105-106-118- 176-178	2,514.27
	Serra	46	1-2-19-20-37-38-39-41-42-43-45-46-47-48-49-50-52-55-57-59-61-64-66-121- 124-127-129-132-135-138-139-141-145-148-150-153-160-161-162-163-164-165-167-168-177-179	8,145.16
	Bravo-Escorpion-Peixoto	5	16-22-97-108-109	475.87
	Guaxebinha-Meio-Onza	48	11-12-13-14-62-63-65-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83- 84-85-86-87-88-89-90-91-92-93-94-95-130-134-137-140-144-149-152-155-156- 157-158-159	7,660.6
	Come Quieto	12	7-8-9-10-120-122-126-151-154-166-174-175	2,519.05
	Fofao	1	15	59
	Pista	2	18-21	105.75
	Acoxadinho	1	107	101.43
	Demetrio	4	111-113-115-116	897.4
	Valdette	11	110-112-114-117-119-123-125-128-131-133-136	2,843.1
	Sr. Domingo	4	142-143-146-147	703.58
	Condemnation	5	169-170-171-172-173	455.15

Date	Zone	No. of Holes	Hole Numbers (BR-COR-DDH#)	Meters drilled
2016-2017	Serra	115	180-181-185-186-187-188-190-192-193-194-195-196-197-198-199-200-201-203- 204-206-207-208-210-211-212-213-215-217-218-219-220-222-223-224-225-226- 227-228-231-232-233-235-236-237-239-240-241-242-243-244-246-247-248-251- 252-253-254-255-257-258-259-260-261-263-264-267-268-270-271-275-276-277- 277-A-280-281-284-285-286-287-289-293-294-295-300-303-304-308-310-313- 316-317-318-320-322-323-325-326-327-330-331-334-335-336-339-340-341-343- 344-345-348-349-350-351-352-355	16,574.51
	Meio	65	182-183-184-189-191-202-205-209-214-216-221-229-230-234-238-245-249-250-256-**256-A**-262-265-266-269-272-273-274-278-279-282-283-288-290-291-292-296-297-298-299-301-302-305-306-307-309-311-312-314-315-319-321-324-328-329-332-333-337-338-342-**342-A**-346-347-353-354-356	8,637.05
	Galena	7	357-358-359-360-361-362-363	933.09
2018-2019	Galena	4	364-365-366-367	955.85
2018-2019	Serra	4	368-369-370-371	1,150.59
2018-2019	Meio	12	372-373-374-375-376-377-378-379-380-381-382-383	3,513.39
2020-2024	Serra	20	UG – 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20	1,020.16
Total Drilling		**406**		**61,214.46**

1.7 Mineral Processing and Metallurgical Testing

Metallurgical testing for the Coringa Gold Project has been performed since 2008 at four laboratories, RDi (Colorado, USA), TDP (Nova Lima, Brazil) and Plenge (Miraflores, Peru). Results from the test program have been used to project the metallurgical performance of the Coringa Gold Project and provided useful support to the overall representativeness of the samples to the various deposits.

The projected metallurgical responses are presented in Table 1-3. The gold and silver recoveries shown are the average results from Plenge's eight ½ HQ core variability composites subjected to gravity/IL/CIL tails leach processing.

Cyanide and lime consumptions shown in Table 1-3 are also averages from the eight ½ HQ core variability tests.

Table 1-3: Projected Metallurgical Response for Coringa Deposits

Deposit	BWi (kWh/t)	Au Rec (%)	Ag Rec (%)	NaCN (kg/t)	Lime (kg/t)
Serra & Galena	18.2	96	57	1.3	1.6
Meio	19.0	94	74	1.7	2.0

Currently, Serabi is processing Coringa ores in the Palito Plant. Official metallurgical balance, in 2024 shows average overall gold recovery of 97% which supports the above results giving confidence in the scale up of the test results.

1.8 Mineral Resource Estimate

The geology of the mineralized areas consists of narrow quartz veins oriented on a general northwest to southeast trend. These veins represent the extensional system created by the shear zone, where hydrothermal fluids were able to infiltrate into the rhyolite and granite rock mass. The mineralized veins contain high grade gold mineralization within the vein, with lower grade mineralization in the altered wall rock surrounding the vein. Serabi created geologic models consistent with the geologic interpretation, modeling the high-grade vein area. The models were constructed using a combination of assay and geological information, primarily lithology and alteration. Digital topography was provided by Serabi.

NCL estimated mineral resources at a cutoff grade of 3.16 gpt Au as the base case. The cutoff calculation is based on a gold price of $1,950/troy oz, an operating cost of $107/t for mining, crushing and sorting, sorting efficiency of 61% of the tonnes and 1.59 upgrade factor, $88/t for hauling to Palito, processing at Palito plant and site costs, metallurgical recovery of 97%, 4% on royalties and 2.3% for refining, insurance, freight and sales. The resource statement considered a minimum mining thickness of 0.7 meters. NCL included the previous estimate for the Valdette area from the technical report filed by Anfield dated July 1, 2017. No additional drilling was completed within this area. NCL reviewed the previous vein model and intercepts selected for Valdette and in general agrees with the interpretation and selection.

Condensed Mineral Resource Statements for Serra and MCQ, Valdette, Demetrio and GAMDL targets are tabulated in Table 1-4.

Table 1-4: Mineral Resource Statement, Coringa Project as April 16, 2024 (Source: NCL 2024)

Classification	Quantity	Grade	Contained Metal
		Gold	Gold
	000 't	g/t	000' oz
Measured Resources	172	8.96	49
Indicated Resources	623	6.49	130
Measured & Indicated Resources	795	7.03	179
Inferred Resources	1,454	5.81	271

(1) Mineral Resources are not Mineral Reserves and have not demonstrated economic viability. Mineral Resources are reported inclusive of Mineral Reserves. All figures are rounded to reflect the relative accuracy of the estimates. Mineral Resources are reported within classification domains inclusive of in-situ dilution at a cut-off grade of 3.16g/t gold assuming an underground extraction scenario, an operating cost of $107/t for mining, crushing and sorting, sorting efficiency of 61% of the tonnes and 1.59 upgrade factor, $88/t for hauling to Palito, processing at Palito plant and site costs, metallurgical recovery of 97%, 4% on royalties and 2.3% for refining, insurance, freight and sales, and a gold price of $1,950/troy oz.

(2) Serabi is the operator and owns 100% of the Coringa Gold Project such that gross and net attributable mineral resources are the same. The mineral resource estimate was prepared by NCL Ingeniería y Construcción SpA in accordance with the standard of CIM and Canadian National Instrument 43-101, with an effective date of 6 April 2024 by Mr Nicolás Fuster, who is a Qualified Person under the Canadian National Instrument 43-101.

(3) NCL believes that the resource estimates shown in the table above meets the CIM standards for a resource estimate based on CIM Standards of Mineral Resources and Reserves Definitions and Guidelines adopted by the CIM council 10 May, 2014

1.9 Project Infrastructure

Construction of an ore sorting and crushing plant is being executed close to both the Serra and Meio portals. The upgraded ore will be transported by trucks to the existing Palito grinding and leaching facilities to process the ore and produce gold bullion. Five separate resource areas are planned to serve as underground mining areas: two in Galena & Mãe de Leite (GAMDL), three in Meio & Como Queito (MCQ), and one in Serra. Waste rock will be stored close to each underground mine portal. The existing diesel generator set will be upgraded to provide power for the onsite facilities and with new power lines to distribute power to the resource mining areas. An explosive magazine will be utilized for storage of explosives in compliance with applicable rules and regulations.

1.10 Market Studies and Contracts

The primary metal of economic interest for the Coringa Gold Project is gold, which has a readily available market for sale of gold doré or gold concentrates.

The updated Mineral Resource estimate has been made using a gold price of $1,950/oz. As of September 2024, Serabi's median analyst consensus long-term gold price was approximately $2,200/oz. As of September 28, 2024, the 12-month trailing average LBMA (AM Fix) gold price was approximately $2,189/oz. The Base Case utilises a constant gold price of $2,100/oz and a constant exchange rate of 5.50 BRL per 1.00 USD in the economic analysis completed for the Updated PEA. Sensitivities are also shown for the 36-month trailing average LBMA (AM Fix) gold price of $1,950/oz the 6-month trailing average LBMA (AM Fix) gold price of $2,280/oz and current spot gold price estimate of $2,600/oz.

1.11 Environmental Studies, Permitting, and Social or Community Impact

On August 9, 2017, Chapleau was awarded environmental approvals for trial mining from SEMAS, including the life of mine plan (LOMP), vegetation suppression, and fauna capture permits (see discussion of Production Permitting in Section 20.3).

On 29 January, 2024, the ANM published formal notice of a renewal of Chapleau's trial mining licence for a three-year period with approval confirmed on November 4, 2024 for the GU to be increased to 100,000 tonnes per annum   Whilst this licence allows Chapleau to conduct its current activities, Chapleau is concurrently progressing approval of an Installation Licence and full Mining licence from SEMAS and the ANM, respectively.

Chapleau can also continue to conduct exploration activities.

Relationships with local communities have been managed through regular, ongoing social communication activities, which have included dialogue workshops with community members and site visits with local authorities, business leaders, and media. Serabi has dedicated professionals who manage social outreach and environmental issues, and it has a long history of successful operation in the region.

The first significant baseline studies of water quality, air quality, and flora and fauna within the Coringa Gold Project concession were conducted by Terra and Global Resource Engineering in

2015 and 2016 to support the development of the EIA/RIMA for the Coringa Gold Project. Additional geochemical baseline studies were performed by GRE in 2013, 2015, and 2017 (MTB, 2017). These studies collected geochemical samples of potential mine waste rock and mine tailings to determine the potential to create ARD or other impacts to water quality resulting from mining operations.

A supplemental ECI (Estudio Consultorio do Impactos) has been completed and submitted to FUNAI in May 2024 considering the potential impacts on indigenous communities outside of the recognized 10-kilometer buffer set down by law and which therefore had not been considered as part of the original EIA.RIMA. FUNAI is the national agency with responsibility for oversight of matters relating to indigenous land and communities.

1.12 Capital and Operating Costs

The capital costs are exclusively related to mine development and equipment acquisition. Since the mine is already in operation, there is no need for initial expenditures on equipment, and both the crusher and ore sorter are already installed.

Table 1-5: Projected Capital Costs

Capital Cost	US$m
Development	$67
Equipment	$4
Closure	$1
Contingency	$15
Total Capital Costs	$87

Table 1-6: Projected Operating Costs

Category	US$ / oz	US$ / tonne
Mining Ore	$343	$56
Process Plant	$267	$43
G&A	$229	$37
Operating Cash Costs	$839	$136
Refining Costs	$29	$5
Royalties	$82	$13
Sales	$15	$2
Total Cash Costs	$965	$157
Capital Expenditure	$276	$45
AISC	$1,241	$202

1.13 Interpretations and Conclusions

Based on the evaluation of the data available and results of the PEA, the QPs have drawn the following conclusions:

- The deposits at the Coringa Gold Project are composed of several semi-continuous, steeply dipping gold-bearing veins and shear zones hosted in granite and rhyolite. The mineralized vein system extends for over 12,000 meters in a northwesterly direction, has variable widths ranging from less than 1 centimeter to over 14 meters, and has been defined to depths of 250 meters. The geological model of the mineralized veins in the Coringa property using Leapfrog shows the maximum true thickness of 1.63 meters in Galena and Mãe de Leite, maximum depth of 485 meters in Serra, and maximum length of 2,300 meters in Galena and Mãe de Leite.

- Most veins remain open to further expansion through drilling, both along strike and at depth.
- Drilling to date has outlined an indicated mineral resource estimate (at a cut-off grade of 3.16 g/t Au) of 794 kt at 7.03 g/t Au, which contains 179 koz of gold.
- Drilling to date has also outlined an inferred mineral resource estimate (at a cut-off grade of 3.16 g/t Au) of 1,453 kt at 5.81 g/t Au, which contains 271 koz of gold.
- The narrow but high-grade veins at the Coringa Gold Project are considered to be amenable to underground extraction methods.
- The results of the PEA using a base price of $2,100oz gold are an After-Tax Net Present Value @ 10% ("NPV-10") of $145 million. This technical report is a preliminary economic assessment and partially utilizes inferred mineral resources. Inferred mineral resources are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.
- Ongoing exploration during the planned mining operation will further define the mineral resources for the Coringa Gold Project. As with other small underground mines, such as Serabi's Palito mine, definition drilling during operations often increases the mineral resources and extends the mine life. The QPs believe that definition drilling will likely increase the mineral resources for Coringa given the multiple intersections indicating parallel vein structures which were not modelled in the current mineral resource. Definition drilling is anticipated to provide sufficient information to determine the geologic and grade continuity of these parallel structures so that they can be incorporated into the mineral resource estimate and mine plan.
- There are no known factors related to metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the mineral resource estimate.
- In the QPs' opinion, Serabi's analytical procedures are appropriate and consistent with common industry practice. The laboratories are recognized, accredited commercial assayers. There is no relationship between Serabi and SGS Geosol Laboratorios Ltda in Vespasiano-Minas Gerais in Brazil. The sampling has been carried out by trained technical staff under the supervision of a QP and in a manner that meets or exceeds common industry standards. Samples are properly identified and transported in a secure manner from the site to the lab.
- Observation of the drilling and core handling procedures during the site visit inspection and validation of the collected data indicate that the drill data are adequate for interpretation.
- In the QPs' opinion, the database management, validation, and assay QA/QC protocols are consistent with common industry practices.
- The metallurgical test work on the Coringa Gold project is extensive and well documented.
- The samples employed for metallurgical testing appear representative of the resource.
- The ore responds well to flotation and concentrate leaching as well as direct whole ore leaching.

- The recommended flowsheet consists of crushing, ore sorting (pre-concentration), grinding, gravity separation, and intensive gravity concentrate leaching, pre-aeration, and whole ore CIL.

- The ore is relatively hard with high bond work index ranging from 17 to 25 kwh/t. The crushing work index ranged from 6 to 11 kWh/t, and the abrasion index varied from 0.34 to 0.41. The ore is classified as abrasive.

- Gravity concentration is very effective with good gold recoveries (26% - 68% recovery).

- The ore does not appear grind sensitive for leaching at least between a P80 of 75 and 150 µm. Finer grinds do provide moderate leach recovery improvements.

- Pre-aeration will improve the leach results due to the presence of significant sulfide minerals and should be incorporated into the final flowsheet.

- Whole ore leaching reagent consumptions are reasonable. NaCN consumption was moderately variable and is expected to be in the range of 1-2 kg/t. Lime consumption showed higher variability, generally in the range of 2 kg/t but increasing in some instances to 10 kg/t. This is likely dependent on the sulfide grades of the ore.

- The use of the SO2/Air systems appears adequate for cyanide destruction. Care will have to be taken in monitoring the quality of recycled water.

- Copper may build up on the activated carbon, and an acid wash circuit should be included to manage this.

- The whole ore CIL recoveries do not appear to be grade sensitive for gold and moderately grade sensitive for silver.

- Results from the Plenge test program are being used to project the metallurgical performance of planned materials for processing at the Coringa Gold Project. Results from the earlier Rdi and TDP test programs support results from the Plenge program and altogether are useful to support the stated overall representativeness of the samples to the various deposits.

- The anticipated gold recoveries for the Coringa Gold Project deposits at the Palito plant are 97% which have been further supported by the current industrial practice of processing Coringa ore through the Palito Plant.

1.13.1 Risks

- It is unknown how deep historic surface mining has occurred. An allowance for this should be included in future mine plans.

- Brazilian political change, fluctuations in the national, state, and local economies and regulations and social unrest.

- Currency exchange fluctuations.

- Fluctuations in the prices for gold and silver, as well as other minerals.Risks relating to being adversely affected by the regulatory environment, including increased regulatory burdens and changes of laws.

1.13.2 Opportunities

- There is a potential for increasing the estimated mineral resources with infill drilling as well as exploration drilling from underground and surface.

- While the mineralized trend of veins is known to extend over a minimum 12 km strike length (Figure 7.2), in only a few places has it been drilled sufficiently to identify inferred or higher mineral resources (Serra, Meio, Galena, Mãe de Leite, Come Quieto, Demetrio, and Valdette). Large segments of veins remain untested or partially tested, some with significant mineralized vein intersections that remain open to offset drilling. These zones could yield additional mineralization for the project through discovery or enhancement of currently identified inferred to indicated resources. Highest priority targets for resource expansion include Come Quieto, Mãe de Leite, and Galena, all of which host open inferred mineral resources and in the case of Galena, indicated mineral resources. Other zones such as Mato Velho have yielded significant mineral intersections but have not been drilled in sufficient density for inclusion as inferred resource. Enhancement of mineral resources at the Coringa Gold Project has a high probability with additional drilling.

- The project is partially staffed with key management in place. Serabi plans to use experienced mining and supporting personnel from its Palito operations to further staff Coringa, integrating new employees at Palito. This will provide Coringa with experienced mining personnel minimizing the training requirements of the project and at the same time place new miners with the experienced team at Palito.

- The Coringa Gold Project is located in an area with existing and active mining operations with similar characteristics to the mining techniques proposed in this study. The mining techniques employed at Serabi's Palito mine are directly applicable to Coringa.

1.14 Recommendations

- Additional engineering studies - $250,000

- Additional extensional drilling along strike and depth - $250,000

- Test geophysical anomalies identified from reprocessing past geophysical data - $100,000

- Oxygen in leach should be investigated as it may improve the overall leach kinetics and specifically enhance the silver extraction - $20,000

- The gravity recovery system needs to be fully defined, and a method to manage the presence of galena should be considered. Further, the treatment of the intensive leach tails needs to be further developed - $50,000

- The production of additional saleable metal products requires further investigation - $50,000

- The primary grind should be optimized to determine the cost benefit of a coarser grind - $25,000.

2 Introduction

Coringa is located in north-central Brazil, in the State of Pará, 70 kilometres (km) southeast of the city of Novo Progresso. Access to the property is provided by paved (National Highway BR-163) and dirt roads. Coringa is in the southeastern part of the Tapajós gold district and artisanal mining at Coringa produced an estimated 10 tonnes of gold (322,600 ounces) from alluvial and primary sources within the deep saprolite or oxidized parts of shear zones being mined using high-pressure water hoses or hand-cobbing to depths of 15 metres. Other than the artisanal workings, no other production has occurred at Coringa. Artisanal mining activity ceased in 1991, and a local Brazilian company (Tamin Mineração Ltda.) staked the area in 1990. Subsequently, the concessions were optioned to Chapleau Resources Limited (Chapleau) (via its Brazilian subsidiary, Chapleau Exploração Mineral Ltda) in August 2006. On 1 September 2009, Magellan Minerals Ltd. (Magellan Minerals) acquired Chapleau. Between 2007 and 2013, extensive exploration programmes were completed on the property, including airborne magnetic, radiometric and electro-magnetic surveys; surface IP surveys; stream, soil, and rock sampling; and trenching and diamond drilling (179 holes for a total length of 28,437 meters). On 9 May 2016, Anfield Gold Inc. (Anfield) acquired Magellan Minerals. Anfield subsequently completed an infill drill programme (183 holes for a total length of 26,413 meters) for the Serra and Meio veins in 2016 and 2017.

Serabi acquired Chapleau and its assets including Coringa from Anfield on 21 December 2017. Management considers that Coringa is very much a “carbon-copy” of Palito in terms of the geology, size and mining operations that will be used.

From 2017 up to 2024 a total of 41 drillholes including 6,364 meters infill program, specifically in Serra. Also, a total of 1,404 channel samples (CH, CM and LV).

Serabi completed an initial Preliminary Economic Analysis (PEA) for the Coringa Gold Project in 2019. Since then, Serabi has been mining Serra. In 2024, Serabi engaged NCL to update the resource estimate and complete a new PEA based on new data, economic parameters and processing strategy. This technical report provides the results of the updated resource estimate, details the proposed mine plan including methods and equipment, and provides the results from the economic analysis.

2.1 Sources of Information

In preparing this technical report, the authors relied on geological reports, maps, results of the past and new exploration programs, and other technical papers listed in Section 27 (References) of this technical report. The authors have relied on published and unpublished reports and literature for information that is provided in this technical report. Where possible, the authors have confirmed the information provided through technical reviews, spot checks, field audits, comparison of geologic data to the physical core, and independent assay samples. During the course of the work, the authors did not encounter any errors or omissions that would materially affect the results of the mineral resource estimate or PEA.

This technical report has been prepared for Serabi by NCL in support of Serabi’s disclosure of scientific and technical information for the Coringa Gold Project. This technical report is based on information known to the authors as of April 16, 2024.

All measurement units used in this report are metric, and currency is expressed in US dollars, unless stated otherwise. The currency used in Brazil is the Brazilian Reais (R$), but all costs associated with the project are in USD ($).

2.2 Qualified Persons

The consultants preparing this Technical Report (Report) are specialists in the fields of geology, mining, mineral resource and reserve estimation and classification, geotechnical, metallurgical testing and process plant design, capital and operating cost estimation and mineral economics.

None of the consultants or any NCL personnel employed in the preparation of this Report have any beneficial interest in Serabi. The consultants are being paid a fee for their work in accordance with normal professional consulting practice.

The following serve as the QPs for this Report as defined in National Instrument 43 – 101, Standards of Disclosure for Mineral Projects, and in compliance with Form 43 – 101 F1:

- Mr. Carlos Guzmán, RM CMC, FAusIMM, Principal/Project Director, NCL
- Mr. Gustavo Tapia, RM CMC, Metallurgical and Process Consultant, GT Metallurgy
- Mr. Nicolás Fuster, RM CMC, MAusIMM, Geologist

2.3 Site Visits and Scope of Personal Inspection

Mr. Carlos Guzmán visited the Palito complex on several occasions since 2008. The most recent site visit was on February 13, 2024 to February 15, 2024 for three days to the Coringa Gold Project. During the visit he inspected the area of the mine and process infrastructure to assess topography and reviewed the layout and general site with respect to mine planning and execution. He also viewed drill core.

Mr. Gustavo Tapia visited the Palito Complex on August 8, 2022, for three days. During the visit he inspected the area of the process infrastructure and proposed tailings facilities to assess topography and general ground conditions.

Mr. Nicolás Fuster visited the Coringa Gold Project on February 13, 2024 to February 15, 2024 for three days. During the visit Mr. Fuster inspected the current mining operations, discussed geology and mineralization and reviewed geological interpretations with staff. Also, he inspected core, sample cutting and logging areas, drilling, geological sampling and logging procedures and the current conditions of the sample storage. Mr. Fuster also checked that data collection was being conducted in accordance with Serabi procedures and industry standards.

2.4 Abbreviations and Acronyms

Abbreviations and acronyms used throughout this report are shown in Table 2-1.

Table 2-1: Acronyms and Abbreviations

Abbreviation	Definition
µm	micron
ACME	ACME Laboratory
Ai	Abrasion Index
ANA	National Water Agency
Anfield	Anfield Gold Inc.
ANP	National Petroleum, Natural Gas, and Biofuels Agency
ARD	Acid Rock Drainage
Boart Longyear	Geoserv Pesquisas Geológicas S.A.
Bwi	Bond Work Index
Chapleau	Chapleau Exploração Mineral Ltda
CIL	carbon in leach
cm	centimeter
CNRH	National Commission of Hydric Resources
CONAMA	National Council for the Environment
Cwi	Crushing Work Index
DIBK	2.6-dimethyl-4-heptanone
DNPM	Departamento Nacional de Produção Mineral
EIA/RIMA	Estudo de Impacto Ambiental/ Relató rio de Impacto Ambiental
FAA	Atomic absorption
FAI	ICP-OES
Foraco	Servitec Foraco Sondagem S.A.
FUNAI	Fundação Nacional dos Povos Indígenas
GAMDL	Galena & Mãe de Leite
Geologica	Geológica Sondagens Ltda.
Geosol	Geosol-Geologia e Sondagens S.A.
gps	global positioning system
gpt	grams per tonne
GRE	Global Resource Engineering Ltd.
GRE	Global Resource Engineering Ltd.
GTR	Geotechreserves do Brasil – Serviços de Perfurações e Sondagens LTDA
ha	hectare
HCl	hydrochloric acid
HFl	hydrofluoric acid
HNO_3	nitric acid
ICMBio	Chico Mendes Institute for the Conservation of Biodiversity

Abbreviation	Definition
ICP	Inductively coupled plasma
ID3	inverse distance cubed
IL	intensive leach
INCRA	Instituto Nacional de Colonização e Reforma Agrária
IP	Induced Polarization
IPHAN	National Institute of Historic and Artistic Patrimony
IRR	Internal Rate of Return
ITERPA	Pará Land Institute
kg	kilogram
kg/t	kilograms per tonne
km	kilometers
koz	thousands of ounces
kTonnes	thousands of tonnes
Layne	Layne do Brasil Sondagens Ltda.
LI	installation license
LO	operation license
LOMP	Life of Mine Plan
LP	prior license
Magellan Minerals	Magellan Mineral Ltd.
MCQ	Meio & Como Quieto
ml	milliliters
mm	millimeters
MPF	Federal Prosecutor
MTB	MTB Project Management Professionals, Inc.
NN	nearest neighbor
NPV	net present value
NSR	net smelter return
OES	optical emission spectrometry
oz	ounce
PCA	Programa de Controle Ambiental
PDS	Sustainable Development Project
PEA	Preliminary Economic Assessment
ppb	parts per billion
ppm	parts per million
QA/QC	quality assurance/quality control
QEMSCAN	Quantitative Evaluation of Materials by Scanning Electron Microscopy
QP	Qualified Person
R$	Brazilian Reais

Abbreviation	Definition
Rdi	Resource Development, Inc. (Wheat Ridge, Colorado)
RQD	Rock Quality Designation
SEMAS	State Department of Environment
Serabi	Serabi Gold plc
SGS	SGS Geosol Mineral Services Laboratory Brazil
tpy	tonnes per year
DSTSF	dry stack tailings storage facility
UCS	Uniform Compressive Strength
USD	United States dollar
UTM	Universal Transverse Mercator
WAD	weak acid dissociable

3 Reliance on Other Experts

The results and opinions expressed in this report are based on NCL's field observations and the geological and technical data listed in the References (Section 27). While NCL has carefully reviewed all the information provided by Serabi and believes the information to be reliable, NCL has not conducted an in-depth independent investigation to verify its accuracy and completeness.

The authors have not reviewed any legal issues regarding the land tenure, or Serabi corporate structure nor independently verified the legal status or ownership of the Property. NCL has relied upon opinion supplied by Serabi. The authors have not reviewed issues regarding Surface Rights, Road Access, Permits and the environmental status of the Property and have relied upon opinions supplied by Serabi representatives.

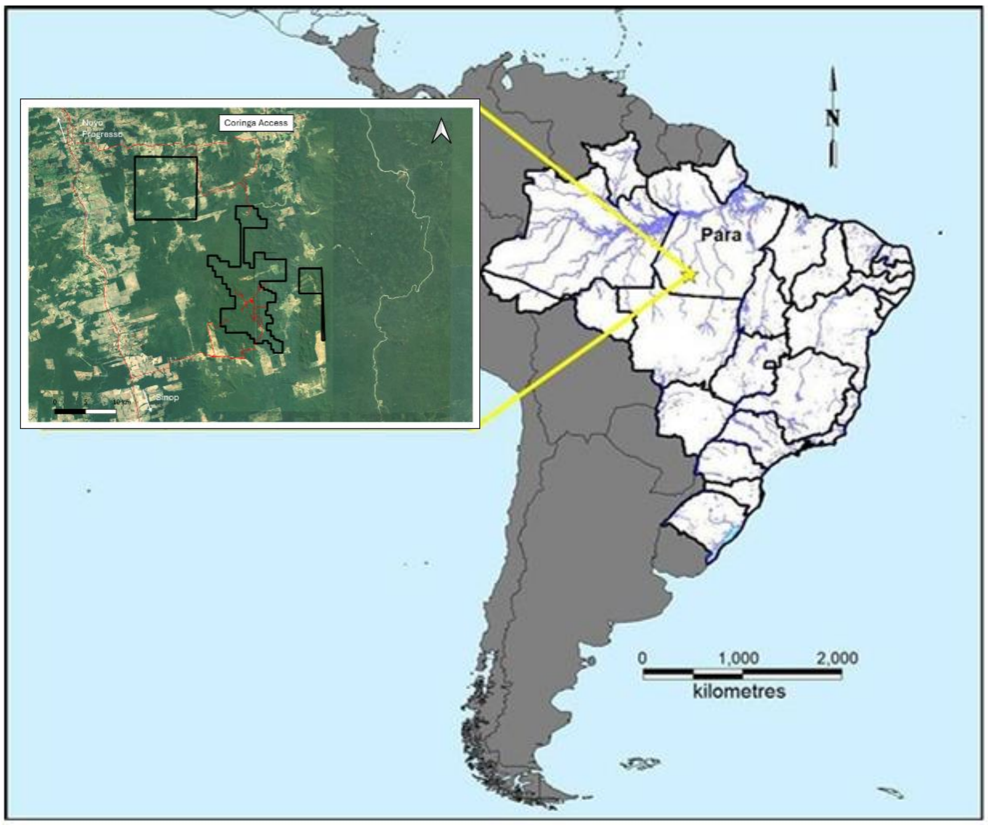
The results and opinions expressed in this report are conditional upon the aforementioned geological, costing and legal information being current, accurate, and complete as of the date of this report, and the understanding that no information has been withheld that would affect the conclusions made herein. NCL reserves the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to NCL subsequent to the date of this report. NCL does not assume responsibility for Serabi's actions in distributing this report.

4 Property Description and Location

4.1 Location

The Coringa Gold Project is located in north-central portion of Brazil, in the state of Pará in a region known as Tapajós Province (Figure 4-1) The access to the property is made driving 70 km southeast of the city of Novo Progresso in the national highway BR-163 paved road and 25 km to the eastern direction in local municipality. The UTM coordinates for the Coringa Gold Project are 9,166,700 North and 715,500 East (geographic projection: WGS84, Zone 21S).

Figure 4-1: Location Map



Source: Serabi, 2024

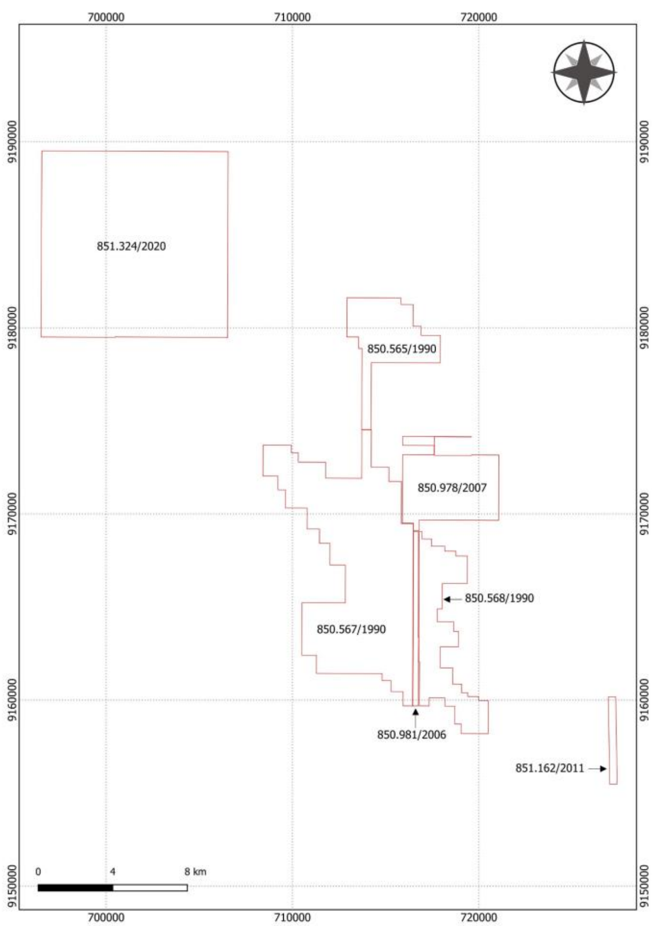
4.2 Land Tenure

The Coringa Gold Project consists of seven exploration concessions or tenements totaling 21,952.95 hectares (ha). All concessions are owned by Chapleau, the 100% owned Brazilian subsidiary of Serabi Gold plc. The concessions are described in Table 4-1 and shown in Figure 4-2.

Table 4-1: Mining Concessions Coringa Gold Property

Process	Status	Area (ha)	Project	Phase	District	State
851.162/2011	IN PROGRESS	193.69	CORINGA	Application for Exploration	ALTAMIRA	Pará
851.324/2020	IN PROGRESS	9987.00	CORINGA	Application for Exploration	ALTAMIRA/NOVO PROGRESSO	Pará
850.567/1990	FINAL REPORT APPROVED/Pedido GU	6224.23	CORINGA	Exploitation Application	ALTAMIRA/NOVO PROGRESSO	Pará
850.565/1990	FINAL REPORT APPROVED	1529.57	CORINGA	Exploitation Application	ALTAMIRA	Pará
850.568/1990	FINAL REPORT APPROVED	1840.83	CORINGA	Exploitation Application	ALTAMIRA	Pará
850.981/2006	FINAL REPORT APPROVED	259.99	CORINGA	Exploitation Application	ALTAMIRA/NOVO PROGRESSO	Pará
850.978/2007	REPORT PRESENTED	1917.64	CORINGA	License Extension Requested	ALTAMIRA	Pará

Figure 4-2: Claim Map



Source: Serabi, 2019

The maintenance of each exploration license requires an annual payment depending on the permit status. All the concessions have the payments up to date and are in good standing.

In western Pará state, surface rights are typically not formalized. The land in the Coringa Gold Project area has been claimed to have been owned by a series of individuals. Most recently, the land was alleged to be owned by two families whose title over the Fazenda Coringa (Coringa Farm) was never formally registered and to whom Magellan Minerals, had for a number of years, made surface access payments. In 2006, Instituto Nacional de Colonização e Reforma Agrária (INCRA) established a Sustainable Development Project (PDS) in the area, which included the Coringa and Mato Velho tenement areas. INCRA declared itself the owner of this land and resettled a community called Terra Nossa located along the access road to the Fazenda Coringa. The legality of this action and the creation of numerous other PDS were called into question by the Federal Prosecutor's Office (MPF), which litigated against INCRA, to declare the establishment illegal. This action was settled in 2017 and the legality of the Terra Nossa PDS and the rights of INCRA over the land was confirmed. Serabi is currently negotiating with INCRA the specific terms and conditions under which it will officialise the Serabi surface land situation with INCRA on the PDS. In Brazil, surface rights are not associated with title to either a mining lease, exploration permit or a claim and must be negotiated with the landowner.

4.3 Royalties

The Brazilian government has a 1.5% net smelter return (NSR) on all gold and silver production. Also, Sandstorm gold Ltd, a gold-streaming and royalty company based in Vancouver, Canada, holds a 2.5% NSR on all production from the Coringa Gold Project.

4.4 Production Permits

On May 10, 2017, Anfield received INCRA's formal consent for the Coringa Gold Project to be permitted by State Department of Environment (SEMAS). INCRA's consent was required by SEMAS as a prerequisite for issuing permits to allow construction and mining operations to begin at the Coringa Gold Project. Serabi continues to communicate with SEMAS as the agency works to finalize and issue the required permits.

4.4.1 Update on Regulatory Compliance Requirements and Permitting Considerations

On November 11, 2016, Chapleau made an application to the Agência Nacional de Mineração ("ANM" – formerly the Departamento Nacional de Produção Mineral ("DNPM") for trial mining licences (Guia do Utilizacao ("GU")) over 3 of the tenements held by Chapleau that comprise part of the Coringa Project.

On August 9, 2017, Chapleau was awarded environmental approvals for trial mining from SEMAS, including the LOPM, vegetation suppression, and fauna capture permits (see discussion of Production Permitting in Section 20.3).

On June 13, 2018, the Trial Mining Permits were issued by the DNPM for tenements 850.567-1990, 850.568-1990 and 850.981-1990 valid until 25 November 2020 and the ANM then further extended each of these GU's until 8 August 2022. This expiry date was then further automatically extended because of the Covid-19 pandemic to 8 February 2023.

On 29 January 2024 the notice of the issue of a new GU for a period of 3 years on tenement 850,567-1990 and valid to 29 January 2027 was published in the Official Gazette. On November 4, 2024, the ANM approved an increase for the GU allowing for 100,000 t of ore per year. SEMAS is currently reviewing the request for the related LO to be increased accordingly, and it is expected that this licence will be granted before the end of 2024.

Chapleau can also continue to conduct exploration activities under the terms of the GU.

4.5 Environmental Regulations and Permitting

4.5.1 Environmental Regulations and Permitting

Brazilian Federal Law 6938/1981 spells out general environmental policy and permitting requirements for all activities with contamination potential or involving extraction of natural resources. Prior to obtaining a mining concession, project proponents may conduct mineral exploration and limited (trial mining) processing of up to 50,000 t/y of ore with a GU and pre-requisite environmental approval, the LOPM. Depending on the ecological circumstances, an applicant may also have to obtain authorizations for vegetation suppression/restoration and fauna capture/relocation. Companies may apply for expansions of trial mining ore processing limits once they are in production. As previously discussed, the Coringa Gold Project exercised this trial mining option and on August 9, 2017, was awarded an LOPM and accompanying fauna capture and relocation and vegetation suppression permits.

Chapleau is also engaged in a three-part environmental permitting process, which is required for the approval of the full mining operation. This process is summarized as follows:

- Prior License (LP: “Licenca Previa”): this permit confirms the selection of the best place for developing and conducting extractive activities, based on submission of a detailed EIA and RIMA, respectively. In addition, in Pará State, public hearings are required to be held by the municipalities whose administrative areas encompass the project’s social and environmental AIDs. Upon issuing the LP, SEMAS may choose to invoke specific requirements, known as LP conditions, which the applicant must implement before it can obtain its Installation License. Legislated timing for issuing the LP is nominally twelve months after the date of application, provided no further details and/or supplemental information is required by the regulator. The LP was issued to Chapleau in October 2020.

- Installation License (LI: “Licenca de Instalacao”): this permit allows the construction of the mine, pursuant to compliance with conditions raised in the LP. It also establishes conditions for obtaining the final Operations License. The LI application also requires submission of a detailed PCA. The granting of the LI means: (i) approval of the control, mitigation, and compensation measures proposed by the project proponent in the PCA, as well as the timetable for the implementation of such measures, (ii) approval of the characteristics of the specific engineering project, including its timetable for implementation, and, (iii) manifestation of the agreement between the project proponent and the regulatory authorities regarding adherence to the conditions of the LP. Legislated timing for issuing the license is nominally six months after the date of application, provided no further details and/or supplemental information are required by the regulator. Chapleau has issued all the requested documentation to support its application for the LI. In May 2024, Chapleau submitted the ECI to FUNAI. Upon approval of the ECI by FUNAI, this report will be passed to SEMAS for their consideration prior to the award of the LI.

- Operations License (LO: “Licenca de Operacao”): this permit is issued following demonstration of compliance with LI conditions and allows the mine to commence production operations. The LO may establish additional mandatory conditions. Legislated timing for issuing the LO is six months after the date of application, provided no further details and/or complementary information are required by the regulator.

In actual practice in Pará State, the time required for SEMAS approval may vary from the guidelines in the Federal law, depending on the complexity of the project and availability of review resources, among other factors. SEMAS will typically conduct the licensing process once it has evaluated the technical examination that was completed by the environmental agencies of the municipalities administering the areas in which the project is located. In addition, whenever applicable, SEMAS must also assess the opinion reports of other regulatory bodies at the national, state, and municipal levels that are involved in the licensing procedure; these may include INCRA, ITERPA, FUNAI, ICMBio, ANA, and IPHAN, among others.

In addition, CONAMA Resolution 237/1997 is a key component of the environmental licensing process and defines the specific activities or ventures that require an environmental license, including major elements of a mining operation. These include:

- mineral exploration involving drilling
- underground mining
- processing of non-ferrous metals, including gold
- construction and operation of dry stack tailings facilities and water diversion and drainage structures
- construction and operation of electrical transmission lines and substations
- construction and operation of water treatment plants
- construction and operation of sewage treatment plants
- treatment and disposal of solid wastes
- transportation, storage, and handling of dangerous materials.

Transportation, storage, handling, and usage of explosives requires separate approval by the Ministry of Defense. Depending on the final design characteristics of the Coringa Gold Project's fuel depot, additional approvals may be required from ANP.

Municipal administrations are responsible for participating directly in the environmental licensing process and must issue a document that establishes their position as to whether or not the project is in conformity with municipal soil use, occupation, and other regulations. In the case of the Coringa Gold Project, two municipalities are involved: Altamira, which administers the rural area within which most of the mining concessions and the actual mine and operational infrastructure are located, and Novo Progresso, which includes part of the concessions as well as the two settlements (Terra Nossa and the town of Novo Progresso) in which most of the social impacts and benefits of the project will be expressed. Other specific federal and Pará State public administration agencies may also engage in various aspects of the licensing process over which they may have technical authority or shared interest.

Environmental laws also provide for the participation of communities during the environmental licensing process. In practice, this occurs during public hearings.

With respect to water usage, the CNRH Resolution 55/2005 classifies mining ventures based on their impact on water resources. The Coringa Gold Project would be classified as a Scale 2 venture under this classification scheme, as it would involve:

- Limited use of surface water in the initial start-up of mining operations

- Use of groundwater (collected as mine dewatering water) for use in the mineral separation process
- Use of groundwater to supply the needs of the mining camp
- Discharges of excess water from in high precipitation/wet season conditions.

All uses of superficial water and groundwater at the Coringa Gold Project are subject to a grant process; such uses include the construction and operation of water collection ponds, diversion of watercourses, discharge of liquid effluents in watercourses, alteration of the rates of flow of watercourses, and any activities that would impact the level of the water table. Additionally, project proponents must also permit all water wells.

The current status of the Coringa Gold Project permitting efforts is elaborated in Section 20.

4.5.2 Environmental Baseline

The Coringa Gold Project concession is situated near a boundary between primary forest areas reserved as an indigenous buffer zone, and land areas previously impacted by government-sponsored agricultural clearances and ongoing agriculture. Forested areas within the Coringa Gold Project and the adjacent buffer zone have also been previously impacted by illegal logging of high-value tree species and by artisanal/small scale garimpeiro mining.

The first significant baseline studies of water quality, air quality, and flora and fauna within the Coringa Gold Project concession were conducted by Terra and Global Resource Engineering in 2015 and 2016 to support the development of the EIA/RIMA for the Coringa Gold Project. This work included studies in support of the individual environmental clearance permits required for the construction of specific elements of mine infrastructure. The latter permits typically include specific conditions that must be met as a condition of approval, including the monitoring of fauna displaced by clearance activities, the potential capture and relocation of individuals from specific species, and the collection and replanting of selected floral species.

4.5.3 Other Significant Factors and Risks Affecting Access or Title

The primary environmental, social, and legal risks associated with the Coringa Gold Project are summarized in Section 20.3.3, along with a discussion of Chapleau's general approach to risk mitigation. Additional details on the monitoring, assessment, and management of social risks are addressed in Section 20.

4.6 Environmental Liabilities

Environmental risks and liabilities described in the 2019 Technical Report, included in addition to construction activities at the Coringa Gold Project areas of forest clearance for construction of access roads and facilities; noise from traffic, construction equipment, and generator operation; dust from roadways and work areas during dry season operations; potential spills of fuel and lubricants, and the potential for grass fires in dry conditions. As of the effective date of this Technical Report, Serabi is in compliance with all regulations required for the Coringa Gold Project, including all the licencing related to mineral agency, land control department and environmental agency.

The Coringa Gold Project area includes a number of historical garimpeiro workings (Garimpos) and artisanal activities which were duly identified and notified to the authorities when necessary. These activities have been currently monitored and, when necessary, the appropriate procedures are carried out with the responsible government departments.

Serabi has invested a lot of time and resources in the communities and areas where it works, and has also worked with state and federal agencies to ensure that all licenses are up to date in both the social and environmental areas.

4.7 Other Risk Factors

Other than as disclosed in this section of the Technical Report and elaborated further in Section 25, the QPs are not aware of any other significant factors and risks that may affect access, title, or the ability to perform work on the property.

4.8 Economic Analysis

The following table summarizes the base case metrics used for the economic analysis.

Table 4-2: Base Case Metrics

	Unit	Amount
Gold Price	US$/oz	$2,100
Cut-off grade	g/t	3.16
Run of Mine (ROM) Material to process	tonnes	2,232,919
Mining Method	method	Shrinkage Stoping
Throughput at 100% capacity	tonnes per annum	215,000
Ore Sorter Efficiency (tonnes)	%	61%
Ore Sorter Upgrade	x	1.59
Process Gold Recovery	%	97%
Total gold production (recovered)	ounces	363,108
Mine Life	years	12
Sustaining Capital Expenditures	US$M	$87
Mine closure costs	US$M	$1
Cash Operating Costs (inc. Royalty + TC/RCs)	US$/oz	$965
All In Sustaining Cost (inc. Royalty + TC/RCs)	US$/oz	$1,241
Exchange Rate	R$:US$	5.5
Royalties	%	4%
Profits Tax Rate	%	34%

This technical report is a preliminary economic assessment and partially utilizes inferred mineral resources. Inferred mineral resources are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability. The following table summarizes the results of the PEA.

Table 4-3: PEA Results Summary

Gold Price (Per Ounce)	Units	$1,950	Base Case US$2,100	$2,280	Spot $2600
Pre tax NPV (5%)	US$m	$193	$230	$275	$356
Pre tax NPV (10%)	US$m	$151	$181	$217	$281
Post tax NPV (5%)	US$m	$159	$184	$214	$267
Post tax NPV (10%)	US$m	$125	$145	$169	$211
Project after tax cash flow	US$m	$210	$242	$281	$350
Average annual free cash flow	US$m	$16	$19	$22	$27

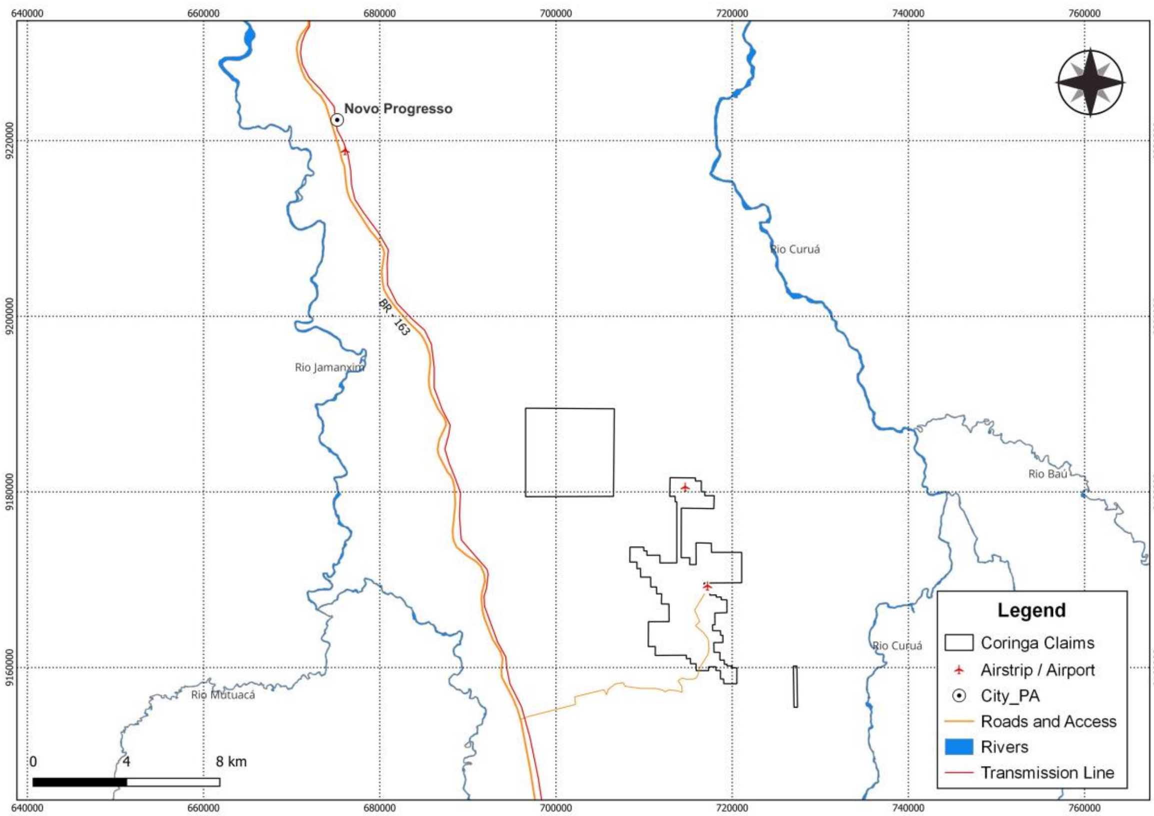
Average gross revenue	US$m	$52	$56	$61	$69

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Coringa Gold Project is located in north-central Brazil, approximately 100 km southeast of the city of Novo Progresso. The Coringa Gold Project is accessed by paved Highway BR-163 driving 70km to the south and 25 km on dirt roads to the east (Figure 5-1), and the driving time from Novo Progresso to the Coringa Gold Project camp is typically two hours. Surface rights outlined in Section 4 are sufficient to access all pertinent areas of the mining concessions and exploration permits, including areas where the infrastructure needed to operate the underground mines and process plant is located.

Figure 5-1: Access to the Coringa Gold Project



Source: Serabi, 2024

Figure 5-2: Access to the Coringa Gold Project

5.2 Climate

The climate is tropical and is characterized by high humidity and high temperatures averaging 26°C. Average annual rainfall is between 1,500 millimeters (mm) and 2,000 mm. The seasons are characterized by the intensity of rainfall. The period of greatest intensity corresponds to the months of January to July and the period of least intensity to the months of August to December, designated as winter and summer, respectively. Work on the property can be carried out year-round.

5.3 Local Resources and Infrastructure

Novo Progresso (population of approximately 35,000) is the closest major urban centre, and it can provide accommodation and basic goods and services and a workforce. It is located along Highway BR-163 which is the main route for trucks carrying soya and corn crops from the Sinop area in Mato Grosso State to ports in Itaituba and Santarém, on the Tapajós River. Chartered flights are available to and from Novo Progresso. A high- voltage powerline which is part of the national electric grid is located along Highway BR-163, 21 km west of Coringa. The Novo Progresso airport has recently had the airstrip paved and is in discussions with commercial carriers to commence regional flights.

Mining personnel for Coringa operation are currently sourced from a mix of close proximity urban centres within the state of Pará including mainly Novo Progresso, Moraes de Almeida, Itaituba and Santarem and other major urban cities throughout the country of Brazil. The current workforce at Coringa includes all the mine and administrative personnel including technical, administrative and support personnel. Workers are on a typical 20 day on, 10 day off rotation. Serabi’s operational workforce for the underground mine activities is a mixture of Brazilian locals and foreign workers with relevant mining experience.

A 289-person field camp and core logging and storage facility are located on the Coringa Gold Project property, a crusher and ore sorting are being built and should be operational in Q4-2024. Two water wells provide the camp with drinking water, while septic tanks and leach fields provide for sewage waste disposal. A new sewage treatment plant provides waste disposal for the new camp facilities. Power at the camp is supplied by diesel generators. Telephone and internet service are via fiber and satellite links to Novo Progresso. Short-wave radios provide communication within the project area. There is sufficient room in the vicinity of the Serra and Meio veins for tailings, waste rock storage, and a processing plant.

5.4 Physiography and Fauna

The Coringa Gold Project has deeply incised topography forming northwesterly trending ridges that are 150 meters above the surrounding valleys. Most of the property is covered by tropical and secondary forest with local areas of grass for cows. Elevations range between 250 and 450 meters above sea level.

Minor grazing and small farm agricultural activity is present in the area. Historical artisanal mine workings are common on the property, and they often form elongated trenches along mineralized trends. These trenches are commonly filled with water.

Typical fauna for the Amazon jungle are present such as tapir, capybara, monkeys, tropical birds, snakes, and insects.

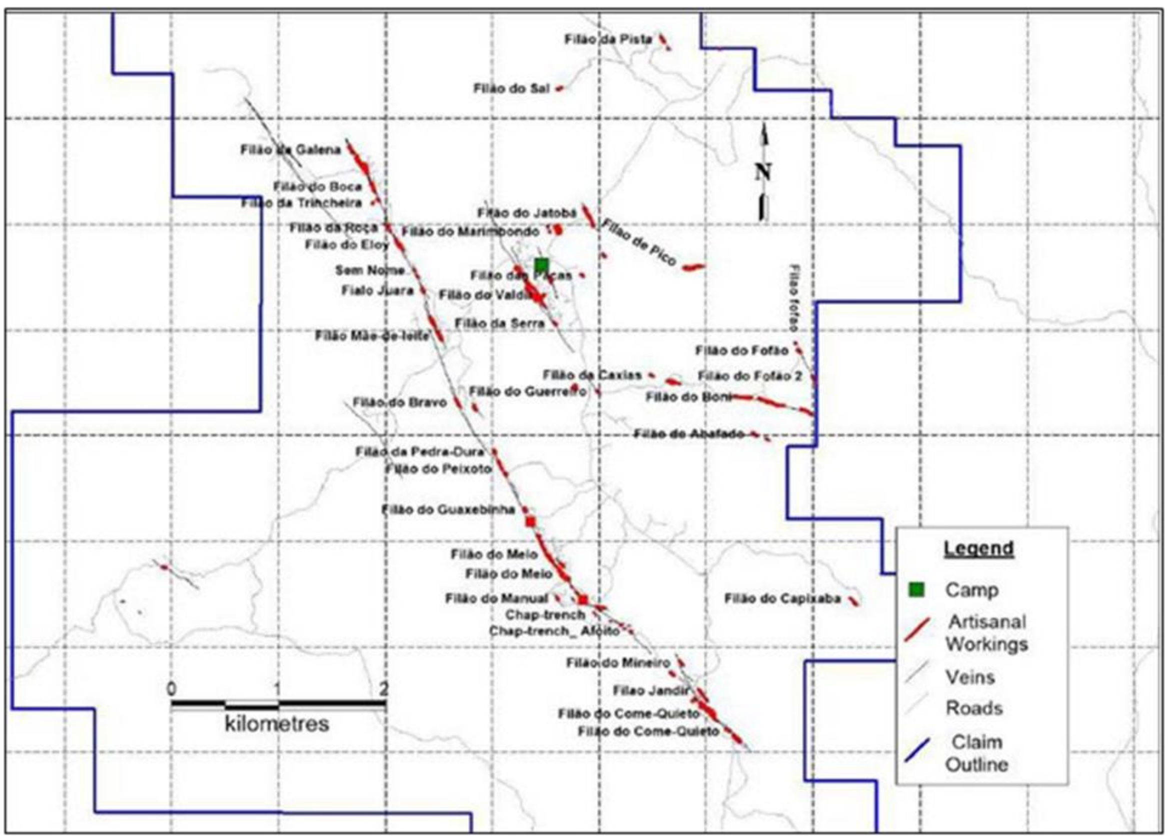
6 History

The Tapajós gold district was Brazil's main source of gold from the late 1970s to the late 1990s. Over 80,000 artisanal miners exploited alluvial deposits, and total gold production estimates range from 5 to 30 M oz, but no accurate totals exist (Santos, et al., 2001; CPRM, 2008).

The Coringa Gold Project is located in the southeastern part of the Tapajós gold district. Artisanal mining produced an estimated 10 tonnes of gold (322,600 ounces [oz]) from alluvial and primary sources (Snowden, 2015). Deep saprolite or oxidized parts of shear zones were mined using high-pressure water hoses or hand-cobbing to depths of 15 meters. Artisanal workings are shown in Figure 6-1.

Other than the artisanal workings, no other production has occurred at Coringa. Artisanal mining activity ceased in 1991, and a local Brazilian company (Tamin Mineração Ltda.) staked the area in 1990. Subsequently, the concessions were optioned to Chapleau (via its Brazilian subsidiary, Chapleau Exploração Mineral Ltda.) in August 2006. On 1 September 2009, Magellan Minerals acquired Chapleau. On 9 May 2016, Anfield acquired Magellan Minerals. Subsequently, Serabi acquired Chapleau and its assets including Coringa from Anfield on 21 December 2017.

Figure 6-1: Artisanal Workings Coringa Gold Project



Source: Serabi, 2024

Previous exploration and disclosure of prior ownership and changes to ownership at the Coringa Gold Project are summarized in Table 6-1 and discussed in greater detail in past technical reports (Global Resource Engineering, 2009; Global Resource Engineering, 2012; Global Resource Engineering, 2015; Snowden, 2015).

Table 6-1 : Exploration History of the Coringa Gold Project

Year	Owner	Description
January 2007 to June 2007	Chapleau Resources Ltd.	Structural interpretation using satellite images; locate garimpeiro workings; rock, soil, stream sediment samples; 22 HQ drill holes (1,774 meters), petrography
June 2007 to March 2008	Chapleau Resources Ltd.	Airborne survey – magnetics, radiometrics (549 square km with lines spaced at 200 meters); IP dipole-dipole (34 km) over Galena-Mãe de Leite; metallurgical testing (SGS); 44 HQ drill holes (5,032 meters)
March 2008 to December 2008	Chapleau Resources Ltd.	IP dipole-dipole survey (70.7 km) over Serra, Meio and Come Quieto veins; 38 through airborne VTEM-mag (860 km); 15 HQ drill holes (1,979 meters)
January 2009 to September 2009	Chapleau Resources Ltd.	Geological mapping, trenching (18 trenches) between Mãe de Leite and Come Quieto; soil sampling
September 2009 to December 2009	Chapleau Resources Ltd.	Soil sampling
January 2010 to December 2010	Magellan Minerals Ltd.	Soil sampling; 28 HQ drill holes (3,396 meters)
January 2011 to December 2011	Magellan Minerals Ltd.	Soil sampling; trenching (Valdette – 14, Demetrio – 3); 51 HQ drill holes (11,912 meters)
January 2012 to December 2013	Magellan Minerals Ltd.	Soil sampling; 19 HQ drill holes (4,344 m)
2016–2017	Anfield Gold	Assaying of soil samples taken previously by Magellan; IP dipole-dipole survey (3.5 km); infill drilling – Serra, Meio veins (180 holes; 25,212 meters)
2018-2019	Serabi Gold Plc.	Extension drilling: Galena, Serra, and Meio (20 holes; 5619.83 meters)
2020-2024	Serabi Gold Plc.	Extension drilling: Serra (41 holes; 6,364 meters)
2020-2024	Serabi Gold Plc.	1,404 channel samples in Serra (CH, CM and LV)

7 Geological Setting and Mineralization

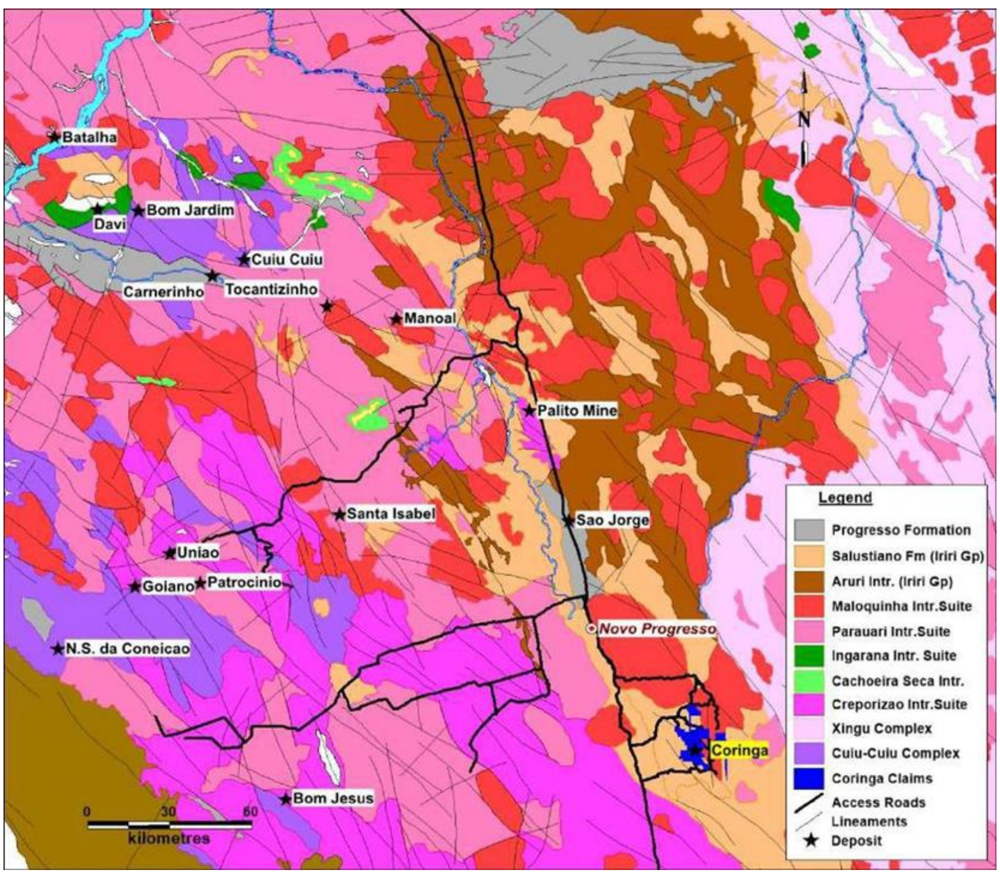
The following description of the regional geology and lithology, structure, mineralization, and alteration specific to the Coringa Gold Project was prepared by Mr. Robert Sim, P.Geo, and is presented here as an excerpt from the 2017 NI 43-101 Technical Report issued by MTB for Anfield Gold Corp.

Mr. Nicolas Fuster of NCL has reviewed this information and available, associated supporting documentation in detail and finds the discussion and interpretations presented herein to be reasonable and suitable for use in this report.

7.1 Regional Geology

The Coringa Gold Project is located in the southeastern part of the Tapajós gold district which is located in the central part of the Amazon Craton. Regionally there are over 400 alluvial occurrences (Santos et al., 2001) and over 20 hard rock gold showings (Coutinho, 2008), see Figure 7-1.

Figure 7-1: Regional Geology Coringa Gold Project



Source: Anfield, 2017; INDE, 2004

The Tapajós gold district is underlain by the Cuiú-Cuiú (2.0–2.4 Ga) and Jacareacanga (2.1 Ga) metamorphic complexes (Coutinho, 2008). The Cuiú-Cuiú complex consists of granites, gneisses, and amphibolites and the Jacareacanga complex consists of metamorphosed sediments and volcanics. Both are intruded by monzogranites and granodiorites of the Parauari group (2000– 1900

Ma), granodiorites of the Tropas group (1907–1898 Ma), and granitic rocks of the Creporizão group (1893–1853 Ma). Younger felsic to intermediate volcanics of the Iriri group (1.87–1.89 Ga) and alkaline granites of the Maloquinha group (1880 Ma) also crosscut the metamorphic complexes. The Maloquinha granites are the possible source of the gold in the Tapajós gold district.

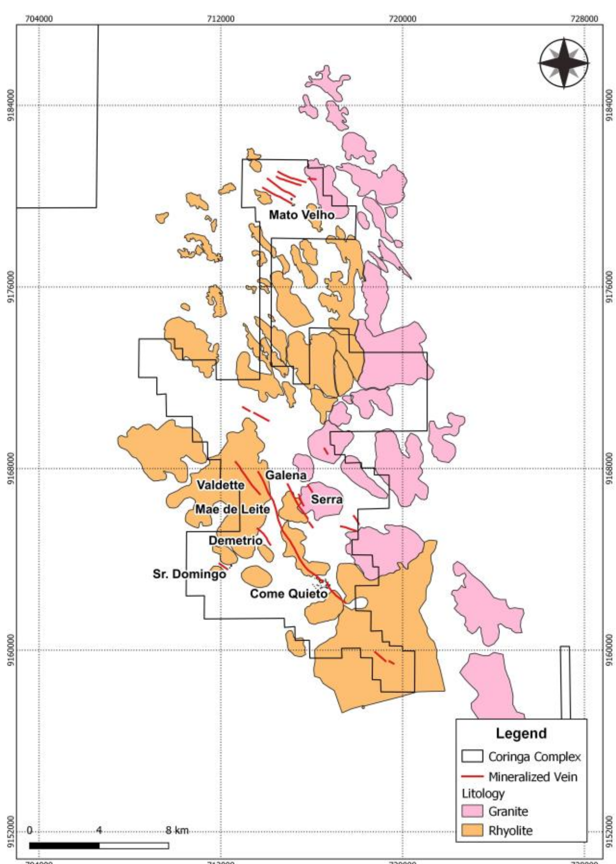
A regional northwest-southeast-trending shear zone, the Tocantinzinho Trend, is associated with many of the gold occurrences in the district (e.g., Cuiú-Cuiú, Palito, Tocantinzinho, União, Coringa, and Mato Velho) (Reconsult Geofisica, 2008). Mineralization consists of native gold occurring in quartz-carbonate-sulphide veins or with disseminated sulphides. Pyrite is the dominant sulphide with minor sphalerite, chalcopyrite, and galena.

7.2 Property Geology

7.2.1 Lithology

The Coringa Gold Project is underlain by granitic intrusions of the Maloquinha group and rhyolites of the Iriri group (Salustiano Formation) (Figure 7-2). The granites are granular, medium-grained, and consist of pink feldspar and quartz. The rhyolites are fine to medium-grained, porphyritic, and strongly magnetic. Sanidine and quartz phenocrysts occur in a fine-grained matrix of sanidine-quartz. Minor amounts of biotite also occur in the matrix which has been altered to chlorite. The sharp contact between the units can be observed in the underground at Serra mine.

Figure 7-2: Local Geology Coringa Gold Project



Source: Serabi, 2024

7.2.2 Structural Setting

There are two dominant structural trends on the Coringa Gold Project property (Figure 7-2):

- The 310° structures are interpreted as strike-slip faults with probably a dextral (right lateral) sense of displacement.
- Structures trending at 345° are interpreted as R-shears.
- NE fault system is observed within the mines and can cause some small displacement in the orebodies.

Mineralized veins at the Coringa Gold Project are associated with the R-shears. The dip of the veins ranges from 75° to the east to vertical, but they occasionally dip steeply westward (e.g., Galena Vein).

7.2.3 Mineralization

Mineralization at the Coringa Gold Project is associated with a shear/vein system that has a strike length of over 7 km. The mineralized zones vary in thickness from <1 centimeter (cm) up to 14m meters. Several veins (i.e., Galena, Mãe de Leite, Meio, and Come Quieto) occur along the main mineralized corridor and others, such as Serra, Demetrio, and Valdette, form subparallel zones. The average thicknesses for the veins included in the estimate of mineral resources are: Serra 0.52 m, Galena & Mãe de Leite 0.59 m, Meio & Come Quieto 0.41 m, and Valdette 0.80 m.

Gold mineralization is almost exclusively associated with quartz-sulphide veining. Pyrite is the main sulphide, but minor concentrations of chalcopyrite, galena, and sphalerite are common. A genetic study of mineralization indicated that pyrite-chalcopyrite (+/- quartz) mineralization occurred first, followed by gold, with galena and sphalerite introduced late. Gold is typically free (or within electrum) and occupies fractures within sulphide grains. It is usually very fine grained and visible gold is rare (Boutillier, et al., 2017). Gold in electrum is closely associated with quartz and pyrite. The bulk of the gold has a preference for deposition in the quartz matrix/groundmass (48% locking affinity) and within pyrite (31%) occurring in either fractures or as inclusions, as well as in other sulphides, oxides, and, to a lesser extent and depending on tectonic conditions, in silicates.

7.2.4 Alteration

Almost all the core at the Coringa Gold Project is strongly silicified and hematitic. Distal chlorite-hematite alteration forms wide selvages (50 meters) to veins hosted in rhyolites and narrower selvages (10 meters) to veins hosted in granite. A more proximal pale green sericite-pyrite alteration forms a wider halo in rhyolites (1 meter) compared to granites (0.5 meters).

8 Deposit Types

The mineralized veins exposed on the Coringa Gold Project are similar to those found in Orogenic gold deposits. This deposit type has been described by (McCuaig and Kerrich, et al., (1998); Groves, et al., (1998); Goldfarb, et al., (2001). These deposits formed over a 3 Ga time frame with peaks at 3.1 Ga, 2.7 to 2.5 Ga, 2.1 to 1.8 Ga, and 0.6 to 0.05 Ga corresponding to the episodic growth of juvenile continental crust. A large percentage of the world's gold resource is associated with these periods. Orogenic gold deposits are the source of many of the great placer gold districts (e.g., Tapajós; Klondike; Mother Lode, California; East Russia).

Characteristics of an Orogenic gold deposit are as follows:

- Proximity to large scale structures which allow for large scale fluid migration. Deposits are commonly in secondary and tertiary structures.
- Magmatic-meteoric hydrothermal fluids have low salinity and moderate temperatures (200 to 600oC). High concentrations of dissolved sulphur and gold in fluids and overall fluid volumes are critical to the formation of economic deposits.
- These deposits commonly have large vertical extents (1-2 km) and can have extensive down-plunge continuity.
- Gold mineralization is hosted in quartz-dominant vein systems which have low (<3 – 5%) sulphide content. Carbonate content ranges from <5% to 15%. Pyrite is the dominant sulphide.
- Veins have high gold grades (5 to 30 grams per tonne (gpt)).
- Alteration haloes around mineralized veins include carbonate, sulphide, and sericite±chlorite assemblages.

Deposits in the Tapajós Gold District that are similar to the Coringa Gold Project include Serabi's Palito deposit (Guzman, 2012) and Gold Mining Inc.'s São Jorge deposit (Rodriguez, et al., 2014). Other deposits similar to the Coringa Gold Project can be found in Ontario's Archean Gold District in Canada. One characteristic of the gold deposits in this district is their occurrence within major tectonic zones which comprise linear shear systems. All of the major gold camps in the Superior Province of Canada, including Rice Lake, Red Lake, Hemlo, Wawa, Timmins, Kirkland Lake, Val D'or – Malartic and Casa Berardi are associated with deformation zones. (Hurst, 1935; Gunning, et al., 1937).

In the Coringa gold deposit, shear zones of anomalously high strain are clearly seen and are mappable units (Global Resource Engineering, 2012). Gold deposition occurs within the quartz veins which were emplaced in the secondary extensional structures associated with the primary shear zones. These shear zones (linear units) occur in generally predictable orientations and are located in certain preferred settings, that is perpendicular to the maximum tension direction. These deposits were formed during the Archean eon of the Precambrian and are commonly referred to as Archean lode gold deposits. In these mappable shear zone units, lithologies may be rotated, folded, dislocated, truncated, thinned, thickened, repeated or transposed (MTB, 2017).

These giant quartz vein systems, tens of kilometers in length and up to three kilometers in depth, are hosted in brittle-ductile shear zones and are restricted to terrane boundaries. These vein systems are hosted in regional structures that cut through the lithosphere but are usually recognized as strike-slip faults and associated duplexes along with second- and third-order splays. These veins sporadically contain gold mineralization and have extensive carbonate-alteration halos. Hodgson (1993) stated that gold is hosted in the small-scale structures within regional deformation zones. The occurrence of economic gold mineralization in a deformation zone is often located in places where increased extension has occurred, such as in pull-apart basins.

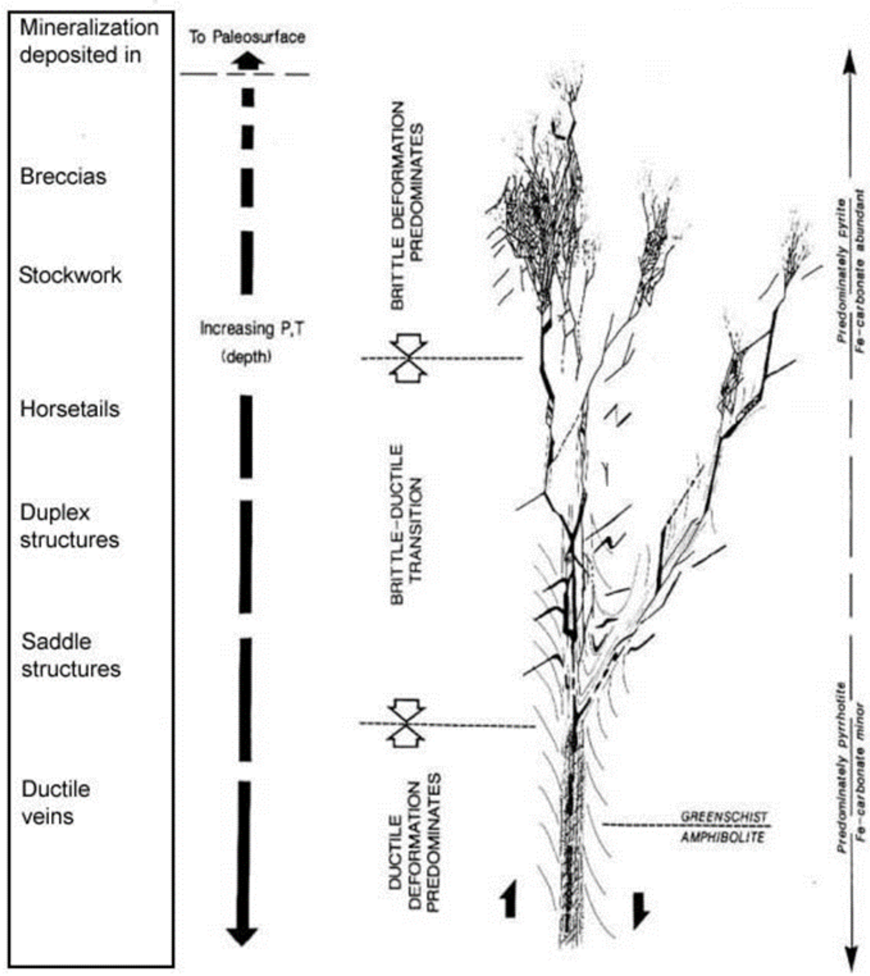
The majority of these veins are one centimeter to one meter thick and are formed locally. Minerals common to the gold related alteration zone include: carbonates, potassic phyllosilicates (sericite and biotite), alkali feldspar (albite and potash feldspar), chlorite associated calcite and dolomite, iron sulfides (pyrite), quartz, and chloritoid. The most distinctive occurrence of gold is in quartz veins. However, gold can also be associated with alteration sulfides in the wall rock. Feng, et. Al. (1992) make the point that quartz and quartz-carbonate veins are common in metamorphic belts.

Deposits occur where:

- Strain has been anomalously high and brittle and ductile features are found.
- Preexisting structural anisotropies exist.
- Packages of rock with strong competency contrasts occur: e.g, felsic intrusive rocks host mineralization, whereas the surrounding sedimentary rocks do not.
- Fold limbs and noses create permeable zones.

A striking feature of these deposits is their great vertical continuity with mineralization occurring in a variety of structures that are dependent on depth (Figure 8-1). For example, mineralization in the Kolar gold field in India is vertically continuous to 3.2 km.

Figure 8-1: Idealized Composite Depositional Model for Archean Lode Gold Deposits

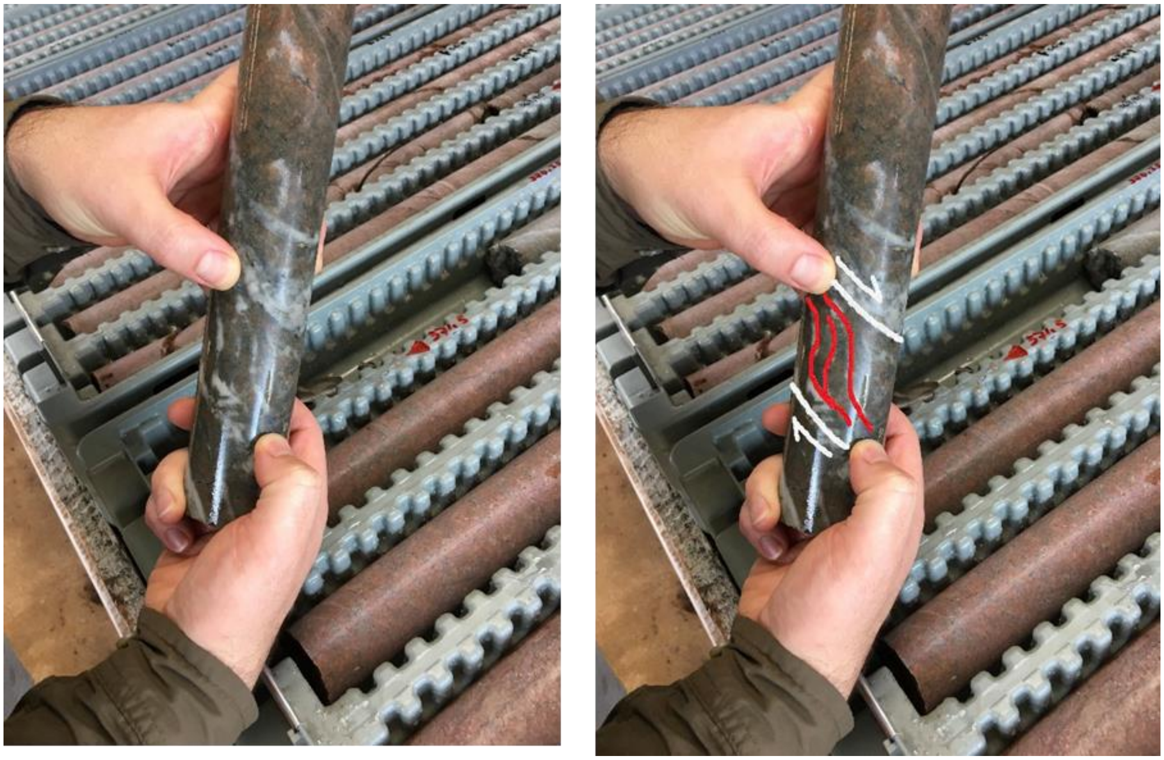


Source: (Colvine, et al., 1988)

Ore zones are lenticular, tabular or irregular shaped bodies composed of veins, breccias zones, and/or stockwork systems. Veins transect lithological contacts and are not restricted to a specific rock type. Veins can be classified as replacement veins, extension veins, and breccias and fracture veins. There is also a vertical zonation of gold deposits, which reflects a change in deformation style, from brittle to brittle- ductile. For example, breccia veins occur principally within brittle deformation and replacement veins typify ductile zones (Figure 8-1).

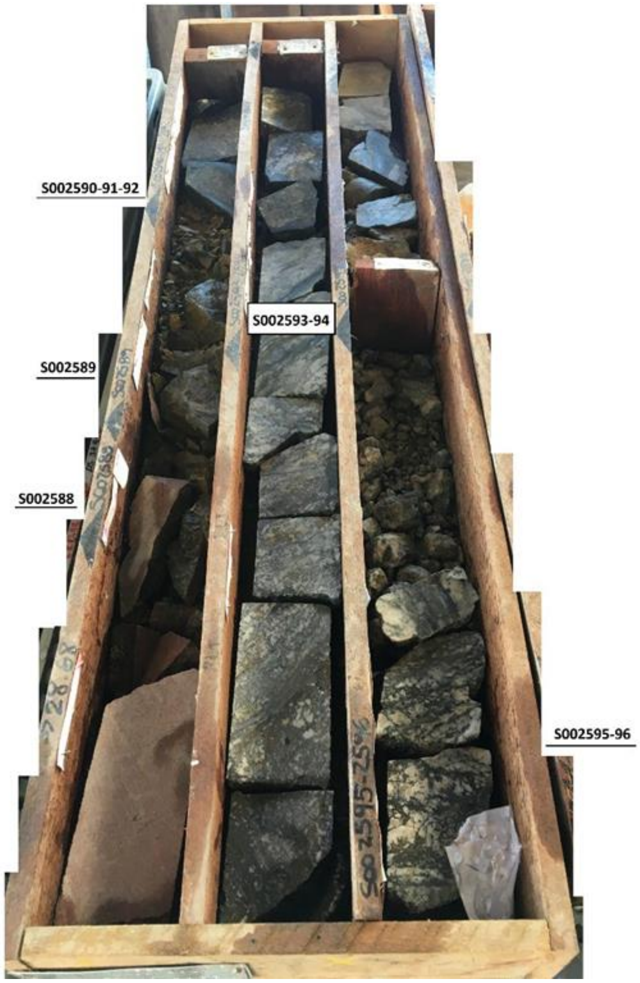
NCL's QPs reviewed core boxes belonging to the 2018-2019 drilling campaign in November 2018 which exhibit evidence of duplex structures formed within the brittle-ductile transition zone: drill hole COR 0368 from 371.3-371.5 m (Au=0.26 parts per million (ppm) (Figure 8-2). Further drilling is required to better define the lower limit of the brittle-ductile transition zones where these duplex structures are formed.

Figure 8-2: Brittle-Ductile Feature in Hole COR-0368 (Interval 371.3-371.5 meters)



It is noteworthy to mention, in previous drilling campaigns (before 2018) that targeted the upper region of the deposit, drill core containing breccias and stockworks are abundantly seen which are characteristic features of the brittle deformation zone or upper part of brittle-ductile deformation zone. As seen in (Figure 8-3), sample No. S002593 that was taken from hydrothermal breccias in hole COR0269, the interval 29.97-30.47 meters has a high gold grade (Au=133.5 ppm). These high gold grades belong to the shallow- moderately deep sections pertaining to the lower part of brittle or upper part of brittle-ductile deformation zones.

Figure 8-3: Hydrothermal Breccias with Base Metal, hole COR0269



9 Exploration

This section has been sourced from previous technical reports and updated with additional exploration completed by Serabi. It provides the relevant exploration work related to the gold mineralization at the Coringa Gold Property. A detailed chronological review of exploration work is provided in Snowden (2015).

The Coringa Gold Project property has only seen modern gold exploration since 2007. Highlights of the modern exploration are summarized in Table 9-1. Since 2007, exploration resulted in the collection of 19,595 soil samples, 757 stream samples, and 1,922 rock samples. Exploration work completed on behalf of Anfield occurred in 2016 to 2017. Exploration work completed by Serabi in 2018 and 2019 includes 20 infill drill holes in Galena, Serra, and Meio as shown in Table 9-1.

Table 9-1: Exploration Work Highlights Coringa Property

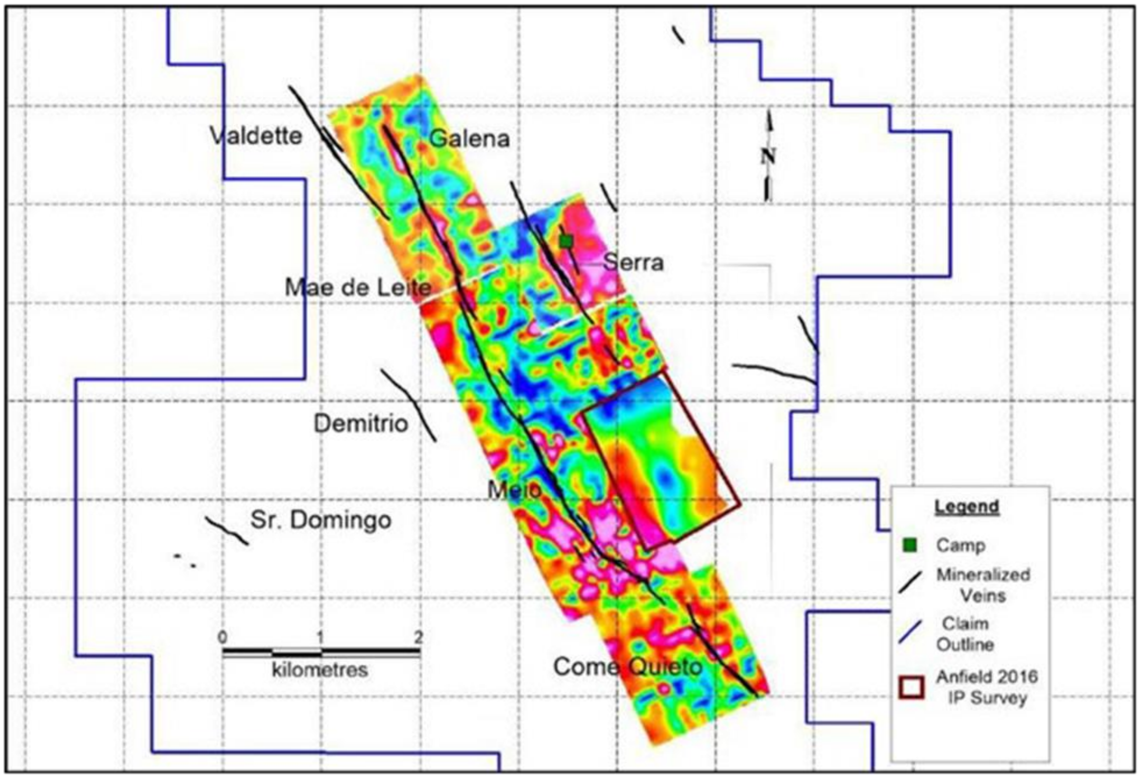
Year	Owner	Description
January 2007 to June 2007	Chapleau Resources Ltd.	Structural interpretation using satellite images; locate garimpeiro workings; rock, soil, stream sediment samples; 22 HQ drill holes (1,774 m), petrography
June 2007 to March 2008	Chapleau Resources Ltd.	Airborne survey – magnetics, radiometrics (549 km2 with lines spaced at 200 m); IP dipole-dipole (34 km) over Galena-Mãe de Leite; metallurgical testing (SGS); 44 HQ drill holes (5,032 m)
March 2008 to December 2008	Chapleau Resources Ltd.	IP dipole-dipole survey (70.7 km) over Serra, Meio and Come Quieto veins; geotech47through airborne VTEM-mag (860 km); 15 HQ drill holes (1,979 m)
January 2009 to September 2009	Chapleau Resources Ltd.	Geological mapping, trenching (18 trenches) between Mãe de Leite and Come Quieto; soil sampling
September 2009 to December 2009	Chapleau Resources Ltd.	Soil sampling
January 2010 to December 2010	Magellan Minerals Ltd.	Soil sampling; 28 HQ drill holes (3,396 m)
January 2011 to December 2011	Magellan Minerals Ltd.	Soil sampling; trenching (Valdette – 14, Demetrio – 3); 51 HQ drill holes (11,912 m)
January 2012 to December 2013	Magellan Minerals Ltd.	Soil sampling; 19 HQ drill holes (4,344 m)
2016 to 2017	Anfield Gold	Assaying of soil samples taken previously by Magellan; IP dipole-dipole survey (3.5 km); infill drilling – Serra, Meio veins (180 holes; 25,212 m)
2018 to 2019	Serabi Gold Plc.	Extension drilling - Galena, Serra, and Meio (20 holes; 5,619.83 m)
2020 to 2024	Serabi Gold Plc.	Extension drilling – Serra (41 holes; 6,364 meters)

Source: Serabi, 2024

9.1 Induced Polarization Surveys

The mineralized veins are characterized by Induced Polarization (IP) chargeability anomalies as shown in Figure 9-1. In 2016, Anfield completed a 3.5-km IP survey over an area located east of the Meio vein, which is being considered as a dry stack tailings facility. No significant IP anomalies are present within the proposed tailings location.

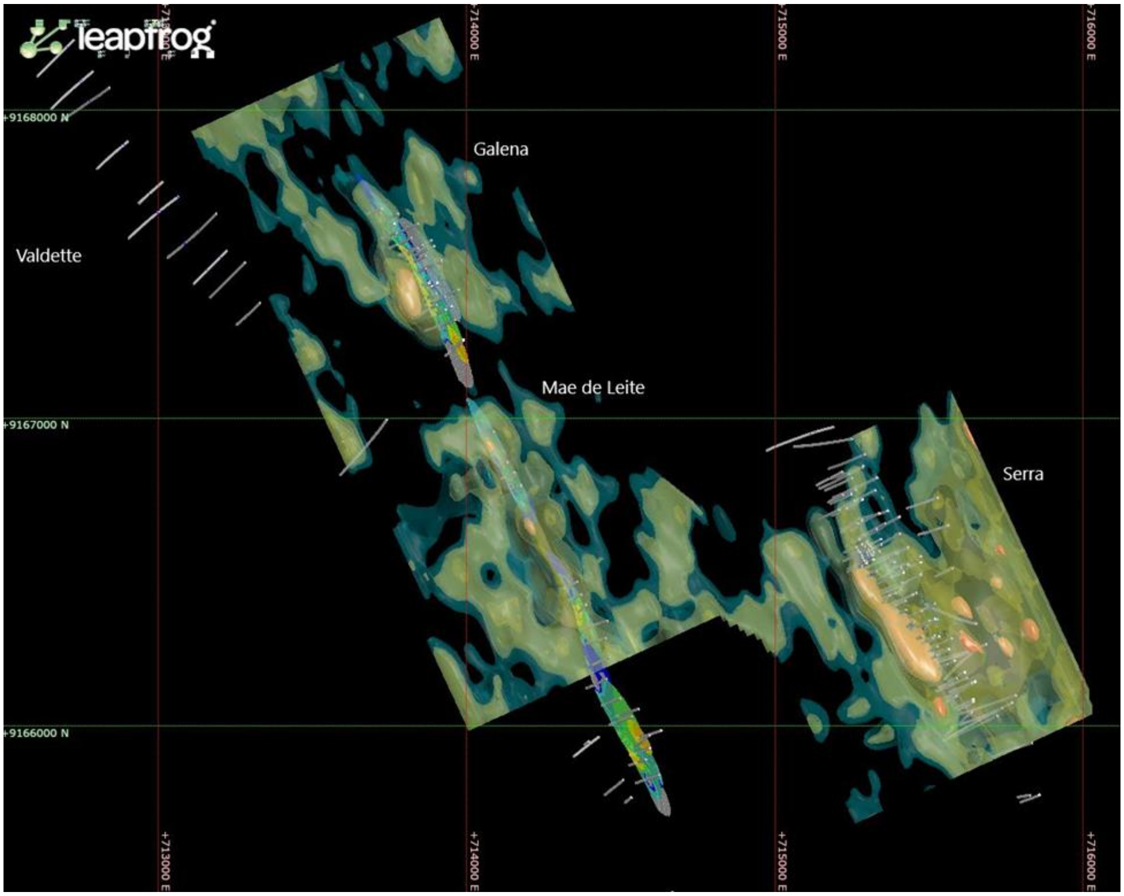
Figure 9-1: IP Chargeability n=4, Main Veins



Source: Anfield, 2017

In 2018, Serabi reprocessed data from the previous IP surveys for the northern end of the property, including all of Galena, the northern half of Mãe de Leite, and all of the Serra vein. The results confirmed the correlation between the mineralized veins and high chargeability. In addition, 3D solids were produced from the data showing anomalous areas adjacent to the main veins which have not been drilled to date (Figure 9-2). Adjacent anomalies are present in the Meio vein and are evident when analyzing the different elevation depths of the past chargeability survey.

Figure 9-2: Reprocessed IP Chargeability, Serabi

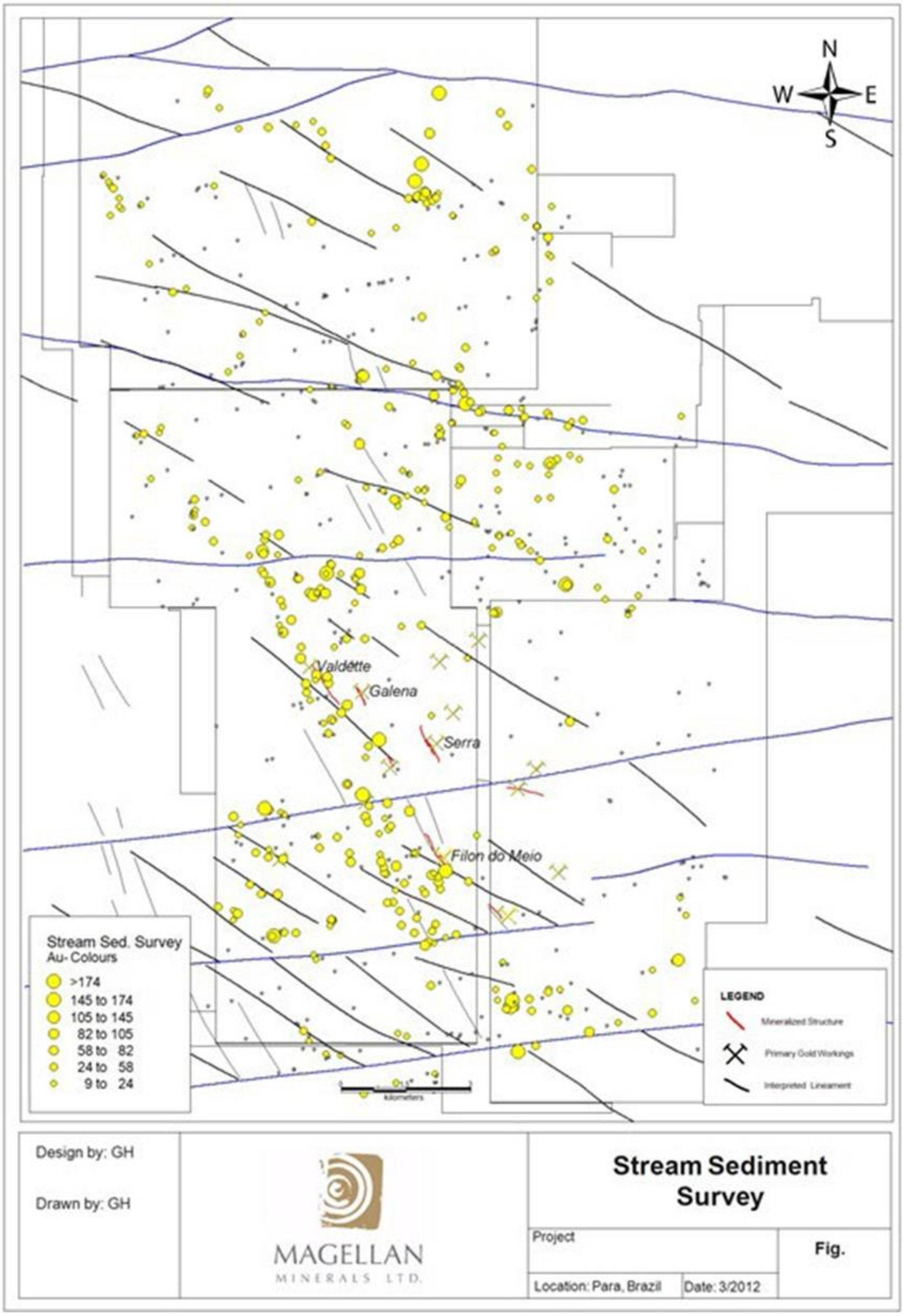


Source: Serabi, 2019

9.2 Stream Sediment Sampling

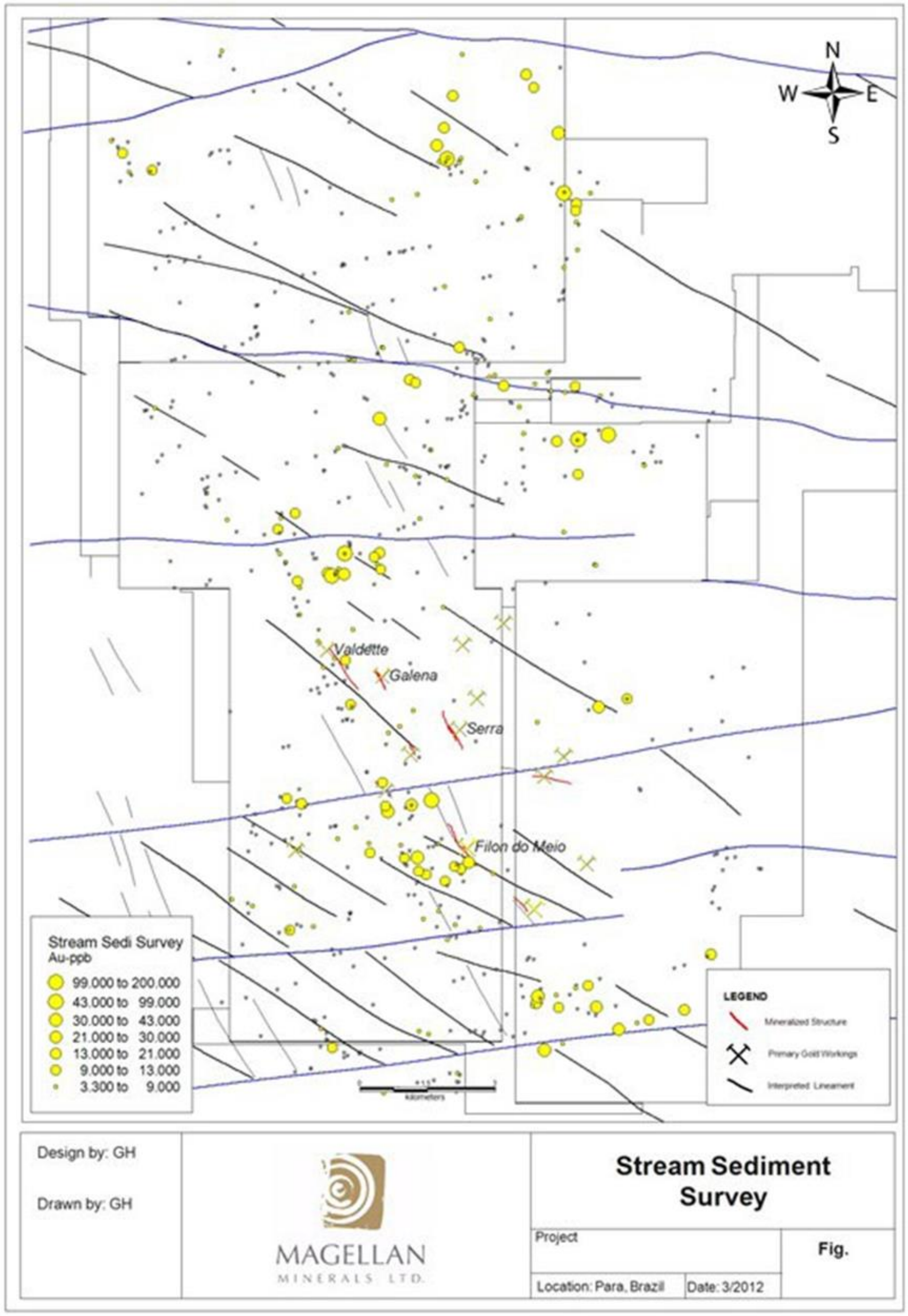
Between March 2007 and 2012, Magellan carried out a stream sediment and soil sampling program. Lines with one-km spacing were laid out across the project boundary, oriented NE-SW, for the stream sediment sampling program. In places where the stream samples contained significant free gold, the drainage was sampled upstream to locate the source. A total of 756 samples were collected. Samples which had over 24 gold color (90^{th} percentile) were considered anomalous. Those that had over 9 ppm Au (90^{th} percentile), were also considered anomalous (see Figure 9-3 and Figure 9-4).

Figure 9-3: Stream Sediment Samples, Au Colours



Source: Magellan, 2012

Figure 9-4: Stream Sediment Samples, Au ppb

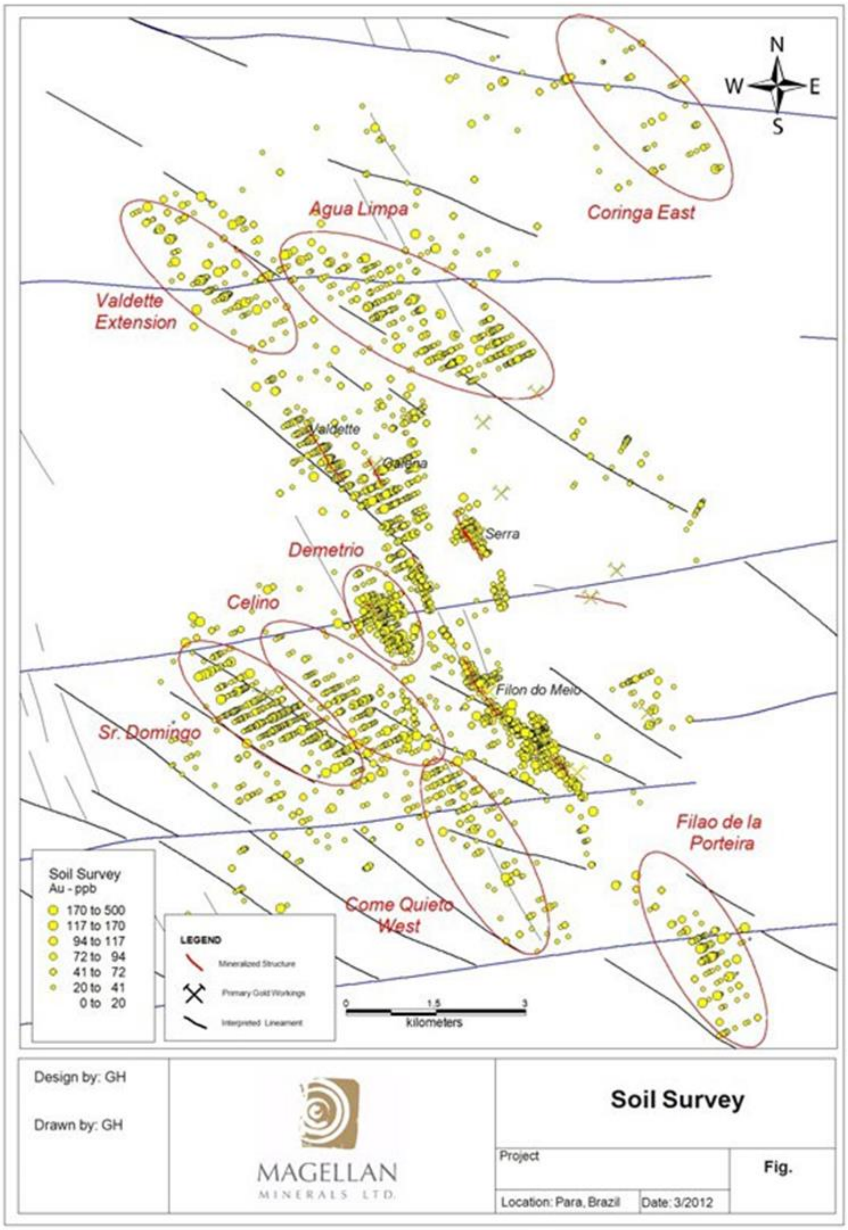


Source: Magellan, 2012

9.3 Soil and Rock Sampling

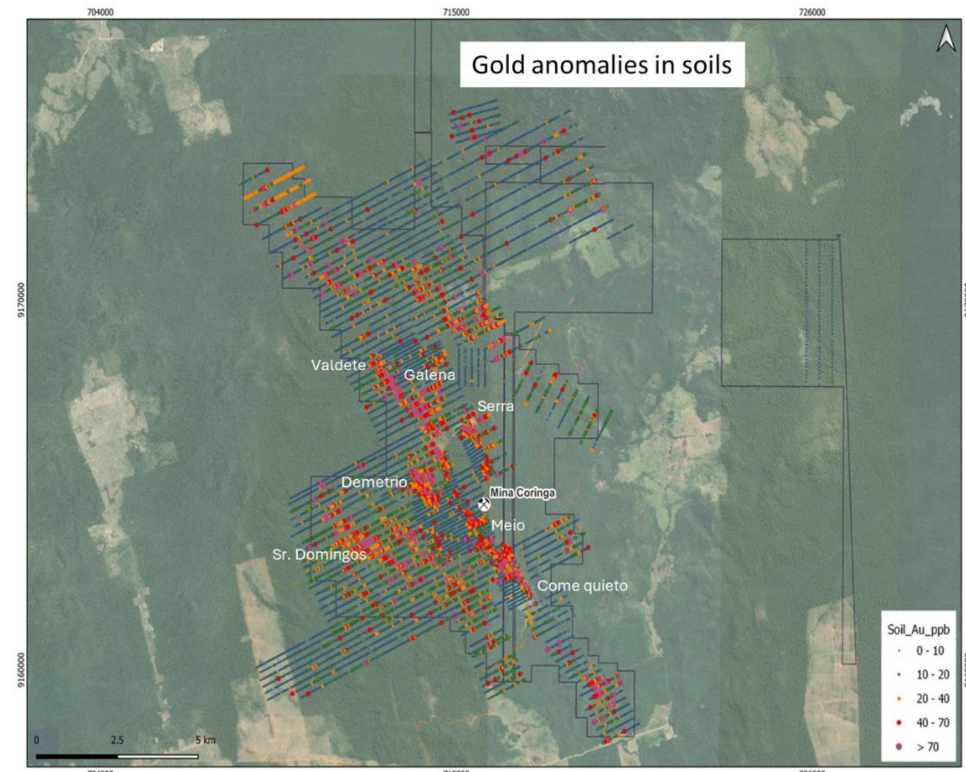
Soil geochemistry is a reliable tool to identify the location of gold-bearing veins. Soil sampling was completed by Magellan using the stream sediment samples as a guide (Figure 9-5). Soil samples over 41 ppb (90 percentile) are considered anomalous. In 2016, Anfield re-assayed soil samples taken previously by Magellan and produced a separate database, Serabi also reprocessed the data and got similar anomalous targets to be investigated that are shown in Figure 9-6.

Figure 9-5: Soil Sampling, Magellan



Source: Magellan, 2012

Figure 9-6: Soil Sampling review Serabi

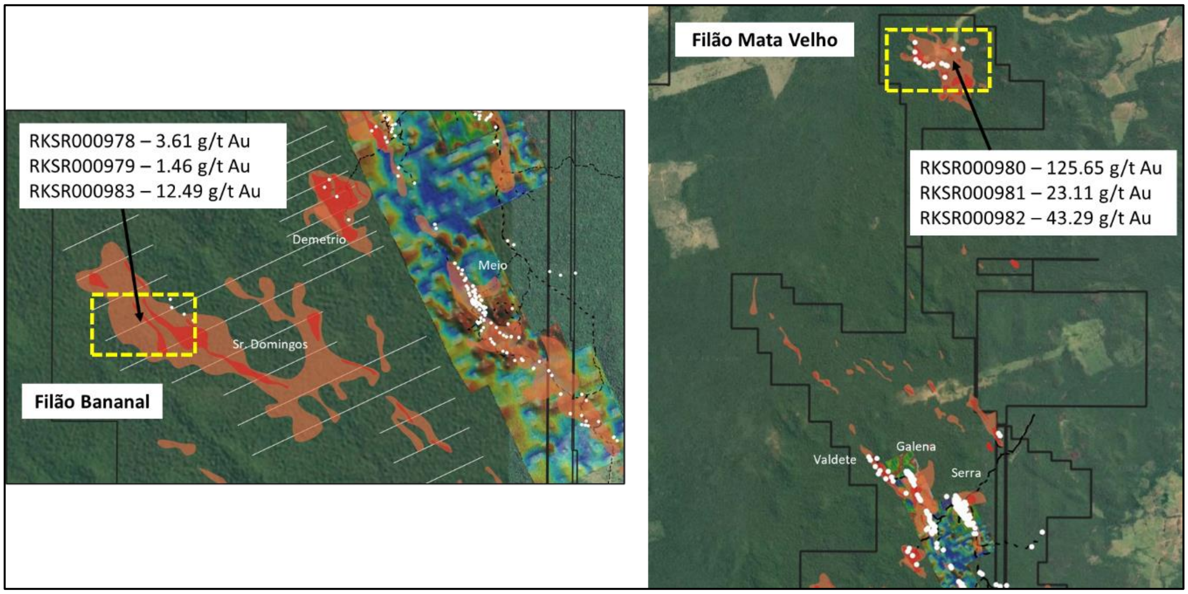


Source, Serabi, 2024

In 2023 and 2024 Serabi continue to do exploration in the areas generating new data, revisiting and reinterpreting the geological dataset. Reconnaissance mapping has been done as rock chip samples were collected in some of the old garimpos. Economic grades were found at Filão Bananal (close to Sr Domingos) and Filão Mata Velho in the extreme north of the permits (Figure 9-7) and a systematic mapping program is underway for the last quarter of 2024.

Serabi is now separating the soil rejects and reprocessing to analyse the samples for ICP. The aim is to have a better understanding of the geology and alteration in the claims. The space between samples was defined as 1,000-800m by 50m space, for the first pass. Serabi's sample preparation laboratory in Novo Progress will be used for the preparation following Serabi's standard procedures, presented below in section 9.4.1.

Figure 9-7: Chip Sampling at Coringa



Source, Serabi, 2024

9.4 Sampling Methods

The following subsections detail the sampling procedures, preparation, and analysis of samples other than drill core samples and how these samples were used to help define the location, orientation, and extent of the mineralization that was later explored by diamond core drilling. Details regarding the drill core samples are presented in Section 10.

9.4.1 Soil Sampling

- Location procedure: A base line was set up perpendicular to the soil line orientation. The start point of each soil line was surveyed with a compass, clinometer, and tape. Each sample location was also surveyed with compass, clinometer, and tape by a field technician. The coordinate calculation was carried out by the field geologist in charge of the survey.
- Sample collection procedure: The topsoil (between 0.3 meters and 0.5 meters deep) was removed, and a 0.5 kg to 0.7 kg sample was collected from the following 0.5 meters below the topsoil. Samples were placed in a plastic bag and tagged. A brief description which included color of the sample and percentage of gravel, sand, and silt was carried out.
- Database: All field information was controlled by the geologist in charge of the soil survey and entered into the database before sending the sample to the laboratory for gold analysis.
- Sample preparation and analysis: Sample preparation consists of two stages: drying and screening. Samples were dried at 60°C and screened to -80 mesh. These two stages take place in an area dedicated for these media to avoid contamination. Samples were analyzed for gold by 50-gram fire assay fusion.
- Soil geochemistry results: A soil class map was built based on the 99, 98, 97, 95, 90, and 75 percentiles of the gold values. Samples above the 95th percentile were considered anomalous. This map was used for the interpretation of the mineralization strike and as a guidance to define drilling targets.

9.4.2 Stream Sediment Sampling

- Location procedure: Regional lines were opened through the jungle on a 1,000-meter grid oriented at approximately 60° azimuth. Every stream that the regional line came across was sampled and located with a handheld global positioning system (GPS) unit.
- Sample site selection and collection procedure: Sites were selected by trying to avoid any possible source of contamination (old artisanal workings), and by looking for fine-grained material at the margins of the water course. An approximately 5-kilogram (kg) sample was panned, and a color count was carried out by the geologist in charge. A second 5-kg sample from the same place was collected and panned until a 200-gram to 300-gram sample was left. Samples were placed in a plastic bag and tagged. A brief description was completed, which included number of gold colors, type of channel, stream order, sediment sorting, and grain lithology.
- Database: All field information was controlled by the geologist in charge of the stream sediment survey and entered into the database before sending the sample to the laboratory for gold analysis.
- Sample preparation and analysis: Sample preparation consists of two stages: drying and screening. Samples were dried at 60°C and screened to -80 mesh. These two stages take place in an area dedicated for these media to avoid contamination. Samples were analyzed for gold by 50- gram fire assay fusion.
- Follow up stream sediment sampling: Those streams with positive results were followed up in a second survey using the same methodology as describe before.

9.4.3 Trench Sampling

- Location procedure: A start point was located with a handheld GPS, and azimuth and trench length were estimated with a compass and tape. Sample coordinates were calculated using this base data. Trenches were hand dug to a depth of 1 meter.
- Sample collection procedure: Approximately 2-kg to 3-kg chip channel samples were collected at 1 meter to 1.5-meter intervals. Sample were placed in a plastic bag and tagged. A brief description of the lithology was carried out by the geologist in charge.
- Database: All field information was entered into the database before sending the sample to the laboratory for gold analysis.
- Sample preparation and analysis: Samples were dried and prepared by particle size reduction to produce a homogeneous sub-sample, which is representative of the original sample (crushed and pulverized to 200 mesh). A 30-gram sub sample was analyzed by fire assay fusion.
- Geochemistry results: The results were plotted on the maps to help the interpretation of the mineralization strike and as a guidance to define drilling targets.

10 Drilling

The following description of the drilling of the Coringa Gold Project was taken from the 2019 NI 43-101 Technical Report issued by GRE and updated with Serabi drilling activities during 2020 up to 2024.

Between 2007 and 2013, Magellan Minerals drilled 179 holes (28,437 meters) to test a number of veins on the property comprising the Coringa Gold Project (i.e., the Serra, Meio, Galena, Valdette, Mãe de Leite, Demetrio, Sr. Domingo, and Come Quieto veins).

In 2016 and 2017, Anfield completed an infill drill program on the Meio, Serra, and Galena veins to gather the additional information required to develop a mine plan. A total of 183 exploration holes were drilled (26,413.61 meters), most of which produced HQ-size drill core. In addition, four PQ-size drill holes were drilled (284.8 meters) for metallurgical samples.

In 2018 and early 2019, Serabi completed an extensional drill program along strike and depth for the Galena, Serra, and Meio veins. A total of 20 NQ-size drill holes (5,619.83 meters) were completed.

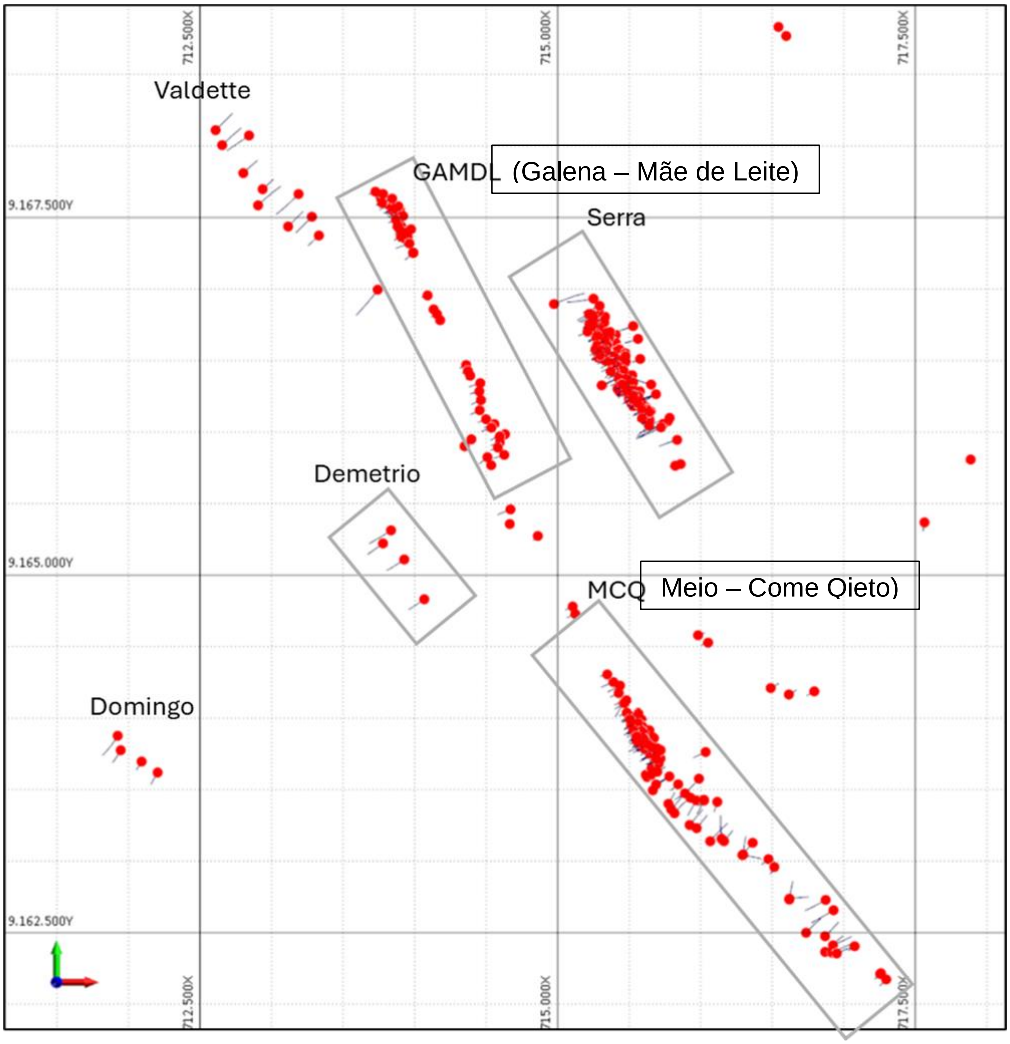
Details of all drill programs from 2007 to 2019 are given in Table 10-1, showing a total of 383 exploration holes (60,201.19 meters). It should be mentioned that Anfield completed seven holes (357, 358, 359, 360, 361, 362, and 363) in the Galena vein that were not included in the 2017 NI 43-101 technical report.

From 2020 to 2024, Serabi completed an extensional drill program along strike and depth for the Serra vein. A total of 41 drill holes (6,364.46 meters) were completed.

A further drill is proposed by the Company for the beginning of 2025 aiming to increase the resource and extend the life of mine following the start of the new production areas in Serra and Meio veins.

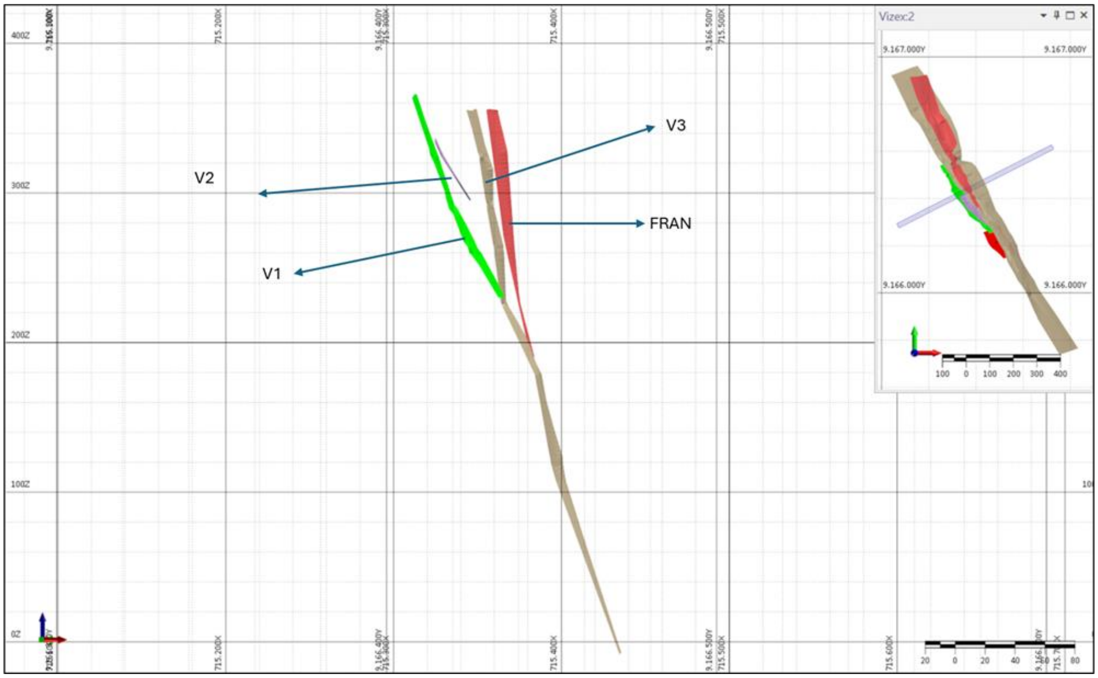
The location of all drill holes completed at the Coringa Gold Project is shown in Figure 10-1. All drill core from the project is temporarily stored in dry, secure buildings located on the property, adjacent to the camp, before being transferred to permanent, secure storage in Novo Progresso. All holes were initially surveyed using a hand-held GPS, followed by a differential GPS or total station to determine the final coordinates for the exploration database. In addition, a new facility to store the core is being built in Coringa to increase the space available for logging and storage the new core.

Figure 10-1: Drill Collar Plan Map Coringa Gold Project



Areas with estimated resources circled; Source: NCL, 2024

Figure 10-2: Serra, Vertical Section View



Source: NCL, 2024

The authors did not encounter any drilling, sampling, or recovery factors that would materially impact the accuracy of the assay results. Overall drill recovery is 98.9%. Example plan and section maps for the Serra veins are shown in Figure 10-1 and Figure 10-2.The section and geologic interpretation correlate well with Orogenic gold deposits showing steeply dipping high grade gold veins.

Table 10-1: 2007 to 2024 Drill Program

Date	Zone	No. of Holes	Hole Numbers (BR-COR-DDH#)	Meters drilled
March 2007-August 2013	Galena-Boca	17	3-4-5-6-23-24-25-26-27-28-29-30-31-34-36-58-60	1956.35
	Eloy-Juara-Mae de Leite	23	17-32-33-35-40-44-51-53-54-56-96-98-99-100-101-102-103-104-105-106-118-176-178	2514.27
	Serra	46	1-2-19-20-37-38-39-41-42-43-45-46-47-48-49-50-52-55-57-59-61-64-66-121-124-127-129-132-135-138-139-141-145-148-150-153-160-161-162-163-164-165-167-168-177-179	8145.16
	Bravo-Escorpion-Peixoto	5	16-22-97-108-109	475.87
	Guaxebinha-Meio-Onza	48	11-12-13-14-62-63-65-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-130-134-137-140-144-149-152-155-156-157-158-159	7660.6
	Come Quieto	12	7-8-9-10-120-122-126-151-154-166-174-175	2519.05
	Fofao	1	15	59
	Pista	2	18-21	105.75
	Acoxadinho	1	107	101.43
	Demetrio	4	111-113-115-116	897.4
	Valdette	11	110-112-114-117-119-123-125-128-131-133-136	2843.1
	Sr. Domingo	4	142-143-146-147	703.58
	Condemnation	5	169-170-171-172-173	455.15
2016-2017	Serra	115	180-181-185-186-187-188-190-192-193-194-195-196-197-198-199-200-201-203-204-206-207-208-210-211-212-213-215-217-218-219-220-222-223-224-225-226-227-228-231-232-233-235-236-237-239-240-241-242-243-244-246-247-248-251-252-253-254-255-257-258-259-260-261-263-264-267-268-270-271-275-276-277-**277-A**-280-281-284-285-286-287-289-293-294-295-300-303-304-308-310-313-316-317-318-320-322-323-325-326-327-330-331-334-335-336-339-340-341-343-344-345-348-349-350-351-352-355	16,574.51
	Meio	65	182-183-184-189-191-202-205-209-214-216-221-229-230-234-238-245-249-250-256-**256-A**-262-265-266-269-272-273-274-278-279-282-283-288-290-291-292-296-297-298-299-301-302-305-306-307-309-311-312-314-315-319-321-324-328-329-332-333-337-338-342-**342-A**-346-347-353-354-356	8,637.05
	Galena	7	357-358-359-360-361-362-363	933.09
2018-2019	Galena	4	364-365-366-367	955.85
2018-2019	Serra	4	368-369-370-371	1,150.59
2018-2019	Meio	12	372-373-374-375-376-377-378-379-380-381-382-383	3,513.39
2020-2024	Serra	20	UG – 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20	1,020.16
Total Drilling		**406**		**61,214.46**

*(The number of 386 holes is equal to the sum of three bolded holes of 277-A, 256-A, and 342-A in the above table with the number of 383 holes.). – Source NCL, 2024

10.1 Magellan Minerals (2007 – 2013)

Five drill programs were completed at the Coringa Gold Project between 2007 and 2013. Magellan used several different contractors to do this work:

- 2007 to 2008, Geoserv Pesquisas Geológicas S.A. (Boart Longyear)
- 2010, Layne do Brasil Sondagens Ltda. (Layne)
- 2013, Geosol-Geologia e Sondagens S.A. (Geosol)

Drills were moved between sites using a bulldozer. Detailed descriptions of these drill programs are provided in Snowden (2015).

10.2 Anfield (2016 – 2017)

In 2016 and early 2017, Anfield used Servitec Foraco Sondagem S.A. (Foraco), Layne, Geológica Sondagens Ltda. (Geologica), and Geotechreserves do Brasil – Serviços de Perfurações e Sondagens LTDA (GTR) to complete an infill drill program on the Serra and Meio veins.

To reduce the cost and save time, most of the holes were pre-collared using a reverse circulation (RC) drill. This work was completed by Foraco. Every pre-collared hole was cased with PVC pipe to a depth of 18 meters, below the contact between saprolite and un-weathered bedrock to prevent holes from caving. There were no samples collected from the pre-collar RC drilling.

Layne, Geologica, and GTR re-entered pre-collared holes and finished drilling with HQ core. Layne (CS-10 and CS-14) and Geologica (Sandvik 710) rigs were moved between holes with a dozer or an excavator. Two of the three GTR rigs (LF-90D) were self-propelled.

Details of the 2016 to 2017 infill drill program are summarized in Figure 10-2. At both Serra and Meio, a 60-meter by 60-meter grid was drilled on 10-meter centers to assess the variability of the mineralization. Resource drilling was done on a 50-meter grid.

Table 10-2: 2016 – 2017 Drill Program

Vein		# of Holes	Meterage
Serra	Detailed Grid Resource Drilling	48 67	2,711 13,877
	Total	**115**	**16,589**
Meio	Detailed Grid Resource Drilling	34 31	2,459 6,164
	Total	**65**	**8,623**

Down-hole surveys were completed using the following downhole survey devices: Layne: REFLEX Maxibor, Geologia: DEVICO Deviflex, and GTR: DEVICO Deviflex and SPT North- seeking GyroTracer. Down-hole surveys were collected at 3-meter intervals.

10.3 Serabi (2018 – 2019)

In 2018 and early 2019, Serabi used Horizonte Mineiro Servicos Geologicos LTDA to complete an infill drill program on the Coringa project site. Serabi drilled 20 drill holes (5,619.83 m) to test a number of veins on the property comprising the Coringa Gold Project (i.e., the Serra, Meio, and Galena veins). Holes were initially cored to HQ diameter in saprolites materials or altered rocks. After passing this soft material, drilling with NQ size was continued to the final depth. Down hole surveys were completed for all holes. Details of the 2018 to 2019 infill drill program are summarized in Table 10-3.

Table 10-3: 2018 – 2019 Drill Program

Vein	# of Holes	Holes numbers	Meters
Galena	4	364 365 366 367	955.85
Serra	4	368 369 370 371	1,150.59
Meio	12	372 373 374 375 376 377 378 379 380 381 382 383	3,513.39
Total	20		**5,619.83**

10.4 Serabi (2020-2024)

In 2020 up to 2024, Serabi completed an infill drill program on the Coringa project site. Serabi drilled 20 drill holes (1,020.16 m) to test the veins of the Serra deposit. Holes were taken from open galleries coded as UG (Underground drilling). Details of the 2020 to 2024 infill drill program are summarized in Table 10-4. In addition, 1,404 samples from channels were also included in the database to support the development of Serra veins.

Table 10-4: 2018 – 2019 Drill Program

Vein	# of Holes	Holes numbers	Meters
Serra	20	1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20	1,020.16
Total	20		**1,020.16**

10.5 Standard Logging Procedure

The following is a summary of the logging protocols in place.

- Core logging took place in a well-lit and secure facility (Figure 10-3).
- The drilling contractor provided core recovery, and the company's technician checked and verified the information.
- Core photography was completed at this stage.
- A project geologist logged lithology, alteration, mineralogy, and structures and marked the core samples.
- Data from the core logging was added to the drill hole data base (Datashed).
- The core was stored in secured, well labeled racks.

Figure 10-3: Core Shack

Source: NCL, 2024

Drill core logs contain the following information:

- Drilling header information: drill-hole number, collar coordinates and elevation, location, azimuth, dip, length, geologist, drilling dates, and core diameter.
- Core recovery.
- Sample data: sample number with from-to intervals.
- Graphic log: columns for displaying the lithology.
- Letter codes for digital data base for lithology (rock type, composition, form, and texture), alteration (type, style, intensity, and mineralogy), mineralization (type, style, mineralogy, and %), and structures (type and angle to core).

11 Sampling Preparation, Analyses, and Security

Sample preparation, analyses, and security procedures used by Magellan and Anfield are taken from the 2017 NI 43-101 Technical Report issued by MTB for Anfield Gold Corp; however, information for 2007 to 2013 is summarized from the 2015 NI 43-101 Technical Report by Snowden. GRE summarized sampling procedures used by Serabi Gold during 2018 and 2019. NCL has compiled and added most updated sampling procedures up to effective date of this report.

11.1 Magellan Minerals (2007 – 2013)

Snowden (2015) describes in detail the sampling procedures used by Magellan between 2007 and 2013. A brief summary is as follows.

The core was cut in half using a diamond saw and, mostly, 0.5-meter long samples were sent to the lab. For sample preparation, Magellan used SGS Geosol (SGS Geosol) laboratories in Belo Horizonte and/or ACME Laboratory (ACME) in Itaituba. Prepared pulps by ACME were sent to ACME's assay laboratory in Santiago, Chile, and pulps prepared by SGS were analyzed in Belo Horizonte, Brazil. Pulps were analyzed for gold using a fire assay procedure with an atomic absorption finish on a 30-gram charge. Some batches of samples were digested in aqua regia and were analyzed by inductively coupled plasma (ICP).

Magellan tested several samples for coarse gold via a screen fire assay technique and concluded that the Coringa Gold Project does not have a significant quantity of coarse gold.

A duplicate sample was inserted every 20th sample. Blanks were inserted after the occurrence of mineral veins, and a certified gold ore standard from RockLab was inserted every 21 samples (on average).

11.2 Anfield (2016 – 2017)

Anfield used the following procedures for its 2016 to 2017 drill program:

The drillers placed the HQ drill core in wooden boxes (three rows; approximately 3 meters per box in total). Wooden tags marked with the down-hole depth were placed in the box. Lids were placed on the boxes and taped shut. The core was then transported by truck to the core storage facility for geological and geotechnical logging and sampling.

Anfield geologists or field assistants checked the depth and recorded the "from" and "to" intervals on the outside of the box, calculated core recovery, and photographed both dry and wet core.

Anfield geologists examined the core and prepared geotechnical and geological logs. The geotechnical log includes: Rock Quality Designation (RQD), core recovery, fracture and vein quantity, and vein angles. Point-load tests were taken at approximately 10-meter intervals, and density measurements were taken to represent different lithologies, alterations, and veins. This information was entered directly into a spreadsheet for each hole.

After the sample intervals were marked, bar-coded sample tags were stapled to the core box, and the core was photographed again. The core was then cut in half using a diamond saw. Half of the core was placed into a plastic sample bag and the other half was returned to the core box and stored onsite. Bar- coded sample tags were included in each sample bag. Sample bags were secured with a tamper-proof plastic tie and put into larger mesh sacks that were also secured with a tamper-proof nylon tie. These sacks were stored in a secured room in the core storage facility.

When a sample batch was ready for shipment, a representative from ALS picked up the samples from the Anfield camp and transported them to the ALS facility in Belo Horizonte, Brazil. At ALS, samples were checked, dried, crushed, and pulverized to approximately 100 microns (µm). For each sample, approximately 250 grams of pulverized material was placed in a paper craft bag (pulp) and shipped to ALS in Lima, Peru, for analysis. Certified reference standards, purchased from CDN, were inserted systematically into every sample batch to monitor the analytical quality. All samples were analyzed for gold using a fire assay technique on a 30-gram charge. In addition, a 48-element ICP-mass spectrometry (MS) analysis was completed using a 4-acid digestion.

Quality assurance/quality control (QA/QC) samples (standards and duplicates) were inserted after every 20 core samples. These included one of three certified standards (high, medium, and low gold grades) and/or a coarse duplicate. In addition to the regular insertions, after every mineralized interval or quartz vein, a blank sample was inserted in the sample stream. Initially, Anfield used a limited number of pulp blanks that were purchased from CDN but switched to utilizing purchased QA/QC blanks from a Brazilian supplier who also provides blank cleaning material to ALS's lab in Belo Horizonte. These blanks were coarse with fragment sizes up to 3 cm and could be used to test both the crusher and the pulverizer for cross contamination.

During the 2016 to 2017 drill program, a total of 5,850 samples were analyzed at the laboratory: 496 of these were blanks, 282 were certified reference material, 280 were coarse duplicates, and the remaining 4,792 were samples collected from drill core. Assaying of standard material produced only four failures. Each failure was investigated, and no systematic errors were discovered. Blank material assaying indicated no contamination occurred from sample to sample. Coarse reject duplicate assays showed the sample preparation protocol produced sufficiently precise results.

In the opinion of the QP responsible for this section, the analytical procedures were appropriate and consistent with common industry practice. The laboratories are recognized, accredited commercial assayers with ISO 17025:2005 accredited methods and ISO 9001:2008 registration. There is no relationship between Anfield and ALS or CDN. The sampling has been carried out by trained technical staff under the supervision of a QP and in a manner that meets or exceeds common industry standards. Samples are properly identified and transported in a secure manner from site to the lab. The quality of the assay database supports the estimation of Indicated Resources.

11.3 Serabi (2018 – 2024)

11.3.1 Sample Preparation

A summary of sampling procedures for the 2018 to 2019 drilling program by Serabi is presented below. The head geologist, Felix Huber, and drilling technician, Lucir Isotton, have been involved with the project since the beginning of exploration in 2007 and have consistently used the same sampling practices throughout the exploration life of the property.

Drilling starts with an HQ size bit in the near surface saprolite materials or altered rocks. After passing this soft material, drilling with NQ size continues to the final depth. The drillers place the HQ and NQ drill cores in plastic boxes (three rows, approximately 3 meters per box in total for HQ; and four rows, about 4 meters per box in total for NQ). Plastic tags marking the down-hole depth are placed in the box. Lids are placed on the boxes and taped shut. The core is then transported by truck to the core storage facility on the project site for geological and geotechnical logging and sampling (Figure 11-1).

Serabi geologists or field assistants check the depth and record the "from" and "to" intervals on the outside of the box on an aluminum plate. The geologist or technician then photographs the core as it is received from the drill rig and collects core recovery information before selecting sample intervals for assay. The geologist marks sample intervals based on lithology, alteration, and mineralization (sulfides). The core is split at mineralized zones with a minimum interval of 0.10 meters. All core boxes are photographed and magnetic susceptibility measured.

Figure 11-1: Drill Rig, HQ, NQ Drill Cores and a Series of Consecutive Core Boxes

Source: NCL, 2024

The marked core is cut longitudinally in half using a diamond saw to bisect the mineralization. Half the core is put into a plastic sample bag and the other half is returned to the core box and stored in a core storage facility onsite (Figure 11-2).

Figure 11-2: Marking Core, Cutting Core, and the Core Storage Facility

Source: NCL, 2024

Identification sample tags are included in each sample bag. Sample bags are secured with tamper-proof plastic ties and placed into larger mesh sacks that are also secured with tamper-proof nylon ties. These sacks are stored in a secure room in the core storage facility. When a sample batch is ready for shipment, it is delivered to the Serabi preparation sample laboratory in Novo Progresso, Brazil, by Serabi personnel or using a contractor. Chain of custody is documented throughout the entire transportation process.

At the preparation laboratory all samples are organized and checked according to the documentation sent before getting in to the preparation process. The samples are checked, dried (4 hours at 110° Celsius) and crushed to a nominal minus one cm. For each sample, approximately

550 grams of the crushed sample is pulverized (for duplicate samples about 900 grams coarse material is required). The balance of the coarse material is placed in a plastic bag and stored in the Serabi sample preparation laboratory as coarse rejects.

For each sample, 300 grams of pulverized material is placed in a plastic bag and shipped to external lab SGS Geosol Laboratorios Ltda in Vespasiano-Minas Gerais, Brazil, and the rest of the pulverized material (around 150 grams) is sent to the in-house analytical lab at Palito Mine in Brazil for the check assay. The samples are divided by standard riffling techniques. No pulverized materials at this stage are stored in the Serabi sample preparation laboratory in Novo Progresso. All stages of the sample preparation process are shown in Figure 11-3, including: drying, crushing, pulverizing, homogenization, splitting, weighting, and packing.

Figure 11-3: Sample Preparation at Serabi Laboratory, Novo Progresso

Source: NCL, 2024

11.3.2 Analytical Procedure

At the external laboratory, SGS Geosol in Belo Horizonte, gold assays are carried out by fire assay (FAA313) and multi-elements by ICP-optical emission spectrometry (OES).

For fire assay, the following stages are performed:

- Decomposition of the samples (30 grams) by fusion with litharge and fluxes (lead oxide, sodium carbonate, sodium tetraborate decahydreate, silver nitrate, potassium nitrate).

- Cupellation and bead acid digestion by aqua regia (nitric acid [HNO3] and hydrochloric acid [HCl])
- The gold content of the acid solution is determined by Atomic Absorption (FAA) or by ICP-OES (FAI)
- The grade of the sample is calculated based on the weight of the fire assay charge and the gold concentration in acid digestion solution

For ICP analysis of the ore, the following stages are performed:

- A sample of the pulp (10 grams) is digested with four acids (hydrofluoric [HFL]), HCL, and HNO3)
- The acid solution is subjected to ICP-OES or ICP-MS to determine up to 37 elements

At the in-house analytical lab at the Palito Complex in Brazil, gold and copper assays are determined by atomic absorption (Spectr AA-55B) as outlined below:

- A sample of the pulp is dissolved using aqua regia that is produced by combining 45 milliliters (ml) of concentrated HCL and 15 ml of concentrated HNO3 with a 3:1 ratio. The mixture is heated on a hot plate at a temperature of 130 º C for a period of 1 hour.
- After acid digestion, the samples are allowed to cool for a period of 20 to 30 minutes and then filtered into an Erlenmeyer flask of 100 ml or 250 ml volume. Distilled water is added to top up the flask to the required level. The flask is manually agitated to ensure good mixing.
- 20 ml of the filtered sample is removed from the flask by pipette and transferred to the separatory funnel containing 20 ml of distilled water and 5 ml of 2.6-dimethyl-4-heptanone (DIBK) with 1% of Aliquat-336. The mixture is manually homogenized for 10 minutes and left to rest for approximately 1 minute for organic separation (water and DIBK).
- Wash solution is then added (490 ml of distilled water, 5 ml of DIBK-1% and 5 ml of HCL), mixed, and left to settle for an additional 10 minutes. After separation, all the aqueous phase drained from the separatory funnel, leaving the DIBK mixture. Ten ml of the DIBK is transferred to a test tube for Atomic Absorption analyses.
- The gold analysis is completed using atomic absorption (Spectr AA-55B) with results reported in ppm (parts per million). The AAS is calibrated using 0.5, 2.5, 5.0, 10.0 and 15 ppm standards. Blanks and ore standards are also processed for QA/QC purposes.
- A 1.0 ml subsample is diluted in a 100-ml flask using distilled water and mixed. The sample is analyzed via atomic absorption (Spectr AA-55B), where the results are reported in ppm. Similar calibration standard increments are employed of 0.5, 1.0, 3.0, 5.0 and 10.0 ppm.
- Sample assays from the AAS are converted back to ore assays using the initial pulp weight, sample AAS assay and dilutions. Gold is reported as grams per tonne and copper as percent.

11.3.3 Sample Security

Serabi maintains formal chain-of-custody procedures during all segments of sample transport. Samples transported to the Serabi sample preparation laboratory in Novo Progresso are bagged and labeled in a manner that prevents tampering and remain in Serabi's control until released to the Serabi preparation laboratory. Upon receipt by the preparation laboratory, samples are tracked and recorded by the Serabi technicians. Pulverized samples are securely bagged, labeled, and sent to the external SGS lab and the Palito Complex assay lab. Retained half cores are safely stored in the core storage facility at the Serabi Project site, while coarse reject materials are stored at the Serabi laboratory in Novo Progresso. After assay analysis by the external lab, the residual pulps are securely returned and stored at the Serabi sample preparation laboratory in Novo Progresso.

11.3.4 Quality Assurance/Quality Control

This section provides the details of the Serabi QA/QC program, while the following section provides an analysis of all QA/QC samples as a combined sample set. Overall, the Serabi QA/QC program indicates acceptable performance of all blanks, duplicates, and standards for the Serabi campaign with only a few normal minor discrepancies that do not impact the resource calculation.

Serabi's in-house QA/QC procedures consist of the insertion of certified standard references, blanks, and duplicate samples at a rate of one standard, one blank, and one duplicate sample per 20 core samples. These include one of three certified standards purchased from RockLabs (0.698, 3.474 and 18.17 ppm Au) and one coarse blank sample (Figure 11-4). All pulp samples are assayed at Serabi's in-house lab at the Palito Complex as well as the external third-party laboratory, the net result is 100% check assays. These assays are reported to correlate very well with the results of the external assay laboratory (currently SGS in Brazil). The authors have spot-checked this assay correlation and confirm this statement. In addition, the independent check assay samples taken by the QPs also show good correlation with the Serabi laboratory assay results.

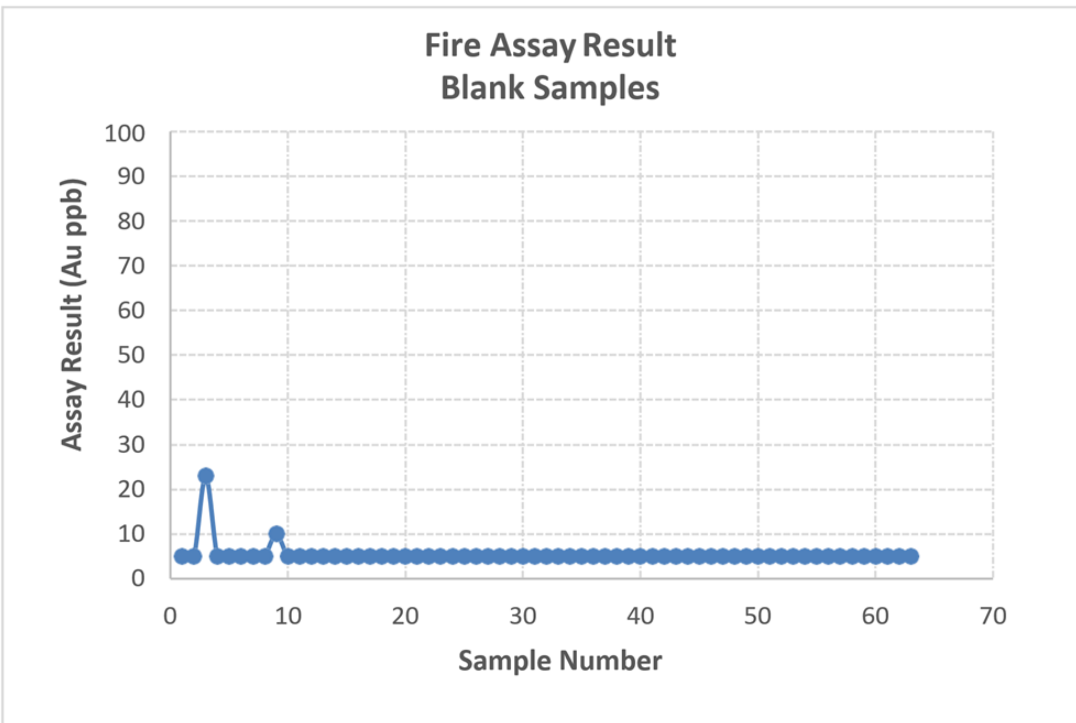
Figure 11-4: Coarse Grain Blank Sample and Three Standard Samples in Serabi Core Storage Facility

The blank samples are coarse material with fragment sizes up to 3 cm. These coarse samples are crushed and pulverized by the Serabi sample preparation laboratory using the same method as drill core samples. This is done to check for contamination in the sample preparation process. Serabi geologists routinely review the standard and blank sample assay results. To date, these results fall within the anticipated range of variability. The assay results of the QA/QC samples demonstrate that there are no systematic errors that might be due to sample collection or assay procedures. Each control type used by Serabi during the 2018 to 2019 drill program is further discussed in the subsections below.

11.3.5 Blanks Analysis

Blank samples are inserted into the sample stream at a rate of one standard for every 20 samples. Since the blank samples are coarse material, they are crushed and pulverized using the same procedure as half-core samples. Figure 11-5 shows the assay results of the blanks by SGS used in the QA/QC program. A total of 63 blanks returned only 2 excursion values, with a maximum value of 24 ppb Au. Considering a 3% excursion rate and that the values of these excursions are well below the probable lower limit of the cutoff grade, the QPs believe the results indicate there is no artificially introduced contamination in the sampling preparation process that would materially affect the mineral resource estimate.

Figure 11-5: Fire Assay Results Blank Samples (2018 – 2019)



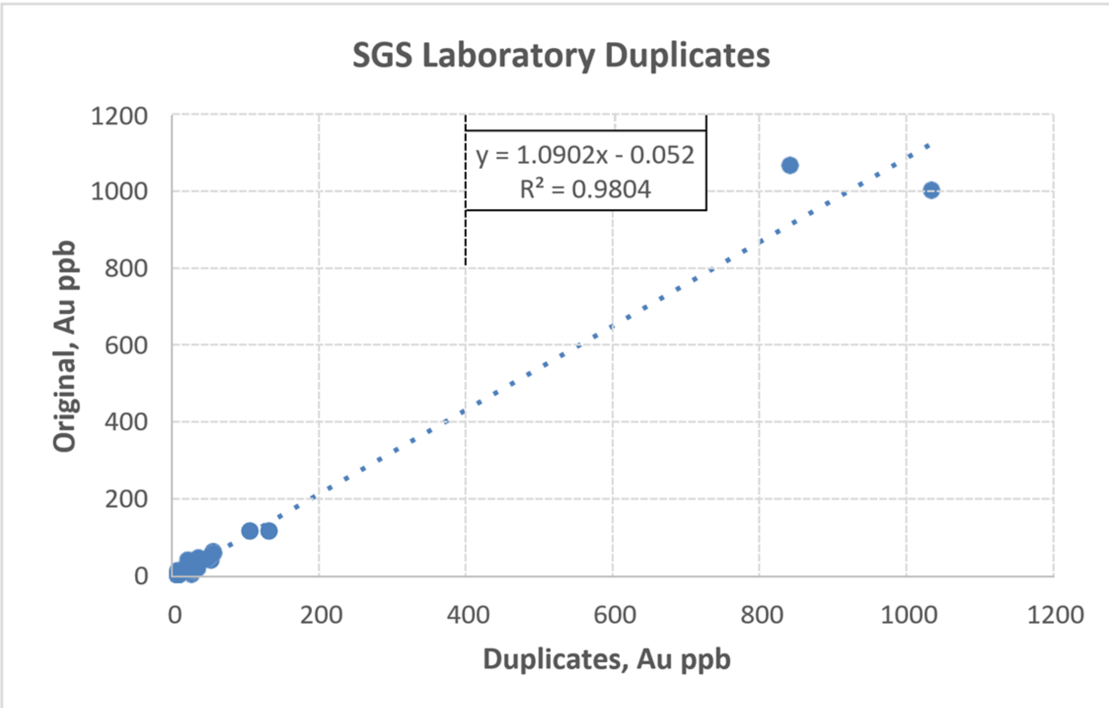
Source: Serabi, 2019

11.3.5.1 Duplicate Analysis

Duplicate samples are inserted into the sample stream at a rate of one standard for every 20 samples. Serabi created the sample duplicates at the Serabi preparation sample laboratory in Novo Progresso. Duplicate samples are prepared in the same manner as all samples, with the duplicate split produced from the pulverized material. For duplicate samples about 900 grams of coarse material is pulverized and then divided and sent in two separate packages with two consecutive numbers to the laboratory. Figure 11-6 shows a comparison graph of the laboratory duplicates.

The Q-Q plots indicate effectively no scatter in the data, with R2 values of 0.9804. More scatters occurs at the higher-grade values but are still within acceptable ranges in the opinion of the QPs. The largest deviations between the duplicate samples belong to the samples of DS37424-P and DS37820-P, with original grades of 1,067 ppb and 1,003 ppb and duplicate grades of 839 ppb and 1,031 ppb, respectively.

Figure 11-6: Laboratory Duplicate Comparison (2018 – 2019)



Source: Serabi, 2019

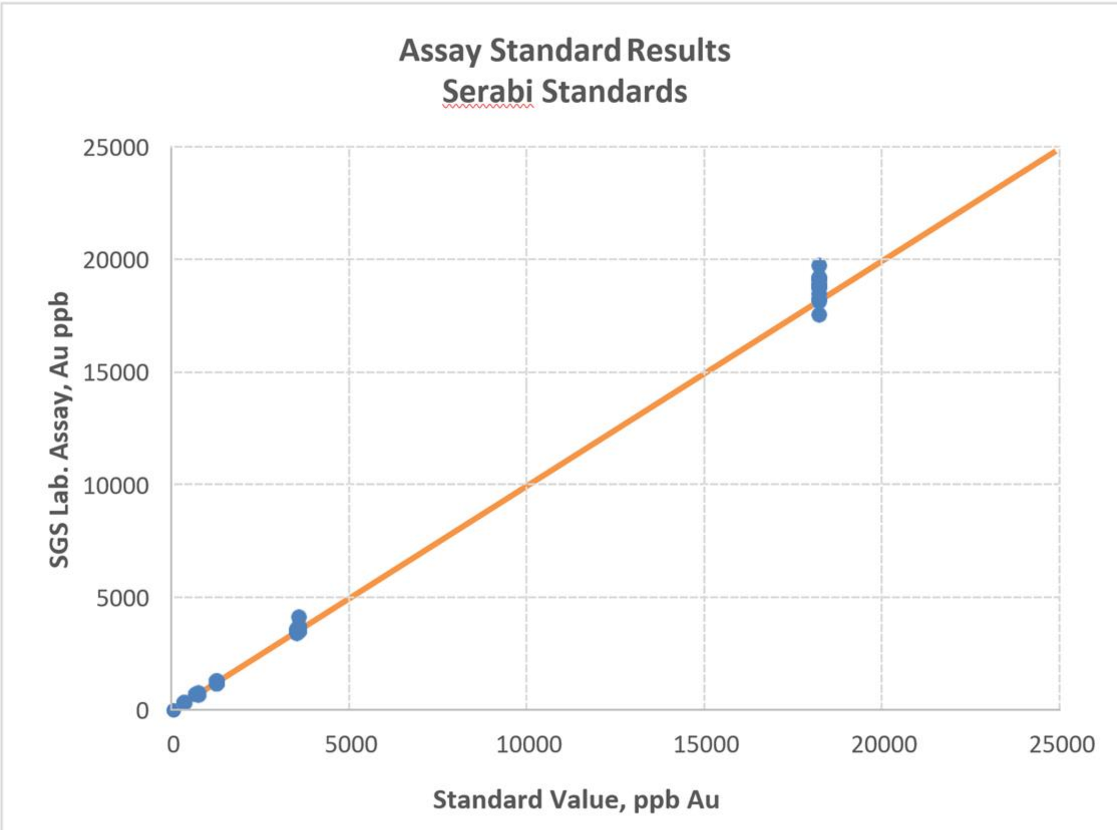
11.3.5.2 Standards Analysis

Commercially prepared standard samples are inserted into the sample stream at a rate of one standard for every 20 samples. Three separate standard samples (low, medium, and high-grade), each with a unique and specific certified assay value, are used. The selection of which standard to use is random. The standards are in pulp form, each contained within small individual sample bags. These bags are placed within the Serabi sample bags with company tags inserted along with the standard. Although sample standards are readily identifiable as standards, the assay values are unknown to the analyzing laboratory.

Serabi personnel periodically review the standard sample analytical results. If the laboratory analytical result differs greatly from the certified assay value, the entire associated assay run (set of 20 samples) is submitted for re-assay. During the Serabi 2018 to 2019 drilling campaign no sample batches were rerun due to standard excursions.

Figure 11-7 shows a scatter plot of the certified value for each assay standard compared to the value obtained by SGS. The laboratory's analytical results generally correlate well with the standard values with no outliers. A 45-degree line represents an excellent correlation between the standard assay certified value and actual assay results. This line passes through all of the sample sets, with the majority of the points directly adjacent to the line, indicating acceptable accuracy performance for the standards. Larger scatter is seen for the high-grade sample, but again this scatter is within an acceptable range in the opinion of the QPs.

Figure 11-7: Assay Standard Results, Serabi Standards (2018 – 2019)



Source: Serabi, 2019

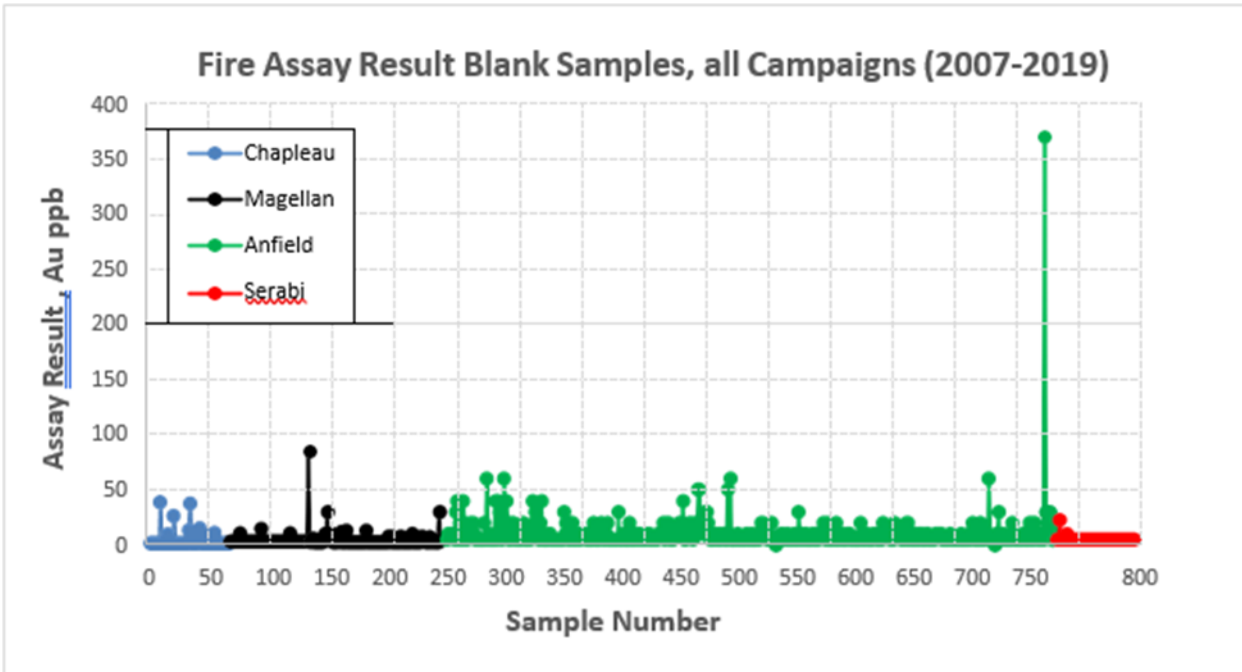
11.4 QA/QC Results, All Drilling Campaigns (2007 – 2024)

This section provides an analysis of the entire QA/QC sample set for the Coringa Gold Project over all drilling campaigns and project owners. The overall view on the QA/QC program indicates acceptable performance of all blanks, duplicates, and standards for all campaigns, with only a few minor discrepancies that do not impact the resource calculation.

11.4.1 Blanks Analysis

A total of 793 blank samples were inserted into the sample stream from 2007 to 2019, including: Chapleau – 65 samples, Magellan – 174 samples, Anfield – 491 samples, and Serabi – 63 samples. Figure 11.4 shows the assay results of the blanks used in the QA/QC all campaigns program. Of the 65 Chapleau blanks, only 3 returned excursion values of more than 20 ppb; of the 174 Magellan blanks, only 3 returned excursion values of more than 20 ppb; of the 491 Anfield blanks, 30 returned excursion values of more than 20 ppb; and of the 63 Serabi blanks, only 2 returned excursion values of more than 20 ppb. These excursion rates represent 4%, 1%, 6%, and 2% of the Chapleau, Magellan, Anfield, and Serabi campaigns, respectively, and are well below the probable lower limit of the cutoff grade. Therefore, the QPs believe the results indicate there is no artificially introduced contamination in the sampling preparation process. It appears that the best QA/QC results were returned to the Serabi campaign, with maximum recorded blank results of 10 and 23 ppb; the remainder of the blank results were less than 10 ppb. In the opinion of the QPs, these discrepancies do not materially affect the resource calculation.

Figure 11-8: Fire Assay Results Blank Samples (2007 – 2019)



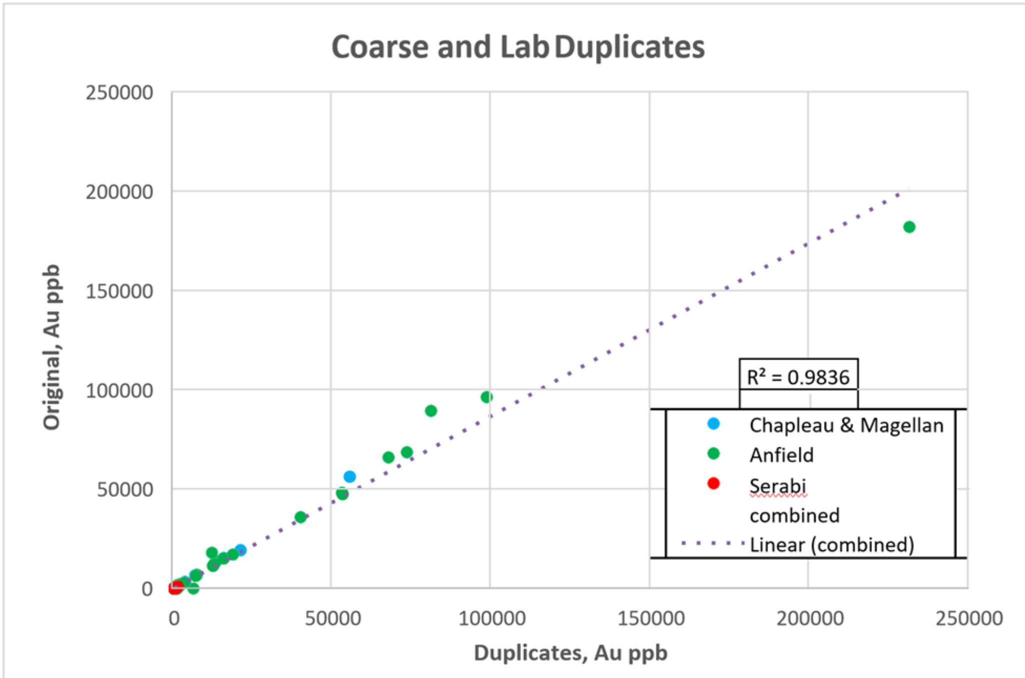
Source: Serabi, 2019

11.4.2 Duplicates Analysis

Figure 11-9 shows a comparison graph of the laboratory duplicates. As shown in this figure, despite the wide range of grades, the Q-Q plots indicate effectively no scatter in the data, with R2 values of 0.9836. The largest deviation belongs to sample S000549 with an original grade of 182,000 ppb and duplicate grade of 231,000 ppb.

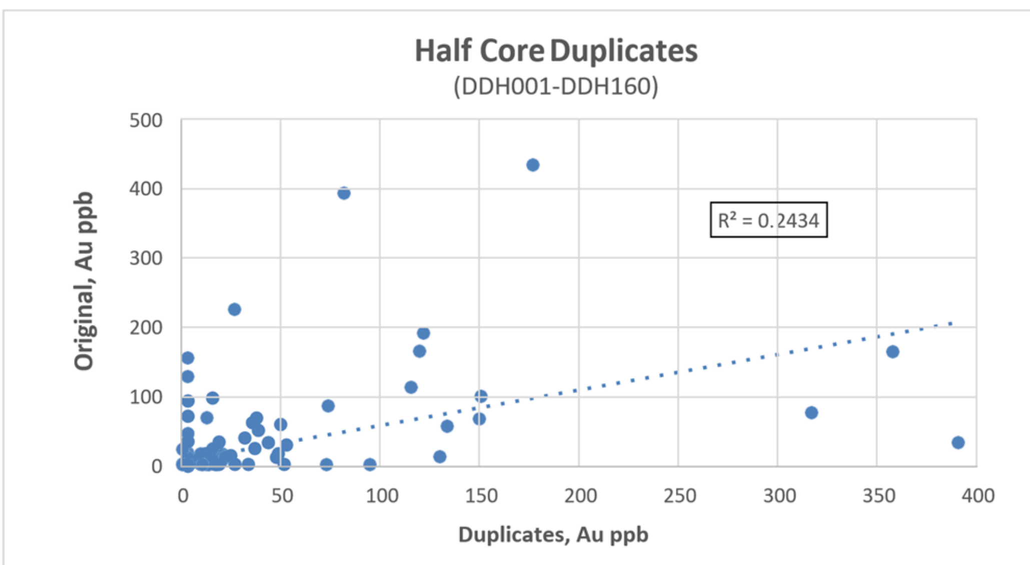
In contrast with lab duplicates, half core duplicates show significant deviation (Figure 11-10). This is the result of taking duplicate samples at a size fraction too large for this type of mineralization. In these drill core samples; the half core was broken at the project site with a hammer and then bagged as two separate samples. For these data, a trend line was generated using polynomial regression, with a R2 value of 0.4. This low correlation in the results appears to be due to the nature of the narrow vein-type mineralization in that the amount of gold is not evenly distributed in between the two half-cores. The QPs believe it is more appropriate to complete a duplicates analysis at the pulp size fraction, which shows excellent correlation.

Figure 11-9: Laboratory Duplicates Comparison, All Campaigns



Source: Serabi, 2019

Figure 11-10: Half Core Duplicates Comparison



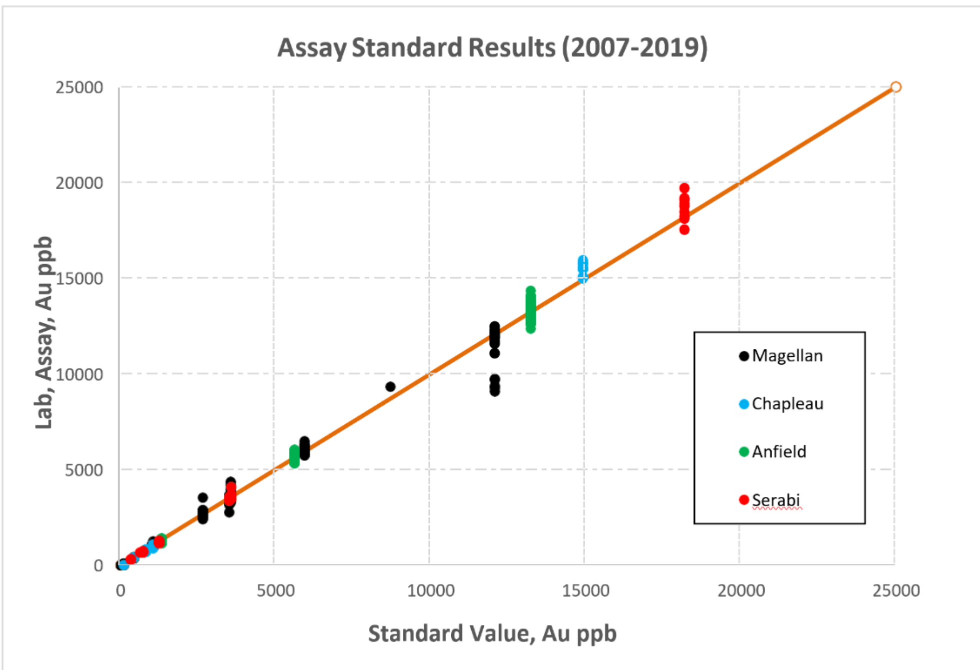
Source: Serabi, 2019

11.4.3 Standards Analysis

Figure 11-11 shows a scatter plot of the certified value for each assay standard compared to the value obtained from the external laboratory for all campaigns. A total of 802 standard samples were inserted into the sample stream from 2007 to 2019, including: Chapleau – 126 samples, Magellan – 320 samples, Anfield – 270 samples, and Serabi – 86 samples.

A 45-degree line represents the optimum correlation (Figure 11-11). The only notable deviation occurred during the Magellan drilling campaign where it appears the standard sample was incorrectly labeled during the process. This occurred when the 8,685 ppb Au sample standard was likely mislabeled as the 12,050 ppb Au standard.

Figure 11-11: Assay Standard Results, All Campaigns Standards (2018-2019)



Source: Serabi, 2019

11.4.4 QP Opinion on Adequacy

QA/QC samples (standards, duplicates, and blanks) were inserted after every 20 core samples. The program protocol of one standard (random choice one of three certified standards of high, medium, and low gold grades), one duplicate, and one blank sample inserted every 20 core samples is within industry standards, and the 100% check assay of all samples using Serabi's in-house lab at the Palito Complex is excellent.

During the 2018 to 2019 drill program, a total of 1,664 samples were analyzed at the SGS laboratory: 63 of these were blanks, 73 were certified reference material, 68 were coarse duplicates, and the remaining 1,460 were samples collected from drill core. Assaying of standard material produced no systematic errors. Blank material assays indicated no contamination occurred from sample to sample. Coarse reject duplicate assays showed the sample preparation protocol produced sufficiently precise results

In the opinion of the QP responsible for this section, the analytical procedures were appropriate and consistent with common industry practice. The sampling has been carried out by trained technical staff under the supervision of the project geologist and in a manner that meets or exceeds common industry standards. Samples are properly identified and transported in a secure manner from the site to the lab. The quality of the assay database supports the estimation of Indicated Resources. There are no fatal flaws that would preclude the calculation of a Mineral Resource.

The QPs believe the following recommendations should be considered for future drilling activities:

- Review and evaluation of laboratory process in Novo Progresso, Palito, and at the external lab should be an on-going process, including occasional visits to the laboratories involved.
- Although sending pulp samples rather than core or chip samples to the outside lab for analysis is less common, the QPs did not observe any practices that would cause concern. For this type of mineralization, inhomogeneous gold distribution in quartz veins, preparing homogenous coarse and pulp samples at a single lab is highly recommended. The QPs recommend sending spot check quarter-core samples to the external laboratory to periodically check the process of preparation of samples at the company-run lab in Novo Progresso.

12 Data Verification

12.1 Verifications by Serabi

Exploration and production work completed by Serabi is conducted using documented procedures and involves detailed verification and validation of data prior to being considered for geological modeling and mineral resource estimation. During drilling, experienced mine geologists implement best practices designed to ensure the reliability and trustworthiness of the exploration data.

As previously outlined, Serabi relies partly on the internal analytical quality control measures implemented by SGS and the Palito Complex laboratory, but also implement external analytical quality control measures comprising of inserting control samples in all sample batches submitted for assaying and requesting pulp and coarse reject duplicate samples. Quality control failures are investigated, and appropriate actions are taken when necessary, including requesting re-assaying of certain batches of samples

12.2 Verifications by NCL

In accordance with NI 43-101 guidelines, NCL visited the Coringa operations from February 13, 2024 to February 15, 2024, accompanied by representatives of Serabi. The NCL team of qualified persons comprised of Nicolás Fuster, RM CMC and Carlos Guzmán, FAusIMM / RM CMC.

The site visit took place during active drilling and production activities. All aspects that could materially impact the integrity of the data informing the Mineral Resources (core logging, sampling, analytical results, and database management) were reviewed along with Serabi staff. NCL interviewed mine staff to ascertain exploration and production procedures and protocols. NCL examined selected core and confirmed that the logging information accurately reflects actual core. The lithology contacts checked by NCL match that of the information reported in the core logs. NCL Toured the underground operations and assessed the attributes of the vein mineralization.

NCL analyzed the available analytical quality control data of the Coringa operations to confirm that the analytical results are reliable for informing mineral resource estimates. Serabi provided analytical data as an Access database. Certified reference materials and blanks were summarized on time series plots to highlight the performance of the control samples, and duplicate assays were examined using bias charts, quantile-quantile, and relative precision plots.

Concerns of possible contamination during the sample preparation process or mislabeling of blank samples is noted in the dataset, however, only approximately 1% of blank samples are observed to be above the warning limit (defined as ten times the lower detection limit). Improvements have been made, as no blank samples in the latest data are observed to be above the warning limit. Serabi should continue to incorporate blank samples and monitor their performance on a regular basis.

Duplicate assays of internal blanks and standards used by the analytical laboratories to which Serabi sent samples to in the pre-2016 dataset was also assessed. Rank half absolute difference (HARD) plots suggest that approximately 98% of the duplicate samples assayed for gold have HARD below 10% and approximately 92% of the duplicate samples assayed for copper have HARD below 10%, indicating extremely good repeatability of the sample results.

NCL certified that the QA/QC procedures are acceptable, well implemented and under international good practices standards.

Serabi should continue to closely monitor the performance of Coringa quality control samples and identify and investigate the cause of any significant outliers.

13 Mineral Processing and Metallurgical Testing

13.1 Introduction

Metallurgical testing for the Coringa Gold Project has been performed since 2008 at four laboratories. Table 13-1 lists the laboratories and summarizes the types of metallurgical test programs that each completed. The results of the various programs are described in detail in Section 13.3.

Table 13-1: Metallurgical Test Programs

Laboratory (Location)	Dates	Key TestingPrograms	MaterialsTested
SGS Geosol Mineral Lab (SGSGeosol) (Belo Horizonte, MG, Brazil)	Mar-08	Gravity Concentration	Two Composites(High and Low Grade)
	May-08	Flotation	
		Whole-Ore Leaching	
Resource Development Inc(Rdi) (Wheat Ridge, CO, USA)	Mar-10	GrindingWork Index	Two Composites(Serraand Guaxebinha-Meio-OnzaZones)
		Gravity Concentration	
		Flotation	
		Whole-Ore Leaching	
Testwork Desenvolvimento de Processo Ltda(TDP) (NovaLima, MG, Brazil)	Jun-13	Gravity Concentration	Two Composites(Serra-Galena-Mãe de Leite and Meio-Come Quieto Zones)
	Nov-13	Whole-Ore Leaching	
	Dec-13	Gravity-Intensive Leach	
		Flotation, Float-Leach	
		Cyanide Neutralization	
		Settling	
		GrindingWork Index	
C.H. Plenge & CIA. S.A. (Plenge) (Miraflores, Lima, Peru)	May-17	Comminution (UCS, Crush)	1/2Hqcore Master Composite (Serra-Meio Zones)
	Jul-17	Comminution (Abrasion, Bwi)	1/2Hqcore Variability Composites(8Serra, 6Meio)
		Gravity Concentration	Comminution Samples(26Serra, 26Meio)
		Gravity-ConcIntensive Leach	Sliced Pqcore Variability Composites(4Serra, 2Meio)
		Gravity TailsLeach	
		Whole-Ore Leaching	
		Whole-Ore Flotation,	
		Leach TailsFlotation	
		Cyanide Neutralization	
		Settling	
		Gravity Concentrate	
Andritz Separation	Sept-18	Tailings Setting & Filtration	Tailings Bullk Sample
Palito Ore Sorting Plant	Aug-22	Ore Sorting	Bulk ROM actual production

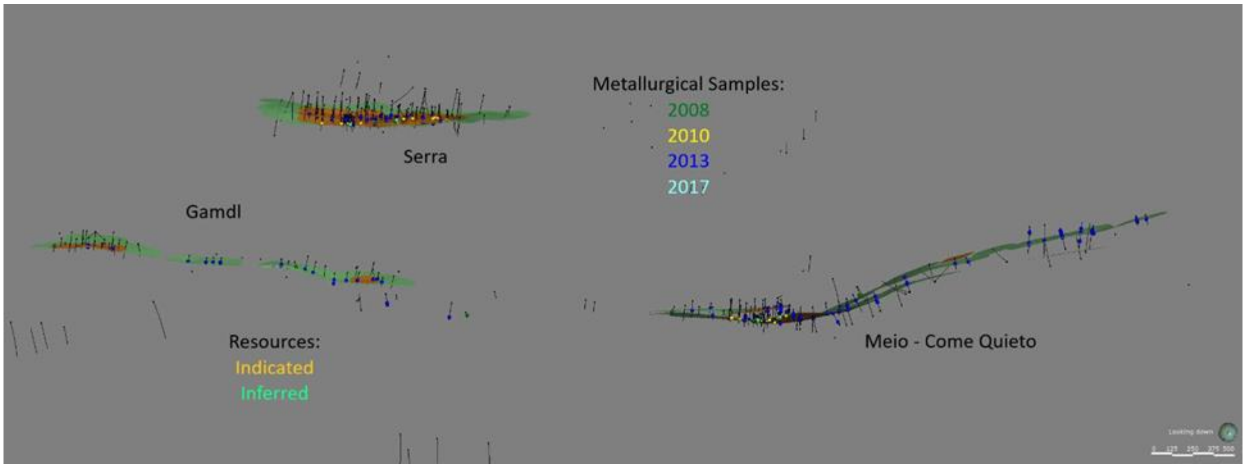
Results from the Plenge test program and ore sorting results obtained in the Palito sorting facilities are used to project the metallurgical performance of materials planned for mining and processing at the Coringa Gold Project. Results from the earlier Rdi and TDP test programs support results from the Plenge program and altogether are useful to support the stated overall representativeness of the samples to the various deposits. Tailings solid/liquid separation were done using bulk Palito tailings samples and ore sorting with ROM ore from current mine production at Coringa.

13.2 Metallurgical Samples

13.2.1 Metallurgical Sample Locations

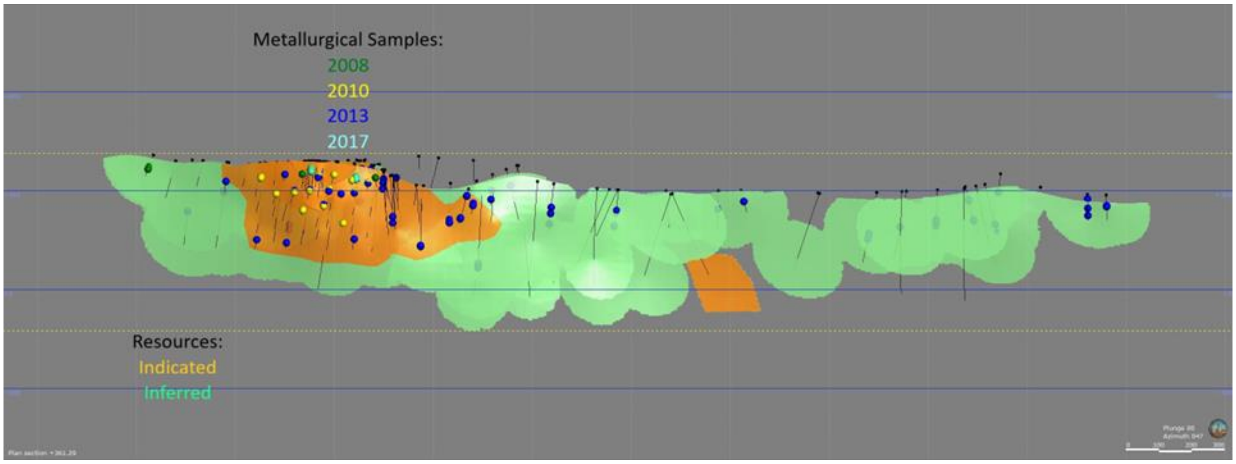
Drill holes and sample intervals for the materials selected for the four test programs are shown Figure 13-1 (all samples and all zones), Figure 13-2 for the Meio deposit, and Figure 13-3 for the Serra deposit. The samples tested are spatially representative of the zones currently planned for mining and processing in the project development plan. Results from the test programs are acceptable to use to project the metallurgical response of the materials planned for processing.

Figure 13-1: Plan View – All Metallurgical Sample Locations



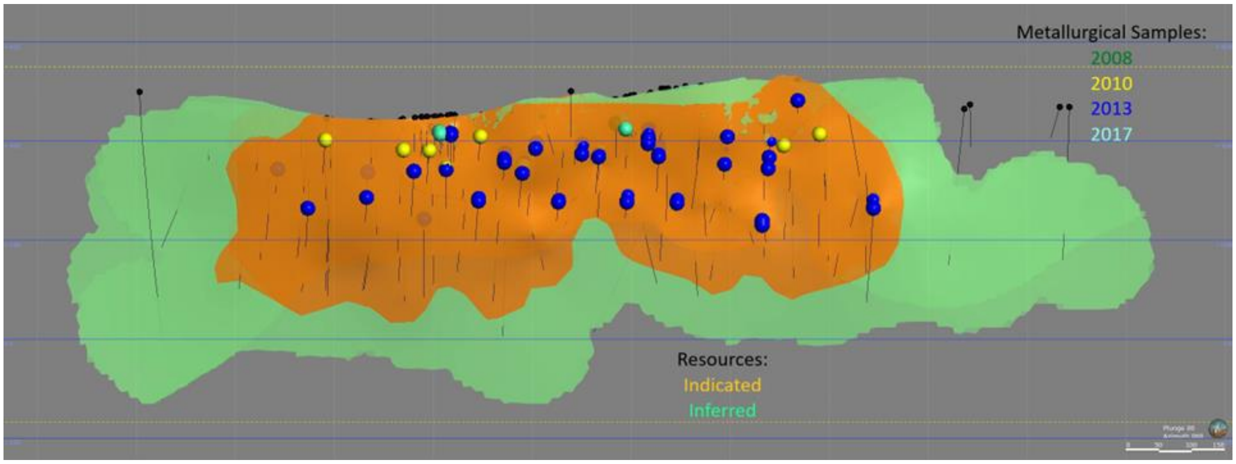
Source: Sim Geological, 2017

Figure 13-2: Long Section – Meio Metallurgical Sample Locations



Source: Sim Geological, 2017

Figure 13-3: Long Section – Serra Metallurgical Sample Locations



Source: Sim Geological, 2017

13.2.2 Metallurgical Sample Mineralogy

In February 2017, ten samples of drill core from the Coringa Gold Project were sent to Camborne School of Mines in Cornwall, UK to complete a petrographic and Qemscan study. Seven samples were from the Serra zone and three from the Meio zone. Three samples (two from Meio and one from Serra) were selected based upon their gold potential and variations in mineralogy to be run on Qemscan in 10-micron field scan mode. The results are reported in the March 2017 report entitled "A Petrographic and Qemscan Study of Coringa Gold Project, Tapajos Region, Brazil" authored by Dr. Nicholas Le Boutillier with Dr. Gavyn Rollinson and a summary of the findings is below:

- Gold, within electrum (Au, Ag), was found optically in two of the ten samples.
- Gold was found in all three samples selected by Qemscan.
- Electrum is closely associated with quartz (48%).
- Quartz is the dominant gangue phase with electrum residing in fractures and as inclusions.
- Electrum is also closely associated with pyrite (31%) within fractures and along grain margins.
- Chalcopyrite, galena, hematite, and chlorite are also repositories for electrum.
- A total of 363 grains of electrum were found in the study.
- Of those found, 296 (81.5%) were less than 15 microns in size.
- 347 electrum grains (95%) were less than 35 microns in size.
- Electrum grain sizes ranged from 75 microns to < 15 microns.
- Gold content in the electrum particles ranged from 71% to 90% and averaged 81%.

13.3 Metallurgical Testing

13.3.1 SGS Geosol

In 2008, SGS Geosol of Belo Horizonte, MG, Brazil performed a preliminary test program that investigated size fraction gold analysis, gravity concentration, flotation, and cyanide leaching of samples from the Coringa Project. Samples were collected from 20 different drill holes and used to prepare two composites, a high-grade composite contained 23 g/t gold, and a low-grade composite contained 3 g/t gold.

Size fraction analyses, at five separate fractions (+300 to -38 microns), indicated that the gold assay values were very similar in each size fraction meaning that the gold is evenly disseminated. The combined assays also compared well to the initial assays of each composite.

Gravity concentration was performed using a Knelson concentrator with the tails being treated on a Mozley table. Results were similar for each composite with about 40% of the gold being recovered into a combined Knelson and Mozley concentrate weighing about 7% of the feed material weight.

Cyanide leaching of the Mozley table middling and tails for each composite, after grinding to less than 1 mm, resulted in gold recoveries from the middling ranging from 40% to 64% and from the tails ranging from 34% to 87%.

Flotation of Mozley table tails and middling materials, for each composite, after grinding to 150 microns, resulted in gold recoveries of 93% from the middling and 86% from the tails. Concentrate weights ranged from 6% to 12% of the feed weights. Silver, lead, zinc, and copper recoveries in the flotation concentrates were similar to gold recoveries. Cleaner concentrate contains 2% to 11% lead and about 3% zinc.

The SGS Geosol test program results indicated that there was potential for reasonable metal recoveries being obtained from the materials from the Coringa Gold Project. Further programs were deemed necessary to refine the processing schemes and recovery projections. Those programs are discussed below.

13.3.2 Rdi

In 2010, a second metallurgical test program, at scoping-level, was performed at Rdi of Wheat Ridge, Colorado, USA. Two composite samples were prepared using 114 kg of analytical reject materials from drill holes of the Serra and Guaxenbinha-Meio-Onza (Meio) Zones. The composites were subjected to indirect ball mill work index determinations, gravity concentration, flotation, and whole-ore cyanide leaching. The Serra composite was made from 19 drill hole samples while the Meio composite consisted of 52 samples.

Head assays of the Serra and Meio composites were:

- Serra – 8.2 gpt gold, 14.9 gpt silver, 0.26% lead, 0.13% zinc
- Meio – 11.1 gpt gold, 16 gpt silver, 1.6% lead, 0.52% zinc

Indirect ball mill work index determinations were performed due to lack of coarse material available to perform standard Bwi tests. The Bwi was calculated using the power measured at the laboratory ball mill. It was estimated that Serra had a Bwi of 18.8 kWh/t and Meio of 22.3 kWh/t, both very hard materials.

Gravity concentration testing was performed on both composites via a 3.5-inch diameter Knelson concentrator with rougher concentrates cleaned on a Gemini table. Samples were ground to three size fractions (P80 of 210, 150, and 105 microns) prior to testing. Gold recoveries ranged from 37% to 68% into concentrates weighing about 1% of the feed weight. Silver recoveries ranged from 10% to 23%. Gravity concentrates assayed over 400 g/t gold and 260 g/t silver.

Two flotation test series were performed on the composites including bulk-sulfide flotation and differential flotation. Bulk-sulfide flotation recovered 90% to 95% of the gold and 70% to 80% of the silver into a concentrate assaying over 90 gpt gold and 106 gpt silver. Concentrate weights ranged from 8% to 12% of the feed weights. Differential flotation resulted in the precious metals distributed across the lead, zinc, and pyrite concentrates with perhaps only the lead concentrates being of sufficient quality for marketing.

Whole-ore cyanide leaching of the composites was performed using cyanide with and without activated carbon (CIL Process). Without carbon, gold recoveries from the Serra and Meio composites were 92% and 87% and silver recoveries were 63% and 60%, respectively. Using CIL, gold recoveries for Serra and Meio composites were 99% and 86%, respectively, while silver recoveries were 74% and 63%, respectively. NaCN consumptions ranged from 1.8 to 2.7 kg/t and lime consumptions ranged from 6.8 to 10.2 kg/t.

Additional CIL tests were performed to investigate pre-aeration prior to leaching and a coarser grind size. For Serra, the coarser grind resulted in a reduced gold recovery by 2% (from 99% to 97%), similar silver recoveries (92%), and a lower NaCN consumption to 1.1 kg/t. For Meio, the coarser grind resulted in a reduced gold recovery by 5% (from 98% to 93%), aeration prior to leaching improved gold recovery from 86% in the earlier work to 98%. Silver recoveries were similar for each grind size; however, the pre-aeration step significantly improved the silver recovery from 63% to 93%. NaCN consumption was 1.4 kg/t. The whole-ore CIL test metal recoveries were very good with a grind size p80 of 74 microns and a pre-aeration step prior to leaching found to be optimum.

The following Table 13-2 presents the whole-ore cyanide leach results.

Table 13-2: Rdi Whole-Ore Cyanide Leach Results

Composite	Grind p80 (µm)	Leach Time (Hours)	Carbon Addition	Pre-Air (4 hours)	Gold Rec (%)	Silver Rec (%)	NaCN (kg/t)	Lime (kg/t)
Serra	74	48	No	No	91.7	63.4	1.8	10.2
Serra	74	48	Yes	No	98.9	74.3	2.0	7.7
Serra	74	48	Yes	Yes	99.0	92.2	1.2	N/ A
Serra	150	48	Yes	Yes	97.2	92.2	1.1	N/ A
Meio	74	48	No	No	86.5	60.4	2.4	6.8
Meio	74	48	Yes	No	86.0	63.2	2.7	7.8
Meio	74	48	Yes	Yes	97.7	93.2	1.8	N/ A
Meio	150	48	Yes	Yes	93.2	93.2	1.1	N/ A

The test results confirm the amenability of the ore, both from Meio and Serra to the CIL process.

13.3.3 TDP

A third Metallurgical Test Program was performed during 2013 by TDP of Nova Lima, MG, Brazil, the program was performed on two composites. Composite 1 was made from 10 samples, weighed 244 kg, and represented the Galena-Mãe de Leite-Serra zones (Serra). Composite 2 was made from 11 samples, and weighed 281 kg, and represented the Meio-Come Quieto zones (Meio). Composite 1 contained approximately 20% of its material from the Galena zone, 20% from the Mãe de Leite zone, and 60% from the Serra zone.

Head assay analyses of the composites were:

- Composite 1 (Serra) – 3.2 gpt Au, 9.3 gpt Ag, 0.15 % Pb, 0.07 % Zn, 0.04 % Cu
- Composite 2 (Meio) – 2.7 gpt Au, 5.8 gpt Ag, 0.23 % Pb, 0.20 % Zn, 0.04 % Cu

The TDP testing program included:

- Gravity concentration and Intensive Leaching (IL) of gravity concentrates
- Whole-ore and gravity tails cyanide leaching with and without activated carbon
- Flotation of gravity tails and cyanide leaching of flotation concentrates
- Cyanide neutralization
- Settling
- Bwi tests

Gravity concentration testing was performed on each composite at three grind sizes. Table 13-3 shows the results of the gravity concentration, at a water fluidization flow of the gravity concentrates. Gravity recoveries ranged from 52% to 66% for gold and 24% to 34% for silver. IL of the gravity concentrates extractions ranged from 95% to 99% for gold and 54% to 72% for silver. The high leach recoveries of gold indicate that the gold particles are likely free in the concentrates with the finer the grind the higher the recoveries.

Table 13-3: Gravity Concentration and Intensive Leach Tests

Composite	Grind p80 (microns)	Gravity Mass Rec (%)	Gravity Gold Rec (%)	Gravity Silver Rec (%)	Int. Leach Gold Rec (%)	Int. Leach Silver Rec (%)
Serra	150	2.2	64.4	34.3	94.9	60.7
Serra	106	1.7	65.8	33.0	99.1	70.7
Serra	75	1.4	57.8	24.6	99.3	67.0
Meio	150	2.0	56.2	30.3	95.8	53.7
Meio	106	1.7	58.4	27.5	98.1	62.5
Meio	75	1.3	52.2	24.5	98.9	72.2

Whole-ore cyanide leaching tests, with and without activated carbon, were performed on both composites. Test results are presented in Table 13-4 and indicate that gold recoveries improve with finer grinding and when using activated carbon (CIL process). At the finest grinds and when using carbon, gold recoveries were 99% for Serra and 97% for Meio while silver recoveries were both at about 77%. It is noted that those recoveries were obtained without pre-aeration. The average cyanide and hydrated lime consumptions for all tests were 0.52 kg/t and 0.4 kg/t, respectively.

Table 13-4: TDP – Whole Ore Cyanide Leach Tests

Composite	Grind p80 (microns)	Carbon Addition	Gold Rec (%)	Silver Rec (%)
Serra	150	No	91.1	62.8
Serra	150	Yes	96.7	46.6
Serra	106	No	91.7	77.4
Serra	106	Yes	98.0	76.0
Serra	75	No	93.0	70.7
Serra	75	Yes	99.0	78.0
Meio	150	No	89.2	62.7
Meio	150	Yes	92.3	68.0
Meio	106	No	91.1	76.6
Meio	106	Yes	94.8	64.8
Meio	75	No	90.7	69.3
Meio	75	Yes	96.7	76.7

Further testing included gravity concentration, IL of the gravity concentrates and leaching of the gravity tailing combined with the leach residues. Table 13-5 presents the results. The gravity concentrates masses, prior to intensive cyanidation, were all about 1.3% of the feed weight. When using activated carbon the overall gold recoveries for Composite 1 (Serra) were 98% and for Composite 2 (Meio) were 97%, both 1% to 2% higher than the tests run without carbon. Silver recoveries were 66% for Serra and 53% for Meio when using carbon. Cyanide consumptions were reasonable and ranged from 0.5 kg/t to 1.3 kg/t for all tests.

Table 13-5: Gravity Concentration, Intensive Cyanidation, and Tails Leaching (at 75 micron grinds)

Composite	Int. Leach Au Rec. (%)	Int. Leach Ag Rec. (%)	Carbon (gpl)	Leach Density (%)	Tails Leach Au Rec. (%)	Tails Leach Ag Rec. (%)	Total Au Rec. (%)	Total Ag Rec. (%)
Serra	63.8	16.3	0.0	40.0	33.3	53.8	97.1	70.1
Serra	60.5	15.5	0.0	50.0	36.9	58.0	97.3	73.5
Serra	68.3	18.3	18.0	40.0	29.8	46.3	98.2	64.6
Serra	63.7	17.3	18.0	40.0	34.8	51.4	98.4	68.7
Meio	44.3	11.9	0.0	40.0	50.6	48.5	94.9	60.4
Meio	37.5	12.8	0.0	50.0	57.4	49.5	94.9	62.3
Meio	48.1	14.4	18.0	50.0	48.6	37.3	96.7	51.7
Meio	39.6	16.7	18.0	50.0	57.7	37.5	97.3	54.1

After the successful gravity and cyanidation test results, it was decided to investigate the possibility of using flotation to produce a concentrate from the combined gravity tails and IL residues and then leach that flotation concentrate to reduce the amount of overall material that might be leached.

The two composites were first subjected to gravity concentration at three different grind sizes with the gravity concentrates then cyanide leached. Gold recoveries for Serra ranged from 62% to 68% and for Meio from 44% to 51%. Silver recoveries after IL were also similar to previous tests and ranged from 14% to 20%. Gravity tails combined with leach residues from the above tests were then subjected to flotation.

Results were positive with Serra gold and silver recoveries into the concentrates averaging 98% and 93%, respectively. Meio gold and silver flotation recoveries averaged 96% and 89%, respectively. Concentrate mass pulls averaged about 12% for all tests. Four flotation confirmation tests were performed at those optimum conditions with gold and silver recoveries averaging 97% and 93%, respectively, about the same as the previous tests.

Flotation concentrates from each composite were then cyanide leached. Gold and silver flotation concentrate leach recoveries for Serra were 95% and 43%, respectively, and for Meio were 93% and 37%, respectively.

The overall gold and silver recoveries from the above gravity, IL, flotation, and concentrate leach tests for Serra were 95.5% for gold and 48% for silver. Meio recoveries overall were 92.4% for gold and 42.1% for silver. These overall recoveries are slightly lower than the tests that used gravity, IL, and leaching of gravity tails with IL residues.

Preliminary cyanide neutralization tests were performed on whole-ore leach tailings of both composites with the cyanide concentrations of slurries prior to treatment ranging from 56 mg/l to 132 mg/l. The tests that used higher ratios of SO2 to CN reduced CN levels to less than 1 mg/l in 1 to 2 hours, the others reached 5 mg/l in 2.5 hours. The tests are preliminary, however, did confirm that CN levels can be reduced effectively using a standard treatment process in a reasonable time period.

Settling tests were performed on the two composites to determine settling (thickener) requirements for finely ground material prior to leaching. To achieve a targeted 50% solids in the thickener underflow and a clear overflow, from a feed density of 21% solids the unit settling area for both composites was 0.13 m2/t/d of feed.

A Bwi test was performed on each composite. The work index values for the Serra and Meio composites were 20.3 kWh/t and 25.2 kWh/t, respectively, both very hard.

TDP showed that the samples all responded very well to gravity concentration, whole-ore cyanidation, and flotation. Results from TDP's tests were used to design the Plenge test program discussed below.

13.3.4 Plenge

In February 2017, Plenge of Miraflores, Lima, Peru was commissioned to develop a new metallurgical testing program on new samples drilled core from the Serra and Meio deposits, to support the preparation of the Feasibility Study. A total of 659 kg of samples were received at the lab with 71 samples being from Serra and 50 from Meio.

A total of 61 samples of ½ HQ core were used to prepare a master composite. A total of 52 samples from whole HQ drill core were used for comminution testing. Sliced PQ core samples were used to prepare six composites for additional variability and comminution testing.

The Plenge test programs included:

- Comminution and physical properties
- Whole-ore cyanidation
- Gravity concentration, IL of concentrates, leaching of gravity tails
- Whole-ore flotation
- Cyanide neutralization
- Flotation of detoxified leach tails

- Settling of gravity tails
- Variability sample testing
- Gravity concentrate mineralogy
- Produce a representative tails sample for tailings characterization by others

A 100 kg master composite was prepared using 50 kg each of Serra (39 samples) and Meio (22 samples). The head assays of the ½ HQ core master composite, eight ½ HQ core variability composites, and six sliced PQ core variability composites are presented in Table 13-6 and Table 13-7.

Table 13-6: Plenge – ½ HQ Core Master and Variability Composite Heads

Element	Units	Master Composite Assay	Serra High Grade Assay	Serra Mid Grade Assay	Serra Low Grade Assay	Serra Mine Grade Assay	Meio High Grade Assay	Meio Mid Grade Assay	Meio Low Grade Assay	Meio Mine Grade Assay
Au	gpt	13.6	44.3	13.3	2.9	7.8	24.9	12.3	3.1	8.8
Ag	gpt	24	120	34	3	14	26	13	3	10
Cu	%	0.11	0.2	0.09	0.02	2.0	0.24	0.16	0.03	0.09
CuCN	%	0.04	0.08	0.04	0.01	0.03	0.04	0.08	0.01	0.02
Hg	ppm	0.32	0.21	0.15	0.05	0.11	1.18	0.25	0.1	0.17
S (total)	%	1.85	1.55	1.91	0.25	0.74	3.83	0.97	0.71	2.88
C (total)	%	0.09	0.14	0.07	0.09	0.08	0.07	0.12	0.05	0.12
C (org)	%	0.08	0.08	0.06	0.07	0.06	0.06	0.1	0.04	0.1
Sp grav.	g/cc	2.65	2.58	2.54	2.47	2.42	2.65	2.6	2.56	2.6
Fe	%	2.45	2.88	2.53	1.16	1.71	3.3	2.11	1.9	3.52
Pb	%	0.93	0.42	0.3	0.04	0.23	3.27	1.0	0.26	1.22
Zn	%	0.5	0.14	0.18	0.03	0.13	1.85	1.08	0.17	0.28
Bi	ppm	30	196	59	9	25	6	<5	5	<5
Cd	ppm	27	10	16	3	9	94	64	7	15
Co	ppm	3	8	6	4	4	2	1	2	3
Mo	ppm	<5	<5	<5	<5	<5	<5	<5	<5	<5
Sb	ppm	<5	<5	<5	<5	<5	<5	<5	<5	<5

Table 13-7: Sliced PQ Core Variability Composite Head Assays

Element	Units	Serra Met 17-2 HV Assay	Serra Met 17-2 FV Assay	Serra Met 17-4 MV Assay	Serra MET 17-4 FV Assay	Meio Met 17-1 Assay	Meio Met 17-3 Assay
Au	gpt	1.89	0.35	0.07	1.92	7.15	19.3
Ag	gpt	11.2	1.04	<0.2	4.7	35.9	19.34
Cu	%	0.01	0.01	0.01	0.02	0.28	0.29
Cu CN	%	0	0	0	0.01	0.12	0.06
Hg	ppm	<0.02	<0.02	0.02	0.02	0.94	0.35
S(total)	%	0.45	0.29	0.06	0.21	3.25	3.07
C(total)	%	0.07	0.06	0.05	0.09	0.16	0.08
C(org)	%	0.04	0.03	0.04	0.04	0.05	0.05
Sp. Grav.	g/ cc	2.59	2.62	2.51	2.65	2.79	2.69
Fe	%	1.26	1.03	0.87	1.08	2.73	2.94
Pb	%	0.05	0.26	0.01	0.06	5	1.73
Zn	%	0.02	0.06	0.01	0.04	1.47	0.82
Bi	ppm	12	<5	<5	<5	<5	<5
Cd	ppm	3	6	3	5	90	47
Co	ppm	2	1	1	1	<1	<1
Mo	ppm	6	5	5	6	9	9
Sb	ppm	<5	<5	<5	<5	24	18

Comminution Testing

Comminution testing of the Serra and Meio samples was performed to determine Uniform Compressive Strength (UCS), Crushing Work Index (Cwi), Abrasion Index (Ai), and Bwi. Results are presented in Table 13-8. Serra has the higher UCS, Cwi, and Ai, but both have similar Bwis at about 18.6 kWh/t.

The Bond work index matches closely with the numbers produced by Rdi.

Table 13-8: Plenge – Comminution Results

Samples	UCS (Mpa)	Cwi kWh/t	Ai* (grams)	Bwi* kWh/t
Meio No. Samples tested	26.2 14	6.5 23	0.3422 26	19.0 26
Serra No. Samples tested	63.5 13	10.9 24	0.4114 26	18.2 26
Average	44.9	8.7	0.3768	18.6

- kWh/t = kWh per metric tonne
- Abrasion and Bond Work Index tests for each deposit were performed on 2 composites. Each composite contained 13 samples.

Whole Ore Cyanidation

An initial whole-ore standard cyanidation test was performed on the master composite. Gold and silver recoveries were 98.3% and 58.7%, respectively, with leaching mostly completed within 24 hours. Cyanide and lime consumptions were 2.2 and 3.4 kg/t, respectively.

Gravity Concentration

Three-stage gravity concentration was performed on the master composite at decreasing P80 grind sizes. The samples were coarse ground and then passed through a lab scale Falcon DB-4 centrifugal concentrator, with the concentrates passed over a Mozley table for cleaning. Falcon tails from each stage were then reground and passed again through the Falcon concentrator. All three Mozley concentrates were IL cyanide leached for 24 hours. The results of the staged tests are presented in Table 13-9.

Table 13-9: Plenge – Gravity Concentration & Intensive Leaching of Master Composite by Stages

Grind Size by Stage	Product	Wt %	Conc Assay (gpt)	Gravity Rec (%)	Leach Rec (%)	Total Rec (%)	NaCN (kg/t)	Lime (kg/t)
Au								
100% < 800 microns	Cleaned Conc.	0.21	1720	26.5	85.8	22.7	0.034	0.006
60% < 75 microns	Cleaned Conc.	0.14	2096	21.9	93.0	20.4	0.026	0.006
80% < 75 microns	Cleaned Conc.	0.16	1290	15.2	94.7	14.4	0.027	0.006
Totals		**0.51**		**63.6**	**90.4**	**57.5**	**0.087**	**0.018**
Ag								
100% < 800 microns	Cleaned Conc.	0.21	1658	12.9	61.4	7.9	0.034	0.006
60% < 75 microns	Cleaned Conc.	0.14	1680	8.9	79.8	7.1	0.026	0.006
80% < 75 microns	Cleaned Conc.	0.16	1166	6.9	78.9	5.5	0.027	0.006
Totals		**0.51**		**28.7**	**71.4**	**20.5**	**0.087**	**0.018**

Flotation Testing

Two bulk rougher flotation tests were performed on the master composite followed by cyanidation of the flotation cleaner concentrates, cleaner tails, and rougher tails. The average results for the two tests are shown in Table 13-10. Combining all leach results indicates that 97% of the gold and 50% of the silver can be recovered.

Table 13-10: Plenge – Whole Ore Flotation and Cyanidation of Concentrates

Product	Wt (%)	Assays		Float Recovery		Leach Recovery		Total Recovery	
		Au (gpt)	Ag (gpt)	Au (%)	Ag (%)	Au (%)	Ag (%)	Au (%)	Ag (%)
Clean Conc.	7.0	172	313	91.0	91.8	98.5	51.7	89.7	47.4
Clnr Tails	12.1	6.5	8.3	5.9	4.2	86.4	8.8	5.1	0.4
Tails	80.9	0.51	1.19	3.1	4.0	80.1	52.9	2.5	2.1
Feed	100	13.4	24.0						

Gravity and Leach Optimization

A total of 18 cyanide leach tests were performed to investigate the following seven conditions and their impacts on metal recoveries and consumptions of cyanide and lime:

- P80 grind sizes of 74 and 105 µm
- With and without gravity concentration prior to leaching
- With and without activated carbon addition during leaching
- With and without pre-aeration prior to leaching
- Cyanide strengths of 200 and 800 ppm in leach solutions
- With and without the addition of lead nitrate in leaching
- pH levels 10.5 to 11.5 during leaching

Table 13-11 presents the results from those tests.

Table 13-11: Plenge – Summary of 18 Gravity, Leach Tests on Master Composite

Test No.	Gravity	Pre-Ox	Carbon (CIL)	Grind (P80)	pH	NaCN (ppm)	PbNO3 (gpt)	Grav + Leach Au Rec (%)	Grav + Leach Ag Rec (%)	NaCN (kg/t)	Lime (kg/t)
1	yes	no	no	74	11.5	200	0	97.4	60.5	0.6	1.2
2	no	no	no	105	11.5	800	80	97.5	56.7	1.2	1.3
3	yes	no	no	105	10.5	800	27	97.5	63.7	1.5	1.0
4	yes	yes	no	74	10.5	800	80	97.5	62.5	1.3	0.8
5	yes	yes	no	74	10.5	800	80	97.5	63.2	1.3	0.8
6	no	no	no	105	11.5	800	80	97.5	57.8	1.2	1.2
7	yes	no	yes	105	10.5	200	80	97.1	54.5	0.7	0.6
8	yes	yes	yes	105	11.5	800	0	97.7	57.9	1.3	1.6
9	yes	yes	yes	105	11.5	800	0	97.8	56.8	1.3	1.6
10	no	yes	no	74	11.5	800	0	98.4	54.0	1.0	1.4
11	no	no	no	74	10.5	200	53	97.3	48.3	0.7	0.6
12	yes	no	no	74	11.5	200	0	97.4	60.8	0.7	1.3
13	no	no	yes	74	10.5	800	0	98.3	54.2	1.8	0.6
14	no	yes	no	105	10.5	200	0	96.7	50.3	0.4	0.8
15	no	yes	yes	74	11.5	200	80	96.9	46.0	0.6	1.6
16	yes	yes	no	105	11.5	200	80	97.0	61.8	0.5	1.1
17	yes	no	yes	74	11.5	800	53	98.1	59.4	1.7	1.2
18	no	yes	yes	74	11.5	200	80	96.9	47.0	0.6	1.6
Average								**97.5**	**56.4**	**1.0**	**1.1**

Based on analysis of the test results, the following observations were made:

- Gold recoveries averaged 97%, and silver recoveries averaged 56% for all tests
- Cyanide and lime consumptions averaged 1.0 kg/t and 1.1 kg/t for all tests, respectively
- Gravity concentration prior to leaching improves silver recoveries by about 9%
- Grinding to 74 µm may provide a marginal improvement in gold recovery
- Carbon addition (CIL) improves recoveries but increases cyanide consumption (likely unrelated)
- Pre-aeration decreases NaCN consumption
- Higher NaCN concentrations improve metal recoveries
- Lead nitrate addition had no impact
- Higher pH increases recoveries while lowering cyanide consumption

Four master composite confirmation tests were performed using the following optimum conditions developed in the previous tests:

- Gravity concentration prior to leaching at a grind P80 of 210 µm
- Intensive cyanidation of gravity concentrates
- Re-grinding gravity tails to a p80 of 74 µm
- Pre-aeration prior to leaching
- pHs of 11.5 for leaching
- 24-hours leach time
- Carbon addition (CIL) in the leaching of gravity tails
- Initial cyanide concentrations of 800 ppm

The total gold and silver recoveries for the four tests were all close and averaged 98% and 61%, respectively. The gravity recoveries were 63% for gold and 37% for silver, in concentrates with a 0.55% mass pull. The average cyanide and lime addition in the four tests were 1.1 kg/t and 1.3 kg/t, respectively. Solution analyses of CIL leach tails slurry averaged 90 ppm of copper.

Gravity concentrates leach residues contain some gold and silver, plus lead. An assay analysis was performed on one concentrate to determine its potential for marketing after intensive leaching. The assay results are shown below.

- Gold – 35 ppm (ranges from 10 to 50 ppm, depending on head grades)
- Silver – 537 ppm (ranges from 100 to 800 ppm, depending on head grades)

- Lead – 29%
- Copper – 0.33%
- Iron – 31%
- Zinc – 2%
- Sulfur (total) – 37%

Based on these assays and the mass pull of the concentrate there is no commercial value in selling a gravity lead concentrate without further upgrading and detoxification.

Detoxification

To supply sufficient material for cyanide neutralization (detox) tests, a large-scale whole-ore CIL cyanide leach test was performed using the optimized conditions. No gravity concentration prior to CIL was performed. The gold and silver recoveries were 98% and 55%, respectively. Cyanide and lime consumptions were 1.5 kg/t and 1.4 kg/t, respectively. The gold recovery was similar to the previous gravity/leach tests; however, the silver recovery was lower, likely due to lack of gravity concentration.

Five cyanide detox tests were performed, three in batch mode and two in continuous mode, using the standard SO2/Air process technique with SMBS as the oxidant. The best results were obtained from a continuous test treating a feed slurry containing weak acid dissociable (WAD) CN of 378 ppm and CN (Total) of 412 ppm. After two hours of treatment, the solution analyses are shown below.

- PH = 8.1
- ORP = 133 mV
- Dissolved Oxygen = 4 mg/l
- Iron = 0.2 mg/l
- Free CN = 0.6 mg/l
- WAD CN = 1.4 mg/l
- Total CN = 2.9 mg/l
- SCN = 110 mg/l

Reagent Consumptions: 3.9 kg/t SMBS, 0.5 kg/t lime, 0.2 kg/t copper sulfate

Byproduct Production

Flotation of a concentrate was performed on a sample of detoxified tails to determine the potential for recovering and marketing by-products. A bulk lead/zinc concentrate was produced with a mass pull of 1.5% and assayed 401 gpt silver, 1.7 gpt gold, 31% lead, and 31% zinc. The metal recoveries, based on the original head grade prior to leaching, were 32% for silver, 0.4% for gold, 72% for lead, and 88% for zinc. This concentrate may be marketable to an Imperial Smelter process with further upgrading.

Settling Tests

Three settling tests, using the standard Kynch Method, were performed on a sample of the gravity tails to determine thickening requirements prior to pre-aeration and CIL. The tests compared three flocculants at a dosage of 10 g/t, pH of 11.0, a feed density of 15% solids, and underflow density of 44%. The best results were obtained when using the Praestol Flocculant 3130, a medium weight non-ionic polymer, which created the lowest area requirement of 0.139 m2/t/d of feed. Higher underflow densities (to 51%) would require an increased area of 0.180 m2/t/d. This value is much higher than the TDP test result of 0.13 m27t/d.

Variability Testing

Four ½ HQ core variability composites were formed for each of the deposits. Composites represented gold and silver grades that were high, medium, low, and mine grade. The head grades were shown in Table 13-6. Each composite was subjected to standard whole-ore CIL leaching and gravity/IL/CIL of tails testing for comparison of results.

Results of the four Serra whole-ore CIL tests are shown in Table 13-12, and results of the Serra gravity/IL/leach tests are shown in Table 13-13. Gold and silver recoveries in the whole-ore tests averaged 98.4% and 43.3%, respectively. Gold and silver recoveries in the gravity/IL/leach tests averaged 99.3% and 62%, respectively.

Table 13-12: Plenge – Serra Variability Tests – Whole-Ore CIL Leach

Serra Composite	Feed Au (gpt)	Feed Ag (gpt)	Residue Au (gpt)	Residue Ag (gpt)	Rec Au (%)	Rec Ag (%)	NaCN (kg/t)	Lime (kg/t)
High Grade	40.0	122	0.507	75.8	98.7	37.8	1.6	1.5
Medium Grade	12.7	36	0.093	23.1	99.3	34.8	1.3	1.6
Low Grade	2.8	3	0.083	1.2	97.1	58.7	1.1	1.6
Mine Grade	7.2	13	0.102	7.6	98.6	41.8	1.3	1.1
Average	**15.7**	**43**	**0.196**	**26.9**	**98.4**	**43.3**	**1.3**	**1.5**

Table 13-13: Plenge – Serra Variability Tests – Gravity/IL/CIL Tails Leach

Serra Composite	Heads Au (gpt)	Heads Ag (gpt)	Grav Rec Au (%)	Grav Rec Ag (%)	CIL Rec Au (%)	CIL Rec Ag (%)	Total Rec Au (%)	Total Rec Ag (%)	NaCN (kg/t)	Lime (kg/t)
High Grade	44.3	120	68.5	34	31.0	22	99.5	56	1.7	1.8
Medium Grade	13.3	34	66.0	39	33.2	20	99.2	59	1.4	1.8
Low Grade	2.9	3	69.0	48	30.2	24	99.3	71	1.1	1.8
Mine Grade	7.9	14	67.1	42	32.1	21	99.1	62	1.2	1.6
Average	**17.1**	**43**	**67.7**	**41**	**31.6**	**22**	**99.3**	**62**	**1.4**	**1.7**

The results of the four Meio whole-ore CIL tests are shown in Table 13-14, and results of the Meio gravity/IL/leach tests are shown in Table 13-15. Gold and silver recoveries in the whole-ore tests averaged 94.5% and 73.5%, respectively. Gold and silver recoveries in the gravity/leach tests averaged 97.2% and 78.5%, respectively.

Table 13-14: Plenge – Meio Variability Tests – Whole-Ore CIL Leach

Meio Composite	Heads Au (gpt)	Heads Ag (gpt)	Residue Au (gpt)	Residue Ag (gpt)	Rec Au (%)	Rec Ag (%)	NaCN (kg/t)	Lime (kg/t)
High Grade	26.2	27.6	1.84	8.2	93.0	70.2	1.6	2.1
Medium Grade	12.8	13.0	0.35	2.8	97.3	78.4	2.8	2.3
Low Grade	3.3	2.6	0.18	0.7	94.6	74.8	1.2	2.3
Mine Grade	8.5	8.6	0.59	2.5	93.1	70.7	1.2	2.0
Average	**12.7**	**12.9**	**0.74**	**3.6**	**94.5**	**73.5**	**1.7**	**2.2**

Table 13-15: Plenge – Meio Variability Tests – Gravity/IL/CIL Tails Leach

Meio Composite	Heads Au (gpt)	Heads Ag (gpt)	Grav Rec Au (%)	Grav Rec Ag (%)	CIL Rec Au (%)	CIL Rec Ag (%)	Total Rec Au (%)	Total Rec Ag (%)	NaCN (kg/t)	Lime (kg/t)
High Grade	25.6	28.9	38.4	24.3	59.5	51.6	97.8	75.8	1.6	2.0
Medium Grade	12.7	14.3	57.7	41.9	40.2	41.4	97.9	83.3	2.6	2.0
Low Grade	3.4	3.1	34.7	29.0	60.9	49.7	95.6	78.8	1.3	1.9
Mine Grade	8.9	9.1	43.2	34.2	54.3	42.0	97.5	76.2	1.2	1.8
Average	**12.6**	**13.8**	**43.5**	**32.3**	**53.4**	**41.9**	**97.2**	**79**	**1.7**	**1.9**

There does not appear to be a relationship between gold and silver head grades to recoveries in any of the above variability tests. Serra samples, however, have a 4% higher gold recovery than Meio samples. Silver recoveries from Serra samples are lower than Meio, probably due to the higher silver grades and different silver mineralogy.

A gravity/CIL tails leach test was performed on the Serra and Meio variability composites that examined coarsening the grind size to a P80 of 150 µm from 74 µm. For the coarse grind, gold and silver recoveries for Serra samples were 98% and 59%, respectively, versus 99% and 62% for the finer grind size. For coarse- ground Meio samples, gold and silver recoveries were 92% and 72%, respectively, versus 97% and 79% for the finer grind. Reduced recoveries are more evident in the Meio samples.

Two composites, one for Serra and one for Meio, were prepared using samples from 13 separate ½ HQ drill cores. Each composite was subjected to gravity concentration in a Falcon 4B concentrator after an initial grind P80 of 210 µm. Concentrates from each composite were collected and separated into three size fractions (-2mm to +150 µm, -150 to +74 µm, and -74 to +15 µm), passed over a Mozley table and the concentrates subjected to optical mineralogical examination. Observations are noted below for each composite:

- Serra – The gold particles are mostly liberated, with colors ranging from yellow (high grade) to white (electrum). The yellow gold particles are the most abundant, rounded, of various size (up to 2 mm) and are either free and/or associated peripherally with sulfide particles such as sphalerite, galena, or hematite and oxides. The white gold particles are less abundant, generally elongated and locked mostly in sulfides like pyrite and galena, which are the most abundant minerals.

- Meio – The gold particles are primarily electrum, with minor yellow gold, and are associated with sulfides and gangue as inclusions of various size. Pyrite and galena are the most abundant minerals.

Six additional variability composites were prepared using the sliced PQ core, four for Serra and two for Meio. The head grades for the six composites were presented in Table 13-7. The Serra composites are lower in grade compared to the four previous Serra variability composites, while the Meio composites are comparable to the previous high-grade Meio variability composite with even higher values indicated for lead and silver. The composites were subjected to gravity/IL/CIL leaching of gravity tails (at various grind sizes and leach densities) and comminution tests.

Average comminution test results for all six sliced PQ core variability composites are presented below and are comparable to results presented earlier in Table 13-8.

- Cwi – 10.95 kWh/t
- Ai – 0.3604 g
- Bwi – 16.85 kWh/t

Gravity concentration of the six composites yielded the following results:

- Serra composites – 0.56% weight in concentrates, with gold and silver recoveries for all four tests averaging 63.2% and 43.9%, respectively. Gold recoveries ranged from 45% to 79%, while silver recoveries ranged from 34% to 53%.
- Meio composites – 0.56% weight in concentrates, with gold and silver recoveries for both tests averaging 40.7% and 20%, respectively. Gold recoveries ranged from 33% to 48%, while silver recoveries ranged from 7% to 33%.

Gravity concentrates from each composite were subjected to intensive cyanide leaching. The results of the IL tests are presented below:

- Serra composites – Gold and silver recoveries averaged 98.5% and 26.4%, respectively. Gold recoveries ranged from 98% to 99%, while silver recoveries ranged from 20% to 57%.
- Meio composites – Gold and silver recoveries averaged 55.3% and 59.3%, respectively. Gold recoveries ranged from 53% to 64%, while silver recoveries ranged from 56% to 68%.

Cyanide leaching of the gravity tailings was performed on the six composites. Metal recoveries for the four Serra composites and one of the Meio composites were comparable to previous variability leach tests when using typical leach densities of 45% solids at a grind P80 of 74 µm. Low recoveries were experienced when leaching gravity tailings for Meio sample Met 17-1 (high silver, copper, and lead) but improved significantly when leached at lower slurry densities.

Gravity tailings leach results are discussed below:

- Serra composites – Gold and silver recoveries averaged 90% and 41%, respectively, for all four composites. Gold recoveries ranged from 88% to 93%, while silver recoveries ranged from 36% to 51%. At a grind P80 of 105 µm for one test, the gold and silver recoveries were lower at 83% and 46%, respectively.
- Meio composite (Met 17-1) – Gold and silver recoveries, when leached at a density of 45% solids and grind p80 of 74 µm, were 67% and 61%, respectively. At a grind P80 of 105 µm and the same density, gold and silver recoveries dropped to 43% and 58%, respectively. At a grind p80 of 74 µm and lower leach densities (16% to 21% solids), gold and silver recoveries for two tests averaged 94% and 73%, respectively. Thus, for samples with high precious

metals and sulfides (particularly copper and zinc) it is best to leach at lower densities or blend with lower grade materials.

- Meio composite (Met 17-3) – Gold and silver recoveries were 96% and 68%, respectively, comparable to results obtained from Met 17-1 composite when it was leached at the lower densities.

Overall metal recoveries for the six additional variability composites are discussed below:

- Serra composites – Total gold and silver recoveries (after gravity and CIL leaching) averaged 96% and 67%, respectively, for all four composites.
- Meio composites – Total gold and silver recoveries averaged 97% and 76%, respectively, for both composites at optimum conditions.
- The above total recovery results compare reasonably well to the earlier master composite and variability composite test results.

13.3.5 Solid/Liquid Separation Test (Andritz)

In order to have a preliminary evaluation of the alternative to change the method of final tailings disposal at Palito Plant, from the current slurry deposited in tailings ponds, to a dry-stacking method, Serabi Gold commissioned ANDRITZ, in 2018, to develop bench scale tests on the settling and filtration of CIL tailings. The tests were carried out at the Andritz Laboratories at Pomerode – Brasil.

The objective of the tests was:

Sedimentation tests with thickening simulation, to verify the following parameters:

- Best type and best dosage of flocculant
- Optimal Dilution.
- Determination of the maximum concentration of solids in the Underflow.

Vacuum filtration tests (HVBF belt filter) and Filter Press, for the verification of the following filtration parameters:

- Better filter element;
- Filtration Rate;
- Optimal cake thickness;
- Final cake moisture
- Required filtration area;

A slurry bulk sample of the Palito tailings was sent to Andritz. The sample was characterised as Granite with sulphide. The other characteristics were:

- Solids concentration: 35.5 % and 62 %

- Operating Temperature: Ambient
- pH: 11
- Density of solids: 2.7 g/cm³
- Liquid density: 1.0 g/cm³

Settling Test

Initially, exploratory flocculation tests were carried out to define the best type of flocculant for this material, with the sample at 20% solids and pH of 11. Flocculants SEM 3180, SNF 934SH, SNF 912SH, SEM5160, with a fixed dosage of 8.7 g/t for all tests. The flocculant 912SH has the best performance in the sedimentation rate. In all flocculant tests, the Overflow remained clean.

Tests varying the dosage of flocculant and the percentage of solids in the feed were done, to find the optimal dosage and dilution, with the selected flocculant. The optimal dosage of flocculant was between 8-10 g/t for a feed of 35% of solids, and dilution of around 10% of solids. The settling rate for a underflow density of 60-62% solid was 0.136 m2/t/d

Maximum compaction tests at 24 hours were done with the following results:

Table 13-16: Maximum Compaction Settling Test

Flocculant	912SH
Flocculant Dosage	8-10 g/t
% of solids in feed	10,5%
% of solids in the UF after 24h	67,8%

Vacuum Filtration

First exploratory test of vacuum filtration of the tails were carried out with the pulp “as it is” from the process, with 35.5% solids fed with the objective of find the best filter cloth.

Six types of filter cloth were evaluated under the same operating conditions, with the same percentage of solids in the feed, without flocculant, with the same drying time and with the same pulp mass to obtain the same cake thickness in all tests, to compare results of moisture and percentage of solids in the filtrate.

As a result of this evaluation, Andritz selected the C-5862 cloth, because it was the one that presented the best moisture results and managed to retain a greater amount of particles, avoiding excess contamination in the filtered liquid, keeping the content of solids in this liquid always below 1%.

Filtration tests were carried out on a bench-scale belt filter, with a cake thickness of 20mm – 15mm – 10mm – 8mm at a solids concentration in the feed of 62%.

The results show that, in order to achieve the target cake moisture (20%), with the filter feed at 62% solids it would require relatively high filtration rate. The tests result used for the sizing of the equipment was approximately 0.6 ton/h.m2

Filter Press Test

Initial exploratory filter press tests, tests were carried out on a single-sided device on a laboratory scale in order to select among the line the best filter cloth. The one selected was that which obtained the best results in terms of solids retention, clarification of the filtered liquid, and cake formation time.

After selection of the filter cloth the following tests were carried out on a pilot filter press (Pilot Filter 470 x470) with a chamber and membrane plate package, with cake thicknesses of 40-50mm.

A replica of the test with the best result was also performed at 62% solids with the pulp at 35% solids in the filter feed, to verify the influence of the percentage of solids on the performance of the Filter.

Table 13-17: Pressure Filtration Test

TESTS	1	2	3	4	5	6
Slurry Temperature	Ambient	Ambient	Ambient	Ambient	Ambient	Ambient
pH	11					
% Solids	62	62	62	62	62	35
Package Type	Recess	Recess	EMB/recess	Recess	Membrane	Recess
Chamber Thickness (mm)	40	40	40	50	50	50
Feed Pressure (Kgf/cm2)	5	5	5	5	5	5
Membrane Pressure (Kgf/cm2)	0	0	14	0	14	0
Wet Cake Weight (Kg)	17.48	18.08	17.63	24.21	22.79	22.49
Cake Moisture (%)	14.24	12.52	11.15	12.74	12.02	12.87
Filter Media Type	299k	299k	299k	299k	299k	299k

The tests indicated that with the use of the membranes it is possible to achieve cake moisture between 11-12% and without the use of the membranes it can achieve between 13-15% cake moisture.

With direct feeding of the filter with the pulp at 35% solids, there is sedimentation of coarse particles to the bottom of the plates, which can lead to malformation of the cake in some cycles, which can impair the performance of the filter, in addition to significantly increasing the cycle time of the process. This is not recommended.

13.3.6 Ore Sorting Test

In 2020, Serabi commissioned an ore sorting circuit at its Palito Plant utilizing both x-ray transmission and colour RGB sorting principals to detect and separate ore and waste. This equipment has been used successfully to date to upgrade low grade Palito ore. With current surplus capacity at its Palito Plant, Serabi in 2022 began to transport mined ore from the Coringa Gold Project to the Palito processing complex for gold recovery, a distance of approximately 200km. At the same time it was decided to test Coringa ore in the Palito ore sorting facilities as it was expected that in the longer term this would reduce trucking volumes and result in a upgrade of the quality of the ore being transported.

The concept of ore-sorting is to remove a large amount of the waste rock dilution during the crushing stage and before the ore passes through the milling, flotation and gold leaching stages, so that significant amounts of energy, wear materials and reagents are not wasted on material that contains little to no valuable metal. There exists an opportunity to install a crushing and ore-sorting facility at the Coringa Gold Project site to pre-concentrate the ore prior to transport and processing, thus improving the economic efficiency of this operation, rejecting at the Coringa site, waste material with very low metals content.

Coringa Mineral Characterization

The Coringa mineralogy consists of high-grade quartz veins containing sulphides hosted within a fine grained pink granite. The fact that the pink granite is so fine-grained means that the rocks contain a fairly consistent colour gradient across which represents potential for detecting and sorting by colour.

Figure 13-4: Coringa ROM Ore

The vein structures are clearly identified at the mine which are mined with some waste material with significant color difference.

Figure 13-5: Coringa Vein Structure at the Development Face

Coringa Ore Bulk Sorting Test

In May 2022, a bulk sample of Coringa ROM ore was received at the Palito processing plant to test its amenability for separation by ore sorting. Following preliminary testing, the ore sorter was configured to produce a separation using RGB colour principles, with the following logic:

Eject stones that:

- Do NOT contain more than 5% red pixels; or
- Contain more than 2% white pixels.

A bulk sample of 20 tonnes crushed and was passed through the sorter and sampled each 10 minutes.

The result was a mass ejection rate of 30% product with an average grade of 33.79 g/t Au, whilst the grade of the waste stream averaged 0.77 g/t Au.

Table 13-18: Ore Sorter Bulk Test First Assay Results

Bulk Test	Product – Au ppm	Waste – Au ppm
Sample 01	30.75	1.87
Sample 02	39.65	0.21
Sample 03	35.20	1.45
Sample 04	30.25	0.29
Sample 05	37.04	1.32
Sample 06	60.78	0.38
Sample 07	23.95	0.32
Sample 08	27.43	0.87
Sample 09	27.13	1.17
Sample 10	26.62	0.53
Sample 11	32.87	0.06
Average	33.79	0.77
Calc Head (30% product)	10.14	

Whilst excellent separation was achieved, a small quantity of white stones was observed in the waste stream.

A second pass of the waste pile was made to scavenge the small amount of misplaced product that was observed in the waste stream. For this scavenging step, only white stones were targeted for product.

The result was a mass ejection rate of 3% product with an average grade of 16.28g/ t Au, whilst the grade of the waste stream reduced to 0.31 g/ t Au.

Table 13-19: Ore Sorter Bulk Test Second Pass Assay Results

2nd Pass Bulk Test 4	Product – Au ppm	Waste – Au ppm
Sample 01	16.86	0.10
Sample 02	22.36	0.81
Sample 03	18.34	0.04
Sample 04	21.80	0.56
Sample 05	2.06	0.06
Average	16.28	0.31
Calc Head (3%product)	0.79	

Crusher Sizing

A sample of jaw crusher discharge was taken to determine the gold distribution by size.

Table 13-20: Jaw Crusher Discharge Gold Distribution by Size

Size	Mass%	Cum Mass%	Au ppm	Au %	Cum Au %
+50mm	17.0	17.0	3.07	8.7	8.7
-50mm+25mm	26.2	43.2	2.32	10.1	18.8
+25mm+15mm	15.8	59.0	4.63	12.2	31.0
-15mm+8mm	13.6	72.6	7.88	17.9	48.8
-8mm+4mm	9.0	81.7	10.88	16.3	65.2
-4mm+2.36mm	4.6	86.3	8.52	6.5	71.7
-2.36mm+1.4mm	3.7	90.0	7.87	4.9	76.6
-1.4mm+0.85mm	3.8	93.8	9.91	6.3	82.8
-0.85mm	6.2	100.0	16.60	17.2	100.0
Calculated Head			6.01		

The assays suggested that the ore receives some beneficiation upgrade in sizes below 15mm, similar to Palito ores. This is beneficial for ore sorting, as ore sorting is made on the larger +15mm particles, which are the lower grade.

Mass Balance

Although the above sizing indicates that 60% of the ore from the jaw crusher discharge is coarser than 15mm and should report to sorting, the experience at Palito has shown that it is closer to 50% coarser than 15mm (for sorting) and 50% less than 15mm (subsize for sorting).

Sorting of the +15mm returns 30% into product and 70% into waste.

In this case it can be assumed 50% of material reports to the -15mm material. Then the +15mm material returns 30% product and 70% rejected as waste.

The resultant mass would be 65%= 50%(-15mm) +30%* 50% (upgraded +15mm).

13.3.7 Industrial Performance of Coringa Ore at Palito Plant

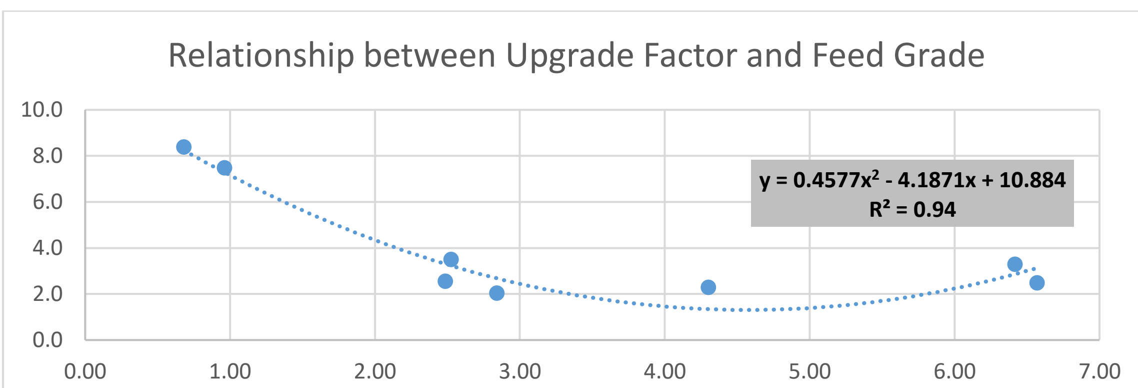
During June 2022 to June 2023 Serabi sent ore extracted from Coringa mine to Palito Plant. The ore was subject to ore sorting in the conditions described before and the results are presented in the Table 13-21.

Table 13-21: Coringa Ore Performance at Palito Ore Sorting Plant

Period	Feed		Product		Discard		Mass Distribution		Gold Distribution		Upgrade Factor
	tons	Au g/t	tons	Au g/t	tons	Au g/t	Product	Discard	Product	Discard	
June-22	336	6.42	97	21.13	239	0.43	28.9%	71.1%	95.2%	4.8%	3.3
September-22	50	2.84	20	5.82	30	0.84	40.3%	59.7%	82.3%	17.7%	2.0
October-22	497	2.53	135	8.86	362	0.16	27.2%	72.8%	95.5%	4.5%	3.5
November-22	453	6.57	169	16.37	284	0.77	37.2%	62.8%	92.7%	7.3%	2.5
December-22	937	2.49	270	6.36	667	0.92	28.8%	71.2%	73.6%	26.4%	2.6
March-23	80	0.96	10	7.21	70	0.05	12.8%	87.2%	95.8%	4.2%	7.5
April-23	107	0.68	11	5.72	96	0.11	10.2%	89.8%	85.5%	14.5%	8.4
July-23	108	4.30	45	9.85	63	0.34	41.7%	58.3%	95.4%	4.6%	2.3

The results show an average upgrade of 4 with 28% of the mass in the product. The upgrade factor it is depending of the feed grade.

Figure 13-6: Upgrade Factor of Coringa Ore



The correlation deducted from the results will be used in the mass balances to estimate the final product mass and upgrade factor for design purposes.

13.3.8 Projected Metallurgical Performance

Results from the Plenge test program have been used to project the metallurgical performance of the Coringa Gold Project. Results from the Rdi and TDP programs effectively support results from the Plenge program and altogether are useful to support the stated overall representativeness of the samples to the various deposits.

The projected metallurgical responses are presented in Table 13-22. The gold and silver recoveries shown are the average results from Plenge's eight ½ HQ core variability composites subjected to gravity/IL/CIL tails leach processing. A suitable discount has been applied. The recoveries are each discounted 3% for gold and 5% for silver to reflect typical losses experienced in these types of process plants, such as less efficient gravity concentration, solution losses, carbon losses, lower silver carbon-loading than anticipated, and grind variations. The recoveries compare well with the results from whole-ore CIL leaching as well as similar tests run in 2013 by TDP. Galena zone recoveries are estimated to be similar to Serra recoveries based on results from TDP's testing of Composite 1, a mixture of Galena, Mãe de Leite, and Serra zone materials.

Cyanide and lime consumptions shown in Table 13-22 are also averages from the eight ½ HQ core variability tests. Bwi values shown are also from Plenge's testing as this was the most extensive comminution work performed since testing began.

Table 13-22: Projected Metallurgical Response for Coringa Deposits

Deposit	Bwi (kWh/t)	Au Rec (%)	Ag Rec (%)	NaCN (kg/t)	Lime (kg/t)
Serra & Galena	18.2	96	57	1.3	1.6
Meio	19.0	94	74	1.7	2.0

Currently, Serabi Gold is processing Coringa ores at the Palito Plant. Official metallurgical balance results for the year to date in 2024 show an average overall gold recovery of 97% which support the above results giving confidence in the scale up of the test results.

13.3.9 Comments on the Metallurgical Testwork

An extensive metallurgical testwork programme including ore sorting, comminution characterization and gravity, IL and CIP have been conducted by Serabi Gold on samples from Coringa orebody.

The extension of the test and representativeness of the sample are sufficient to support this PEA evaluation. The current experience on processing Coringa ore at the Palito Plant give enough confidence on the scale up of the result and the consumables required. Serabi has experienced and qualified personnel operating the Palito plant from many years who are an additional guarantee for the success of the project.

14 Mineral Resource Estimate

This mineral resource estimate was completed by Nicolas Fuster, QP of NCL. This is the third mineral resource estimate completed by Serabi for the project. This revised resource estimate was performed in order to check and update from sampling obtained from 2020 up to 2024 specifically in the Serra vein. The geologic model was performed by Serabi and, statistical analysis, and block model resource estimate were completed in Micromine by NCL staff.

14.1 Drill hole Database

NCL received the original drill hole database in MS Access format from Serabi, with tables containing drill collar, assay, survey, recovery, alteration, lithology, and rock density information. The database contains 383 diamond drill core holes consisting of 60,194 meters, also a total of 20 underground diamond drill holes with 1,020 meters drilled and 11,954 assays pertaining to the resource areas of Valdette, Galena, Mãe de Leite, Serra, Como Quieto, Demetrio, and Domingo. In addition, 2,633 samples obtained from 1,404 channels. All data was imported to Micromine and checked for missing intervals, duplicate records, interval overlaps, and non-numeric or less than zero values. No errors were encountered in the database. Missing assay values were set to the detection limit of 0.005 gpt Au based on the assumption that the geologist logging did not identify any lithology, alteration, or mineralization that warranted assay of the core and therefore the core is assumed to be barren.

14.2 Geologic Model

The geology of the mineralized areas consists of narrow quartz veins oriented on a general northwest to southeast trend. These veins represent the extensional system created by the shear zone, where hydrothermal fluids were able to infiltrate into the rhyolite and granite rock mass. The mineralized veins contain high grade gold mineralization within the vein. Serabi created geologic models consistent with the geologic interpretation for Serra and Demetrio veins, for Meio and GAMDL solids created from previous block model elaborated on previous study were used to create new block models to re-estimated by NCL. Digital topography was provided by Serabi.

14.2.1 Domain Analysis

Domains were created for each contiguous vein system along strike which are listed below:

- GAMDL – Galena & Mãe de Leite
- MCQ – Meio & Como Quieto
- Serra – Serra
- Demetrio – Demetrio

Vein systems were modeled within each domain. Some models have multiple veins, such as Serra (veins 1-3 and Fran). The vein dimensions were determined by the drillhole interval selection, which took into account correlating information for gold assays and geological interpretation.

The previous model made in 2019 by GRE created a site-wide geology model from the lithology information showing a surficial layer of saprolite with a variable thickness, typically 10-20 meters, that overlies rhyolite with granite at depth. The site geology model was combined with the geologic model for each domain to determine the portion of each vein within the saprolite horizon. NCL used this information to apply saprolite zones at block models.

Basic statistics for each vein modeled is presented below:

Table 14-1: Basic Statistics for each Vein Modeled

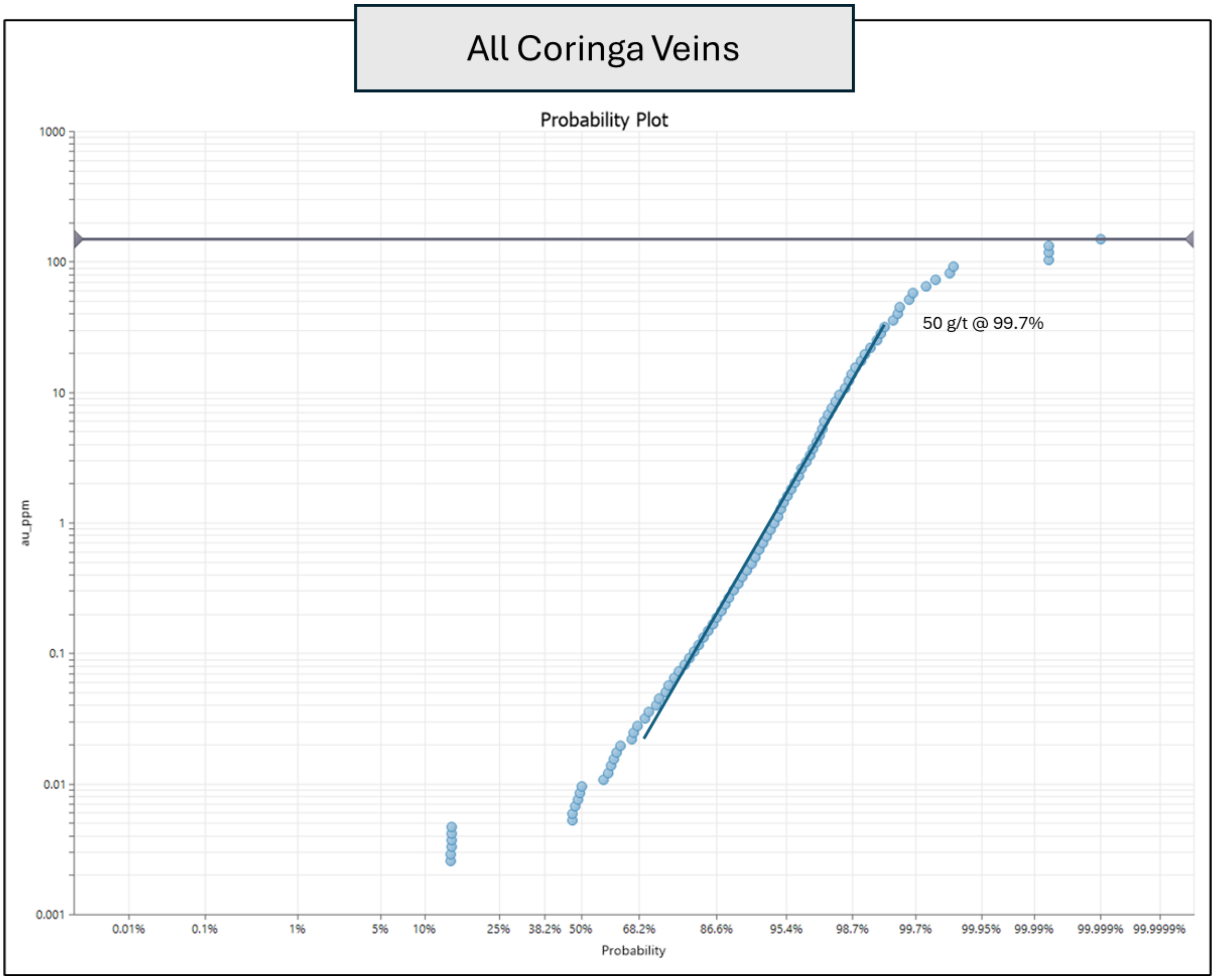
	VEIN	N Samples	Min	Max	Average	Stand Deviation	Variance
Demetrio	DV1	23	0.009	18.24	3.72	4.56	20.82
GAMDL	GAMDL	69	0.005	57.92	8.73	13.49	181.89
Meio	MCQ1	198	0.010	149.80	21.36	28.95	837.83
	MCQ2	23	0.048	73.79	7.60	16.69	278.40
	MCQ3	44	0.010	78.40	11.41	17.61	310.05
	MCQ4	30	0.053	20.29	4.62	5.43	29.54
Serra	VO	27	0.005	93.60	8.07	18.10	327.71
	V1	32	0.005	38.30	6.78	10.50	110.17
	V2	9	0.005	32.50	7.10	11.51	132.47
	V3	307	0.003	100.00	8.15	17.34	300.76
	FRAN	110	0.005	100.00	5.34	13.87	192.42
	Total	872	0.003	149.80	10.69	20.20	408.02

14.3 Assay Compositing and Outliers

Samples within each domain were composited across the entire vein intercept to appropriately represent the mineralization across the vein. Each sample was composited at 0.5 meters as this is the main sample size of the database. Composites where the length is less than 0.1 meters were discarded in order to not create any bias on the estimation process.

Capping definition was analyzed from all samples from all veins together as some of the veins do not have enough number of samples to be analyzed separately.

Figure 14-1: Probability Plot – All Coringa Veins



Source, NCL, 2024

Statistics comparison is shown below:

Table 14-2: Statistics Comparison Assay Compositing and Outliers

Assay

	VEIN	N sample	Min	Max	Average	Stand Deviation	Variance
GAMDL	GAMDL	69	0.005	57.92	8.73	13.49	181.89
Meio	MCQ1	198	0.010	149.80	21.36	28.95	837.83
	MCQ2	23	0.048	73.79	7.60	16.69	278.40
	MC13	44	0.010	78.40	11.41	17.61	310.05
	MCQ4	30	0.053	20.29	4.62	5.43	29.54
Serra	V0	27	0.005	93.60	8.07	18.10	327.71
	V1	32	0.005	38.30	6.78	10.50	110.17
	V2	9	0.005	32.50	7.10	11.51	132.47
	V3	307	0.003	100.00	8.15	17.34	300.76
	FRAN	110	0.005	100.00	5.34	13.87	192.42
	Total Gral	849	0.003	149.80	10.88	20.43	417.20

After compositing before capping

	VEIN	N sample	Min	Max	Average	Stand Deviation	Variance
GAMDL	GAMDL	76	0.005	57.92	8.78	13.73	188.57
Meio	MCQ1	206	0.010	149.80	19.39	26.65	710.20
	MCQ2	33	0.048	73.79	5.55	14.19	201.37
	MC13	45	0.010	78.40	11.75	16.01	256.38
	MCQ4	39	0.053	20.29	4.40	5.45	29.69
Serra	V0	108	0.005	100.00	6.50	15.92	253.35
	V1	31	0.005	37.24	5.52	8.16	66.57
	V2	35	0.005	38.30	6.76	11.01	121.11
	V3	13	0.005	32.50	5.58	9.87	97.47
	FRAN	300	0.003	100.00	8.45	16.19	262.24
	Total Gral	886	0.003	149.80	10.46	18.86	355.69

After compositing and capping

	VEIN	N sample	Min	Max	Average	Stand Deviation	Variance
GAMDL	GAMDL	76	0.005	50.00	8.62	13.18	173.79
Meio	MCQ1	201	0.010	50.00	15.90	17.82	317.58
	MCQ2	33	0.048	50.00	4.83	10.82	117.04
	MC13	44	0.010	50.00	11.31	13.82	191.02
	MCQ4	39	0.053	20.29	4.40	5.45	29.69
Serra	V0	107	0.005	50.00	5.54	10.80	116.66
	V1	30	0.005	37.24	5.41	8.27	68.44
	V2	34	0.005	38.30	5.91	9.92	98.37
	V3	13	0.005	32.50	5.58	9.87	97.47
	FRAN	296	0.003	50.00	7.48	12.44	154.81
	Total Gral	873	0.003	50.00	9.07	13.88	192.79

14.4 Density

A total of 828 density samples were included in the database. These samples were divided based on the lithology and alteration downhole information to create a merged dataset. NCL then compiled the length- weighted density statistics by lithology group and alteration, which are the primary geologic indicators of gold mineralization. Tables for each grouping are shown below. As previously mentioned, quartz/breccia lithology and sericitic and siliceous alteration are closely correlated with the mineralization. Average density within these types range from 2.73 to 2.79. NCL selected a constant density of 2.7 for mineralized areas of hard rock.

Table 14-3: Density by Lithology Group

Lithology	Count	Length	Mean	Std Deviation	Minimum	Median	Maximum
ALL	1,167	325.05	2.71	0.16	2.10	2.68	3.85
AND	6	1.30	2.78	0.09	2.68	2.82	2.96
FLT	39	13.14	2.78	0.20	2.62	2.73	3.80
GRA	239	45.13	2.64	0.15	2.10	2.61	3.30
QV_BX_ANY	257	60.77	2.79	0.24	2.23	2.71	3.85
RHY	618	203.91	2.70	0.11	2.46	2.68	3.75

Table 14-4: Density by Alteration Type

Alt Type	Count	Length	Mean	Std Deviation	Minimum	Median	Maximum
ALL	1,167	325.05	2.71	0.16	2.10	2.68	3.85
ALTCB	4	0.77	2.66	0.07	2.55	2.70	2.70
ALTCH	414	138.08	2.68	0.09	2.48	2.67	3.46
ALTCH_1	80	12.60	2.61	0.08	2.23	2.60	2.86
ALTHE	41	9.27	2.64	0.08	2.26	2.66	2.84
ALTSE	326	86.24	2.75	0.17	2.50	2.72	3.80
ALTSI	186	46.72	2.73	0.19	2.10	2.68	3.73

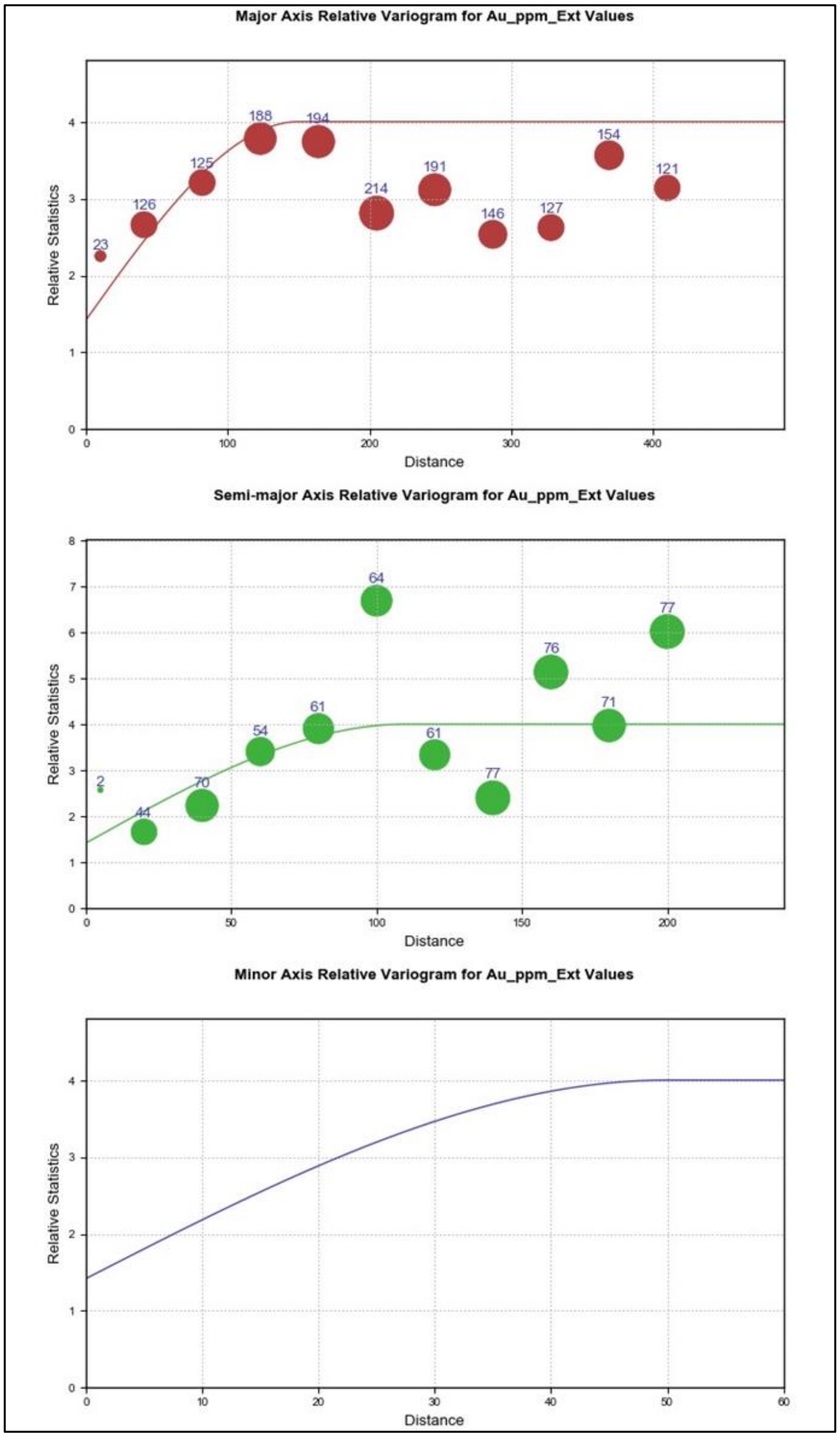
NCL also received density data on the property saprolite from test pits completed in 2016. A total of 13 density samples were taken with a range of 1.18 to 1.7 and an average of 1.4. NCL selected 1.4 as the density for mineralized areas within the saprolite horizon.

14.5 Variogram Analysis

NCL did not perform variogram analysis at this stage of the project. Instead NCL maintained the same orientations and distances from the previous analysis undertaken by GRE in their 2019 report.

NCL use a variogram analysis on the Serra 1 vein domain. This vein was selected for analysis due to the abundance of sample data within the domain. Other veins have a limited number of intercepts which lead to poor variograms. NCL used the analysis for Serra 1 to determine search distance parameters for the estimate since all mineralization is similar in type, strike orientation, and is likely related to the same mineralization event. NCL selected the relative variogram for the analysis, which provides the best correlation of pairs within the domain. The variogram search ellipse was oriented along the strike of the vein, with the semi major axis oriented along the dip of the vein. The analysis shows a range of grade correlation of 150 meters along the major axis and 100 meters along the semi-major axis. No pairs were calculated along the minor axis due to the inherent properties of a narrow vein deposit and the compositing methodology selected. Figure 14-2 presents the variograms for all principal directions.

Figure 14-2: Variogram Analysis, Serra 1



Source: NCL, 2024

14.6 Block Model Parameters

Block models for each resource area were oriented along the strike of the vein system. Models were sub- blocked along the 3 directions to provide dimensions with sufficient detail to model the vein. Coordinates, dimensions, and orientations for each block model are presented in Table 14-5.

Table 14-5: Block Model Parameters, All Block Model

Parameter	Domain			
	GAMDL	MCQ	Serra	Demetrio
Min centre	711689 9164956 -200	712973 9160723 -200	714140 9164967 -200	713140 9164410 -200
Max centre	716748 9168795 490	719283 9165813 490	716600 9167622 490	714520 9165570 490
Parent block size	1 × 1 × 1	1 × 1 × 1	1 × 1 × 1	1 × 1 × 1
Azimuth	60°	40°	60°	55°
Sub-blocking (number of subdivisions	10 × 10 × 2	10 × 10 × 2	10 × 10 × 2	10 × 10 × 2

14.7 Estimation Methodology

NCL selected the inverse distance to the second power (ID2) method to estimate grade for all block models. Estimation parameters were based on the variogram and outlier analyses previously described. Table 14-6 lists the estimation parameters for all domains.

Table 14-6: ID2 Estimation Parameters, All Domains

Domain	Maximum	Intermediate	Minimum	Dip	Minimum Samples	Maximum Samples	Outlier Threshold	Observations
GAMDL	150	110	50	70	1	8	50	
MCQ	150	110	50	85	1	8	50	
SERRA (1st pass)	25	25	25	70	2	8	50	2drills for estimate measured resources, use of channel samples
SERRA (2st pass)	150	110	50	70	1	8	50	1 drill for estimate ind and inf resources do not use channels
DEMETRIO	150	110	50	90	1	8	50	

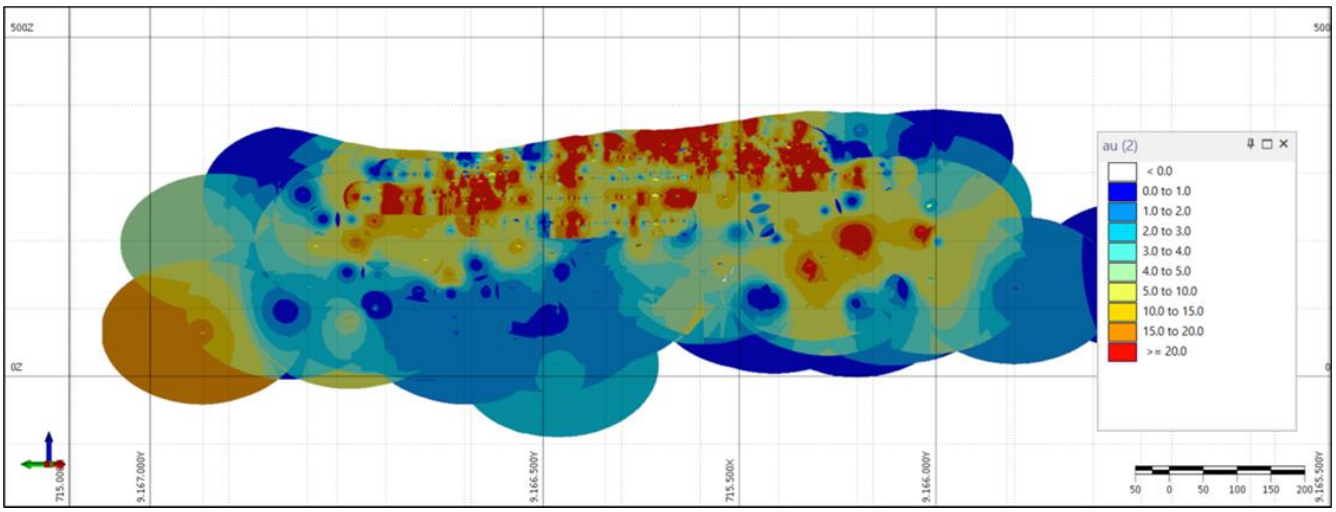
14.8 Model Validation

NCL validated the block model for each area through various methods which included (i) a visual comparison of the composites versus the estimated blocks; (ii) a statistical comparison between samples composites, nearest neighbor block estimate, and ID2 block estimate; and (iii) swath plots. A discussion of each model validation method is presented in the following subsections.

14.8.1 Visual Comparison

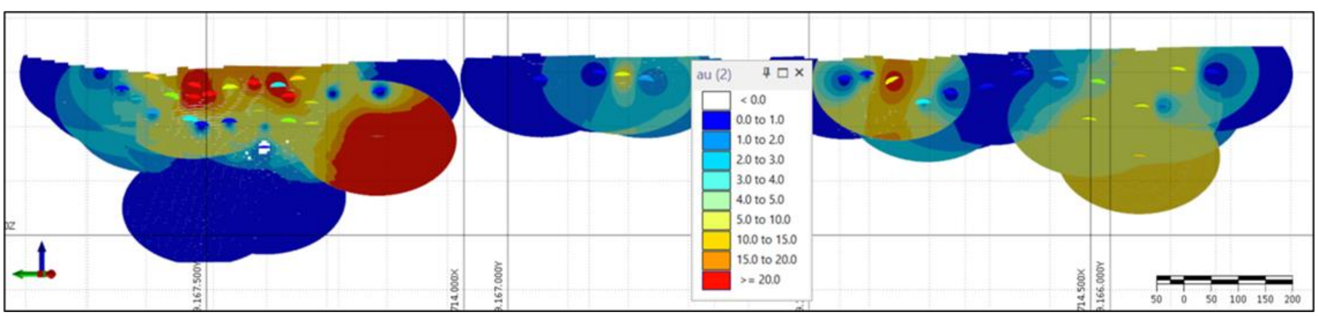
NCL compared the block models for the main veins with the intercepts to ensure good correlation between the sample composites and the block model estimate. Each section shows good correlation between the sample composites and the block model estimates. The search distances, orientation, and outlier restrictions were also visually verified in the long section. Figures below present the visual comparison for the for main veins in MCQ and Serra as examples.

Figure 14-3: Long Section Visual Comparison Sample Composites to Block Estimate, Serra 3



Source: NCL, 2024

Figure 14-4: Long Section Visual Comparison Sample Composites to Block Estimate, GAMDL



Source: NCL, 2024

14.8.2 Statistical Comparison

NCL compared the statistics for each block model to evaluate the quality of the block model estimate. Table below present a comparison of composites samples. NN values and ID2 block estimate.

Composite samples show a higher mean grade than the NN and ID2 block estimates due to spatial distribution of high grade samples included in the data set. The NN mean provides an estimate of the declustered composite mean showing that the influence of these high-grade samples should be limited in the block model estimate. The ID2 mean is generally in line with or lower than the NN mean, showing that the estimate does limit the influence of the high-grade samples. Additionally, the coefficient of variation between the NN and ID2 estimates indicates that the ID2 estimate provides an additional degree of smoothing of the block model grade.

Table 14-7: Statistical Comparison, GAMDL/MCQ/SERRA, Au gpt

MCQ

	n samples	Min	Max	Mean	Std Dev	Variance
COMPOSITES	317	0.010	50.00	12.70	16.25	264.16
NN	8,906,955	0.010	50.00	5.53	9.23	85.16
BLOCKS	8,906,955	0.010	50.00	5.61	8.34	69.60

GAMDL

	n samples	Min	Max	Mean	Std Dev	Variance
COMPOSITES	76	0.005	50.00	8.62	13.18	173.79
NN	3,792,506	0.005	50.00	5.61	11.16	124.59
BLOCKS	3,792,506	0.005	49.98	6.19	8.06	65.04

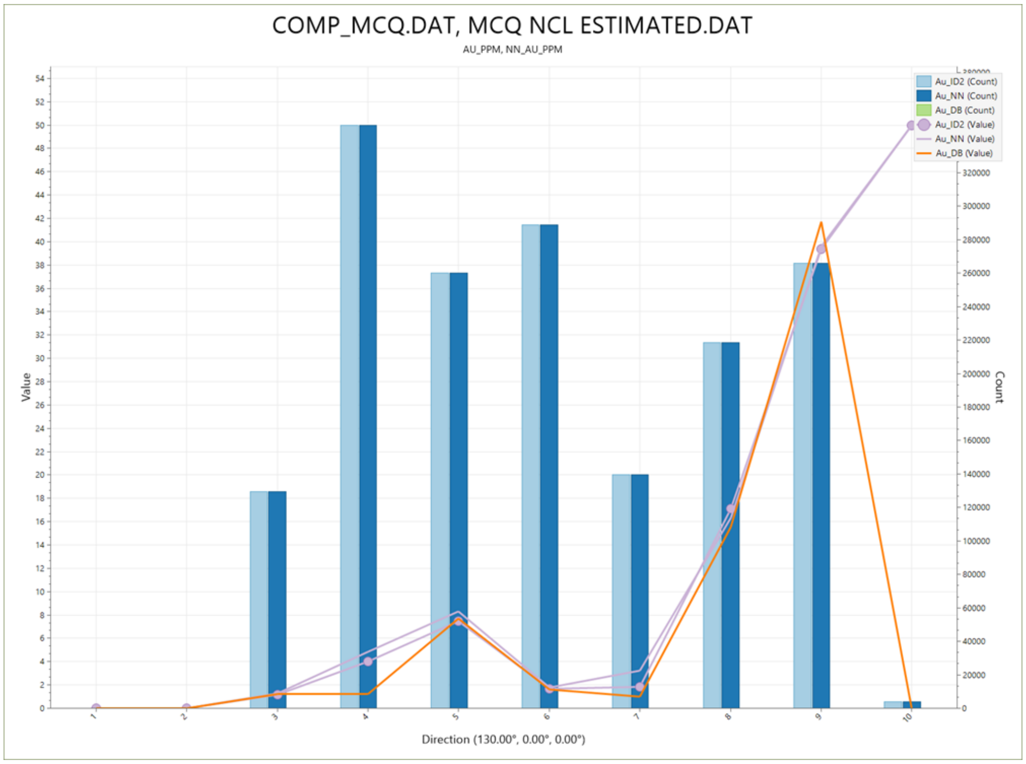
SERRA

	n samples	Min	Max	Mean	Std Dev	Variance
COMPOSITES	480	0.003	50.00	6.75	11.64	135.38
NN	6,688,745	0.003	50.00	5.63	9.68	93.62
BLOCKS	6,688,745	0.003	50.00	6.05	6.52	42.63

14.8.3 Swath Plots

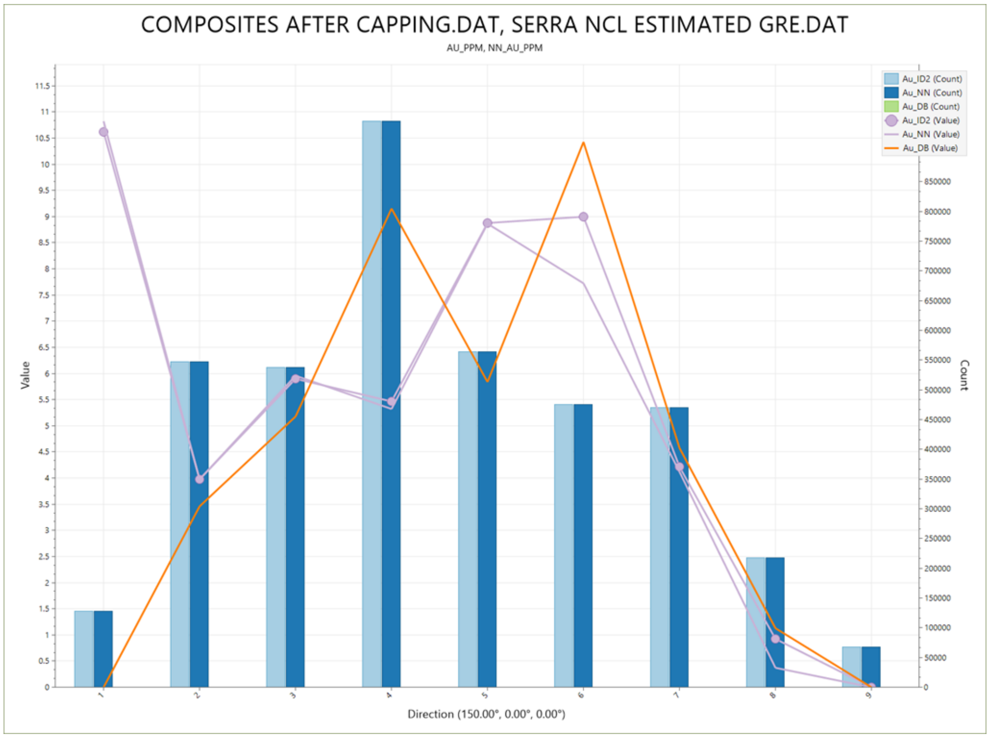
Swath plots provide a graphical method of comparing composite grades with the NN and ID2 block model estimates. Figure 14-5 through Figure 14-6 present swath plots along the X-axis of the block model for all main veins. Similar to the statistical comparison, the swath plots show good correlation of grade values between the NN and ID2 block estimates. Composite values have high-grade spikes throughout the model due to spatial concentrations of high-grade samples. These concentrations are appropriately handled in the model estimate showing that they do not influence a large population of the block model and are adequately constrained by surrounding composite samples. This is evident in the swath plots where the composite sample spikes in grade are limited in the ID2 estimate.

Figure 14-5: Swath Plot along strike, MCQ 2



Source: NCL, 2024

Figure 14-6: Swath Plot along strike, SERRA V3



Source: NCL, 2024

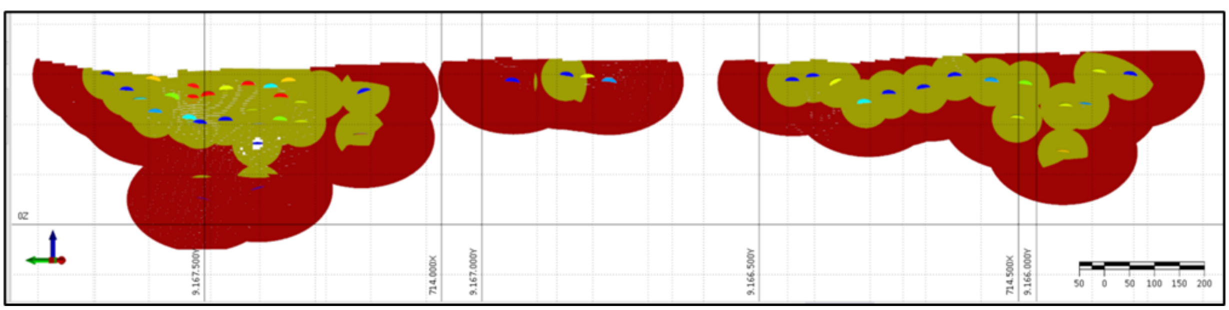
14.9 Resource Classification

Resource classification was determined based on the number of samples and minimum distance to the nearest sample. NCL only classified portions of the mineral resource estimate as measured for the Serra Vein, as this is the only vein which has exposure through underground mine workings. Typical industry practice for underground mines is to only classify measured resources where underground workings provide closely spaced channel samples as is the case for the Serra Vein. NCL classified indicated and inferred resources based on the parameters listed below.

1. Measured
2. Minimum number of samples = 5 (including channel samples)
3. Distance to closest sample <=25 meters
4. Indicated
5. Minimum number of samples = 5
6. Distance to closest sample <= 50 meters
7. Inferred
8. Minimum number of samples = 1
9. Distance to closest sample <= 150 meters

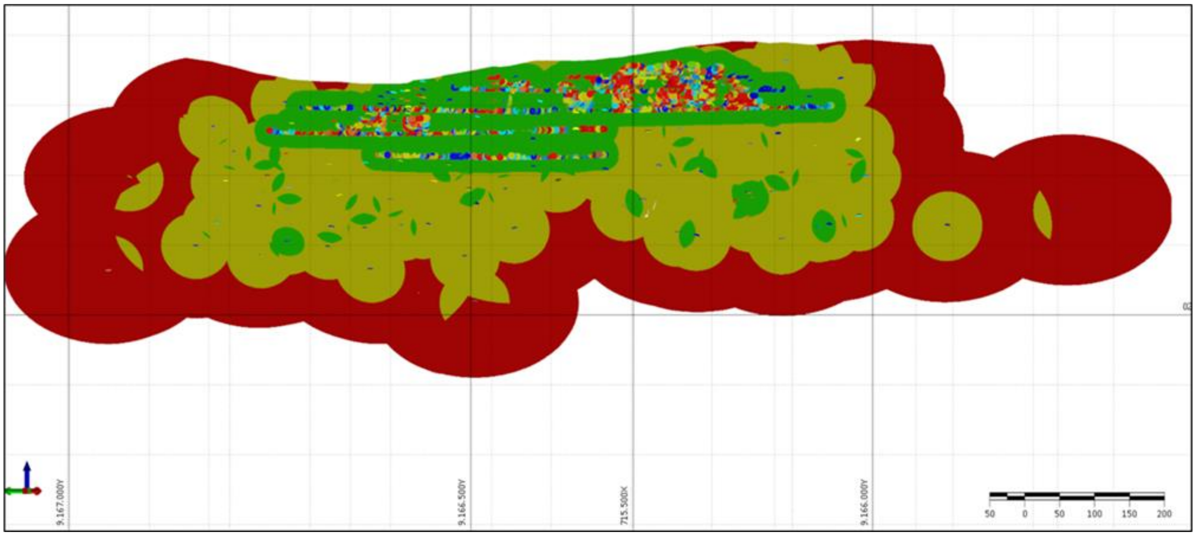
Using these parameters, NCL inspected the long section of the block model and visually enclosed areas for indicated resources using the calculated block determinations as a guide. This procedure permits the elimination of sporadic discontinuous sections, which appear when applying the calculated methodology described above. This refined interpretation was flagged into the block model to determine the mineral resource category of the block estimate. Figure 14-7 through Figure 14-8 present long sections of the mineral resource classification for the main vein domains.

Figure 14-7: Resource Classification, GAMDL



Source: NCL, 2024

Figure 14-8: Resource Classification, Serra V3



Source: NCL, 2024

14.10 Mineral Resource Statement

Based on estimated block model presented on previous chapter, NCL did an optimization exercise based on economic parameters provided by Serabi.

Table 14-8: Economic Parameters for Mineral Resources Estimation

COSTS	BRL/t	USD/t	USD/t
Mine	$517.33	$94.06	$106.84
Crusher	$37.74	$6.86	
Sorter	$32.54	$5.92	
Site	$205.00	$37.27	$87.53
Haul	$108.33	$19.70	
Plant	$168.09	$30.56	

CFEM	1.5%	4.0%
Royalty Sandstorm	2.5%	

Refining	1.39%	2.3%
Insurance and Freight	0.91%	

Ex Rate	$5.5	BRL/USD

Price	$1,950.00	USD/oz
Recovery	97%	
Ore Sorter Efficiency (COG> 2.5)	61%	
Ore Sorter Grade Factor (COG> 2.5)	1.59	

Based on stopes designed in 0.7 meter minimum width and 5x5 meter dimensions, NCL tabulated the mineral resources at a cutoff grade of 3.16 gpt Au as the base case (Table 14-9). The cutoff calculation is based on a gold price of $1,950/troy oz, an operating cost described detailed as above, and a metallurgical recovery of 97%. The resource statement considered a minimum mining thickness of 0.7 meters. NCL included the previous estimate for the Valdette area from the technical report filed by Anfield Gold dated July 1, 2017. No additional drilling was completed within this area. NCL reviewed the previous vein model and intercepts selected for Valdette and in general agrees with the interpretation and selection.

Table 14-9: Mineral Resource Statement, All Areas

Resource Category	Cut-off	2024 Indicated + Measured Resources		
	g/t Au	Tonnes	Au(g/t)	Au(oz)
Measured Resources	1	286,330	5.90	54,302
	2	208,160	7.80	52,172
	3	171,526	8.96	49,395
	4	150,125	9.52	45,952
	5	124,414	10.59	42,339
Indicated Resources	1	1,155,249	4.60	170,768
	2	849,552	5.49	149,990
	3	623,210	6.49	130,103
	4	483,014	7.35	114,187
	5	377,106	8.24	99,945
Measured + Indicated Resources	1	1,441,579	4.86	225,069
	2	1,057,711	5.94	202,162
	3	794,736	7.03	179,499
	4	633,139	7.87	160,139
	5	501,520	8.82	142,285
		2024 Inferred Resources		
		Tonnes	Au(g/t)	Au(oz)
Inferred Resources	1	2,279,734	4.84	354,542
	2	1,971,900	5.07	321,594
	3	1,453,577	5.81	271,321
	4	803,112	7.67	197,986
	5	488,076	9.68	151,822

1. The effective date of the Mineral Resource is April 16, 2024.
2. The Qualified Persons for the estimate Nicolas Fuster, QP of NCL.
3. Mineral Resources are inclusive of Mineral Reserves; Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resource is based on a gold cutoff grade of 3.16 gpt, an assumed gold price of 1950 $/tr oz, Mine+Crusher+Sorter cost of 106.84 $/tonne, Site+Haul+Plant cost of 87.53 $/tonne, 4% Royalties, 2.3% refining and insurance, and an assumed metallurgical recovery of 97%.

14.11 Mineral Resource Sensitivity by Domain

Table 14-10 through Table 14-13 present the mineral resource variability by domain.

Table 14-10: Mineral Resource Statement, GAMDL

Resource Category	Cut-off	2024 Indicated Resources		
	g/t Au	Tonnes	Au(g/t)	Au(oz)
Indicated Resources	1	264,376	7.09	60,248
	2	234,578	7.50	56,542
	3	194,714	8.23	51,492
	4	155,639	9.30	46,520
	5	131,064	10.11	42,598
Resource Category	Cut-off	2024 Inferred Resources		
	g/t Au	Tonnes	Au(g/t)	Au(oz)
Inferred Resources	1	237,910	9.07	69,393
	2	210,070	9.63	65,009
	3	188,431	10.25	62,111
	4	162,330	11.39	59,452
	5	141,956	12.44	56,753

1. The effective date of the Mineral Resource is April 16, 2024.
2. The Qualified Persons for the estimate Nicolas Fuster, QP of NCL.
3. Mineral Resources are inclusive of Mineral Reserves; Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resource is based on a gold cutoff grade of 3.16 gpt, an assumed gold price of 1950 $/tr oz, Mine+Crusher+Sorter cost of 106.84 $/tonne, Site+Haul+Plant cost of 87.53 $/tonne, 4% Royalties, 2.3% refining and insurance, and an assumed metallurgical recovery of 97%.

Table 14-11: Mineral Resource Statement, MCQ

Resource Category	Cut-off	2024 Indicated Resources		
	g/t Au	Tonnes	Au(g/t)	Au(oz)
Indicated Resources	1	407,092	4.33	56,736
	2	310,660	4.91	49,044
	3	232,852	5.82	43,559
	4	188,269	6.58	39,808
	5	151,984	7.30	35,691
Resource Category	**Cut-off**	**2024 Inferred Resources**		
	g/t Au	**Tonnes**	**Au(g/t)**	**Au(oz)**
Inferred Resources	1	719,279	5.07	117,192
	2	580,307	5.51	102,756
	3	414,376	6.59	87,835
	4	296,059	7.70	73,291
	5	212,657	8.73	59,699

1. The effective date of the Mineral Resource is April 16, 2024.
2. The Qualified Persons for the estimate Nicolas Fuster, QP of NCL.
3. Mineral Resources are inclusive of Mineral Reserves; Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resource is based on a gold cutoff grade of 3.16 gpt, an assumed gold price of 1950 $/tr oz, Mine+Crusher+Sorter cost of 106.84 $/tonne, Site+Haul+Plant cost of 87.53 $/tonne, 4% Royalties, 2.3% refining and insurance, and an assumed metallurgical recovery of 97%.

Table 14-12: Mineral Resource Statement, Serra

2024 Measured + Indicated Resources				
Resource Category	**Cut-off g/t Au**	**Tonnes**	**Au(g/t)**	**Au(oz)**
Measured Resources	1	286,330	5.90	54,302
	2	208,160	7.80	52,172
	3	171,526	8.96	49,395
	4	150,125	9.52	45,952
	5	124,414	10.59	42,339
Indicated Resources	1	483,781	3.46	53,784
	2	304,314	4.54	44,404
	3	195,645	5.57	35,052
	4	139,106	6.23	27,859
	5	94,058	7.16	21,656
2024 Inferred Resources				
Resource Category	**Cut-off g/t Au**	**Tonnes**	**Au(g/t)**	**Au(oz)**
Inferred Resources	1	381,076	3.16	38,690
	2	243,683	4.08	31,999
	3	170,833	4.89	26,862
	4	92,341	6.62	19,661
	5	61,233	7.51	14,788

1. The effective date of the Mineral Resource is April 16, 2024.
2. The Qualified Persons for the estimate Nicolas Fuster, QP of NCL.
3. Mineral Resources are inclusive of Mineral Reserves; Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resource is based on a gold cutoff grade of 3.16 gpt, an assumed gold price of 1950 $/tr oz, Mine+Crusher+Sorter cost of 106.84 $/tonne, Site+Haul+Plant cost of 87.53 $/tonne, 4% Royalties, 2.3% refining and insurance, and an assumed metallurgical recovery of 97%.

Table 14-13: Mineral Resource Statement, Demetrio

2024 Inferred Resources				
Resource Category	**Cut-off g/t Au**	**Tonnes**	**Au(g/t)**	**Au(oz)**
Inferred Resources	1	692,469	4.74	105,571
	2	688,840	4.43	98,134
	3	679,938	4.32	94,513
	4	252,382	5.62	45,582
	5	72,230	8.86	20,582

1. The effective date of the Mineral Resource is April 16, 2024.
2. The Qualified Persons for the estimate Nicolas Fuster, QP of NCL.
3. Mineral Resources are inclusive of Mineral Reserves; Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resource is based on a gold cutoff grade of 3.16 gpt, an assumed gold price of 1950 $/tr oz, Mine+Crusher+Sorter cost of 106.84 $/tonne, Site+Haul+Plant cost of 87.53 $/tonne, 4% Royalties, 2.3% refining and insurance, and an assumed metallurgical recovery of 97%.

14.12 Depletion

In July 2022 Serabi started mining of the Serra veins. An extraction report has been prepared and NCL has compared the actual results with the numbers obtained from the 2024 block model. In the table below a very good correlation in mined ounces can be concluded with a dilution of 300% reflecting the narrowness of the veins in the Serra Mine.

Table 14-14: Coringa Reconciliation (Serra Mine)

	Tonnes	**Au(gpt)**	**Au (oz)**
Undiluted Block Model	37,579	17.12	20,684
Extraction Data	117,677	5.50	20,808

14.13 Relevant Factors

NCL is not aware of any adverse factors that would materially affect the statement of mineral resource

15 Mineral Reserve Estimate

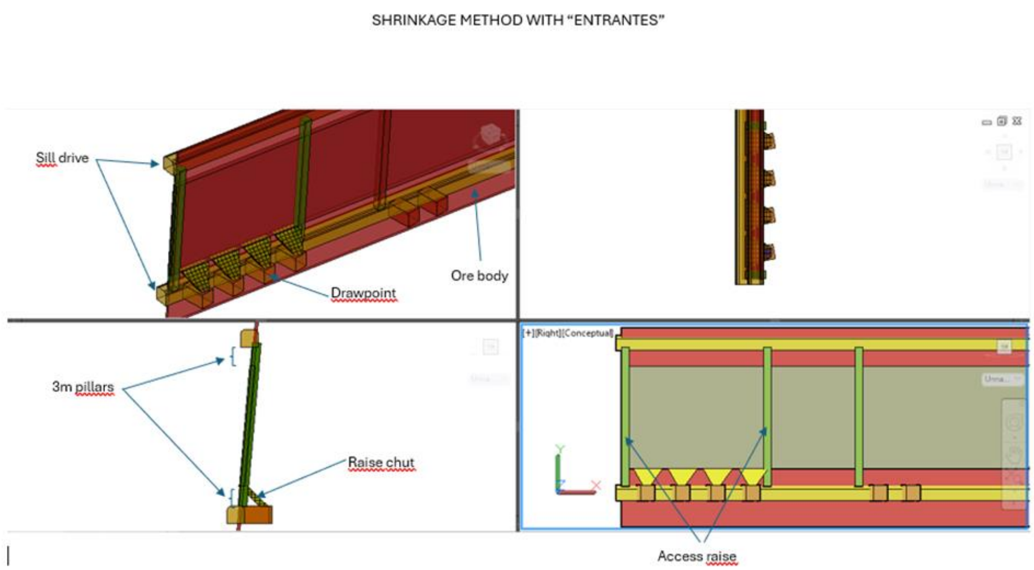
This section is not applicable.

16 Mining Methods

16.1 Current Methods

Shrinkage stoping is employed at the Coringa Gold Project for extracting ore from narrow, near-vertical gold veins. This method involves developing horizontal tunnels, or sill drives, at the base of the ore body, typically 3 meters high by 3 meters wide. A vertical raise is constructed to connect the base to the top of the stope, which can be as tall as 32 meters, with infrastructure such as ladders installed to facilitate upward mining progression. Ore extraction begins by breaking the ore and leaving some behind as a working platform; this ore is gradually removed via drawpoints at the base, loaded into Load-Haul-Dump (LHD) units, and then transferred to trucks that transport it to the surface. Additionally, crosscuts driven from the footwall lead to raise chutes developed at a 45° angle to enable ore movement. Two sill pillars are retained for structural support during mining and are extracted in retreat for each level.

Figure 16-1: Actual Production Scheme of Coringa Shrinkage Stoping



Stope widths are typically narrow (1m wide) and the shrinkage method provides support for the stope walls until the last lift of the stope is completed and the ore is drawn down. Ground conditions are generally very good, and ground support typically is not required in the stopes.

16.2 Mine Schedule

The mine will operate three seven-hour shifts per day, which is six-hours underground and one-hour divided between surface safety and travel to underground workplace, for a total of 21 working hours per day, 365 days per year.

16.3 Mining Areas

Mining areas as detailed in Figure 16-2 below. Serra sector has a main ramp, already developed and connected to the surface, which extends both to the west and east.

In the remaining sectors, an initial portal and ramp development for the Meio orebody has commenced but otherwise no underground development has yet been initiated. GAMDL includes two areas with independent ramps and the same for the Demetrio sector. Due to the overall length of the strike extension, MCQ is currently planned with three independent ramps that provide access to the surface

Figure 16-2: Mining Areas

16.4 Production

16.4.1 Sequence

The extraction method allows access to the ore as the developments are completed, enabling earlier access to higher-grade material. However, the pillar associated with the drawpoint must be extracted in retreat for each level.

The levels are developed from the top down, enabling the selection of stopes with higher-grade ore. The extraction sequence starts in three mining areas: SERRA, GAMDL, and MCQ, while delaying the entry into DEMETRIO.

16.4.2 Dimension

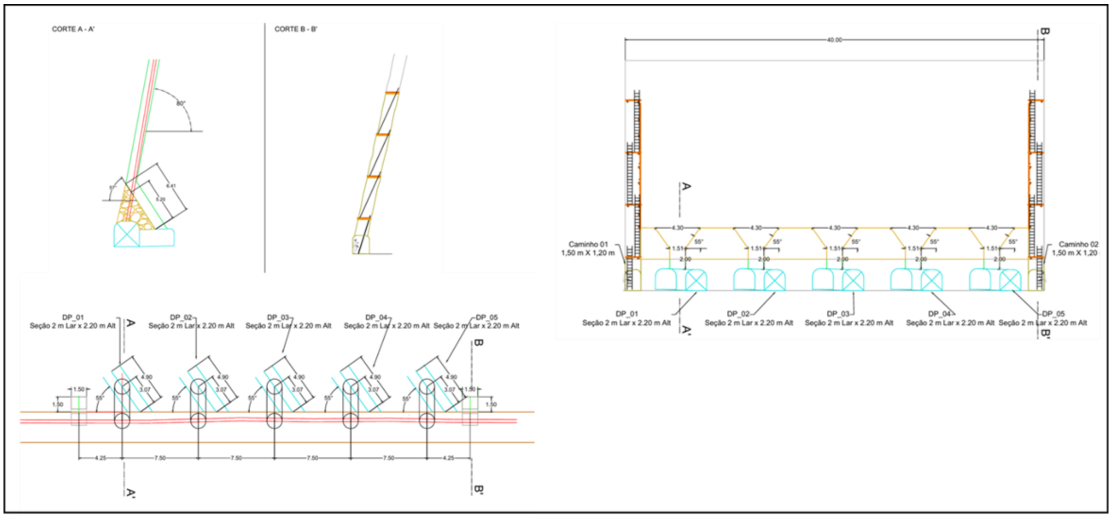
Stopes are 30 meters high and 30 meters long. Stopes are mined from a vertical raise driven from drifts. Each stope will contain two stope raises. Access to these vertical raises is accomplished by installing a series of ladders and timber stulls from the bottom of the production drift upwards. Development of the vertical raises is accomplished with stoper drills with the subsequent horizontal breasting by jackleg drills. For each stope, two sill pillars 3 meters thick spanning the width of the stope will be extracted in retreat after the stopes at that level have been mined.

Table 16-1: Typical Underground Production Dimensions

Production Type	Height (meters)	Length (meters)	Width (meters)
Stope	32	30	~1 average

NOTE: The exact stope dimensions will change to fit the local geometry of the ore body

Figure 16-3: Dimensions of Typical Stope



16.4.3 Dilution

The stope design is adjusted to the orientation of the mineralized veins for each mining sector, in order to minimize dilution. A minimum width of 0.8 meters is considered for the stopes, plus 10% of operational dilution per side (0.1 m), considered as overbreak, giving an effective minimum mining width of 1.0m.

This results in an overall dilution for the planned underground mining operation of 43%.

16.5 Development

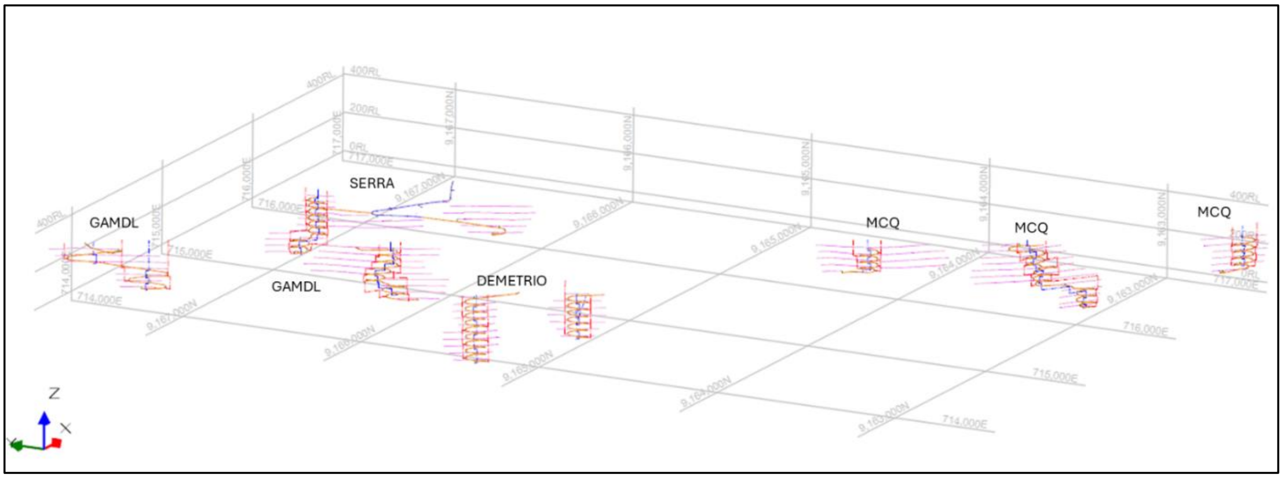
The development sequence was designed to ensure that all required development for a level is completed before the stopes on that level are scheduled for production.

Developments for the mining sectors that are not yet developed require access portals from the surface, except for Serra, where developments are based on the existing galleries and ramp.

The developments consist of ramps with a 15% decline and a cross-section of 4x4.5 meters, providing access to the levels; production drifts with a cross-section of 3x3 meters; ventilation galleries with a 3x3 meter cross-section and ventilation shaft, both for intake and exhaust, with a cross-section of 2.2x2.2 meters.

Figure 16-4 shows the developments for each mining sector.

Figure 16-4: Development per Mining Sectors



Note: The colors represent the following development: orange – ramp, pink – drift, red and blue – vent

Dimensions of underground development are broken out by type in Table 16-2.

Table 16-2: Underground Development Cross Section Dimensions

Development Type	**Section** (meters)
Ramp	4.0 x 4.5
Drifts	3.0 x 3.0
Drift X-Cut	3.0 x 3.0
Vent Raise	2.2 x 2.2
Ore Chute	1.5 x 1.5

16.6 Unit Operations

The unit operations described below closely approximate the actual operations at Serabi's Palito Complex.

16.6.1 Drill

Horizontal development such as ramps, ramp cross cuts, drifts, and drift cross cuts will be developed with jumbo drill rigs. Vertical development such as secondary escapeways, vent raises, ore chutes, stope raises, and breasting will be developed with stoper or jackleg drills.

16.6.2 Blast

Blasting will utilize a mixture of bagged ANFO and emulsion. The ANFO will be loaded into holes using a pneumatic loader, and the emulsion will be packaged in sticks to allow loading. Blasting will be initiated using blasting caps, boosters, and detonation cord. Blasting should be timed so that it coincides with entry and exit of employees to allow sufficient time for the ventilation system to clear contaminated air from the previous blast.

For production drifts where the ore body is confined to a width of 1 meter, the ore is first extracted using the split blasting technique, followed by the removal of the remaining waste material.

16.6.3 Muck

Mucking within drifts will be performed with narrow vein load-haul-dump (LHD) equipment. LHDs will haul mineralized rock to ore passes. The rock will then be re-handled and loaded by a front end loader into a haul truck where the ore pass meets the ramp.

16.6.4 Loading Haul

A single model of haul trucks will be utilized both underground and on surface roads. The selected Volvo FMX 460hp dump truck has a tipper volume capacity of 19.5 cubic meters, and a weight capacity of 44 tonnes. Each load is expected to average 30 tonnes of rock. Truck traffic in the underground mines will be limited to the decline and ramp cross cut. A Volvo L90 model front end loader will load each truck in designated loading areas with additional height allowing full lift of the loader bucket.

16.7 Productivity and Fleet Size

Table 16-3 summarizes the estimated productivity for major mining equipment per operating hour based on data from 2019 PEA. All advance rates have been presented in a tonne equivalent basis rather than meters.

Table 16-3: Estimated Productivity by Equipment Type

Equipment Type	Activity	Estimated Productivity (tonnes/op hour)
Loader Haul Dump – ST2G	Mucking	30.0
Front End Loader – Volvo L90	Re-mucking	60.0
Dump Truck – Volvo FMX 460	Haul	30.0
Jackleg Drill – Boart Longyear Seco 250	Breasting out	3.5
Jumbo Drill	Ramp	82.0
Jumbo Drill	Drift	36.5

Productivity estimates and tonnages were used to determine the number of operating hours required by equipment type. Equipment quantities were then estimated based upon the number of required operating hours and the number of hours each piece of equipment can operate during a period, see Table 16-4.

Table 16-4: Summary of Major Mining Equipment Fleet Requirements

Requirement	2024 (1)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Jumbo Drill	1	2	3	3	3	2	2	1	1	1	-	-
LHD	2	4	4	5	5	5	4	3	3	3	2	1
Truck	2	4	4	5	4	4	4	3	3	3	3	1
FEL	3	3	3	3	3	3	3	3	3	3	2	3
Jackleg	5	9	10	12	10	11	10	8	7	7	6	2

(1) It is aligned with the fleet sized for the current year

The mining fleet requirements were used in conjunction with the on-hand equipment numbers to determine the necessary initial mining equipment purchases. Subsequently, operating hours were used with equipment lifetimes to determine equipment replacement over the life of the mine.

16.8 Manpower

The summary of the number of employees for each category and the total number of employees needed for the operation is listed below in Table 16-5.

Table 16-5: Annual Labor Requirements

Manpower	2024 (1)	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Mine Operations	94	159	173	202	180	180	166	130	123	123	94	51
Mine Maintenance	55	55	55	55	55	55	55	55	55	55	55	55
Total	149	214	228	257	235	235	221	185	178	178	149	106

(1) It is aligned with the manpower sized for the current year

Manpower was designed to meet the schedule demand of operating the plant and mine 365 days per year with three shifts per day for the. An allowance was made for shift rotation shift, vacations, and holidays. Labor associated with administration, corporate, and plant operations is assigned to Palito Mine.

16.9 Development and Production Schedule

The mining plan is developed considering the constraints of the shared plant capacity with Palito Complex. It is projected that 100 ktpy of ore from Coringa will be sent to the Palito plant in 2025, with a potential increase to 130 ktpy starting in 2026. The combined capacity of both plants is 228 ktpy, providing some flexibility in the amount of material that can be sent to Palito.

Horizontal development is limited to 650 meters per month.

During full production, the mine is expected to produce approximately 220,000 tonnes of ore annually, which, after passing through the sorter process, results in 130,000 tonnes of feed at an average grade of 8.42 g/t. This will yield an average of approximately 34,000 troy ounces of gold annually.

Table 16-6 below summarizes annual plant throughput, gold ounces produced, and waste tonnes from production and development activities.

Table 16-6 Annual Ore, Waste, Au Oz

Period	Total Ore Mined	Grade Mined	Waste in Drifts	Waste in Developments	Total Mined	Sorter to Plant	Grade Sorter	Contained Gold	Recovered Gold
	kt	gpt Au	kt	kt	kt	kt	gpt Au	koz	koz
2024 (1)	88.9	6.66	28.5	86.9	204.2	54.2	10.60	18.5	17.9
2025	165.0	5.76	62.5	134.8	362.2	100.6	9.15	29.6	28.7
2026	210.8	5.68	73.2	124.6	408.6	128.6	9.03	37.3	36.2
2027	225.8	5.97	64.8	133.8	424.5	137.8	9.50	42.1	40.8
2028	207.0	6.46	61.5	133.7	402.2	126.3	10.27	41.7	40.5
2029	206.8	5.70	62.6	109.5	379.0	126.2	9.07	36.8	35.7
2030	220.3	5.20	45.6	103.9	369.8	134.4	8.27	35.7	34.6
2031	217.0	4.37	25.4	61.9	304.3	132.4	6.95	29.6	28.7
2032	215.1	4.51	5.8	43.1	264.0	131.2	7.17	30.2	29.3
2033	219.8	4.48	4.5	31.0	255.3	134.1	7.12	30.7	29.8
2034	208.5	5.34	-	-	208.5	127.2	8.49	34.7	33.7
2035	47.8	4.99	-	-	47.8	29.2	7.94	7.4	7.2
Total	2,232.9	5.38	434.5	963.1	3,630.5	1,362.1	8.55	374.3	363.1

(1) It is aligned with the production planned for 2024

Table 16-7 below summarizes annual development totals broken down by development type.

Table 16-7: Annual Development Meters by Development Type

Period	Horizontal Meters	Vertical Meters	Total Meters
2024 (1)	3,742	648	4,390
2025	6,792	648	7,440
2026	7,418	640	8,059
2027	7,200	645	7,845
2028	6,993	645	7,638
2029	6,576	579	7,154
2030	5,636	402	6,037
2031	3,183	165	3,348
2032	1,551	-	1,551
2033	1,181	-	1,181
Total	50,272	4,371	54,643

(1) It is aligned with the developments already executed and planned for 2024.

16.10 Geotechnical Conditions for Underground Development

Ground conditions with the underground mine are anticipated to be very competent and require minimal bolting, shotcrete, and wire mesh. This assumption is based on the QPs review of the Coringa core and site visit to Serabi's Palito and Sao Chico mines.

16.11 Groundwater

Underground development and production will take place below the groundwater table. It is expected that as the workings progress deeper the flow rate will increase. It is also noted that seasonal changes will affect the groundwater inflow but that this will be largely limited to shallower workings. Dewatering pumps will be needed in order to remove the groundwater. Groundwater discharge will need to be managed as per applicable local laws and regulations

16.12 Ventilation System

The current ventilation plan is designed to supply fresh air down the ramp to active areas, and to exhaust through vent raises using two 150hp main fans per mining area. The number and size of ventilation fans is based upon the current operational practices in place at the similar Palito Complex. When headings cannot be ventilated by the main fans, the vent bag and auxiliary fans will be utilized.

17 Recovery Methods

The Coringa ore processing has been planned in two Phases. Phase I currently in operation, considers the ore extracted from the Serra Mine being hauled directly to the Palito Plant for processing at the existing facilities. Phase II includes the construction of a crushing and ore sorting plant at the Coringa site and the transportation of the upgraded ore to the Palito Plant for processing.

PHASE I – R.O.M. Ore being hauled to Palito Plant:

Phase I considered the Coringa R.O.M. ore (>4 gAu/t) from Serra Mine that has been mined from June 2022 being directly transported to Palito Plant Facility for processing in substitution for the reduced volume of ore and grade immediately available from the Sao Chico mine. This was an important step to test the processing route and metallurgical recoveries >97% have been achieved with milling at P80=100 micron, followed by gravity concentration (Falcon/ILR) and CIP processing.

PHASE II – Pre-concentrated Ore being hauled to Palito Plant:

Bulk tests conducted on the Coringa ore using the Ore Sorting (OS) Facility at the Palito Plant, showed good amenability using RGB sensors to discard about 35% to 40% mass of gangue minerals of the ore with low related losses of gold content. Test results are discussed on the Section 13 of this document.

In addition to the reduction in effective haulage costs per ounce, the main target is to increase the feed grade at the Palito Processing Plant through the elimination of barren waste material and indirectly, increasing the gold production capability of the existing plant without the need to increase throughput capacity.

With upgrading of the CIP circuit which was completed in 2023, the Palito Plant capacity was increased from the 180,000 t/y to 210,000 t/y whilst maintaining the same metallurgical recovery of 94% for Palito ore and 97% on Coringa ore.

Phase II incorporates the construction of a pre-concentration plant at Coringa including:

- Crushing plant with primary (jaw crusher 8050) and secondary (cone 36S) crushers, closed with vibrating screen (4x1,5m) producing both feed for OS (98 t/h >12mm<35mm) and also able to crush the pre-concentrated product and in preparation of being delivered as Palito Plant feed (44 t/h<12mm).

- Ore Sorting facility (with the same specification as the existing Palito installation) with RGB and gravity sensors, and the same nominal capacity of 40 t/h feed.

This facility is in the final stages of construction with all equipment on site (Ore sorting + semi-mobile crushing plant) and final commissioning planned for Q4-2024.

17.1 Coringa Ores Process Description

The new Ore Sorting facilities at Coringa have been located close to the mine. A simplified flowsheet is presented in the Figure 17-1. Mine trucks discharge the ore onto a ROM pad. Ore is recovered from the ROM pad with a front-end loader. The loader feeds the ore through a static Grizzly (400 mm aperture) into the ROM Bin, which is equipped with a Vibratory Grizzly Feeder (60 mm aperture) on the Bin outlet.

Following discharge from the ROM Bin, the grizzly undersize reports directly to the Primary Crusher Discharge Conveyor via a chute bypassing the Primary Crusher. The grizzly feeder oversize directly discharges into the Primary Crusher.

The Jaw Crusher product plus the -60 mm grizzly undersize is transported by belt conveyors to the Product Screen, an inclined double deck vibrating screen. A self-cleaning magnet is fitted to the Screen Feed Conveyor to remove ferrous tramp metal material.

The undersize material from the Product Screen (crushing circuit final product) reports to the Crushed Product and is transported to the Crushed Ore Stockpile. This conveyor is fitted with the Product Weightometer. The final crushed product size is determined by the 15 mm screen on the bottom deck of the screen and will have a size distribution with 80% of the product less than 12 mm.

The oversize material from both decks of the screen discharges to the Ore Sorter Circuit Feed Conveyor, which transports the coarse ore to the Ore Sorter Feed Silo incorporating a surge bin with a capacity of 19 t.

Coarse ore is discharged from the Ore Sorter Feed Silo, via the Ore Sorter Circuit Feeder, onto the Washing Screen Feed Conveyor which transports the coarse ore to the Ore Washing Screen, a vibrating screen fitted with water wash sprays which clean the surface of the coarse ore particles. The Washing Screen Feed Conveyor is fitted with the Ore Sorter Feed Weightometer to regulate the feed rate.

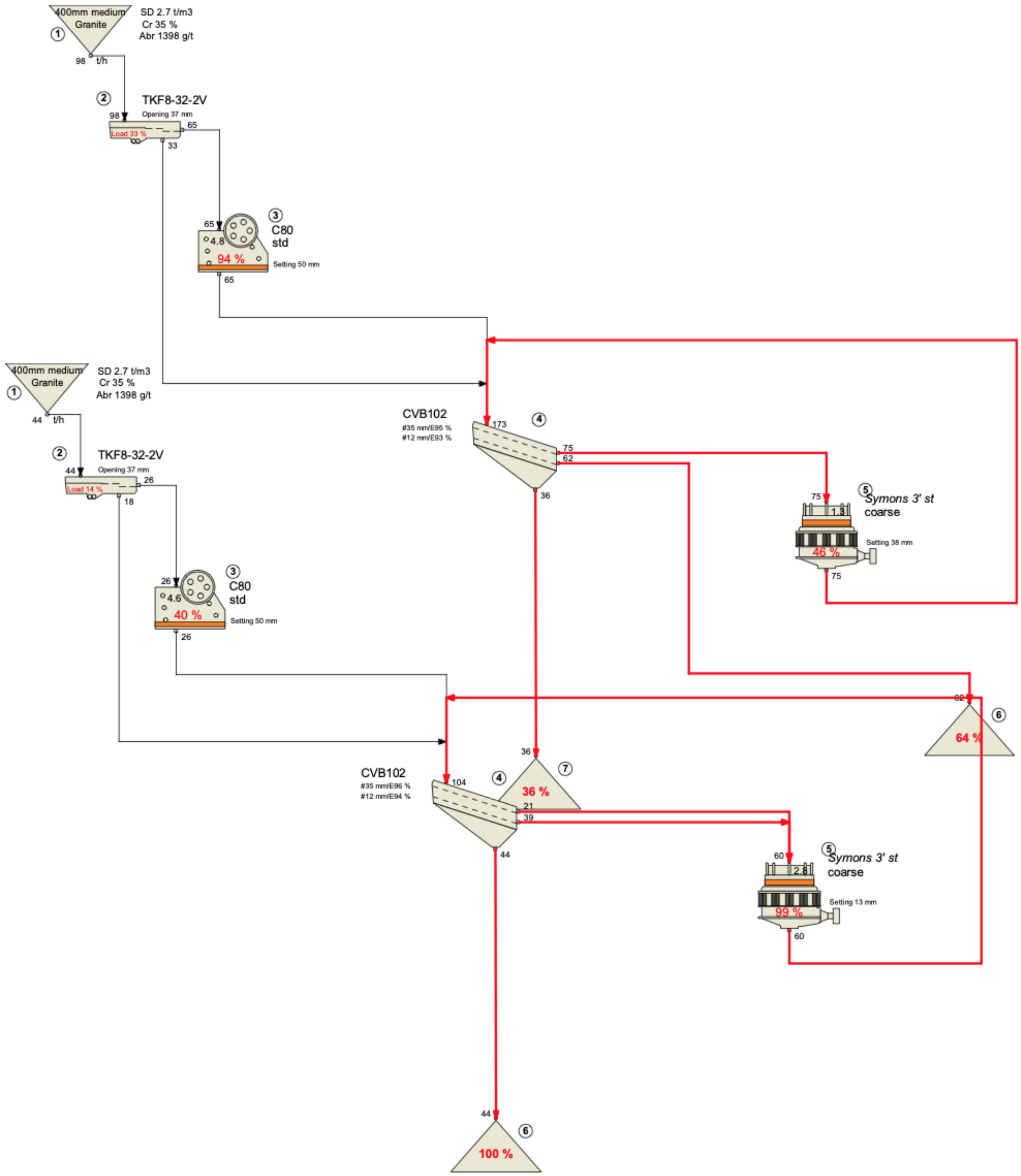
The undersize of the Ore Washing Screen flows by gravity to the Fine Ore Recovery Screen, fitted with a 1mm screen mesh. The oversize material from this screen discharges to a bunker for reclamation with the front-end loader, whilst the undersize flows to a settling pond for future recovery with the excavator.

Washed ore is fed with a vibrating feeder on to a high-speed moving conveyor in a single layer, that passes under the ore sorting sensors. Two scanning principles are then applied to assess each particle, photometric color, which measures the surface color of each particle, and x-ray transmission (XRT) which measures the atomic density of each particle.

As the particles are scanned and measured, a computer algorithm assesses each particle and classifies it as either ore or waste, depending on the selection criteria. The position of each particle on the conveyor belt is also mapped as it passes through the sensor(s).

As the particle reaches the end of the conveyor, they are separated as either ore or waste by using air jets to “shoot” the desired particle out of the falling stream and into a separate chute from which it can be transported in a different direction, thus separating the upgraded ore product from the barren waste.

Figure 17-1: Crushing Plant Flowsheet and Mass Balance



The ore sorter only works with a coarse fraction of the crushed ore. The fines (-12 mm) will not be sorted and will join the ore sorter product. The reject of the sorter (42% of the initial feed) is discarded and contain approx. 3% of the gold. The test results show different upgrade factors and mass rejection as a function of the feed grade.

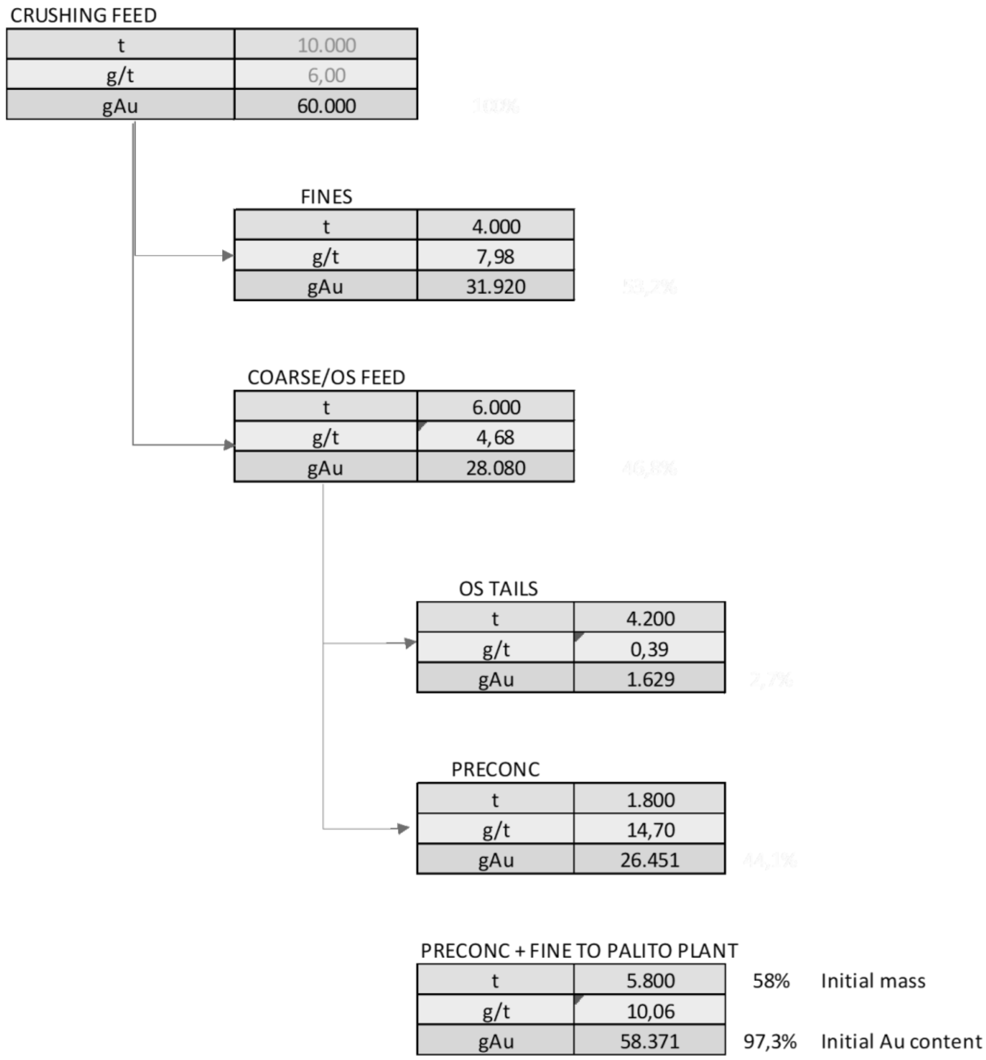
A correlation of the upgrade factor as a function of the head grade has been deduced from the previous tests and is shown in the Table 17-1. The head grade is referring to the ROM grade which is different to the grade feed to the ore sorter.

Table 17-1: Upgrade factor as function of Head grade of Coringa Ore

Au Grade	Total Mass (OS+Fines)	Upgrade Factor
g/t	% of Feed	
0.50-1.50	46%	2.11
1.51-2.50	58%	1.67
> 2.50	61%	1.59

Figure 17-2 shows a mass balance of the ore sorting plant.

Figure 17-2: Coringa Ore Sorting Process Mass Balance



The upgraded ore containing the 58% of the mass and 97% of the gold is then hauled to Palito Facilities for ore processing.

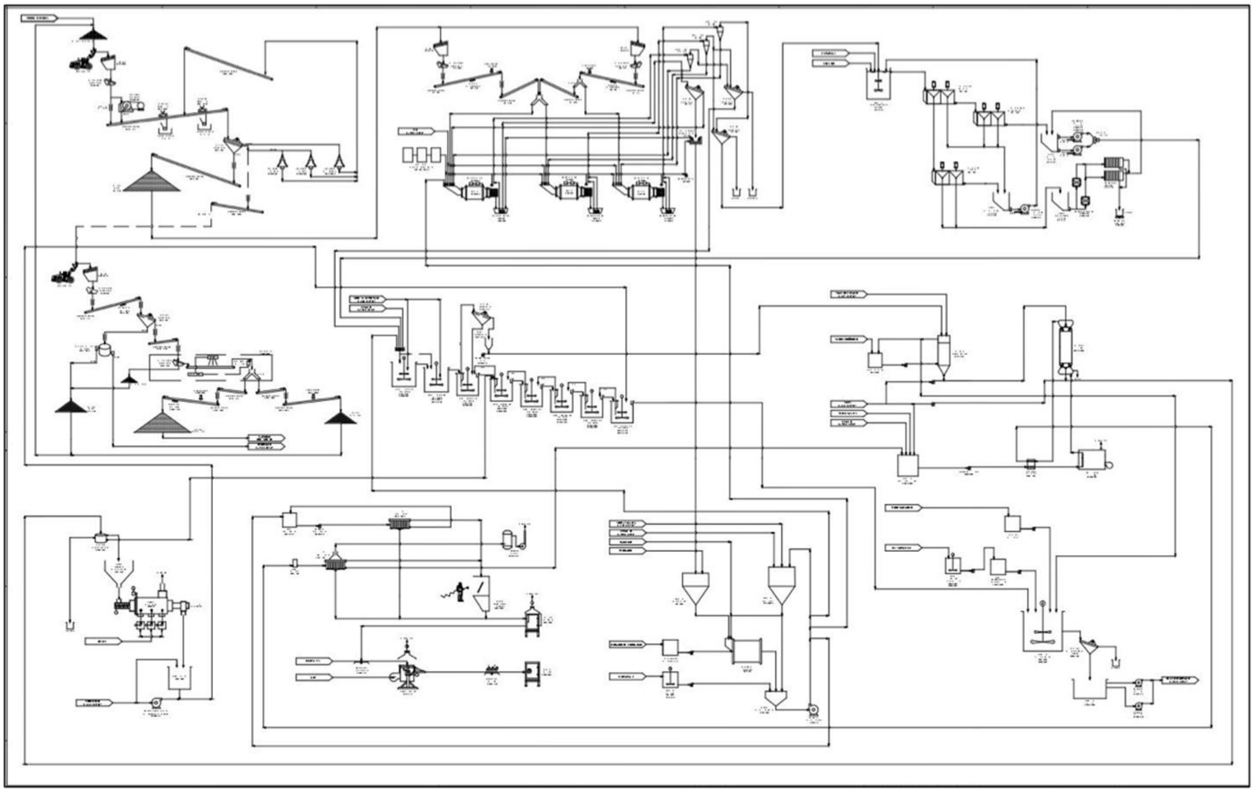
17.2 Processing ore at Palito

Serabi operates a 575 t/d plant to process ore from both the Palito and Coringa mines. Palito ore is processed through a flowsheet that includes crushing, grinding, copper flotation and carbon-in-pulp (CIP) cyanidation of gold and silver values from the copper flotation tailing. Low grade development ore from the Palito mine is upgraded by the ore sorter after crushing and prior to grinding. The Coringa ore is processed in a separate grinding circuit that includes gravity concentration and intensive cyanide leaching of the gravity concentrate. The Coringa gravity tailing is combined and processed with the Palito copper flotation tailings in the CIP cyanidation circuit. Gold and silver values extracted in the CIP circuit are adsorbed onto activated carbon. The “loaded” carbon is then eluted to remove the adsorbed gold and silver values into an upgraded solution that flows through electrowinning cells to recover gold and silver as a cathodic precipitate, which is then fluxed and smelted to produce a final doré product

17.3 Palito Plant description

The overall process flowsheet is shown in Figure 17-3 and a list of major equipment is shown in Table 17-2.

Figure 17-3: Palito Plant Overall Flowsheet



17.3.1 Crushing

Run-of Mine (ROM) ore from the mines is transported by trucks and stockpiled separately in an area close to the crushing plant.

Stockpiled run-of-mine (ROM) ore is fed to the crushing circuit at an average rate of 35 t/h using a front-end wheel loader. The ore is fed to a jaw crusher using a vibratory grizzly where it is crushed to a nominal size of 60 mm. A conveyor transports the primary crushed ore to a double deck vibrating screen with a top deck screen size of 38 mm and a bottom deck screen size of 15 mm. The +38 mm material reports to the secondary crusher and the -38 mm+15 mm material reports to either the two tertiary crushers operating in parallel or, if grade is low, it is removed from the circuit and stockpiled for ore sorting. The secondary and tertiary crushers are operated in closed circuit with the double-deck screen and are set to produce a product of less than 15 mm. The final minus 15 mm product is transported via a stacker conveyor to crushed ore stockpiles.

Due to the high variability of the Palito ore, material from each front and stope is crushed separately on a batch basis and stockpiled individually. The crushed ore product from each batch is sampled as it falls onto the product conveyor. After analysis of each sample, the separate stockpiles are blended using a front-end wheel loader to produce a consistent mill feed blend. The ore is blended as it is loaded into trucks, which are then weighed and transported to mill feed stockpiles.

17.3.2 Ore Sorting

Low grade medium fraction ore (-38mm + 15mm) that is separated from the crushing circuit is transported to the ore sorting circuit for upgrading. The material is loaded into a 20 t silo and withdrawn with a variable speed vibrating feeder onto the washing screen feed conveyor which reports to a vibrating washing screen fitted with 8mm aperture panels. The ore is washed with water jets as it passes over the screen to remove any fine material from the surface of the particles. The washed screen oversize falls onto the ore sorter feed conveyor whilst the screen undersize reports to a dewatering screen fitted with a 1mm aperture screen-cloth that recovers any coarse -15mm + 1mm particles into a bunker for reclaim with the front-end loader. The dewatering screen undersize flows to a decantation pond where the fine material (-1mm) is allowed to settle and periodically removed for mill feed.

As the particle pass through the ore sorter, they are separated as either ore or waste by using air jets to “shoot” the desired particle out of the falling stream and into a separate chute from which it can be transported in a different direction, thus separating the upgraded ore product from the barren waste.

Conveyors transport the ore and waste to separate stockpiles. The ore product is collected by the front-end wheel loader and returned to the crushing circuit where it is crushed to -15mm for mill feed and the barren waste is loaded into trucks by the front-end wheel loader and transported to a waste stockpile.

17.3.3 Grinding

Palito and Coringa ores are transported and loaded into separate 100 t fine ore bins at the process plant. Variable speed vibrating feeders withdraw the ore from each bin onto the mill feed conveyors that feed both the Palito and Coringa grinding circuits. The mill feed ore is weighed as it is conveyed to the grinding circuits and sampled every 30 minutes with automatic cross-cut samplers. There are three parallel grinding circuits which process either Palito, Coringa or Coringa ore independently depending on the mill feed available.

Grinding circuit 1 is used exclusively for Palito ore and consists of a ball mill (2.1m dia. X 3.4m long) operating in closed circuit with a 250mm diameter hydrocyclone to produce a final ground product size of 80% passing 120 µm which reports to the copper flotation circuit.

Grinding circuit 2 is used exclusively for Coringa ore and consists of a ball mill (2.1 dia. X 3.4m long) operating in closed circuit with a Falcon SB-750B centrifugal concentrator and a 250 mm diameter cyclone. The concentrate collected by the centrifugal concentrator reports to the intensive leach circuit whilst the cyclone overflow, with a final ground product size of 80% passing 120 µm, reports directly to the CIP cyanidation circuit where it combines with the Palito flotation tail.

Grinding circuit 3 can be used for either Palito or Coringa ore, depending on the mill feed available. It consists of a ball mill (2.3m dia. X 3.4m long) operating in closed circuit with a hydrocyclone and the final ground product, 80% passing 120 µm is directed to report to either the copper flotation circuit when processing Palito ore, or to the CIP cyanidation circuit when processing Coringa ore.

17.3.4 Intensive Leaching

The gravity concentrate produced from the Coringa ore with the Falcon centrifugal concentrator is discharged to a 4 tons hopper and then leached in 800 kg batches in a Gekko In-line Leach Reactor (ILR150) for 24 hours. Leaching is accomplished in a cyanide solution that is maintained at a concentration 1.5% NaCN along with the addition 200 L of hydrogen peroxide per batch. The leach solution from the ILR is circulated through a separate electrowinning cell (600mm x 600mm x 9 cathodes) located in the gold room to recover the contained gold as a cathodic precipitate. The recovered gold is smelted as doré which is shipped offsite for final refining.

17.3.5 Flotation of Palito Ore

The flotation circuit consists of a conditioning tank followed by rougher, scavenger, and cleaner cells. A thiocarbamate collector (A3894) for selective copper flotation is added to the conditioner tank feed. Lime is added in the grinding circuit to maintain pH at 10 -11. Methyl isobutyl carbinol (MIBC) is added as a frother.

The rougher-scavenger flotation circuit consists of two duplex cells, each with a capacity of 3.2 m3, which provide a flotation retention time of 10 to 12 minutes. The product from the first rougher cell is regarded as the rougher flotation concentrate and is advanced to one stage of cleaner flotation. The product from the remaining rougher-scavenger cells is regarded as scavenger concentrate, which is recycled back to the conditioning tanks at the head of the circuit. Rougher flotation concentrate is upgraded in one stage of cleaner flotation to produce a copper concentrate containing higher than 20% copper and into which about 50% to 70% of the gold contained in the Palito ore is recovered. Scavenger tails are pumped to the CIP cyanidation circuit to recover the remaining gold values. The cleaner flotation concentrate is filtered in two Andritz filter presses, each with a capacity of 300 kg/hr. The filtered concentrate discharges directly from the filters into 1 t (wet) big bags. Typical moisture content of the concentrate is 9%. The bagged concentrate is shipped offsite in 20 t lots for refining.

17.3.6 CIP Cyanidation

The CIP cyanidation circuit consists of two 185 m^3 mechanically agitated leach tanks and seven74 m^3 mechanically agitated adsorption tanks, which provide a total retention time of about 18 hours at a slurry density of 35% solids. Cyanide concentration is maintained at 250 ppm NaCN in the leach tanks, which is allowed to attenuate to about 100 ppm NaCN at the discharge of the adsorption tanks. The pH of the leach slurry is maintained at 10.5 to 11.0 with lime. Carbon in the adsorption tanks is maintained at a concentration of 25 g/l except for the first tank, which is maintained at a carbon concentration of 40 g/l to ensure that the tank continues to have carbon in it after loaded carbon is removed.

Carbon is retained in adsorption tanks 1 to 7 by the use of inter-tank screens. Loaded carbon from adsorption tank 1 is removed every 24 hours and transferred to elution for removal of gold, after acid washing to remove impurities from the carbon with a 3% hydrochloric acid solution, for 2 hours. After elution the barren carbon is regenerated and returned to adsorption tank 7 and the carbon is advanced counter-currently to the pulp with the use of airlifts.

17.3.7 Elution and Gold Refining

Loaded carbon is passed over a screen and washed free of pulp with the pulp being returned to adsorption tank 1. The washed carbon is transferred to an acid wash column and washed with 2% hydrochloric acid solution. After acid washing the carbon is rinsed with water several times and then transferred to an elution column, with a nominal capacity of 1.5 tons. Elution is carried out by the Zadra process. Strip solution containing 2% caustic and 1% cyanide is heated to 1300 C and pumped through the elution column, stripping the gold from the carbon. The pregnant solution then passes through an electrowinning cell where the gold precipitates onto steel wool cathodes. The cathodes are periodically removed from the cells and washed to recover the gold/silver sludge. The precious metal sludge is dried, mixed with flux reagents and then smelted to produce a doré product. The doré bar is sampled and shipped offsite for final refining. The barren solution from the electrowinning cell returns to a holding tank where it is recirculated back through the process until elution is complete. Each elution cycle is typically 15 hours. After elution the carbon is rinsed with water several times and then reports to the carbon regeneration kiln.

17.3.8 Carbon Regeneration

The barren carbon from the elution column is washed with water and transferred to the regeneration kiln. The carbon is screened for particle size control and then heated to 7,500 °C within the kiln to ensure the complete removal of organic contaminants and regenerate the carbon surface to near its new adsorption capability.

After regeneration the carbon is returned to the last adsorption tank in the CIP.

17.3.9 Cyanide Detoxification

The slurry from last CIP tank flows to a mechanically agitated cyanide destruction tank with a nominal residence time of 1.5 hours. The slurry is detoxified using the INCO air/SO2 process within the tank to reduce cyanide levels to <5 ppm CNWAD, and then the detoxified slurry is pumped to the tailings dam after passing through a carbon safety screen.

Table 17-2: Summary of Palito Plant Equipment

Process Area	Equipment	Qty	Details	kW (Unit)
CRUSHING	Crusher Feed Silo	1	-	-
	Primary Crusher Vibrating Feeder	1	Faço 23H70B; 1780rpm	9.3
	Jaw crusher	1	Metso 6240E; 620mm x 400mm; 280rpm	56
	Product Screen	1	Simplex SXP 4015/2D; 870rpm ; 4.0m x 1.5m; Upper Deck = 38mm; Lower Deck = 15mm	14.9
	Product Screen Feed Conveyor	1	TC-001: 24" Width; 21.3m Length; 2.0m/s	9.3
	Crusher Return Conveyor	1	TC-002: 20" Width; 14.4m Length; 1.75m/s	7.5
	Crushed Product Conveyor	1	TC-003: 20" Width; 15.3m Length; 2.95m/s	5.6
	Coarse Product Diversion Conveyor	1	TC-004: 20" Width; 14.5m Length; 1.75m/s	5.6
	Secondary Crusher	1	Faço 60S Cone Crusher; 380rpm; P80 19mm	22.4
	Tertiary Crusher 1	1	Faço 60TF Cone Crusher; 380rpm; P80 12mm	22.4
	Tertiary Crusher 2	1	Sandvik H2800 Cone Crusher; 395rpm; P80 12mm	89.5
ORE SORTING	Ore Sorter Feed Silo	1	-	-
	Sorting Circuit Vibrating Feeder	1	Simplex SXCV-50; 1m x 0.5m;	0.8
	Ore Sorter Feed Washing Screen	1	Simplex SXPD 4015/1D; 4.0m x 1.5m; Deck 8x8mm	18.7
	Ore Sorter Dewatering Screen	1	Mineralmaq PVS-120FF-1; Aperture 1.2mm	2.2
	Ore Sorter Vibrating Feeder	1	Marat GM-PW 0,9m x 1.75m	2.2
	Washing Screen Feed Conveyor	1	TC-001: 24" Width; 37.3m Length; 1.0m/s	11.2
	Ore Sorter Feed Conveyor	1	TC-002: 24" Width; 4.1m Length; 0.5m/s	2.2
	Ore Sorter Waste Conveyor	1	TC-003: 20" Width; 8.0m Length; 0.5m/s	2.2
	Or Sorter Product Conveyor	1	TC-004: 20" Width; 8.0m Length; 0.5m/s	2.2
	Waste Stacker Conveyor	1	TC-005: 24" Width; 14.0m Length; 0.5m/s	3.7
	Product Stacker Conveyor	1	TC-006: 24" Width; 14.0m Length; 0.5m/s	3.7
	Ore Sorter XRAY/Optical	1	Comex CXR-1000; 5.5m x 1m; 2.5m/s – 3m/s	40.3
GRINDING / GRAVITY	Mill Feed Silos	2	Capacity Silo 1: 105t	-
			Capacity Silo 2: 80t	
	Silo 1 Conveyor (Palito)	1	Palito TC-001; 20" Width; 26m Length; 0.73m/s	9.3
	Silo 2 Conveyor (Coringa)	1	São Chico TC-003; 20" Width; 38m Length; 1.1m/s	9.3
	Ball Mill 01	1	Humboldt Wedag 2.3m Diameter x 3.2m Length; Rubber Lined Overflow; 20rpm	253.6

Process Area	Equipment	Qty	Details	kW (Unit)
	Ball Mill 02	1	Zanini 2.2m Diameter x 3.5m Length. Rubber Lined Overflow; 22rpm	205.2
	Ball Mill 03	1	Zanini 2.2m Diameter x 3.5m Length; Rubber Lined Overflow; 22rpm	205.2
	Cyclone Feed Pumps	6	Reval 3/2 C-SHD	22.4
	Gravity Sizing Screen	1	Simplex SXPH-3010/1D; 3m x 1.0m; 2mm	7.5
	Hydrocyclones	3	Weir Cavex 250CVX; Vortex 80mm; Apex 54mm	-
	Centrifugal Gravity Concentrator	1	Falcon SB-750B; 1345kg; 100m3/h	7.5
FLOTATION	Conditioning Tank	1	1.8m Diameter x 2.3m Height; Live Vol: 4.58m3	-
	Flotation Rougher cell	1	Emprotec Dual Cell; 2m x 1.6m	22.8
	Flotation Scavenger Cell	1	Emprotec Dual Cell; 2m x 1.6m	22.8
	Flotation Cleaner cell	1	Emprotec Dual Cell; 2m x 1.6m	22.4
	Flotation Tails Pumps	2	Warman 4/3 AH	22.4
	Filter Press Compressor	1	Chicago Pneumatic PCE150;	111.9
	Filter Press Feed Pump	2	Netzsch NP10M Air Diaphragm Pump; 530L/m	-
	Concentrate Filter Press	1	Netzch/Andritz SE500CD8; 500x500x20 plates	2.2
CIP	Leach Tanks	2	6.5m Dia. X 6.5m Height; Live Vol: 185m3;	11.2
	Adsorption Tanks	6	4.6m Dia. X 5.0m Altura: Live Vol: 74 m3	7.5
	Loaded Carbon Screen	1	Mineralmaq PVS-120FF-1; Aperture 0.8mm	2.2
	Loaded Carbon Hopper	1	1,8m Diameter x 2m Height + 1.4m Cone; 6m3	-
	CIP Carbon Transfer Pump	1	Thebe Multistage P-15/4-NFF-TRI; 18m3/h; Edutor Jacoby-Tarbox	7.5
	CIP Air Blower	2	Omel trilobular SRTEV/II-1027; 660 Nm3/hr	22.4
TAILINGS	Detox Tank	1	4.6m Diameter x 6.6m Height: Live Vol = 93m3;	37.3
	Detox Tank Air Blower	1	Omel trilobular SRTEV/II-1027; 340 Nm3/h	22.4
	Carbon Safety Screen	1	Simplex SXPD-4015/1D; 4.0m x 1.5m; 0.8mm	14.9
	Tailings Pumps	2	Reval 4/3 C-SHD	37.3
	Tailings Area Sump Pump	1	Reval 3/2 DV-SHD; 1600rpm; Flow = 30m3/h	9.3
	SMBS Mixing Tank	1	2.5m Diameter x 2.5m Height; Live Vol = 11.5m3	0.7
	SMBS Storage Tank	1	2.0m Diameter x 2.0m Height; Live Vol = 6.0m3	-
	SMBS Dosing Pump	1	MAXPNEUMATIC SJP-MK50PP-PP/ST/ST/PP	0.7
	Sulphuric Acid Dosing Pump	1	Bomax Dosamax P1 S PP Red=1:15	0.2
ACID WASH/ ELUTION	Acid Solution Tank	1	1.5m Dia. X 1.48m Height; Vol 2.07m3	-

Process Area	Equipment	Qty	Details	kW (Unit)
	Acid Wash Column	1	1.3m Dia. X 2.5m Height + 0.65m Cone; Vol 3.1m3	-
	Elution Column	1	0.88m Dia. (int) x 6.3m Height; Vol 3.8m3	-
	Eluate Tank	1	2.4 Dia. X 2.5m Height; Vol = 9m3	-
	Primary Heat Exchanger	1	Arauterm TCP-SST 07 / 30 TL N; 185,000kcal/h	-
	Elution Boiler	1	Arauterm CAD-HP-300; DIESEL; 300,000Kcal/h	-
CARBON REGEN	Kiln Dewatering Screen	1	Mineralmaq PVS-120 FF-1; 1.2mm & 0.8mm	1.5
	Kiln Feed Hopper	1	1.85m Dia x 1.35m Height + 1.1m cone; Vol 4.0m3	-
	Regeneration Kiln	1	Kemix 75 kg/h; Diesel	11.9
	Quench Tank	1	2.0m Diameter x 1.55m Height; Vol = 4m3	-
GOLDROOM	Intensive Leach Solution Tank	1	Live Capacity 9m3	-
	Elution Electrowinning Cell	1	Como Eng 600 x 600 x 9; 1000[a] Rectifier	25.4
	Intensive Leach Electrowinning Cell	1	Como Eng 600 x 600 x 9; 1000[a] Rectifier	25.4
	Gas Scrubber	1	LGU 600m3/hr; 0.75m Diameter x 2.1m Height	1.1
	Drying Oven	1	Quimis Q314M293-NR12 Forced Ventilation	4.5
	Smelting Furnace	1	Grion 11 Litres; 1200oC; LGP + Hydraulic Pump	1.5
REAGENT PREP	Lime Mixing Tank	1	2.4m Dia. X 2,5m Height; Vol 8.4m3;	1.5
	Cyanide Mixing Tank	1	2.1m Dia. X 2,2m Height; Vol 5.4m3;	0.7
	Caustic Soda Mixing Tank	1	1.8m Dia.r x 1,0m Height; Vol 2.0m3;	0.7

Source: Serabi, 2022

17.3.10 Consumable Requirement

Process plant consumables for the period January- July 2024, with a total ore treatment of 128.500 t, 41% was fed from Coringa are summarized in Table 17-3. The two major consumable items are sodium cyanide, representing 40% of the consumables cost, and grinding media, which represents almost 23% of the consumable cost.

Table 17-3: Process Consumable Requirements

Item	2024	
	Kg/t	US$/t
Cyanide	1.04	3.11
Steel Balls	1.00	1.82
Sodium Metabisulfite	1.07	0.82
Activat. Carbon	0.15	0.59
Lime	2.07	0.44

Item	2024	
	Kg/t	US$/t
Sulfuric Acid	0.58	0.37
Collector	0.02	0.18
Sodium Hydroxide	0.12	0.16
Big Bag	0.01	0.15
Frother	0.02	0.07
Propane	0.00	0.04

Source: Serabi, 2024

17.3.11 Plant Performance

Serabi Gold has been transporting and processing Coringa ore to the Palito Plant at steadily increasing rates from July 2022 to the current date and has been therefore able to confirm the expected plant throughput and metal recoveries, as was discussed in the Section 13 of this report.

Table 17-4: Palito Plant Performance

Year	Palito Milled Ore		Coringa Milled Ore		Total Milled Ore at Palito Complex		Total Production
	Tonnes	Grade Au g/t	Tonnes	Grade Au g/t	Tonnes	Grade Au g/t	Au Prod. oz Au
2022	165,506	6.14	5,729	5.68	172,404	6.14	31,819
2023	133,314	6.09	38,866	7.25	172,200	6.35	33,152
2024 (Jan-Jul)	75,841	4.66	52,661	6.42	128,500	5.39	21,284

Source: Serabi, 2024

18 Project Infrastructure

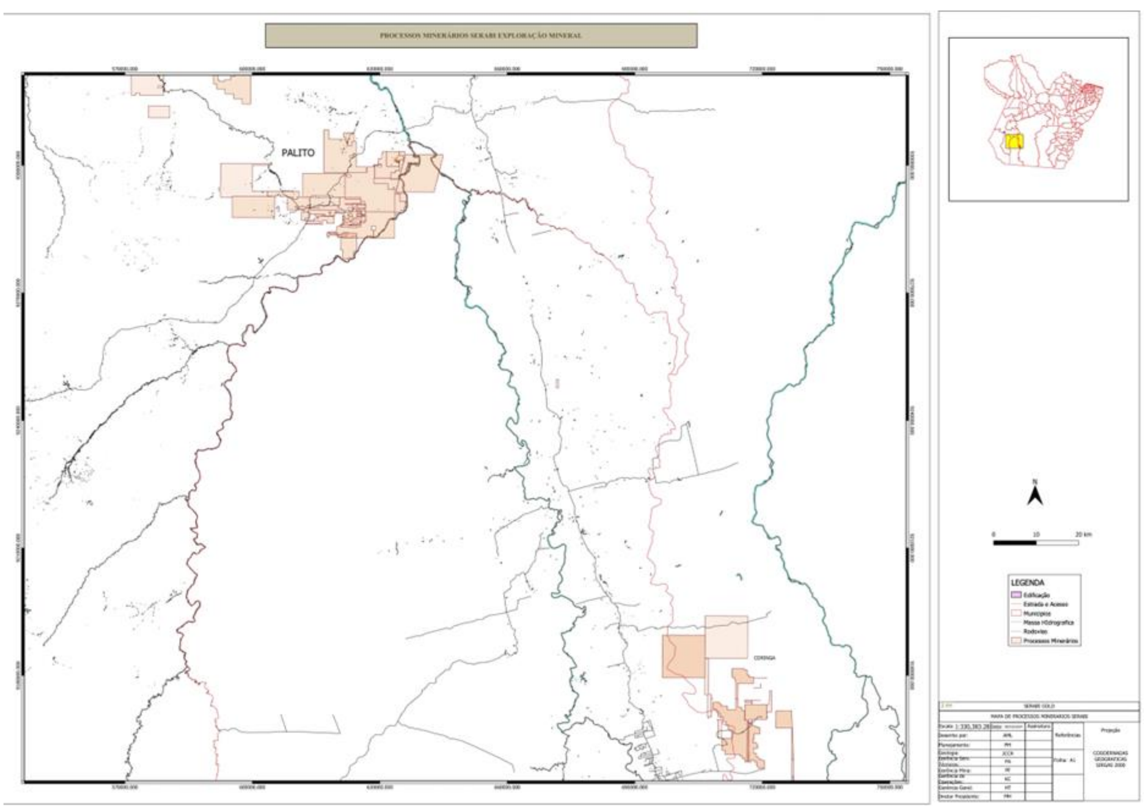
18.1 General Infrastructure

The general onsite infrastructure includes:

- The Coringa underground mine
- Coringa crushing and ore sorting plant
- Ore processing facilities at Palito
- Tailings disposal areas
- Power supply
- Water supply
- Mine camp (accommodation, offices, workshops and warehouses)
- Access roads and Palito airstrip.

Figure 18-1 shows the locations of Palito Complex and Coringa mine.

Figure 18-1: Palito and Coringa Mines Locations



18.2 Process Support Facilities

Serabi operates a 575 t/d plant to process ore from both the Palito and Coringa mines. Palito ore is treated through a process that includes crushing, ore sorting, grinding, copper flotation and carbon-in-pulp (CIP) cyanidation of gold and silver values from the copper flotation tailing. The Coringa mined from Coringa underground mine, will be crushed and processed through an ore sorting facility to upgrade the ore. The upgraded ore is hauled to the Palito plant where the ore is processed in a separate grinding circuit that includes gravity concentration and intensive cyanide leaching of the gravity concentrate and CIP of the gravity concentration tails.

The finals tailings from the CIP circuit are detoxified in a cyanide destruction step and sent to the tailings area for final disposal.

18.3 Tailings Disposal Area

Mineral Reserves for both the Palito and Coringa mines are being processed at the Palito Plant and tailings are disposed into existing clay lined tailings disposal areas (areas 16 and 17) located adjacent to the Palito Plant. Tailings deposition is being alternated between tailings disposal areas 16 and 17 with one of these areas being active and receiving fresh tailings and recycling water to the process plant whilst the second area once it is full, is left in a drying state. Once dried, the dry tailings are removed from areas 16 and 17 as appropriate and dry-stacked on top of the completed tailings disposal areas 14 and 15, which are now used as a final dry tailing disposal area (PDR, Pilha de Rejeito). Tailings disposal areas 16 and 17 will continue to be cycled in this manner and re-used for tailings deposition until the remaining Mineral Reserves are processed.

The Tailings Area 16 has a volume of 114,588 m^3 and area 17 a volume of 145,000 m^3 of capacity. The PDR has a design capacity of 3.9 Mm^3, equivalent to 8.6 Mt of dry tailings. By July 2024, the remaining capacity is 8.2 Mt of dry tailings which is sufficient to store the current reserves/resources of Palito and Coringa mines.

Figure 18-2: Active Tailings Dams 16-17

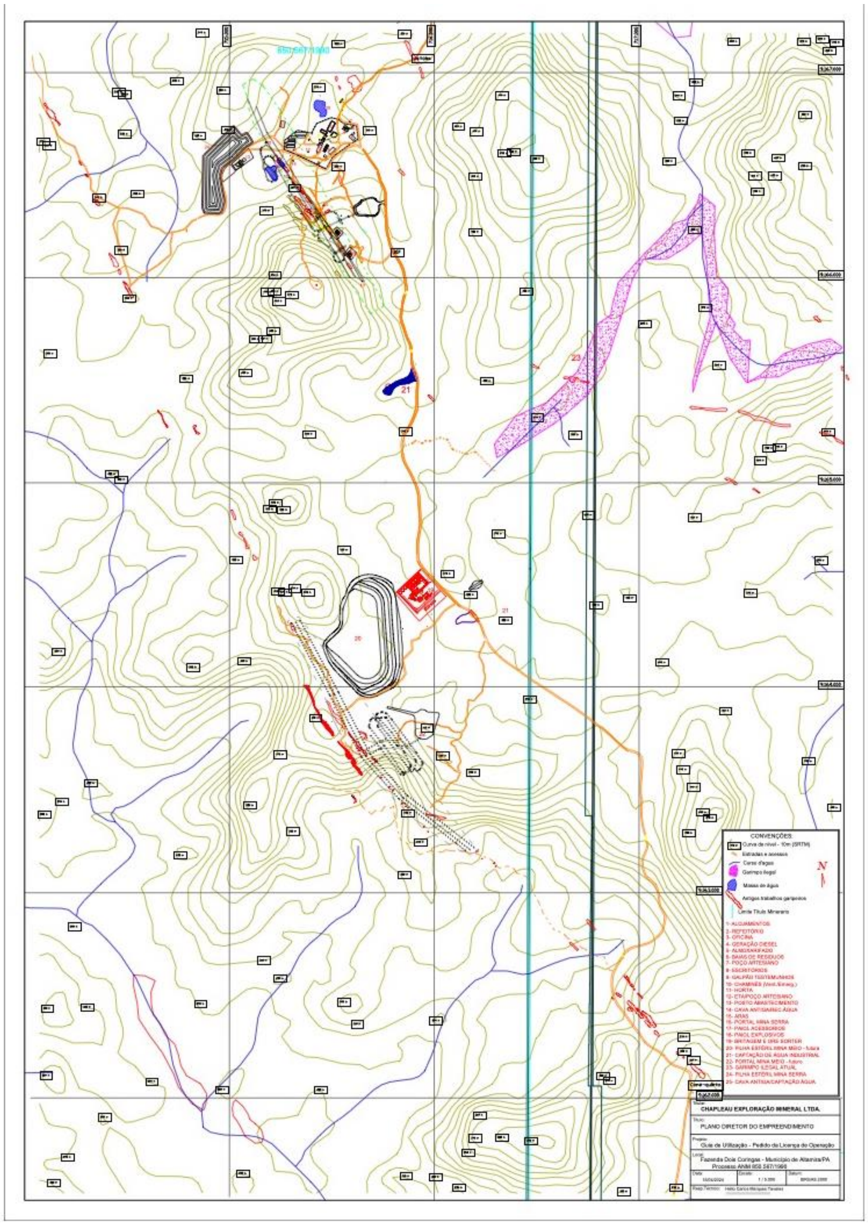
Figure 18-3: General View of Palito Tailings Dam Area

18.4 Camp

Coringa Mine

The current infrastructure at Coringa includes the Serra underground entrance, workshop, offices, explosive storage facilities, water wells, power supply and crushing and Ore Sorting plant. The distribution of those facilities area shows in Figure 18-4.

Figure 18-4: Coringa General Lay Out



Palito Complex

The Palito Complex site camp consists of accommodation for 480 personnel, kitchen and dining facilities, offices, warehouses, maintenance facilities, and a guard house at the entrance to the site. Serabi provides a daily bus service for employees and contractors living in Jardim do Ouro and Moraes de Almeida located close by the mine site.

Fuel is stored on site in tanks with a capacity of 80 m^3 of diesel. Fuel storage tanks are located in a contained fuel storage area. There is an explosives storage facility located away from the main offices.

The mine has access to telephones, high speed satellite internet, and radio communications. Serabi has built and operates a clinic and hospital at the Palito Complex.

18.5 Power Supply and Distribution

Coringa Mine

The power requirement at Coringa is approximately 1.9 MW (about 2.1 MVA), including the underground mine (1507 kW), camp and workshop (105 kW) and crushing and ore sorting facilities (291 kW). The power is supplied by a diesel powerhouse that includes diesel gensets.

Palito Mine

Electrical power is provided from the local power grid though a 34.5 kV overland power line and by diesel generators to deliver approximately 1 million kWh/month for installed electric load of 2.5 MW. During the daily peak periods Serabi operates its own diesel generators to generate 380 V electrical. Serabi's power generator station includes the following:

The general diesel storage capacity at Palito Mine is 80 m^3 being a 10 m^3 dedicated diesel tank for diesel generation, which provides enough diesel for two days of continuous operation. Approximately 40% of Serabi's power needs are provided by on-site generators and 60% is provided from the grid.

18.6 Water Supply

Water is an abundant resource in the area, and the current water supply system is not a limiting factor for operations at the Palito Mine or the Coringa.

Coringa water requirements is 119 m^3/d, 47% (56m^3/d) are required for camp and workshop consumption. Fresh water is supplied by water wells.

Palito has a water supply system consisting of dams that contain water from the following sources:

- Mine water pumped from the underground workings
- Recycled process water after neutralization and tailings decantation
- Rainwater

The total process water requirement at Palito is 960 m^3/h, of which 80% is recycled from the tailings disposal areas (768 m^3/d) and 20% is from the fresh water dam (192 m^3/d).

Fresh drinkable water for use in the camp is supplied by conventional water wells. The total freshwater consumption is approximately 60 m^3/day.

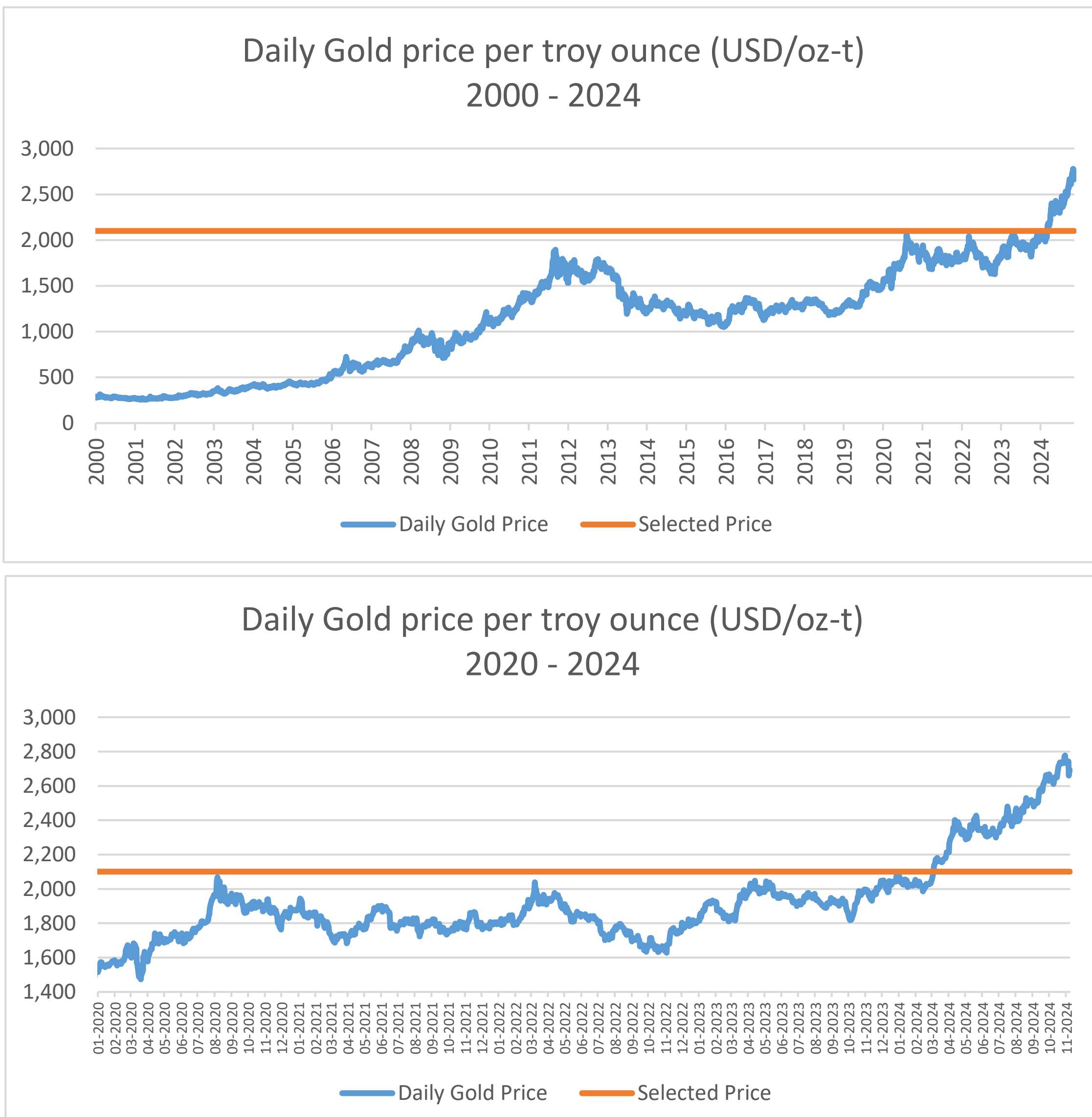
18.7 Access Roads and Airstrip

The Palito Mine is 4.5 km southwest of the village of Jardim do Ouro and approximately 15 km via road. Jardim do Ouro lies on the unsealed Transgarimpeira Highway some 30 km west-southwest of the town of Moraes de Almeida, which is located on the junction of the Transgarimpeira Highway and the BR 163 or Cuiabá – Santarém Federal Highway. Moraes de Almeida is approximately 300 km south south-east by road of the municipal capital and similarly named city of Itaituba.

19 Market Studies and Contracts

The primary metal of economic interest for the Coringa project is gold. Gold has a readily available market for sale in the form of gold doré or gold concentrates. Brazil is a significant producer of gold with several well-known gold companies currently operating in the country. Gold has become Brazil's second most important mining export after iron ore. There are smaller firms which are currently focused on developing projects in the state of Pará, the same host state as the Coringa Project. Figure 19-1 presents the LBMA Gold Price from January 2000 and a zoom from January 2020. The selected Gold price for the PEA is $2,100/oz. As of September 28, 2024, the 12-month trailing average (LBMA9AMfix) gold pirce was approximately $2,189/oz.

Figure 19-1: LBMA Gold Price



Source: World Gold Council, 2024

20 Environmental Studies, Permitting, and Social or Community Impact

On November 11, 2016, Chapleau made an application to the Agência Nacional de Mineração ("ANM" – formerly the Departamento Nacional de Produção Mineral ("DNPM") for trial mining licences (Guia do Utilizacao ("GU")) over 3 of the tenements held by Chapleau that comprise part of the Coringa Project.

On August 9, 2017, Chapleau was awarded environmental approvals for trial mining from SEMAS, including the LOPM, vegetation suppression, and fauna capture permits (see discussion of Production Permitting in Section 20.3).

On June 13, 2018, the Trial Mining Permits were issued by the DNPM for tenements 850.567-1990, 850.568-1990 and 850.981-1990 valid until 25 November 2020 and the ANM then further extended each of these GU's until 8 August 2022. This expiry date was then further automatically extended because of the Covid-19 pandemic to 8 February 2023.

On 29 January 2024 the notice of the issue of a new GU for a period of 3 years on tenement 850,567-1990 and valid to 29 January 2027 was published in the Official Gazette. On November 4, 2024, the ANM approved an increase for the GU allowing for 100,000 t of ore per year. SEMAS is currently reviewing the request for the related LO to be increased accordingly, and it is expected that this licence will be granted before the end of 2024.

Chapleau can also continue to conduct exploration activities under the terms of the GU.

The Company is negotiating a long-term land access agreement with INCRA, which remains ongoing.

Relationships with local communities have been managed through regular, ongoing social communication activities, which have included dialogue workshops with community members and site visits with local authorities, business leaders, and media. Serabi has dedicated professionals who manage social outreach and environmental issues, and it has a long history of successful operation in the region.

Efforts are focused primarily on the communities of PDS Terra Nossa, the nearby Municipality of Novo Progresso and the indigenous communities of the Bau Indigenous Territory ("Bau TI") that are potentially impacted by the project. In addition, Serabi must obtain some permits from the Altamira Municipality, within the boundaries of which the Coringa Gold Project is located, and the sub-district of Castelo dos Sonhos. Serabi must also co-ordinate certain matters with stakeholders in Castelo dos Sonhos and in smaller towns located along the main highway that provides access to the project site.

20.1 Project Setting

As noted in Section 4 and Figure 4-1 and Figure 4-2, the Coringa Gold Project concession is located within the boundaries of a farm (the Fazenda Coringa) situated along a boundary area between primary forest areas reserved as an indigenous buffer zone, and land impacted by decades-old government-sponsored agricultural clearance programs. Forested areas within the Coringa Gold Project concession and the adjacent buffer zone have also been previously impacted by illegal logging of high-value tree species and by artisanal/small scale "garimpeiro", mining. Chapleau controls the surface area required for the construction and operation of the Coringa Gold Project from the Fazenda Dois Coringas, and no garimpeiro mining, logging, or agriculture will be permitted within the boundaries of the project during the construction, operation, and decommissioning/closure phases of mine life. Chapleau is required to report the presence of any of the above activities to the competent authorities, who are then responsible to resolution for the removal of these operations.

20.2 Environmental Studies

The first significant baseline studies of water quality, air quality, and flora and fauna within the Coringa Gold Project concession were conducted by Terra and Global Resource Engineering in 2015 and 2016 to support the development of the EIA/RIMA for the Coringa Gold Project. This work included studies in support of the individual environmental clearance permits required for the construction of specific elements of mine infrastructure. The latter permits typically include specific conditions that must be met as a condition of approval, including the monitoring of fauna displaced by clearance activities, the potential capture and relocation of individuals from specific species, and the collection and replanting of selected floral species.

The results of these studies and clearance actions were detailed and summarized in the amended EIA/RIMA submitted to SEMAS in September 2019. Draft results available as of the effective date of this technical report confirm that although the Coringa Gold Project is located in areas previously impacted by intrusive human activities, forested areas still support a wide range of floral and faunal species. In keeping with these findings (and in addition to the relocation and replanting efforts required as part of the aforementioned permitting actions), Chapleau have already established a comprehensive Environmental Monitoring Plan as an element of its HSES management system, in order to assess the ongoing impact of Project operations on surface and groundwater quality and the key indicator species. The Environmental Monitoring Plan is designed to systematically prompt corrective and preventive action in response to any observations of negative trends detected from environmental monitoring.

Additional geochemical baseline studies were performed by GRE in 2013, 2015, and 2017 (MTB, 2017). These studies collected geochemical samples of potential mine waste rock and mine tailings to determine the potential to create ARD or other impacts to water quality resulting from mining operations.

20.3 Permitting

20.3.1 Legal and Regulatory Framework

Brazilian Federal Law 6938/1981 spells out general environmental policy and permitting requirements for all activities with contamination potential or involving extraction of natural resources. Prior to obtaining a mining concession, project proponents may conduct mineral exploration and limited (trial mining) processing of up to 50,000 t/y of ore with a Guia and pre-requisite environmental approval, the LOPM. Depending on the ecological circumstances, an applicant may also have to obtain authorizations for vegetation suppression/restoration and fauna capture/relocation. Companies may apply for expansions of trial mining ore processing limits once they are in production. As previously discussed, the Coringa Gold Project exercised this trial mining option and on August 9, 2017, was awarded an LOPM and accompanying fauna capture and relocation and vegetation suppression permits.

Chapleau is also engaged in a three-part environmental permitting process, which is required for the approval of the full mining operation. This process is summarized as follows:

- Prior License (LP: “Licenca Previa”): this permit confirms the selection of the best place for developing and conducting extractive activities, based on submission of a detailed EIA and RIMA, respectively. In addition, in Pará State, public hearings are required to be held by the municipalities whose administrative areas encompass the project’s social and environmental AIDs. Upon issuing the LP, SEMAS may choose to invoke specific requirements, known as

LP conditions, which the applicant must implement before it can obtain its Installation License. Legislated timing for issuing the LP is nominally twelve months after the date of application, provided no further details and/or supplemental information is required by the regulator.

- Installation License (LI: "Licenca de Instalacao"): this permit allows the construction of the mine, pursuant to compliance with conditions raised in the LP. It also establishes conditions for obtaining the final Operations License. The LI application also requires submission of a detailed PCA. The granting of the LI means: (i) approval of the control, mitigation, and compensation measures proposed by the project proponent in the PCA, as well as the timetable for the implementation of such measures, (ii) approval of the characteristics of the specific engineering project, including its timetable for implementation, and, (iii) manifestation of the agreement between the project proponent and the regulatory authorities regarding adherence to the conditions of the LP. Legislated timing for issuing the license is nominally six months after the date of application, provided no further details and/or supplemental information are required by the regulator.

- Operations License (LO: "Licenca de Operacao"): this permit is issued following demonstration of compliance with LI conditions and allows the mine to commence production operations. The LO may establish additional mandatory conditions. Legislated timing for issuing the LO is six months after of the date of application, provided no further details and/or complementary information are required by the regulator.

In actual practice in Pará State, the time required for SEMAS approval may vary from the guidelines in the Federal law, depending on the complexity of the project and availability of review resources, among other factors. SEMAS will typically conduct the licensing process once it has evaluated the technical examination that was completed by the environmental agencies of the municipalities administering the areas in which the project is located. In addition, whenever applicable, SEMAS must also assess the opinion reports of other regulatory bodies at the national, state, and municipal levels that are involved in the licensing procedure; these may include INCRA, ITERPA, FUNAI, ICMBio, ANA, and IPHAN, among others.

In addition, CONAMA Resolution 237/1997 is a key component of the environmental licensing process and defines the specific activities or ventures that require an environmental license, including major elements of a mining operation. These include:

- mineral exploration involving drilling
- underground mining
- processing of non-ferrous metals, including gold
- construction and operation of dry stack tailings facilities and water diversion and drainage structures
- construction and operation of electrical transmission lines and substations
- construction and operation of water treatment plants
- construction and operation of sewage treatment plants
- treatment and disposal of solid wastes

- transportation, storage, and handling of dangerous materials.

Transportation, storage, handling, and usage of explosives requires separate approval by the Ministry of Defense. Depending on the final design characteristics of the Coringa Gold Project's fuel depot, additional approvals may be required from ANP.

Municipal administrations are responsible for participating directly in the environmental licensing process and must issue a document that establishes their position as to whether or not the project is in conformity with municipal soil use, occupation, and other regulations. In the case of the Coringa Gold Project, two municipalities are involved: Altamira, which administers the rural area within which most of the mining concessions and the actual mine and operational infrastructure are located, and Novo Progresso, which includes part of the concessions as well as the two settlements (Terra Nossa and the town of Novo Progresso) in which most of the social impacts and benefits of the project will be expressed. Other specific federal and Pará State public administration agencies may also engage in various aspects of the licensing process over which they may have technical authority or shared interest.

Environmental laws also provide for the participation of communities during the environmental licensing process. In practice, this occurs during public hearings.

With respect to water usage, the CNRH Resolution 55/2005 classifies mining ventures based on their impact on water resources. The Coringa Gold Project would be classified as a Scale 2 venture under this classification scheme, as it would involve:

- Limited use of surface water in the initial start-up of mining operations
- Use of groundwater (collected as mine dewatering water) for use in the mineral separation process
- Use of groundwater to supply the needs of the mining camp
- Discharges of excess water from in high precipitation/wet season conditions.

All uses of superficial water and groundwater at the Coringa Gold Project are subject to a grant process; such uses include the construction and operation of water collection ponds, diversion of watercourses, discharge of liquid effluents in watercourses, alteration of the rates of flow of watercourses, and any activities that would impact the level of the water table. Additionally, project proponents must also permit all water wells.

20.3.2 Regulatory Reporting Requirements

Once the mine is operating, Chapleau must file regular reports on environmental and operational performance, as suggested in the RCA/PCA and RIAA, and whilst still to be confirmed could include air quality or water quality monitoring reports; fuel, explosives, reagent usage data; and workforce illness/injury statistics. Final details will be set out and confirmed in the LO. Nonetheless and as a matter of good practice, the Company is already undertaking this environmental monitoring on a voluntary basis.

20.3.3 Risks and Liabilities

Primary risks and liabilities associated with the Coringa Gold Project are summarized as follows, along with Serabi's general approach to risk mitigation:

- **Environmental risks**: Environmental risks and liabilities associated with exploration activities are minimal but will include limited areas of forest clearance for construction of access roads; the construction of drilling pads; noise from traffic, drill rig, and generator operation; dust from roadways during dry season operation, erosion form disturbed ground, potential spills of fuel, lubricants, and drilling mud; and the potential for grass fires in dry conditions.

  Risks during operations include potential reagent spills, generation of Acid Drainage ("ARD"), improper management of mine water, and dust emissions. However, with the proposed plan of installing only a classification plant at Coringa and therefore the lack of reagents and with no mine tailings produced from any chemical processing, the risks of reagent spills and the generation of ARD is negated.

  - Artisanal/small-scale mining: As previously noted, Chapleau's concession area includes a number of historical garimpeiro workings which represent potential physical safety and environmental hazards if exploration sampling, trenching, core drilling, engineering field investigations, or construction activities are conducted in adjacent areas. Physical hazards will be clearly marked and physically barricaded where necessary.

    There are two areas of garimpeiro mine waste on the site. One is the Mãe de Leite area located along the road between the Serra and Galena portals. This is an area of intensive historical garimpeiro activity including about 2.3 ha of tailings deposition. The Mãe de Leite tailings are acid- generating and contain elevated concentrations of mercury from historical amalgamation processing. In the wet season, the Mãe de Leite area produces acidic leachate and runoff, typically with a pH of between 3.5 and 4.0. This water could potentially cross the access road to the Galena portal and flow to the northwest. In addition, the Come Quieto garimpeiro area lies adjacent to the current access road at the point where the Meio vein crosses the road. This area is smaller (approximately 0.5 ha of exposed tailings) and also produces acidic leachate. Due to its presence within the immediate zone of activity, Chapleau will evaluate alternatives for managing these environmental tailings.

    While illegal miners are no longer operating at the Coringa Gold Project, the threat of garimpeiro influx to Serabi's concessions remains, and Chapleau must therefore maintain an effective and vigilant security program. In addition, possible garimpeiro activity near the property or upriver from its operations could impact local stakeholders and possibly generate social and/or environmental problems for Serabi.

  - Indigenous peoples: The project is located near a 10-km buffer zone that surrounds a Kayapo indigenous land reserve. The nearest Kayapo village is about 21 km east from the project in a straight line, but access by road or river from the Coringa Gold Project area may take several hours. Because these villages are located far from the Coringa Gold Project, studies completed to date demonstrate that there is no material impact anticipated as there will be no mine-related traffic near them, and they will not experience noise, water, or dry season dust impacts. Unauthorized travel or interaction with the Kayapo by Chapleau's workforce or contractors will be strictly prohibited. For these reasons, Serabi's position has been that the impacts on the indigenous communities are minimal but as requested by the authorities, an Indigenous Study ("ECI") has been completed. This was initially presented to the Indigenous communities on December 8, 2023 and an amended version incorporating the inpat received from the indigenous communities was submitted to FUNAI on May 13, 2024. This is still in the process of being reviewed by FUNAI. Once the ECI has been approved by FUNAI, , they will also make arrangements (from which the Company must be excluded) for the required independent consultation with the Indigenous Communities.

Nonetheless to comply with good international practice the Company expects to work closely with SEMAS on this matter to ensure that any concerns that are raised during the licensing process are adequately addressed, and if required, appropriate consultation undertaken with relevant parties.

21 Capital and Operating Costs

21.1 Capital Cost Estimate

Estimated LOM sustaining capital costs are presented in Table 21-1.

Table 21-1: Capital Cost

Capital Cost	M US$
Development	67
Equipment	4
Closure	1
Contingency	15
Total Capital Costs	87

The capital costs are exclusively related to mine development and equipment acquisition. Since the mine is already in operation, there is no need for initial expenditures on equipment, and both the crusher and ore sorter are already installed.

The main inputs used in the capital cost estimation, including development and equipment costs are presented in Table 21-2.

Table 21-2: Inputs for Capital Cost

Development Cost	BRL/m	USD/m	Unit
Ramp & Accesses	15,000	2,727	US$/m
Alimak ventilation raise (2.2x2.2m)	13,600	2,473	US$/m
Normal ventilation raise (1.5x1.5m)	4,800	873	US$/m

Equipment Capex	Unit Price (BRL)	Unit Price (MUSD)	Existing Units
Boomer T1D	2,293,200	0.42	3
LHD ST2G	2,400,000	0.44	4
Volvo FMX Dump Truck	945,000	0.17	4
Main Fans	715,000	0.13	4
Auxiliary Fans	357,500	0.065	8
FEL L90 Front Loader	1,150,000	0.21	3

Closure costs for the Coringa Project have been estimated at $1,000,000 and will be incurred in the final year of production and a 20% contingency has been applied.

21.2 Operating Costs

Serabi management provided mining cost and off-site costs. Table 21-3 presents the mining operating costs, which include labor expenses. The mining cost is applied to stopes and production drifts. Crusher, sorter, and site costs are allocated to the total ore mined, while ore haulage to Palito and plant processing costs are applied to the ore sorter to the plant.

The exchange rate considered is 5.5 BRL/USD.

Table 21-3: Mining Cost

Cost	BRL/t	US$/t
Mine	256.6	46.6
Crusher	37.7	6.9
Sorter	32.5	5.9
Site	205.0	37.3
Ore Haulage to Palito	108.3	19.7
Plant	168.1	30.6

Table 21-4 presents the offsite costs and their respective charges.

Table 21-4: Off-site Cost

Cost	Value
CFEM	1.5%
Royalty Sandstorm	2.5%
Refining	1.4%
Insurance and Freight	0.7%
Sales	0.2%

22 Economic Analysis

22.1 Project Forecast Summary

Information contained and certain statements made herein are considered forward-looking within the meaning of applicable Canadian securities laws. These statements address future events and conditions and so involve inherent risks and uncertainties. Actual results could differ from those currently projected.

The Project is planned to be an underground mine with carbon and pulp leaching of the ore. Gold recovery is expected to average 97%. The mine and mill will operate 365 days per year. The mill will run two 10-hour shifts per day but covers the 24 hours as not everyone works the same 10 hours, and the mine will run three 7-hour shifts per day. The cutoff grade used during stope evaluation is 3.16 g/t Au, this leads to an average grade mined of 5.38 g/t Au, which is increased to 8.50 g/t Au after ore sorting for the life of mine.

This technical report is a preliminary economic assessment and partially utilizes inferred mineral resources. Inferred mineral resources are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

As of September 2024, Serabi's median analyst consensus long-term gold price was approximately $2,200/oz. As of September 28, 2024, the 12-month trailing average LBMA (AM Fix) gold price was approximately $2,189/oz. The Base Case utilises a constant gold price of $2,100/oz and a constant exchange rate of 5.5 BRL per 1.00 USD in the economic analysis completed for the Updated PEA. Sensitivities are also shown for the 36-month trailing average LBMA (AM Fix) gold price of $1,950/oz the 6-month trailing average LBMA (AM Fix) gold price of $2,280/oz and current spot gold price estimate of $2,600/oz.

The economic model shows an After-Tax Net Present Value @ 10% ("NPV-10") of $145 million, the project generates positive cash flows from the first year, as it is already in operation. Table 22-1 summarizes the projected NPV-10 Pre-tax, NPV-10 Post-tax for the Coringa Project.

Table 22-1: Summary of Coringa Economic Results

Gold Price (per ounce)	Units	$1,950	BASE CASE US$2,100	$2,280	SPOT $2,600
Pre tax NPV (5%)	US$m	$193	$230	$275	$356
Pre tax NPV (10%)	US$m	$151	$181	$217	$281
Post tax NPV (5%)	US$m	$159	$184	$214	$267
Post tax NPV (10%)	US$m	$125	$145	$169	$211
Project after tax cash flow	US$m	$210	$242	$281	$350
Average annual free cash flow	US$m	$16	$19	$22	$27
Average gross revenue	US$m	$52	$56	$61	$69

Annual production is estimated at 28,000oz in 2025, and then averages 36,000oz per year between 2026 and 2031 with an 11-year mine life until 2034.

All in Sustaining Cost (AISC) was calculated on both a per ounce basis and on a per tonne basis. The AISC was further broken down into categories to show the individual contribution of mining, processing, operating, off-site cost, contingency, and capital costs.

The Base Case considers the operation from 1 January 2025 onwards. All prior development and capital expenditures including 2024 expenditures on the classification plant, of which US$5 million has been spent to date, are considered sunk costs and are not included in the evaluation.

Table 22-2: AISC Breakdown

Category	US$ / oz	US$ / tonne
Mining Ore	$343	$56
Process Plant	$267	$43
G&A	$229	$37
Op. Cash Costs	$839	$136
Refining Costs	$29	$5
Royalties	$82	$13
Sales	$15	$2
Total Cash Costs	$965	$157
Capital	$276	$45
AISC	$1,241	$202

22.2 Taxes, Royalties

Total royalties for the Coringa Gold Project are 4.00%. Royalties consist of a 2.5% Sandstorm NSR and a 1.5% Brazil Government NSR. Taxes for the project consist of 25% IRPJ, 9% CSLL, and 18.75% SUDAM Incentive which is subtracted from the tax rate after production begins since 2026.

The SUDAM incentive was treated as an upside and run as a sensitivity case, generating a positive difference of $17.5 million when compared to the NPV-10 after-tax Base Case.

22.3 Mine Life

2024 is considered as the start of the ramp-up period which continues through 2025 with the initial development of the GAMDL and MCQ sectors with 2026 being the first year at full long-term mining rates.

The total mine life is 11 years, starting from 2025 onwards.

22.4 Economic Model Results

The Base Case considers the operation from 1 January 2025 onwards. All prior development and capital expenditures including 2024 expenditures on the classification plant, of which US$5 million has been spent to date, are considered sunk costs and are not included in the evaluation.

This technical report is a preliminary economic assessment and utilizes inferred mineral resources. The following table summarizes the results of the PEA.

Table 22-3: Coringa Project Economic Model Summarized By Year

Item	Unit	Total 2025-LOM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Underground														
Total Ore Mined	kt	**2,144**	89	165	211	226	207	207	220	217	215	220	209	48
Grade Mined	g/t Au	**5.32**	6.66	5.76	5.68	5.97	6.46	5.70	5.20	4.37	4.51	4.48	5.34	4.99
Waste in Drifts	kt	**406**	29	63	73	65	62	63	46	25	6	5	-	-
Total to Operating Cost	kt	**2,550**	117	227	284	291	269	269	266	242	221	224	209	48
Waste in Developments	kt	**876**	87	135	125	134	134	109	104	62	43	31	-	-
Total Mined	kt	**3,426**	204	362	409	424	402	379	370	304	264	255	209	48
Sorter to Plant	kt	**1,308**	54	101	129	138	126	126	134	132	131	134	127	29
Grade Sorter	g/t Au	**8.46**	10.60	9.15	9.03	9.50	10.27	9.07	8.27	6.95	7.17	7.12	8.49	7.94
Contained Gold	koz	**356**	18.47	29.61	37.33	42.06	41.71	36.77	35.71	29.58	30.23	30.69	34.72	7.44
Recovered Gold	koz	**345**	17.92	28.72	36.21	40.80	40.46	35.67	34.64	28.69	29.32	29.77	33.68	7.22
Total Development	m	**50,576**	4,067	7,383	8,063	7,826	7,601	7,147	6,126	3,460	1,686	1,284	-	-
Revenues														
Total Revenue	MUS$	**725**	$37.62	$60.32	$76.03	$85.67	$84.97	$74.91	$72.75	$60.26	$61.58	$62.53	$70.72	$15.16
Operating Costs														
Mine	MUS$	**$-118.95**	$-5.48	$-10.61	$-13.25	$-13.56	$-12.53	$-12.57	$-12.40	$-11.31	$-10.31	$-10.47	$-9.73	$-2.23
Crusher	MUS$	**$-14.71**	$-0.61	$-1.13	$-1.45	$-1.55	$-1.42	$-1.42	$-1.51	$-1.49	$-1.48	$-1.51	$-1.43	$-0.33
Sorter	MUS$	**$-12.68**	$-0.53	$-0.98	$-1.25	$-1.34	$-1.22	$-1.22	$-1.30	$-1.28	$-1.27	$-1.30	$-1.23	$-0.28
Site	MUS$	**$-79.91**	$-3.31	$-6.15	$-7.86	$-8.42	$-7.72	$-7.71	$-8.21	$-8.09	$-8.02	$-8.19	$-7.77	$-1.78
Ore Haulage to Palito	MUS$	**$-25.76**	$-1.07	$-1.98	$-2.53	$-2.71	$-2.49	$-2.49	$-2.65	$-2.61	$-2.58	$-2.64	$-2.51	$-0.57
Plant	MUS$	**$-39.97**	$-1.66	$-3.08	$-3.93	$-4.21	$-3.86	$-3.86	$-4.11	$-4.05	$-4.01	$-4.10	$-3.89	$-0.89
Total Operating Costs	MUS$	**$-291.99**	$-12.65	$-23.92	$-30.26	$-31.79	$-29.23	$-29.26	$-30.18	$-28.83	$-27.67	$-28.21	$-26.55	$-6.09
Off-Site Costs														
CFEM	MUS$	**$-10.65**	$-0.55	$-0.89	$-1.12	$-1.26	$-1.25	$-1.10	$-1.07	$-0.88	$-0.90	$-0.92	$-1.04	$-0.22
Royalty Sandstorm	MUS$	**$-17.74**	$-0.92	$-1.48	$-1.86	$-2.10	$-2.08	$-1.83	$-1.78	$-1.47	$-1.51	$-1.53	$-1.73	$-0.37
Refining	MUS$	**$-10.08**	$-0.52	$-0.84	$-1.06	$-1.19	$-1.18	$-1.04	$-1.01	$-0.84	$-0.86	$-0.87	$-0.98	$-0.21
Insurance and Freight	MUS$	**$-5.07**	$-0.26	$-0.42	$-0.53	$-0.60	$-0.59	$-0.52	$-0.51	$-0.42	$-0.43	$-0.44	$-0.50	$-0.11
Sales	MUS$	**$-0.00**	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00	$-0.00
Total Off-Site Costs	MUS$	**$-43.54**	$-2.26	$-3.62	$-4.57	$-5.15	$-5.10	$-4.50	$-4.37	$-3.62	$-3.70	$-3.76	$-4.25	$-0.91

Item	Unit	Total 2025-LOM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Costs														
Total Costs	MUS$	**$-335.54**	$-14.91	$-27.55	$-34.82	$-36.93	$-34.34	$-33.76	$-34.55	$-32.44	$-31.37	$-31.96	$-30.80	$-7.00
EBITDA	MUS$	**$389.37**	$22.72	$32.77	$41.21	$48.74	$50.63	$41.15	$38.19	$27.81	$30.21	$30.56	$39.92	$8.17
Capital Costs														
Development	MUS$	**$-67.24**	$-7.69	$-11.51	$-10.19	$-10.27	$-10.14	$-8.92	$-7.81	$-4.39	$-2.42	$-1.60	$0.00	$0.00
Equipment	MUS$	**$-4.36**	$0.00	$0.00	$0.00	$-1.43	$0.00	$-1.75	$0.00	$-1.19	$0.00	$0.00	$0.00	$0.00
Plant & Infrastructure	MUS$	**$0.00**	$-3.23	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Closure	MUS$	**$-1.00**	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$-1.00
Contingency (20%)	MUS$	**$-14.52**	$-2.18	$-2.30	$-2.04	$-2.34	$-2.03	$-2.13	$-1.56	$-1.12	$-0.48	$-0.32	$0.00	$-0.20
Total Capital Costs	MUS$	**$-87.13**	$-13.11	$-13.81	$-12.22	$-14.03	$-12.17	$-12.80	$-9.38	$-6.69	$-2.91	$-1.92	$0.00	$-1.20
Tax Basis														
Tax Basis	MUS$	**$169.29**	$5.96	$11.63	$17.79	$20.71	$22.27	$17.08	$18.78	$9.74	$15.20	$15.90	$27.17	$-6.98
Taxes														
IRPJ	MUS$	**$-44.07**	$-1.49	$-2.91	$-4.45	$-5.18	$-5.57	$-4.27	$-4.69	$-2.43	$-3.80	$-3.97	$-6.79	$0.00
CSLL	MUS$	**$-15.86**	$-0.54	$-1.05	$-1.60	$-1.86	$-2.00	$-1.54	$-1.69	$-0.88	$-1.37	$-1.43	$-2.45	$0.00
SUDAM	MUS$	**$0.00**	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Taxes	MUS$	**$-59.93**	$-2.03	$-3.95	$-6.05	$-7.04	$-7.57	$-5.81	$-6.38	$-3.31	$-5.17	$-5.41	$-9.24	$0.00
Cashflow														
Revenues	MUS$	**$724.90**	$37.62	$60.32	$76.03	$85.67	$84.97	$74.91	$72.75	$60.26	$61.58	$62.53	$70.72	$15.16
Total Costs	MUS$	**$-335.54**	$-14.91	$-27.55	$-34.82	$-36.93	$-34.34	$-33.76	$-34.55	$-32.44	$-31.37	$-31.96	$-30.80	$-7.00
Capital Costs	MUS$	**$-87.13**	$-13.11	$-13.81	$-12.22	$-14.03	$-12.17	$-12.80	$-9.38	$-6.69	$-2.91	$-1.92	$0.00	$-1.20
Cashflow Before Taxes	MUS$	**$302.24**	$9.61	$18.96	$28.98	$34.71	$38.47	$28.34	$28.82	$21.12	$27.31	$28.65	$39.92	$6.97
Cashflow After Taxes	MUS$	**$242.31**	$7.58	$15.01	$22.94	$27.67	$30.90	$22.53	$22.43	$17.81	$22.14	$23.24	$30.68	$6.97
Discount Rate	10.0%													
Discount Factor			0	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39	0.35
NPV Before Taxes		**$180.97**	$0.00	$17.24	$23.95	$26.08	$26.27	$17.60	$16.27	$10.84	$12.74	$12.15	$15.39	$2.44
NPV After Taxes		**$144.74**	$0.00	$13.64	$18.95	$20.79	$21.10	$13.99	$12.66	$9.14	$10.33	$9.86	$11.83	$2.44

22.5 Economic Model Sensitivity

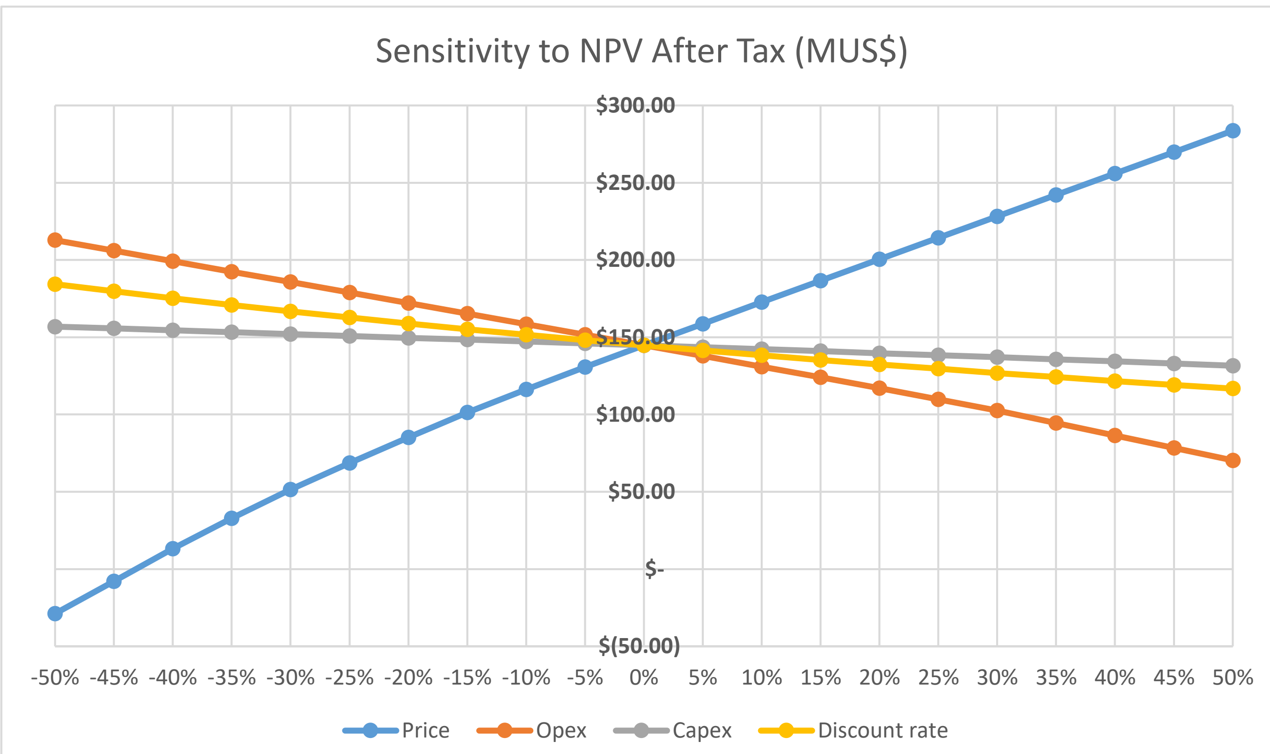
Table 22-4 below summarizes the sensitivity to: Au Price, Capital Costs, and Operating Costs.

Table 22-4: PEA Sensitivity Summary

Gold Price (per ounce)	Units	$1,950	BASE CASE US$2,100	$2,280	SPOT $2,600
Pre tax NPV (5%)	US$m	$193	$230	$275	$356
Pre tax NPV (10%)	US$m	$151	$181	$217	$281
Post tax NPV (5%)	US$m	$159	$184	$214	$267
Post tax NPV (10%)	US$m	$125	$145	$169	$211
Project after tax cash flow	US$m	$210	$242	$281	$350
Average annual free cash flow	US$m	$16	$19	$22	$27
Average gross revenue	US$m	$52	$56	$61	$69

Figure 22-1 provides an expanded sensitivity to: Au Price, Discount Rate, Capital Costs, and Operating Costs for NPV After Taxes.

Figure 22-1: Sensitivity to NPV After Taxes



23 Adjacent Properties

There is no information and no published reserves for any garimpeiro operations adjacent to the Coringa Gold Project.

24 Other Relevant Data

Mato Velho is another zone of garimpeiro workings separate from the main Coringa veins. It is located in the northern part of the Coringa Gold Project property. In 2007, Chapleau carried out mapping, soil sampling, and diamond drilling in the area (13 holes; 1,980 m). This area contains potential targets for future exploration to further expand the defined mineral resources for the Coringa Gold Project.

25 Interpretations and Conclusions

Based on the evaluation of the data available from the FS, the QPs have drawn the following conclusions:

- The deposits at the Coringa Gold Project are composed of several semi-continuous, steeply dipping gold-bearing veins and shear zones hosted in granite and rhyolite. The mineralized vein system extends for over 12,000 meters in a northwesterly direction, has variable widths ranging from less than 1 centimeter to over 14 meters.

- The geologic model of the vein system has an average thickness of 0.5 meters true thickness and a strike length of approximately 7,000 meters when GAMDL, SERRA, and MCQ are included.

- Most veins remain open to further expansion through drilling, both along strike and at depth.

- Drilling to date has intersected the vein at a maximum depth of 350 meters.

- Drilling to date has outlined an Indicated mineral resource estimate (at a cut-off grade of 2 g/t Au) of 735 ktonnes at 8.24 g/t Au, which contains 195 koz of gold.

- Drilling to date has also outlined an Inferred mineral resource estimate (at a cut-off grade of 2 g/t Au) of 1.645 Mtonnes at 6.54 g/t Au, which contains 346 koz of gold.

- The narrow but high-grade veins at the Coringa Gold Project are considered to be amenable to underground extraction methods.

- The results of the PEA using a base price of $2,100/oz gold are an After-Tax Net Present Value @ 10% (“NPV-10”) of $145 million, This technical report is a preliminary economic assessment and partially utilizes inferred mineral resources. Inferred mineral resources are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

- Ongoing exploration during the planned mining operation will further define the mineral resources for the Coringa Gold Project. As with other small underground mines, such as Serabi’s Palito mine, definition drilling during operations often increases the mineral resources and extents the mine life. The QPs believe that definition drilling will likely increase the mineral resources for Coringa given the multiple intersections indicating parallel vein structures which were not modelled in the current mineral resource. Definition drilling is anticipated to provide sufficient information to determine the geologic and grade continuity of these parallel structures so that they can be incorporated into the mineral resource estimate and mine plan.

- There are no known factors related to metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the mineral resource estimate.

- In the QPs’ opinion, Serabi’s analytical procedures are appropriate and consistent with common industry practice. The laboratories are recognized, accredited commercial assayers. There is no relationship between Serabi and SGS, Geosol Laboratorios Ltda in Vespasiano-Minas Gerais in Brazil. The sampling has been carried out by trained technical staff under the supervision of a QP and in a manner that meets or exceeds common industry standards. Samples are properly identified and transported in a secure manner from the site to the lab.

- Observation of the drilling and core handling procedures during the site visit inspection and validation of the collected data indicate that the drill data are adequate for interpretation.
- In the QPs' opinion, the database management, validation, and assay QA/QC protocols are consistent with common industry practices.
- The metallurgical test work on the Coringa project was extensive and well documented.
- The samples employed for metallurgical testing appear representative of the resource.
- The ore responds well to flotation and concentrate leaching as well as direct whole ore leaching.
- The recommended flowsheet consists of crushing, ore sorting, grinding, gravity separation, and intensive gravity concentrate leaching, pre-aeration, and whole ore CIL.
- The ore is relatively hard with high bond work index ranging from 17 to 25 kwh/t. The crushing work index ranged from 6 to 11 kWh/t, and the abrasion index varied from 0.34 to 0.41. The ore is classified as abrasive.
- Gravity concentration is very effective with good gold recoveries (26% - 68% recovery), but the presence of galena may complicate the cleaning process and should be considered in the final design.
- The ore does not appear grind sensitive for leaching at least between a P80 of 75 and 150 µm. Finer grinds do provide moderate leach recovery improvements.
- Pre-aeration will improve the leach results due to the presence of significant sulfide minerals and should be incorporated into the final flowsheet.
- Whole ore leaching reagent consumptions are reasonable. NaCN consumption was moderately variable and is expected to be in the range of 1 -2 kg/t. Lime consumption showed higher variability, generally in the range of 2 kg/t but increasing in some instances to 10 kg/t. This is likely dependent on the sulfide grades of the ore.
- The use of the SO2/Air systems appears adequate for cyanide destruction. Care will have to be taken in monitoring the quality of recycled water.
- Copper may build up on the activated carbon, and an acid wash circuit should be included to manage this.
- The whole ore CIL recoveries do not appear to be grade sensitive for gold and moderately grade sensitive for silver.
- Results from the Plenge test program are anticipated to be used to project the metallurgical performance of planned materials for processing at the Coringa Gold Project. Results from the earlier RDi and TDP test programs support results from the Plenge program and altogether are useful to support the stated overall representativeness of the samples to the various deposits.

- The anticipated gold and silver recoveries for the Coringa Gold Project deposits are presented below:

    - Serra and Galena deposits – 96% for gold and 57% for silver

    - Meio deposit – 94% for gold and 74% for silver

    These values are have been further supported by the current industrial practice of processing Conringa ore through the Palito Plant which shows 97% of total gold recovery.

25.1 Risks

- It is unknown how deep historic surface mining has occurred. An allowance for this should be included in future mine plans.

- Brazilian political change, fluctuations in the national, state, and local economies and regulations and social unrest.

- Currency exchange fluctuations.

- Fluctuations in the prices for gold and silver, as well as other minerals.

- Risks relating to being adversely affected by the regulatory environment, including increased regulatory burdens and changes of laws.

25.2 Opportunities

- There is a potential for increasing the estimated mineral resources with infill drilling as well as exploration drilling from underground and surface.

- While the mineralized trend of veins is known to extend over a minimum 12 km strike length (Figure 7-2), only in a few places has it been drilled sufficiently to identify inferred or higher mineral resources (Serra, Meio, Galena, Mãe de Leite, Come Quieto, Demetrio, and Valdette). Large segments of veins remain untested or partially tested, some with significant mineralized vein intersections that remain open to offset drilling. These zones could yield additional mineralization for the project through discovery or enhancement of currently identified inferred to indicated resources. Highest priority targets for resource expansion include Come Quieto, Mãe de Leite, and Galena, all of which host open Inferred mineral resources and in the case of Galena, Indicted mineral resources. Other zones such as Mato Velho have yielded significant mineral intersections but have not been drilled in sufficient density for inclusion as inferred resource. Enhancement of mineral resources at the Coringa Gold Project has a high probability with additional drilling.

- The project is staffed with key management in place. Serabi plans to use experienced mining and supporting personnel from its Palito Operations to further staff Coringa, integrating new employees at Palito. This will provide Coringa with experienced mining personnel minimizing the training requirements of the project and at the same time place new miners with the experienced team at Palito.

- The project is located in an area with existing and active mining operations with similar characteristics to the mining techniques proposed in this study. The mining techniques employed at Serabi's Palito Complex are directly applicable to Coringa.

26 Recommendations

- Additional engineering studies - $250,000
- Additional extensional drilling along strike and depth - $250,000
- Test geophysical anomalies identified from reprocessing past geophysical data - $100,000
- Oxygen in leach should be investigated as it may improve the overall leach kinetics and specifically enhance the silver extraction - $20,000
- The gravity recovery system needs to be fully defined, and a method to manage the presence of galena should be considered. Further, the treatment of the intensive leach tails needs to be further developed - $50,000
- The production of additional saleable metal products requires further investigation $50,000
- The primary grind should be optimized to determine the cost benefit of a coarser grind - $25,000.

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CERTIFICATE OF QUALIFIED PERSON

I, Carlos Guzman, Qualified Person for the mineral reserve estimate certify that

I am Principal and Project director at NCL Ingeniería y Construcción SpA, General del Canto 230, office 401, Providencia, Santiago, Chile.

This certificate applies to the Technical Report titled "Serabi Gold Plc, Coringa Project, Preliminary Economic Assessment, NI 43-101 Technical Report, Para State, Brazil", with an effective date of April 16, 2024.

My qualifications and relevant experiences are that:

1. I am a Graduate of the Universidad de Chile and hold a Mining Engineer title (1995).
2. I am a practicing Mining Engineer and a Fellow Member of the Australasian Institute of Mining and Metallurgy (FAusIMM, N° 229036); and a Registered Member of the Chilean Mining Commission (RM CMC 0119).
3. Have worked as a mining engineer for a total of 30 years. My relevant experience for the purpose of the Technical Report is:
    - Review and report as a consultant on numerous explorations, mining operation and projects around the world for due diligence and regulatory requirements.
    - I have extensive experience in mining engineering. I have worked on mining engineering assignments.
4. I have read the definition of Qualified Person set out in Nation Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
5. I have visited the Coringa Project on February 13, 2024 and the Palito Clomplex on several ocassions and the most recet was in October 16, 2023. I am responsible for the preparation of sections 1.1, 1.2,1.3, 1.10 through 1.15, 2 through 6, 15, 16, 19 through 24 and partially responsible for sections 25 and 26 of the Technical Report.
6. I am independent of Serabi gold Plc.
7. I have not had prior involvement with the property that is the subject of the Technical Report.
8. I have read National Instrument 43-101 and the Technical Report has been prepared in compliance with that instrument.
9. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report Summary contains all material scientific and technical information that is required to be disclosed to make the Technical Report Summary not misleading.

Dated:	**November 13, 2024**
Signature:	SIGNATURE ON FILE
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CERTIFICATE OF QUALIFIED PERSON

I, Nicolás Fuster, Qualified Person for the mineral resource estimate certify that

I am a geologist, Consultant and Senior Advisor at NCL Ingeniería y Construcción SpA, General del Canto 230, office 401, Providencia, Santiago, Chile.

This certificate applies to the Technical Report titled "Serabi Gold Plc, Coringa Project, Preliminary Economic Assessment, NI 43-101 Technical Report, Para State, Brazil", with an effective date of April 16, 2024.

My qualifications and relevant experiences are that:

1. I am a Graduate of the Universidad de Chile and hold a Geologist title (1983).
2. I am a practicing Geologist and a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM, N° 229718); and a Registered Member of the Chilean Mining Commission (RM CMC 0414).
   - Have worked as a geologist for a total of 43 years. My relevant experience for the purpose of the Technical Report is:
   - Review and report as a consultant on numerous explorations, mining operation and projects around the world for due diligence and regulatory requirements.
3. I have extensive experience in geology. I have worked on mining geology and exploration assignments.
4. I have read the definition of Qualified Person set out in Nation Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
5. I have visited the Coringa Project on February 13, 2024. I am responsible for the preparation of sections 1.4, 1.5, 1.6, 1.7. 7 through 12 and 14, and partially responsible for sections 25 and 26 of the Technical Report.
6. I am independent of Serabi gold Plc.
7. I have not had prior involvement with the property that is the subject of the Technical Report.
8. I have read National Instrument 43-101 and the Technical Report has been prepared in compliance with that instrument.
9. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report Summary contains all material scientific and technical information that is required to be disclosed to make the Technical Report Summary not misleading.

Dated:	**November 13, 2024**
Signature:	SIGNATURE ON FILE
Name:	**Nicolas Fuster** Geologist, MAusIMM (229718), RM CMC (0414)

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CERTIFICATE OF QUALIFIED PERSON

I, Gustavo Tapia, Qualified Person for the mineral processing and metallurgical recovery, recovery methods and project infrastructure certify that:

I am Independent Process and Metallurgical Consultant at GT Metallurgy, Carmencita 130, apartment 92, Las Condes, Santiago, Chile.

This certificate applies to the Technical Report titled "Serabi Gold Plc, Coringa Project, Preliminary Economic Assessment, NI 43-101 Technical Report, Para State, Brazil", with an effective date of April 16, 2024.

My qualifications and relevant experiences are that:

I am a Graduate of the Universidad de Chile and hold a Civil Mining Engineer title (1981).

1. I am practicing my profession for 42 years. During this time, I have been directly involved in, and supervised operations, design of metallurgical testwork programs, pilot plant testing, designing process flowsheets, selection of mineral processing equipment and Due Diligence for new projects. I have been directly involved in operations, process engineering design and construction for copper projects in Chile; and a Registered Member of the Chilean Mining Commission (RM CMC 0436).
    - Have worked as a mining engineer for a total of 42 years. My relevant experience for the purpose of the Technical Report is:
    - Review and report as an executive of mining companies and independent consultant on numerous mining new business, mining operation and projects around the world for due diligence and regulatory requirements.
2. I have extensive experience in metallurgy and ore processing. I have worked on several metallurgical and ore processing assignments.
3. I have read the definition of Qualified Person set out in Nation Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
4. I have not visited the Coringa Project. I have visited the Palito Mining Complex on August 8, 2022. I am responsible for the preparation of sections 1.7, 1.9, 13, 17, 18, and partially responsible for sections 25 and 26 of the Technical Report.
5. I am independent of Serabi gold Plc.
6. I have not had prior involvement with the property that is the subject of the Technical Report.
7. I have read National Instrument 43-101 and the Technical Report has been prepared in compliance with that instrument.
8. As of the date of the certificate, to the best of my knowledge, information and belief, the Technical Report contains all material scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated:	**November 13, 2024**
Signature:	SIGNATURE ON FILE
Name:	**Gustavo Tapia** Mining Engineer, RM CMC (0436)