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Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina

Mato Grosso, Brazil

Report Prepared For:

ERO COPPER

Ero Copper Corp.
1050 - 625 Howe Street
Vancouver, BC V6C 2T6 Canada

Authors and Qualified Persons:

Porfirio Cabaleiro Rodriguez, MAIG
Leonardo de Moraes Soares, MAIG
Bernardo Horta Cerqueira Viana, MAIG
Paulo Roberto Bergmann, FAusIMM

GE21 Consultoria Mineral

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The effective date of this report is September 30, 2020. The issue date of this report is January 8, 2021. See Appendix A for certificates of Qualified Persons, as such term is defined under National Instrument NI 43-101, *Standards of Disclosure for Mineral Projects* ("NI 43-101").

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The purpose of this report (the “Report” or “Technical Report”) is to set out and provide background and supporting information on the current mineral resources and Mineral Reserves for the NX Gold Mine (as defined below), a producing underground gold mining operation located in the State of Mato Grosso Brazil and wholly-owned by NX Gold S.A. (“NX Gold”, “NX”, or the “Company”), a company formed under the laws of Brazil. The effective date of this Report is September 30, 2020 (the “Effective Date”) and the issue date of this Report is January 8, 2021. This Report has been prepared by GE21 Consultoria Mineral Ltda. (“GE21”) on behalf of Ero Copper Corp. (“Ero Copper”) of Vancouver, Canada and existing under the British Columbia *Business Corporations Act*.

Ero Copper is a publicly listed company that trades on the Toronto Stock Exchange under the ticker, “ERO”. Ero Copper’s principal asset is its 99.6% ownership interest in Mineração Caraíba S.A. (“MCSA”). MCSA’s predominant activity is the production and sale of copper concentrate from the Vale do Curaçá Property, which is located within the Curaçá Valley, northeastern Bahia State, Brazil, with gold and silver produced and sold as by-products. Ero Copper’s wholly owned subsidiary, Ero Gold Corp. (existing under the British Columbia *Business Corporations Act)* currently owns a 97.6% ownership interest in NX Gold.

The NX Gold Mine was constructed and commenced commercial production in 2012, with the first full year of production occurring in 2013. As of the end of September 2020, approximately 241,000 troy ounces (herein referred to as “oz” or “ounces”) of gold had been produced from the NX Gold Mine. As of the date of this Report, there are currently 8 drill rigs operating on the property. Exploration activities are underway on the central Santo Antônio orebody as well as testing for possible extensions of the Brás and Buracão orebodies to depth and along strike. The first regional exploration program on the property commenced in 2020.

Doré bars containing gold and silver, as well as lesser amounts of lead, are shipped from the mine weekly by airplane via a gravel airstrip located on the property. The majority of NX Gold’s mineral resources, mineral reserves and all of the mine’s current production is from the Santo Antonio vein– an east-west striking, shear-zone hosted, quartz vein, accessed from a single mine portal and decline and from the Buracão vein. During the second half of 2019, the mine successfully transitioned mining activities from the Brás and Buracão veins, into the centrally located Santo Anton vein where all current mining activities take place.

This Report and estimates herein have been prepared following the guidelines of the Canadian Securities Administrators’ National Instrument 43-101 – *Standard of Disclosure for Mineral Projects* (“NI 43-101”).

The Report provides a summary of the work completed by NX Gold and its independent consultants as of the Effective Date. All dollar amounts presented in the Report are stated in US dollars unless otherwise specified.

1.2 Property Description and Location

NX Gold owns a 100% interest in the NX Gold Mine, located in the eastern portion of the State of Mato Grosso, Brazil. The mine is located 18km west of the town of Nova Xavantina, with a population of approximately 20,000 people, and approximately 670 km east of Cuiabá, the capital city of Mato Grosso. The total NX Gold Mine property, including exploration licences, measures 31,716.2 hectares ("ha"). The property is comprised of one mining concession, where all current mining and processing activities occur (registration number 866269/1990), that totals 620 ha and eight exploration licenses covering an area of 31,096.2 ha. Within the mining concession, NX Gold holds 100% legal and beneficial ownership, including surface rights. There are no time constraints provisioned with the mining concession; however, operating permits and licenses are extended and renewed in normal course of business according to the nature of each permit and requirements therein. All relevant licenses and operational permits in support of the mine's operation are in good standing.

Within the exploration licences, NX Gold's interests include the right to access the property and to engage in exploration, development, processing, and construction activities in support of mineral exploration and development. Where applicable, compensation is provided to the holder of surface rights for occupation or loss caused by the work. All exploration licenses are currently valid and, for those concessions where expiration dates are approaching, applications have been, or are expected to be submitted for renewal at the time of expiry.

1.3 Geology and Mineralization

Gold and silver mineralization at the NX Gold Mine can be characterized as a shear-zone hosted, sulphide-rich, laminated quartz vein. Economic mineralization on the property, to date, has been hosted within the northeast trending Araés shear zone that cross-cuts the deformed and metamorphosed volcano-sedimentary sequence of the Proterozoic Cuiabá Group and is generally associated with felsic dikes.

Economic gold and silver mineralization at the NX Gold Mine is structurally controlled within the Araés shear zone. Gold and silver are currently mined from a major sulphide-rich, laminated quartz vein dipping approximately 40 degrees to the north-northwest and striking to the west-southwest – the Santo Antonio vein. Prior to the second half of 2019, mining activities occurred in the Brás and Buracão veins, located to the east and west of Santo Antonio, respectively. Vein dimensions are variable throughout the deposit, with an average thickness of 4 meters. Local occurrences of up to 10 meters in vein thickness are common, particularly within the Brás and lower levels of the Santo Antonio veins. Where gold and silver grades are found in economic concentrations, quartz veins typically contain approximately 2 to 15 percent total sulphide represented mostly by pyrite and galena, as well as minor chalcopyrite, bornite, pyrrhotite, and sphalerite. Higher gold and silver grades are generally associated with galena, chalcopyrite, bornite, and sphalerite.

Historic and the current known extent of gold mineralization at the NX Gold mine are structurally controlled and hosted in four major sulphide-rich quartz veins/bodies, from west to east: Buracão, Santo Antonio, Brás and Matinha. The veins are hosted in strongly deformed metamorphosed sedimentary rock units and diorite that trend generally to the northeast. The veins exhibit a typical laminated pattern parallel with the vein contacts. The laminations are characterized by alternating quartz bands and foliated host rocks indicative of multiple pulses of mineralized fluids during formation.

The Buracão vein is located on the western portion of the mining concession and includes a primary laminated vein measuring 100 meters in length and dipping 45 degrees to the northwest in the upper portion of the mine and 70 meters in length dipping 40 degrees to the northwest in the lower portion of the mine. The Brás vein is located to the east of the Buracão vein and includes a primary laminated vein measuring 220 meters in strike length in the upper part of the mine and 50 meters in strike length in the lower levels of the mine. The Santo Antonio vein is located between the Brás and Buracão veins and currently extends over 300 meters in strike length. The Santo Antonio vein, discovered during the 2018/2019 drill program, further drilled in 2020, and remains open to depth. Continued drill-testing of extensions of the vein are planned for 2020 where high-grade drill intercepts have been shown to occur at depth. To date, the mineralogical characterization of all of the veins containing economic values of gold and silver on the NX Gold property are the same.

1.4 Exploration

The occurrence of gold in the Araés shear zone has been known for over 80 years. Although limited information exists, extensive artisanal ("garimpeiro") mining activity occurred in open pit and in underground operations prior to the formalization of the mine concessions in 1990. Between 1985 and 2004 two companies, Mineração Araés and Mineração Nova Xavantina, conducted geological and metallurgical studies, geological mapping and a total of 2,306 meters of drilling in 8 diamond drill holes. In 2004, MCSA acquired the mineral and surface rights for the property. Between 2006 and 2012, MCSA drilled a total of 43,441 meters in 212 surface diamond drill holes. In 2013, the property was transferred to NX Gold, a subsidiary of MSCA. Between 2013 and 2015, NX Gold drilled a total of 27,822 meters in 104 surface diamond drill holes and a total of 9,427 meters in 107 underground diamond drill holes. In December of 2016, MCSA (and its interest in NX Gold) was acquired by Ero Copper.

Other exploration activities undertaken from 2013 to 2015 included regional geological mapping, soil sampling and a 1,969 line-kilometer airborne magnetic survey completed in 2013.

Following the acquisition of the Company in 2016 by Ero Copper, commencing in 2018 NX Gold conducted the largest drill programs undertaken on the property to date, completing a total of 63,198 meters of drilling in 129 surface diamond drill holes and 1,315 meters in 8 underground drill holes, resulting in the discovery of, and continued delineation of the Santo Antonio vein. In total, the 2018-2020 drill programs conducted by the Company represent more than 40% of the total drill meterage drilled on the property. The drilling followed standard industry procedures including measuring core recovery, rock quality design ("RQD"), taking photos of the core boxes, geological logging of the core, sampling, and assaying. NX Gold inserts a series of certified reference material, blanks, and laboratory duplicates in the stream of samples to verify the assay results as part of its quality assurance, quality control ("QA/QC") procedures.

1.5 Drilling, Sample Preparation, Analysis and Security

Several drill programs have been conducted at the NX Gold Mine. Prior to the 2018-2020 drill programs, the bulk of prior drilling occurred during the period from 2006 to 2012 when the property was held by MCSA. The global drill hole database at the NX Gold Mine includes 559 drill holes, including 150 underground drill holes, totaling 147,670 meters of drilling, of which, 13,209 meters is from underground drilling.

Drilling and assaying undertaken in support of the current mineral resource and reserve estimate has been carried out using sampling, security and QA/QC procedures that are in line with industry best practices.

Beginning in 2015, a full QA/QC program meeting generally recognized industry best practices has been in use. Standardized procedures are used in all aspects of the exploration data acquisition and management including surveying, drilling, sampling, sample security, assaying, and database management.

QA/QC measures, as part of the routine core sampling procedures, use blank, standard and duplicate samples to allow verification of the fire assay results produced by the NX Gold laboratory. For the 2014 to 2020 drilling programs, control samples were inserted at the frequency of 1 gold certified reference, 1 blank sample and 1 duplicate pulp sample every 20 samples.

The authors of this Report performed an evaluation of the data used in the determination of NX Gold's mineral resource estimate and found the results to be in accordance with industry best practice and appropriate for use in the current mineral resource estimate.

1.6 Mineral Resource and Mineral Reserve Estimate

Mineral Resources

The mineral resource estimates were prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards for Mineral Resources and Mineral Reserves, adopted by the CIM Council on May 10, 2014 (the "CIM Standards"), and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, adopted by CIM Council on November 23, 2003 (the 'CIM Guidelines"). Grade-shell models using 1.20 grams per tonne ("gpt" or "g/t") were used to generate a 3D model of the NX Gold Mine, and within this, a gold cut-off grade of 1.90 gpt was considered of mineral resources based upon a gold price of US$1,900 per ounce ("oz") of gold and total underground mining and processing costs of US$115.14 per tonne of ore mined and processed. Mineral resources have been estimated using ordinary kriging inside block sizes of 2.5 meters (x), by 2.5 meters (y), by 0.5 meters in height (z) and a minimum mining stope dimension of 1.25 meters (x), by 1.25 meters (y), by 1.5 meters in height (z).

The NX Gold mineral resource estimate was sub-divided in four mineralized veins: Brás, Buracão, Santo Antônio and Matinha.

Mineral resource effective date of August 31, 2020.

Table 1 - Mineral Resource Estimate

Classification	Tonnage (000 tonnes)	Grade (gpt Au)	Au Contained (000 ounces)
Indicated Mineral Resource (inclusive of Reserves)			
Santo Antonio Vein	763.3	10.97	269.2
Brás Vein	6.9	3.36	0.7
Buracão Vein	-	-	-
Total Indicated Resource	**770.2**	**10.90**	**269.9**
Inferred Mineral Resource			
Santo Antonio Vein	267.8	13.08	112.6
Matinha Vein	149.0	12.15	58.2
Brás Vein	149.3	4.81	23.1
Buracão Vein	7.7	2.77	0.7
Total Inferred Resource	***573.8***	***10.55***	***194.6***

1. Mineral Resource effective date of August 31, 2020
2. Presented Mineral Resources inclusive of Mineral Reserves. Indicated mineral resource totals are undiluted. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Grade-shell 3D models using 1.20 gpt gold were used to generate a 3D mineralization model of the NX Gold Mine. Mineral resources were estimated using ordinary kriging within 2.5 meter by 2.5 meter by 0.5 meter block size. Mineral resources were constrained using a minimum stope dimension of 1.25 meters by 1.25 meters by 1.50 meters and a cut-off of 1.90 gpt based on gold price of US$1,900 per ounce of gold and total underground mining and processing costs of US$115.14 per tonne of ore mined and processed. The mineral resource estimates were prepared in accordance with the CIM Standards, and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate to the deposit.

Mineral resources which are not mineral reserves do not have demonstrated economic viability.

Mineral Reserves

Mineral reserve estimates were prepared in accordance with the CIM Standards and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral reserves are based on a long-term gold price of US$1,650 per ounce ("oz"), and a USD:BRL foreign exchange rate of 5.00. Mineral reserves are the economic portion of the Indicated mineral resources. Mineral reserve estimates include operational dilution of 17.4% plus planned dilution of approximately 8.5% within each stope for room-and-pillar mining areas and operational dilution of 3.2% plus planned dilution of 21.2% for cut-and-fill mining areas. Assumes mining recovery of 92.5% and 94.7% for room-and-pillar and cut-and-fill areas, respectively. Practical mining shapes (wireframes) were designed using geological wireframes / mineral resource block models as a guide. The Mineral Reserve estimates for the NX Gold Mine were prepared in accordance with the CIM Guidelines and the CIM Standards by NX Gold Mine engineering personnel under the direct supervision of Sr. Porfirio Cabaleiro Rodriguez of GE21, an independent qualified person as such term is defined under NI 43-101.

It is the opinion of GE21 that the current Mineral Reserves for the underground operation have been estimated in a manner consistent with industry best practices, CIM Guidelines, and CIM Standards.

Table 2 - Mineral Reserve Estimate

Classification	Tonnage (000 tonnes)	Grade (gpt Au)	Au Contained (000 ounces)
Probable Mineral Reserve			
Santo Antonio Vein	862.1	8.83	244.7
Brás Vein	-	-	-
Buracão Vein	-	-	-
Total Probable Reserve	**862.1**	**8.83**	**244.7**

1. Mineral Reserve effective date of September 30, 2020.
2. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Mineral reserve estimates were prepared in accordance with the CIM Standards and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral reserves are based on a long-term gold price of US$1,650 per oz of gold, and a USD:BRL foreign exchange rate of 5.00. Mineral reserves are the economic portion of the Indicated mineral resources. Mineral reserve estimates include operational dilution of 17.4% plus planned dilution of approximately 8.5% within each stope for room-and-pillar mining areas and operational dilution of 3.2% plus planned dilution of 21.2% for cut-and-fill mining areas. Assumes mining recovery of 92.5% and 94.7% for room-and-pillar and cut-and-fill areas, respectively. Practical mining shapes (wireframes) were designed using geological wireframes / mineral resource block models as a guide.

The mineral reserves for the NX Gold Mine are derived from the Indicated mineral resource as defined within the resource block model following the application of economic and other modifying factors further described below. Inferred mineral resources, where unavoidably mined within a defined mining shape have been assigned zero grade. Dilution occurring from Indicated resource blocks were assigned grade based upon the current mineral resource grade of the blocks included in the dilution envelope. Mineral reserves were classified according to the CIM Standards and the CIM Guidelines by Sr. Porfirio Cabaleiro Rodriguez of GE21, an independent qualified person as such term is defined under NI 43-101.

Mineral reserve cut-off grades and parameters applied to the mineral reserve estimate are summarized below:

- 3.14 gpt applied to mining stopes, in room and pillar mining areas, and 3.22 gpt to stopes in cut and fill mining areas, incorporating mining and development, processing, general and administrative (“G&A”) and indirect costs;
- 0.80 gpt applied to gallery development incorporating development and processing costs; and,
- 2.30 gpt applied to mining marginal material adjacent to planned mining stopes incorporating mining, development and processing costs.

Mineral reserve cost assumptions are based on actual operating cost data during the eight-month period from January 1, 2020 to August 30, 2020, expressed in USD per tonne run-of-mine (“ROM”), converted at a USD:BRL foreign exchange rate of 5.00 corresponding to the average foreign exchange rate during this same period.

A summary of the mineral reserve estimate parameters is provided below:

Table 3 - Mineral Reserve Cut-off Parameters

Mining Costs (US$/tonne ROM)	$76.52
Processing Costs (US$/tonne ROM)	$38.62
G&A Costs (US$/tonne ROM)	$18.10
Indirect Costs (US$/tonne ROM)	$22.07
Metallurgical Recovery (average)	91.0%
Gold Price (US$/oz)	$1,650
Foreign Exchange Rate (USD:BRL)	*5.00*

Other modifying factors considered in the determination of the mineral reserve estimate include:

- A cut-off grade of 3.14 gpt was applied to mining stopes within the room and pillar mining areas, and 3.22 gpt to stopes within the cut and fill mining areas, in the determination of planned mining stopes within the mineral resource blocks based on actual operating cost data and past operating performance of the mine.

- The mining method employed for the Santo Antônio vein is inclined room and pillar for the thicker lower-panel of the vein, and overhand cut and fill for the thinner upper panel of the vein incorporating paste-fill. A new paste-fill plant was designed, and will be constructed at a cost of approximately US$2 million, with the aim of improving overhand cut and fill operations as well as enhancing pillar recovery throughout the mine.

- Maximum stope spans in the room and pillar mining area are based on a design stope of 6m by 4m between pillars. For cut and fill mining areas the size of stopes are based on a designed stope measuring 18m along strike with a frontal slice of 3 vertical meters.

- Within designed stopes, all contained material was assumed to be mined with no selectivity. Inferred mineral resources, where unavoidably included within a defined mining shape have been included in the mineral reserves estimate at zero grade. Mining dilution resulting from Indicated blocks was assigned the grade of those blocks captured in the dilution envelope using the current mineral resource estimate.

Mineral reserve effective date of September 30, 2020.

1.7 Mining Methods

The mining method currently employed for the Santo Antonio vein is inclined room and pillar. Prior to commencing operations within the Santo Antonio vein, the mine employed a combination of inclined room and pillar and overhand cut and fill, with backfill requirements generated from waste development. Mining method selection has been based upon desired selectivity, geometry of the orebodies (both planned and previously mined) as well as the rock mechanic characteristics of the footwall and hanging wall.

For the purposes of the current mineral reserve and life-of-mine plan, the Santo Antonio vein has been divided into two main panels on -65 (upper) and -170 (lower) based upon the relative strength characteristics of these zones within the mine. In the upper panel, underhand cut and fill utilizing paste back-fill will be employed, while inclined room in pillar, the current mining method, will be employed in the lower panel. Cemented paste will also be employed in the lower panel to enhance pillar recovery following primary mining. The Company undertook extensive geomechanical analysis and 3D modeling as well as knowledge gained through prior mining in Brás and Buracão, and current operating procedures within the Santo Antonio vein, to define these mining methods.

The underhand cut and fill method relies upon removing the ore in horizontal slices, advancing from top to bottom, utilizing cemented paste (7% cement by weight) to provide support to the next series of advances. Each advance within the upper panel of Santo Antonio will be 3.0 meters. The inclined room and pillar method, currently used in practice, is based upon excavating parallel rooms, connected with a cross-section of galleries. Each 6 meter room is supported by pillars measuring approximately 4 meters. During the primary extraction stage, room and pillar mine recovery averages approximately 75%, improving to approximately 92.5% following secondary extraction of pillars from bottom to top.

Based on operating experience, mining rates from inclined room and pillar operations have been assumed to average 500 tonnes per month per room in operation. The main constraint in this mining method is the number of jackleg operators per shift and developed rooms from which to conduct mining operations. Total production from the mine, incorporating upper and lower panel mining averages approximately 11,000 tonnes per month over the life of mine, and approximately 14,000 tonnes per month over the first four years – in-line with current mining rates. Actual operating performance of the mine was determined to calculate modifying factors applied to the life of mine. Operational dilution of 17.4% plus planned dilution of 8.5% was applied to lower panel stopes utilizing room and pillar mining method. Operational dilution of 3.2% plus planned dilution of 21.2% was assumed for stopes within the upper panel utilizing cut and fill mining method.

1.8 Recovery Methods

The metallurgical process currently in place has been engineered and subsequently optimized over the years to leach gold ores containing high contents of preg-robbing units capable of adsorbing gold from cyanide solutions, such as the carbonaceous phyllite unit that exists throughout the NX Gold Mine orebodies, including Santo Antonio.

Metallurgical recoveries at the NX Gold Mine have been sequentially optimized since commissioning to recover gold and silver from the quartz vein orebodies containing this carbonaceous material. This optimization work has resulted in recoveries increasing from approximately 40% in 2012 when the plant was commissioned, to current metallurgical recoveries in excess of 90% (92.0% average was achieved during third quarter 2020). Prior to the Effective Date, average feed grade to the plant was approximately 7.72 gpt gold. 2020 production from the NX Gold Mine to the Effective Date is shown below in Table 4.

Table 4 - Nova Xavantina Plant Performance to Effective Date

	Jan 1st – Sep 30th, 2020
Mill Feed (000 tonnes)	117,067
Gold Grade (gpt Au)	7.72
Metallurgical Recovery (%)	89.7
Au Production (oz)	**26,041**
Ag Production (oz)	**15,931**

Processing takes place at the Nova Xavantina Plant. Unit operations include a conventional 3 stage crush, milling and a combination of gravity concentration with intensive leaching and flotation followed by carbon in leach ("CIL") and a desorption circuit. In 2019, a gravity concentrate re-grind mill was added to the circuit to improve gold recoveries and reduce required residence time within the intensive leaching circuit. Gold and silver are produced from solution via electrolysis followed by smelting of doré bars containing both gold and silver. The installed crushing and grinding capacity is approximately 80 tonnes per hour ("tph") and 44.5 tph, respectively, resulting in an installed annual plant capacity in excess of 300,000 tonnes per annum. The plant is currently forecast to operate at approximately 45% of its installed capacity, on average, over the current life of mine.

In 2018 and 2019, NX Gold conducted gravity concentration tests to assess recovery of the Santo Antonio orebody in advance of mining operations. A composite sample was taken from 9 drill holes and processed in the NX Gold's laboratory Falcon concentrator. The results obtained exhibited similar characteristics as previously tested samples from within existing and historic operations of the Buracão and Brás veins. Upon achieving full production rates from the Santo Antonio vein in 2020, several initiatives on the processing side were implemented to improve metallurgical recoveries from this material. These efforts contributed to achieving 92.0% metallurgical recovery during the third quarter of 2020 – in-line with current forecast recoveries over the life of mine.

Based on the current Mineral Reserve estimate, the production plan for the Nova Xavantina Plant is set forth below:

Table 5 - NX Gold Production Plan

	Q4 2020*	2021	2022	2023	2024	2025	2026
Ore Mined & Processed (*000 tonnes*)	46.5	167.0	179.4	170.9	139.4	80.6	78.4
Au Grade (gpt)	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Recovery (%)	92.1%	92.1%	92.1%	92.0%	92.0%	92.0%	92.0%
Gold Production (oz)	**10,458**	**35,647**	**44,291**	**46,121**	**39,631**	**23,550**	**26,901**
Silver Production (oz)	**5,980**	**20,370**	**25,309**	**26,355**	**22,646**	**13,457**	**15,372**

(*) Q4 2020 production outlines the Mineral Reserve schedule for the three months from the effective date of September 30, 2020 to December 31, 2020.

Throughout the life of the mine, the plant has successfully processed ores with different grades and varying carbon content, obtaining key information to improve recovery, under different operational conditions. The metallurgical recoveries of the NX Gold Mine have increased from

40% in 2012 to up to 92% in third-quarter of 2020 (with a 2020 average of approximately 90% prior to the Effective Date), as summarized in the following table.

Table 6 - Historic Production of the NX Gold Mine

Year	Tonnes (t)	Au (oz)	Recovery
2012	137,980	6,654	40%
2013	261,726	26,216	67%
2014	208,259	23,730	83%
2015	226,608	35,115	87%
2016	213,776	29,098	84%
2017	135,013	25,173	88%
2018	117,857	39,808	91%
2019	158,275	29,755	86%
Jan to Sep 30th 2020	117,067	25,755	90%
Total	**1,567,561**	**241,304**	**84%**

1.9 Project Infrastructure

The facilities at the NX Gold Mine include the mine portal, the Nova Xavantina Plant, tailings storage facility, mechanical workshop, administrative offices, metallurgical laboratory, security gate and guard facilities, medical clinic, a cafeteria and a gravel airstrip used to fly out doré bars after production.

National electrical service is available on site from the town of Nova Xavantina, located approximately 18 km from the NX Gold Mine. The mine is supplied through a 34.5 kV power transmission line (600 kVA), owned by the state public utility, ENERGISA S/A. Water in sufficient quantities to support mining and processing operations is sourced from surface run-off and a fully permitted water supply system comprised of a water intake from the neighboring Mortes River, with capacity of 150 cubic meters per hour, and a water main connecting the sumps of the underground mine.

Process tailings are disposed into two ponds in a closed loop with water loss only occurring through evaporation and in the residual moisture content of the tailings. The first pond receives inert-tailings from flotation, and the second pond receives non-inert tailings from the CIL circuit. The latter tailings pond is lined with a double layer of HDPE, including leach detection devices, and allows for natural degradation of residual cyanide through exposure to sunlight, complemented by a cyanide detoxification circuit.

1.10 Permitting, Environmental and Social Considerations

The NX Gold Mine is a fully permitted gold mine currently in operation. An environmental action program was developed for the Company prior to the mine reaching commercial production. NX Gold follows the guidelines set forth in the program to reduce its impact and recover impacted areas within the vicinity of the mine. NX Gold adheres to a program of frequent environmental monitoring including water quality control, as well as re-vegetation of historic artisanal mining areas that pre-date the commissioning of the mine by NX Gold.

The mine's closure plan, adapted to the current social and environmental context within the area of the NX Gold Mine, has been designed to maximize the physical, chemical, biological, and socio-economic stability of the area after mining activities have concluded. The current estimated reclamation liabilities are approximately $24.9 million Brazilian Real ("BRL" or "R$").

NX Gold maintains an excellent relationship with the neighboring community of Nova Xavantina, as well as smaller neighboring land-owners, providing among others, community outreach, children's educational programs and sponsorship of local sporting events and teams. NX Gold has provided technical and financial support towards the environmental rehabilitation of areas previously impacted by historic artisanal mining activities and has remained an important economic contributor to the region through both direct and indirect jobs, royalties and tax revenue. The NX Gold Mine has all required environmental licenses to conduct its operations, issued by the Environment Secretary of Mato Grosso (SEMA) in 2007. The authors of this Report are not aware of any material environmental or permitting risks to the current operations nor to the envisioned production plan associated with this Mineral Reserves estimate.

1.11 Capital and Operating Costs

Capital and operating costs are shown for 2020 through 2026 reflecting the period of operation from the day immediately following the Effective Date (commencing October 1, 2020). For the purposes of the Technical Report, mine reclamation and closure are assumed to commence on the conclusion of mining of the Mineral Reserves; however, NX Gold is actively undertaking exploration activities to increase the mine's life. It is anticipated that a combination of Mineral Resource conversion, extension of the Santo Antonio ore body, and delineation of target areas will serve to augment the production profile and increase mine life subject to satisfactory exploration results, as well as technical, economic, legal and environmental conditions.

Total capital costs over the life of mine are estimated at R$189.2 million, of which R$24.9 million is related to mine closure in 2026. Details of these capital expenditures are shown below in Table 7.

Table 7 - Forecast Capital Expenditures

	Q4 2020[1]	2021	2022	2023	2024	2025	2026
Capital Expenditures (R$ 000s)							
Development	9,531	36,964	19,822	1,705	418	-	-
Equipment	750	5,415	5,783	788	-	-	-
Ventilation & Safety Equipment	950	514	260	300	250	230	-
Environment	419	650	280	240	350	180	-
Other, Sustaining	552	0	5,964	2,618	2,239	2,074	-
Sustaining Capital, Sub-Total	12,201	43,543	32,109	5,652	3,257	2,484	-
Infrastructure	7,886	5,608	2,470	640	230	68	-
Other, Non-Sustaining (incl. Growth)	3,923	21,121	2,456	4,898	2,915	827	-
Exploration / Drilling	12,000	-	-	-	-	-	-
Reclamation & Closure Costs	-	-	-	-	-	-	24,939
Non-Sustaining Capital, Sub-Total	23,809	26,729	4,926	5,538	3,145	895	24,939
Total Capital Costs (R$ 000s)	**36,010**	**70,272**	**37,035**	**11,189**	**6,402**	**3,379**	**24,939**

Capital Expenditure Notes:

1. 2020 capital expenditure presented for the three months of the mineral reserve schedule from the day immediately following the Effective Date to December 31, 2020.
2. Amounts shown do not include discretionary greenfield or brownfield exploration in years 2021 through 2026.
3. Capital expenditures presented in BRL, thousands.

An operating cost forecast was prepared using the mine's operating history and current consumption coefficients. The expected C1 Cash Cost of the NX Gold Mine averages US$505 per ounce of gold produced. The all-in sustaining cost ("AISC") of the NX Gold Mine, including G&A costs, capitalized development and sustaining capital expenditures, averages US$720 per ounce of gold produced over the life of mine. C1 cash cost and AISC are non-IFRS measures, please refer to Section 22.1 for additional information on non-IFRS measures, including C1 cash costs and AISC.

Table 8 - Operating Cost Summary

	Q4 2020[1]	2021	2022	2023	2024	2025	2026
Tonnes Processed (000s)	46.5	167.0	179.4	170.9	139.4	80.6	78.4
Exchange Rate (USD:BRL)	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Gold Price (US$/oz)	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Silver Price (US$/oz)	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Operating Cost Detail (R$ 000s)							
Mining Costs (incl. Development)	20,982	88,365	93,448	65,702	60,909	36,084	39,012
Processing Costs	7,618	35,352	36,064	35,308	32,537	19,255	20,787
Operational Support	5,113	19,640	17,333	17,333	17,333	10,400	11,440
Sub Total (R$ 000s)	**33,714**	**143,357**	**146,845**	**118,343**	**110,778**	**65,739**	**71,238**
less: Silver Credit	(538)	(1,833)	(2,278)	(2,372)	(2,038)	(1,211)	(1,383)
less: Capitalized Development	(9,531)	(36,964)	(19,822)	(1,705)	(418)	-	-
less: Operator Bonus Provision	(775)	(6,154)	(6,154)	(6,154)	(6,154)	(6,154)	(6,154)
Total, C1 Basis (R$ 000s)	**22,870**	**98,405**	**118,591**	**108,111**	**102,167**	**58,373**	**63,700**
C1 Cast Cost (R$ per oz)	**$2,187**	**$2,761**	**$2,678**	**$2,344**	**$2,578**	**$2,479**	**$2,368**
C1 Cash Cost (US$ per oz)	**$437**	**$552**	**$536**	**$469**	**$516**	**$496**	**$474**
add: G&A (incl. Bonus Provision)	4,398	20,023	20,023	20,023	20,023	14,476	15,308
add: Sustaining Capital (incl. Development)[2]	12,201	43,543	32,109	5,652	3,257	2,484	-
add: CFEM Royalty (1.5%)	1,381	4,706	5,847	6,089	5,232	3,109	3,552
add: Transport & Insurance	20	72	72	72	72	72	72
Total, AISC Basis (R$ 000s)	**$40,870**	**$166,750**	**$176,643**	**$139,947**	**$130,752**	**$78,514**	**$82,632**
AISC (R$ per oz)	**$3,908**	**$4,678**	**$3,988**	**$3,034**	**$3,299**	**$3,334**	**$3,072**
AISC (US$ per oz)	**$782**	**$936**	**$798**	**$607**	**$660**	**$667**	**$614**

C1 Cash Cost / AISC Notes:

1. 2020 operating costs are presented for the three months of the mineral reserve schedule from the day immediately following the Effective Date to December 31, 2020.
2. Sustaining Capital (including Development) as further detailed in Table 70, "Forecast Capital Expenditures" of this Report.
3. C1 cash costs per ounce of gold produced and AISC are non-IFRS measures, as more particularly discussed under Section 22.1.
4. Operating Costs presented in BRL, thousands.

1.12 Economic Analysis

An economic analysis was prepared for the NX Gold Mine using the following primary assumptions:

- Considers commencing on day immediately following the Effective Date and does not include actual performance achieved prior to October 1, 2020
- Total ore processed of 862.1 thousand tonnes at an average head grade of 8.88 g/t gold

- Gold and silver sales are assumed to equal production, with total sales of 226,599 ounces of gold and 129,489 ounces of silver.
- Metal prices of US$1,750 per ounce of gold and US$18.00 per ounce of silver
- USD:BRL foreign exchange rate of 5.00
- CFEM royalty based on 1.5% of gross revenue

The NX Gold Mine produces an undiscounted after-tax cash flow of approximately R$907 million (approximately US$181 million)

The after-tax Net Present Value ("NPV") at a 5% discount rate is US$156.3 million. The results of the economic analysis are shown below in Table 9.

An after-tax sensitivity analysis was performed considering changes in gold price, foreign exchange rates, and capital and operating costs. The analysis shows that the NX Gold Mine is most sensitive to gold prices and foreign exchange rates.

Table 9 - Economic Analysis of the NX Gold Mine

Assumptions		2020 [1]	2021	2022	2023	2024	2025	2026
Exchange Rate	R$/US$	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Gold Price	US$/oz	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Production								
Ore Mined	tonnes	46,455	166,989	179,438	170,863	139,415	80,623	78,352
Gold Grade Mined	g/t	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Ore Processed	tonnes	46,455	166,989	179,438	170,863	139,415	80,623	78,352
Gold Grade Processed	g/t	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Global Recovery	%	92.1	92.1	92.1	92.0	92.0	92.0	92.0
Gold Contained	**ounces**	**10,458**	**35,647**	**44,291**	**46,121**	**39,631**	**23,550**	**26,901**
Capex								
Investments	000 R$	36,010	70,272	37,035	11,189	6,402	3,379	24,939
Total	**000 R$**	**36,010**	**70,272**	**37,035**	**11,189**	**6,402**	**3,379**	**24,939**
Operating Costs								
General & Administrative	000 R$	3,622	13,869	13,869	13,869	13,869	8,321	9,153
Operational Support	000 R$	5,113	19,640	17,333	17,333	17,333	10,400	11,440
Underground Mining	000 R$	20,982	88,365	93,448	65,702	60,909	36,084	39,012
Processing	000 R$	7,618	35,352	36,064	35,308	32,537	19,255	20,787
Sub Total	**000 R$**	**37,336**	**157,226**	**160,714**	**132,212**	**124,647**	**74,060**	**80,392**
Depreciation/Exhaustion	**000 R$**	**10,500**	**40,486**	**56,115**	**57,452**	**51,885**	**37,476**	**38,109**
Total Costs	**000 R$**	**47,837**	**197,712**	**216,829**	**189,664**	**176,531**	**111,536**	**118,500**
Revenue								
Gold Sales	ounces	10,458	35,647	44,291	46,121	39,631	23,550	26,901
Gross Metal Revenue	000 R$	91,507	311,909	387,549	403,556	346,771	206,059	235,387
Total Net Metal Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Total Net Revenue	**000 R$**	**90,664**	**309,035**	**383,979**	**399,839**	**343,577**	**204,166**	**233,219**
P&L								
Net Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Opex	000 R$	(47,837)	(197,712)	(216,829)	(189,664)	(176,531)	(111,536)	(118,500)
Less Capitalized Development [2]	000 R$	9,531	36,964	19,822	1,705	418	-	-
Gross Profit	000 R$	52,358	148,287	186,971	211,881	167,464	92,630	114,719
Effective Tax Rate	*%*	*14.8*	*15.5*	*12.9*	*13.6*	*13.4*	*9.7*	*11.8*
Income & Social Contribution Taxes	000 R$	(7,749)	(23,036)	(24,138)	(28,737)	(22,502)	(8,947)	(13,518)
Net Profit	**000 R$**	**44,609**	**125,251**	**162,834**	**183,144**	**144,962**	**83,683**	**101,201**
Cash Flow								
Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Opex (ex-Depreciation & Exhaustion)	000 R$	(37,336)	(157,226)	(160,714)	(132,212)	(124,647)	(74,060)	(80,392)
Less Capitalized Development [2]	000 R$	9,531	36,964	19,822	1,705	418	-	-
Income & Social Contribution Taxes	000 R$	(7,749)	(23,036)	(24,138)	(28,737)	(22,502)	(8,947)	(13,518)
Employee Bonuses	000 R$	-	(6,860)	(6,860)	(6,860)	(6,860)	(6,860)	(6,860)
Operating Cash Flow	**000 R$**	**55,110**	**158,877**	**212,089**	**233,736**	**189,986**	**114,298**	**132,449**
CAPEX	000 R$	(36,010)	(70,272)	(37,035)	(11,189)	(6,402)	(3,379)	(24,939)
Free Cash Flow	**000 R$**	**19,099**	**88,605**	**175,054**	**222,547**	**183,584**	**110,919**	**107,510**
Accumulated Free Cash Flow	000 R$	19,099	107,704	282,758	505,305	688,889	799,809	907,319
Free Cash Flow	**000 US$**	**3,820**	**17,721**	**35,011**	**44,509**	**36,717**	**22,184**	**21,502**
Accumulated Free Cash Flow	000 US$	3,820	21,541	56,552	101,061	137,778	159,962	181,464
Discount Rate	**%pa**	**5%**						

Results		
After-Tax NPV_5	000 US$	156,342
IRR	%pa	n/a
Simple Payback	years	n/a

[1] 2020 based on the 3 months from October 1, 2020 to December 31, 2020

1.13 Conclusion and Recommendations

The authors of this Report have carried out a review and assessment of the material technical issues that could influence the future performance of the NX Gold and classified the mineral resource and mineral reserve estimates. The authors found that the procedures and processes adopted by NX Gold personnel to produce the geological models were executed according proper industry standards. Sampling, QA/QC, security and data control were similarly in line with industry best practices and support the current mineral resource and reserve estimate. The authors note the following:

a. NX Gold holds the surface rights and permits required to conduct the mining operation as outlined in the Mineral Reserve estimate. Future development beyond the stated Mineral Reserves may require the acquisition of additional surface rights.

b. The authors have carried out the appropriate review to satisfy that the Mineral Reserve can be technically and profitably extracted. Consideration has been given to all technical areas of the operations, the associated capital and operating costs, and relevant factors including marketing, permitting, environmental, land use and social factors. The authors are satisfied that technical and economic feasibility has been demonstrated.

c. The authors have not identified any known mining, metallurgical, infrastructure, permitting, legal, political, environmental or other relevant factors that could materially affect the development or extraction of the stated Mineral Reserves.

Regarding the mineral resource and mineral reserve estimation process, and to continue to ensure the continuity of mining operations, the authors recommend a work program that includes the following:

- Intensify the exploratory program in the regions classified as exploration potential to further define and classify these zones into incremental mineral resources (and mineral reserves);
- Undertake additional infill drilling campaigns to upgrade the classification of Indicated Mineral Resources into Measured Mineral Resources and Inferred Mineral Resources into Indicated Mineral Resources.
- It is recommended that NX Gold implement an update to its QA/QC procedures to ensure that there is no possibility of contamination in the preparation and analytical results of the Company's duplicate check-sample program.
- Undertake a study to improve model to mine reconciliation.

The hanging wall of the deposit, in the opinion of the authors of this Report, is competent enough for the current mining method provided mining support is implemented as designed. GE21 recommends the Company undertake a third-party geotechnical study to further evaluate the potential of reducing sill pillar thickness with the aim of increasing mine recovery during the primary mining phase of the operations.

A summary of the proposed work program is detailed below. At the time of this Report, 8 drill rigs had been mobilized to the property and were undertaking various exploration programs aimed at increasing the current mineral resource and mineral reserves of the property.

Table 10 - GE21 Recommended Work Program

Program	Budget (US$)
Exploration drill program in the regions identified as having exploration potential	$5,000,000
Infill drill campaign to promote the classification of measured Mineral Resources	$5,000,000
QA/QC Program Update & Validation	$20,000
Mine to mill reconciliation program	$50,000
Geomechanics study to improve mine recoveries	$300,000
Total	**$10,370,000**

2.0 INTRODUCTION

The purpose of this Report is to set out and provide background and supporting information on the current mineral resources and Mineral Reserves for the NX Gold Mine, a producing underground gold mining operation located in the State of Mato Grosso Brazil and wholly-owned by NX Gold, a company formed under the laws of Brazil. This Report has been prepared by GE21on behalf of Ero Copper of Vancouver, Canada and existing under the British Columbia *Business Corporations Act*.

Ero Copper is a publicly listed company that trades on the Toronto Stock Exchange under the ticker, “ERO”. Ero Copper’s principal asset is its 99.6% ownership interest in Mineração Caraíba S.A. (“MCSA”). MCSA’s predominant activity is the production and sale of copper concentrate from the Vale do Curaçá Property, which is located within the Curaçá Valley, northeastern Bahia State, Brazil, with gold and silver produced and sold as by-products. Ero Copper’s wholly owned subsidiary, Ero Gold Corp. (existing under the British Columbia *Business Corporations Act)* currently owns a 97.6% ownership interest in NX Gold.

The NX Gold Mine was constructed and commenced commercial production in 2012, with the first full year of production occurring in 2013. As of the end of September 2020, approximately 241,000 ounces of gold had been produced from the NX Gold Mine, including 26,041 ounces of gold produced in 2020 as of the Effective Date of this Report. As of the date of this Report, there are currently 8 drill rigs operating on the property. Exploration activities are underway on the central Santo Antônio orebody as well as testing for possible extensions of the Brás and Buracão orebodies to depth and along strike. In addition, the first regional exploration program on the property is underway.

Doré bars containing gold and silver, as well as lesser amounts of lead, are shipped from the mine weekly by airplane via a gravel airstrip located on the property. Ore is currently produced from the Santo Antonio vein– an east-west striking, shear-zone hosted, quartz vein, accessed from a single mine portal and decline and from the Buracão vein. During the second half of 2019, the mine successfully transitioned the majority of mining activities from the Brás and Buracão veins, into the centrally located Santo Anton vein.

The Report provides a summary of the work completed by NX Gold and its independent consultants as of the Effective Date. All dollar amounts presented in the Report are stated in US dollars unless otherwise specified.

2.1 Scope of Work

The work undertaken by GE21 includes:

- Review and validate the Company’s QA/QC program and data used to estimate the current mineral resource;

- Perform a validation of the Company's geologic models;
- Update Mineral Resource block models using an industry standard geostatistical approach; and,
- Classify the Company's Mineral Resources into Measured, Indicated and Inferred categories according to GE21 protocols, CIM Standards and CIM Guidelines for the known gold and silver mineralization of the NX Gold Mine.

GE21 was commissioned to prepare the Mineral Resources and Mineral Reserves for this project, and this technical report conforms to the standards set out in NI 43-101 and has been prepared in accordance with Form 43-101F1.

2.2 Qualifications, Experience and Independence

GE21 is an independent mineral consulting firm based in Brazil formed by a team of professionals accredited by the Australian Institute of Geoscientists ("AIG"), and Australian Institute of Mining and Metallurgy ("AusIMM").

Each of the authors of this Report has the appropriate qualifications, experience, competence and independence, to be considered as a Qualified Person ("QP"), as defined under NI 43-101. Neither GE21 nor the authors of this Report have or have had any material interest in NX Gold, Ero Copper, Ero Gold Corp., MCSA or related entities. The relationship between these companies and NX Gold, Ero Copper and MCSA is solely of professional association between client and independent consultant. This Report was prepared in exchange for fees based on hourly rates set by commercial agreement. Payment of these fees is in no way dependent on the results of this Report.

The Lead QP, responsible for the supervision and preparation of the technical content within this Report, is Eng. Porfirio Cabaleiro Rodriguez, a mining engineer with over 40 years of experience in the mineral resource and mineral reserve estimates. Eng. Rodriguez is a member of the Australian Institute of Geoscientists (MAIG). Eng. Rodriquez was assisted by:

- Geologist Leonardo Moraes Soares, MAIG
- Geologist Bernardo Horta Cerquiera Viana, MAIG
- Eng. Paulo Roberto Bergmann, FAusIMM

Please refer to Appendix A for additional information regarding the responsible QP for each chapter of this Report. In accordance with NI 43-101 guidelines, each of the QP has visited the NX Gold Mine on several occasions over the past several years, with the most recent visit detailed below:

Table 11 - Qualified Persons

Company	Qualified Person	Site Visit	Responsibility
GE21	Porfirio Cabaleiro Rodriguez, MAIG	3 days duration September 28 – 30, 2020	Lead QP. Overall responsibility on behalf of GE21, Resource Estimation, Mine Planning, Mineral Reserves, Capital and Operating Costs
GE21	Leonardo de Moraes Soares, MAIG	2 days duration September 18 – 19, 2019	QA/QC, Exploration, Resource Estimation

GE21	Bernardo Horta Cerquiera Viana, MAIG	3 days duration September 28 – 30, 2020	Accessibility, History, Geology, Exploration, Drilling, Data Verification and QA/QC
GE21	Paulo Roberto Bergmann, FAusIMM	2 days duration October 21 – 23, 2019	Plant Operation (Infrastructure), Metallurgical Testing and Recovery Methods

2.3 Primary Sources of Information

In addition to the work undertaken by GE21 in 2018 corresponding to the first NI 43-101 compliant technical report on the NX Gold Mine and personal inspection of the NX Gold Mine during 2019 and/or, as the case may be, 2020 by each QP, GE21 continues to be involved in multiple discussions regarding processes and procedures relevant to advancing NX Gold's Mineral Resource and Reserve estimate, including surveying, sampling, QA/QC, and internal resource estimation methods, resulting in the authoring of this Report. The results of this Report have been generated from information compiled by the NX Gold technical team with review by GE21, which includes:

- Historical Exploration Activities;
- Mineral Processing and Metallurgical test data;
- Mining Methods;
- Data on NX Gold Drilling Campaign;
- Mineral resource and mineral reserve estimates compiled by GE21;
- NX Gold databases; and
- Reports prepared by independent consultants. The reports were reviewed by GE21 and used exclusively to provide background on the mine and its operations.

2.4 Effective Date

The Effective Date of this Report is September 30, 2020.

2.5 Units of Measure

Unless otherwise stated, the units of measurement in this Report are all metrics in the International System of Units ("SI"). All monetary units are expressed in BRL or United States Dollars ("US$" or "USD"), unless otherwise indicated. Although substantively all costs are incurred in BRL, these amounts have been converted to USD for presentation and assembly of the results from the economic analysis.

3.0 RELIANCE ON OTHER EXPERTS

The authors of this Report are Qualified Persons as defined under NI 43-101, with relevant experience in mineral exploration, data validation, mine planning and mineral resource and mineral reserve estimation.

The information presented regarding the tenure, status and work permitted by permit type within the NX Gold Mine in Chapter 4 – Property Description and Location, is based on information published by the National Mining Agency of Brazil (Agência Nacional de Mineração, "ANM") and is available to the public.

The gold market conditions and key contracts included in Chapter 19 – Market Studies and Contracts, and environmental licensing status information and work plans related to community and social outreach included in Chapter 20 – Environmental Studies, Permitting and Social or Community Impact, were prepared by NX Gold and Ero Copper and reviewed by GE21. GE21 determined that the economic factors used in the determination of specific technical parameters of this Report, including, gold, silver and the USD:BRL assumptions used were in-line with industry norms, broader market consensus and are acceptable for use in the current mineral resource estimate, current reserve estimate, and in the economic analysis presented herein. The authors of this Report have not identified any significant risks in the underlying assumptions, as in addition to the above, the underlying assumptions are in-line with spot market conditions as at the date of this Report.

The forecast capital expenditures and operating costs included in Chapter 21 – Capital and Operating Costs, and incorporated into the economic analysis, were prepared by NX Gold and Ero Copper based on the operating history of the operations and ongoing nature of the operations. The forecasts were reviewed against historic information and deemed to be reasonable and adequate for the purposes of NI 43-101 by the authors of this Report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The properties that encompass the NX Gold Mine, and exploration licenses controlled by the Company, are located approximately 18km from the town of Nova Xavantina in the eastern portion of the State of Mato Grosso, West-Central Brazil. The mine is located approximately 670 km east of Cuiabá, the capital of Mato Grosso and approximately 720 km northwest of Brasília, the capital city of Brazil. The properties are centered at UTM coordinates 339000E, 8381000N (UTM zone 22S, SAD69).

Figure 1 - NX Gold mine location map (NX Gold, 2018)

Primary access to the properties is from the airport at Barra do Garças, featuring daily flights to Cuiaba, via federal and state highways. From the Barra do Garças airport, it is approximately 150km to the town of Nova Xavantina (population of approximately 20,000 people) via BR-158. From the center of Nova Xavantina, the mine gate is located approximately 18km west on a well-maintained year-round dirt road.

4.2 Mineral Title in Brazil

Mining legislation as it relates to mineral title in Brazil has been in place since 1967, and the last significant amendment took place in 1996. In 2017, there were changes to the institutional framework and to statutory royalty (Compensação Financeira pela Exploração de Recursos Minerais, "CFEM") legislation. Institutionally, a new National Mining Agency (Agência Nacional de Mineração, "ANM") was created to replace the National Department for Mineral Production (Departamento Nacional de Produção Mineral, "DNPM"). As it relates to the statutory royalty, new legislation enacted in December 2017 established new rates for mineral substances and excluded deductions previously allowed, such as transportation and insurance costs. The royalty rate on gold production is 1.5% of the gross revenue from sales, with the deduction of marketing taxes. The laws that introduced such changes were enacted prior to the Effective Date of this report.

In addition to the changes in legislation described above, in June 2018, the Federal Government enacted new regulations to the Mining Code. The purpose of the new regulations is to modernize parts of the previous legislation that do not require legislative action (i.e. no amendments to the Mining Code are required). These changes do not affect the methods for granting mineral rights, nor establish investment commitments per license, but rather seek to ease the transition process from Exploration to Mining Licenses in as much as the Mining Code allows, particularly as it relates to supplementary work performed after the submission of a final exploration report. As of the Effective Date of this Report, the authors do not anticipate any significant change in Brazil's mining legislation that would adversely impact the operations of the Company.

4.3 Mining Legislation, Administration and Rights

The primary mining legislations in Brazil are the 1988 Federal Constitution and the 1967 Federal Mining Code (Decree-law No. 227), as amended over time. Minerals on the ground are a property of the Federal Government, and, therefore, mining legislation can only be enacted at the federal level. The ANM is the federal agency entitled to manage, regulate and supervise mining activities in Brazil, along with the Ministry of Mines and Energy ("MME"). By definition, exploration rights are granted by the ANM and, in most of the cases, mining concessions are granted by the MME Brazilian citizens and legal entities incorporated in Brazil may carry out mineral exploration under authorization of the federal government. In general, there are no restrictions on foreign participation in these entities.

Landowners and governments (municipal, state and federal) are entitled to a royalty. The Cfem rate varies from 1% to 3.5%, depending on the substance. If any minerals are extracted from private lands that are not owned by the titleholder, the landowner is entitled to a royalty equal to 50% of the statutory CFEM royalty. Mining activities are subject to both federal and state level environmental licensing. NX Gold's operations for gold are subject to a 1.5% royalty on gross metal sales net of taxes levied on sales.

Exploration license holders are entitled to access their license area and work on it whether it is public or privately held, but such holders must compensate the owner or occupier of the surface rights for losses caused by the work (indemnification) and for the occupation of the land (rent). Compensation may be negotiated on a case-by-case basis, but the Mining Code provides that, should a court of law be required to set the amounts, the rent for occupation of the land cannot exceed the maximum net income that the owner or occupier would earn from its agricultural-pasture activity in the area of the property to be explored, and the indemnification cannot exceed the assessed value of the area of the property intended for exploration.

In response to the Brumadinho disaster, new regulations and laws regarding the design, operation and monitoring of tailings dams as outlined were enacted. On October 1, 2020, Law No 14,066/2020, that amends the National Dam Safety Policy, was enacted. As a result of this new legislation, the NX Gold Mine has lowered the storage volume design limits within its existing non-inert tailings storage facility to align with the changes as outlined in the new legislation. The authors of this report have reviewed these operational changes, and have not identified any risk factors associated with compliance within the new legislation nor any potential impacts on the extraction of the current mineral reserves.

4.4 Exploration Licenses and Mining Concessions

Exploration licenses are granted for up to three-year periods and may be renewed for another three years on the approval of an ANM inspection and satisfaction of environmental requirements. The size of an individual license area ranges from 50 ha to 10,000 ha depending on the state and the mineral substance.

Exploration license holders are entitled to access the exploration areas and conduct exploration activities. The holders must compensate landowners and obtain proper environmental licenses prior to conducting work.

If the exploration works are deemed successful with the identification of a resource, the titleholder shall submit to ANM an exploration report. Upon the analysis and approval of the exploration report by the ANM, the titleholder shall have the exclusive right to apply for the mining concession within a one-year term counted as from the publication of the ANM approval.

The application for the mining concession shall include detailed geological and geophysical information of the related area, as long as a mine development plan and a closure plan. The mining concession shall also be granted by the MME once, in addition to the ANM reviewing and approving all technical materials, the titleholder presents the corresponding environmental installation licence of the project. Annual Fees and Reporting Requirements

Annual license fees for Exploration Licenses are based on size and are calculated at R$3.55/ha for the first license term and R$5.33/ha in subsequent terms. Each license holder must submit an exploration plan, budget and timeline, although there is no work or expenditure requirement. Licenses require an interim report two-months prior to license expiration (if an extension is to be applied for), describing exploration results, interpretation and expenditures. The renewal of a license may be granted at the discretion of the ANM considering the exploration works performed by the holder. A final report is due at the end the term or on relinquishment of the license.

In addition to royalty amounts, NX Gold pays a Rural Property Tax (“ITR”) to the Brazilian Federal Government annually based on its total land holdings.

4.5 NX Gold Mineral Rights

As of the Effective Date, property held by NX Gold consists of one mining concession and 8 adjacent exploration licenses covering a total of 31,716.15 ha. The land area encompassing the NX Gold properties is shown below in Figure 2. The primary mining concession covers approximately 620 ha of the total area controlled by the Company. The mine was granted a mining permit by the ANM under process number 866269/1990, and all of the properties are further detailed below.

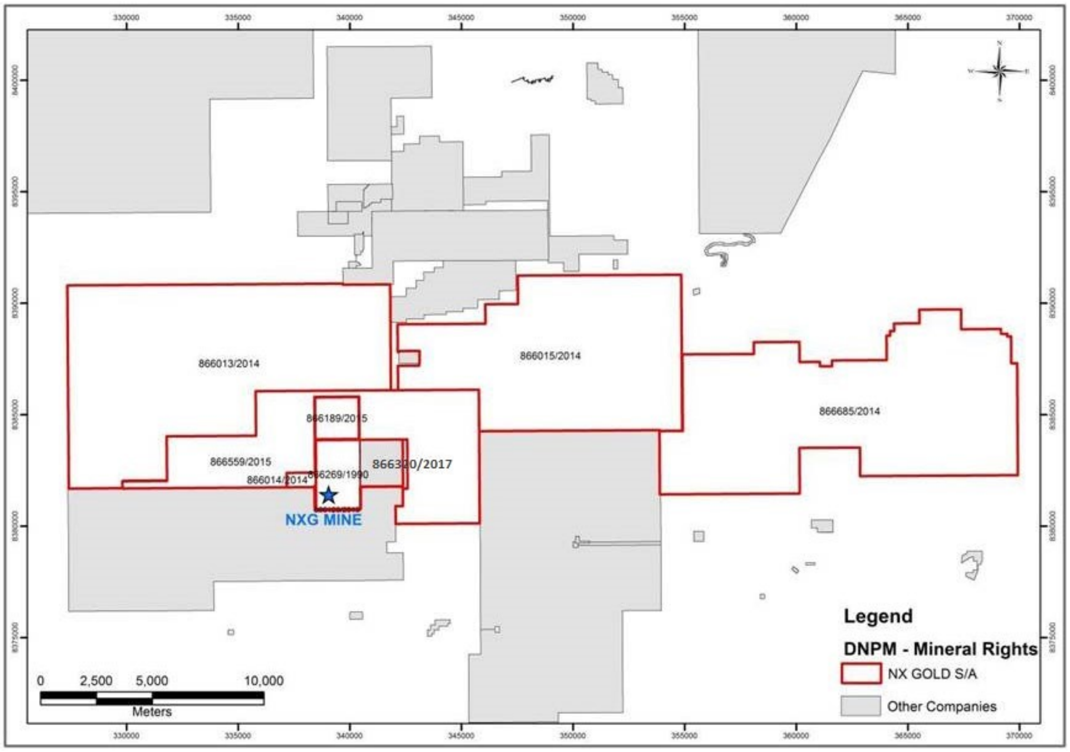


Figure 2 - NX Gold mineral concessions map (NX Gold, 2018).

Table 12 - NX Gold Mineral Concessions

ANM Process Number	Area (ha)	ANM Status	Owner	Expiration
866269/1990	620.00	Mining Concession	NX Gold	-
866120/2013	17.87	Exploration License	NX Gold	January 2020
866015/2014	7,098.54	Exploration License	NX Gold	October 2021
866013/2014	9,559.75	Exploration License	NX Gold	October 2021
866559/2015	4,571.90	Exploration License	NX Gold	March 2019
866320/2017	43.99	Exploration License	NX Gold	September 2022
866685/2014	9,325.20	Exploration License	NX Gold	October 2020
866207/2018	84.73	Exploration License	NX Gold	July 2021
866208/2018	394.17	Exploration License	NX Gold	July 2021
Total Hectares:	**31,716.15**			

As of the date of this Report, all mineral rights and exploration licenses controlled by the Company were in good standing.

The final exploration report for the exploration license number 866120/2013 was submitted in March 2019 and the preliminary report for exploration license 866685/2014, on July 2020. As of the date of this report, NX Gold was developing the exploration activities, aiming to renewal all the exploration licenses due in 2021 namely 866015/2014, 866013/2014, 866207/2018 and 866208/2018.

4.6 Land Access

All surface rights for the area encompassing the mine, the current mineral resources and Mineral Reserves, and associated infrastructure is owned by NX Gold.

NX Gold does not own surface rights on the Exploration Licenses and as at the Effective Date, there were no contracts or obligations with any of the neighboring landowners. Within the Exploration Licenses, the main activities are concentrated in small rural cattle ranches and farms that occupy approximately 50 percent of the surface area within the Exploration Licenses. Prior to NX Gold conducting any exploration activities within the Exploration Licenses, permission is requested from the landowners. As at the date of this Report, NX Gold has received consent from local landowners to conduct regional exploration activities, and the authors have not identified any risks associated with land access.

4.7 Environmental Permits, Previous Studies and Considerations

All environmental permits supporting the current operations were filed with the Environment Secretary of Mato Grosso (SEMA) in 2007. The Environmental Impact Study (EAI; 296438/2007) and Environmental Impact Report (RIMA; 296438/2007) were subsequently approved along with the NX Gold’s Environmental Control Plan (PCA) by SEMA (217586/2008). Together these documents were conditionally released with the mining Installation License. Following construction and commissioning of the mine, and after receipt of the Installation License, NX Gold was issued its Operating Licence. Ongoing environmental monitoring associated with the Operating Licence is required and performed by the Company in partnership with the State University of Mato Grosso (UNEMAT).

All environmental monitoring required to be undertaken by NX Gold is in good standing, and no new permits must be acquired to conduct the contemplated operations and work programs outlined in this Report. The authors of this Report are not aware of any material environmental or permitting risks to the current operations nor the envisioned production plan associated with the current Mineral Reserves. Further, GE21 is not aware of any other significant risks that may affect access, title, or the right or ability to perform the recommended work program on the property.

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

5.1 Accessibility

Primary access to the properties is from the airport at Barra do Garças, featuring daily flights to Cuiaba, via federal and state highways. From the Barra do Garças airport, it is approximately 150km to the town of Nova Xavantina (population of approximately 20,000 people) via BR-158. From the center of Nova Xavantina, the mine gate is located approximately 18km west on a well-maintained year-round dirt road.

The proximity of the mine gate to the town of Nova Xavantina provides ample housing for mine employees as well as third-party contractors. There is daily bus service from town to the mine site. The town of Nova Xavantina has several hotels, elementary and secondary schools, a university, athletic facilities, medical facilities, as well as numerous shops and restaurants.

5.2 Physiography

The properties comprising the NX Gold Mine exhibit a rugged relief featuring erosional controlled valleys and slopes with localized topographic variations of more than 50 meters, with the highest elevations at the northern center of the properties. Vertical relief in the southern-most portions of the properties, closer to the Mortes River is less rugged, with vertical relief of less than 10 meters. Drainage across the properties is from the North to South (towards the Mortes River).

5.3 Climate

The local climate in the region of Nova Xavantina and its surroundings can be classified as monsoon-influenced humid subtropical, or Cwa per the Köppen climate classification system. The region can be further characterized as having two well-defined seasons: (i) a relatively dry and cooler period extending between April and September with average temperatures of approximately 19.5 °C and (ii) a wet and hot period from October to March with average temperatures of approximately 33.2 °C.

Average annual precipitation in the region is approximately 1,540 mm per annum. The distribution of rainfall is axiomatic of the Cerrado (“Savanna”) region of Matto Grosso, where approximately 92% of the precipitation occurs during the rainy season from October to March. The operating season at the NX Gold Mine is year-round, including exploration activities.

5.4 Vegetation

The primary type of vegetation in the vicinity of the mine is a subsystem called “cerrado sensu stricto”, which can be classified by having two primary types of vegetaton: dense semi-tropical trees growing up to 6m in height and intercollated grasslands. Trees typically grow in dense patches primarily on the flat to gently undulating relief as well as on hillsides. Areas of open grasses are found on steeper hillsides where soils are shallow, or flat lying areas where soil depth is limited. Along watercourses, mainly the Santo Antônio Stream and the Mortes River, gallery forests are observed, which provides a stark contrast with the trees typical of the region.

5.5 Infrastructure

The mine infrastructure is entirely contained within the Company’s single Mining Concession where surface rights are held by the Company. Primary infrastructure associated with mining and processing operations includes the mine portal, processing plant, waste piles, tailings ponds, an area of operational support (laboratory, maintenance, supplies among others), administrative offices, security gate, medical clinic, cafeteria, surface water runoff capture site, groundwater well and a gravel airstrip used for dore transport from site. The layout of the mine with key infrastructure is shown in Figure 3.

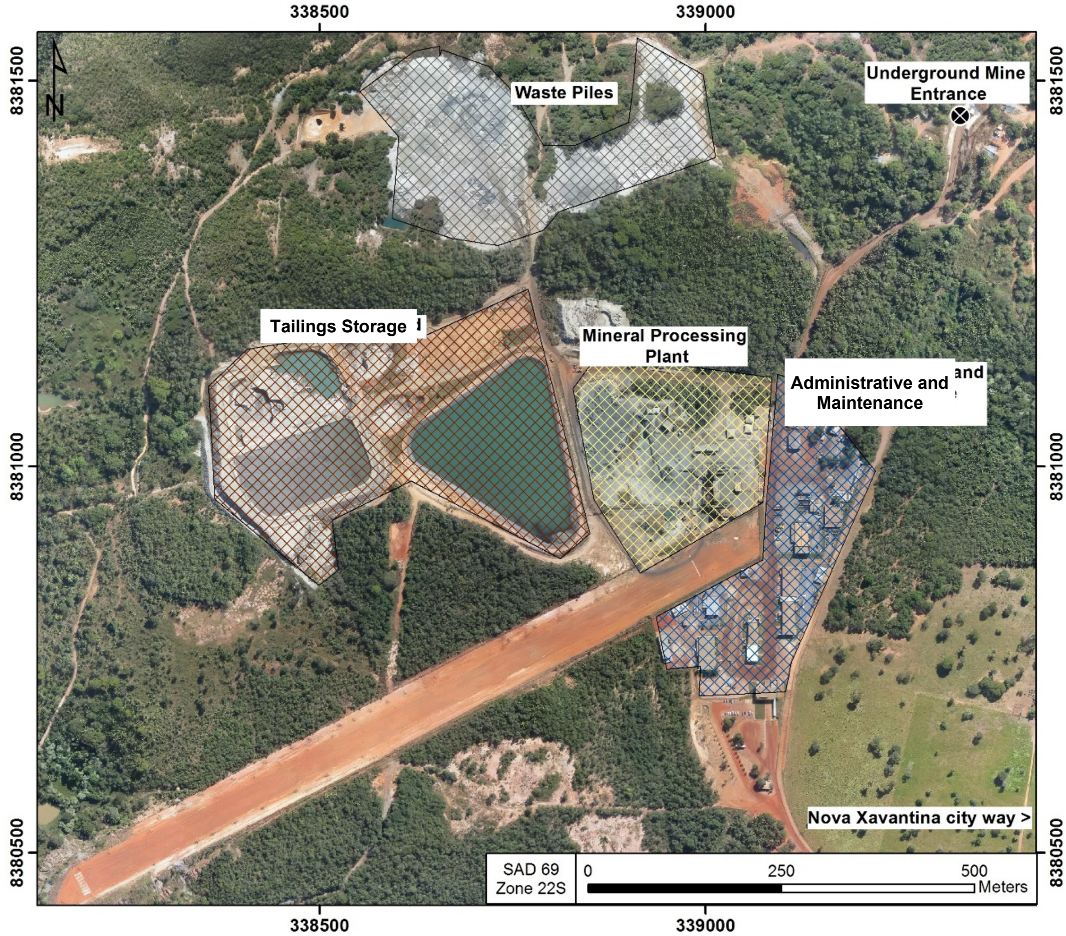


Figure 3 - NX Gold property layout (NX Gold, 2018)

5.5.1 *Mine Ramp*

The underground mine is accessed via a single primary ramp to surface (which intersects a crosscut between the Brás and Buracão veins. The ramp contains fixed structures such as electrical infrastructure, pumps, compressors, exhaust fans, cooling fans, and ducts and pipelines for ventilation and water. The mine portal is shown below in Figure 4.

Figure 4 - Mine Portal (NX Gold, 2018)

5.5.2 *Processing Plant*

The Nova Xavantina Plant processes ore produced from the mine into finished doré bars containing gold and silver. This plant occupies a large portion of the primary Mining Concession and is subdivided into specific areas of processing. The plant area is composed of primary and secondary crushers, conveyor belts, an apron feeder, grinding facilities, gravity separation, a recently installed regrind mill, flotation, carbon-in-leach (CIL), elution, desorption, electrodeposition, and a foundry.

5.5.3 *Waste Piles*

Inert waste rock and tailings are stored in historically mined areas (garimpeiro open pit workings) which are prevalent throughout the area.

5.5.4 *Tailings Storage Facilities*

There are two separate tailings storage facilities on the property. Tailings generated from flotation, that have not been in contact with cyanide solution are disposed of into a pond near the mine designed for inert tails. The inert tailings pond is designed with two cells which allows coarse and fine suspended solids to preferentially settle within the cell in operation. Water at the far end of each cell is collected and recycled for use in the processing plant resulting in approximately 90% recovery of process water. Cells from the inert tailings pond are periodically cleaned by removing the thickened tails. Thickened inert tails historically have been deposited within the historic garimpeiro open pit workings, which are subsequently revegetated and reclaimed by the Company.

Tailings from the CIL process are comprised of a mix of solids and a solution that is elevated in cyanide. As a result, these tails are disposed of in an impervious dam constructed with a double layer of high-density polyethylene membranes (“HDPE”). Between the HDPE membranes, there is a system for leak detection and sand drainage so that should any leaks occur, the solution will be transported by gravity to a secondary containment pond where the solution would be pumped back into the primary dam. Clarified water is transported by gravity from the dam to the Company’s cyanide detoxification plant, which reduces the cyanide concentration in solution. After detoxification, water is transported to a separate process water storage unit where the detoxified water is ultimately recycled to the process plant for use along with reclaimed water from the inert tailings pods and captured surface run-off.

As a result of changes to the national dam safety policy in October of 2020, the operating freeboard level of the non-inert tailings dam was lowered by approximately 5 meters.

5.5.5 *Operational Support*

The operational support area includes the Company’s laboratory, supplies warehouse, fuel station, storerooms for explosives, an industrial maintenance facility as well as fleet and equipment maintenance facility.

5.5.6 *Administrative Offices and Support*

The Administrative offices and ancillary support buildings include the Company’s primary administrative offices, security gate, occupational health and medicine, human resources, cafeteria, and technical support offices including geology and mine planning.

5.5.7 *Medical Clinic*

The medical clinic located on site provides simple and emergency stabilizing care. The medical clinic has a fully equipped ambulance to transport employees and contractors from site to the municipal hospital in Nova Xavantina (approximately 18km from NX Gold) for medical emergencies.

5.5.8 *Water Supply*

Water is available in sufficient quantities to support the contemplated mining and processing operations of the mine. While approximately 90% of the Company’s mining and processing water use is derived from recycled sources and surface run-off capture, a water station for the mine’s primary fresh water source is located along the banks of the Mortes River. The water supply along the river consists of an electric gen-set and a 150 hp water pump. The pumping capacity of the water station is 150 m^3/h, Water is fed via pipeline from the Mortes River to a storage reservoir located at the mine.

In addition, the Company maintains an underground water well for fresh water that supplies the Company’s non-industrial facilities including administrative offices. The well has a capacity to provide approximately 5.0 m^3/h of water.

5.5.9 *Gravel Airstrip*

The gravel airstrip located on the mine property measures 1,200 metres in length and is used to fly out doré bars produced by the Company. The airstrip is maintained by NX Gold.

5.5.10 *Energy Supply Infrastructure*

Electrical power is provided to the mine from the substation in Nova Xavantina via a 34.5 kV power line (with the potential for 600 kVA) installed and maintained by the Energy Supply Company of Mato Grosso (ENERGISA S/A).

6.0 HISTORY

The documented knowledge of gold occurrences near the Nova Xavantina Mine dates back to the middle of the 17th century during early exploration by the Bandeirantes. Historically, the area was known as Garimpo do Aráes, and was the subject of significant garimpeiro mining activity that first focused on secondary gold deposits/alluvium near the Mortes River, and later the extraction of primary ore from weathered outcropping of gold-bearing quartz veins. During the 1980's, a gold rush in Brazil brought up to an estimated 5,000 artisanal miners (garimpeiros) to extract gold in several sectors of the property, initially in open pits targeting the weathered gold-bearing quartz vein to a maximum depth of approximately 50 metres. Additionally, garimpeiros dug over 70 small shafts and adits to a depth of approximately 70 meters. Occurrences of historic mine shafts reaching over 100 metres have been found on the property.

In the late 1980's garimpeiro activity declined due to the depth of the shafts, the cost of pumping, and low gold prices.

In 1990, engineering company Paulo Abib Engineering carried out geological and metallurgical studies and initiated negotiations with the remaining garimpeiros on site. Mineração Nova Xavantina Ltda. was then co-founded by Paulo Abib Engineering, Andrade Gutierrez Group, and Brazilian Copper Company (CBC) to formalize exploration and development of the project. In 1992, the Andrade Gutierrez Group took the lead in the area by carrying out topographic surveys and geological mapping.

In 1995, under a new company name, Nova Xavantina Mineração Ltda., test work was performed to test the continuity of the veins to a depth of up to 300 meters. Drill company GEOSOL completed 8 diamond drill holes for a total of 2,306 metrers in the Brás and Buracão veins.

In 2003, Nova Xavantina Mineração Ltda., despite having received authorization for mining from the DNPM, failed to submit the Economic Development Plan (PAE) related to social stability in the region, and as a result, the mineral rights became available.

In May 2004, following the release of the *Availability Notice nº 162/2004, DNPM - MT released, DNPM process nº 866.269/1990*, whereby the property had become available for application, six companies applied for the mineral exploration and mining rights at the NX Gold Mine. The list included IMS Empreendimentos Ltda, Sertão Mineração Ltda, Brazmin Ltda, São Bento Mineração Ltda, Coopermine (Ore Producers Cooperative of Nova Xavantina, MT) and MCSA. The mineral exploration and mining rights for the Mining Concession were granted to MCSA.

Between 2007 and 2009, MCSA conducted a new drilling program to confirm the continuity of the Buracão and Brás veins and to increase the quality of the geological information. The drill program(s) undertaken by MCSA included 29,649 metres in 153 diamond drill holes. In September 2009, MCSA commenced construction of the mine portal and primary ramp and commercial production commenced in May 2012. During 2012, MCSA drilled a total of 11,486 metres in 51 surface drill holes and 1,895 metres in 32 underground drill holes in support of the mining operations.

In 2013, the property was transferred to NX Gold S/A, a subsidiary of MCSA. Between 2013 and 2015, the Company drilled a total of 27,822 metres in 104 surface diamond drill holes and an additional 9,427 meters in 107 underground diamond drill holes. Other exploration activities during this period included geological mapping and a 1,969 line-kilometer airborne magnetic survey.

<u>2018 Mineral Resource and Reserve Estimate</u>

In 2018, Ero Copper released a Mineral Resources and Mineral Reserves estimate for the NX Gold Mine in a report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated January 21, 2019 with an effective date of August 31, 2018, prepared by Porfirio Cabaleiro Rodrigues, MAIG, Leonardo Apparicio da Silva, MAIG, and Leonardo de Moraes Soares, MAIG, all of GE21 (the "2018 Technical Report"). Each of Porfirio Cabaleiro Rodrigues, MAIG, Leonardo Apparicio da Silva, MAIG, and Leonardo de Moraes Soares, MAIG was a "qualified person" and "independent" of Ero Copper within the meanings of NI 43-101.

The detailed economic, geotechnical and engineering parameters used for the Mineral Resource and reserve estimates are described in detail in the 2018 Technical Report. The 2018 historical mineral resource and mineral reserve estimate has been provided for reference purposes only. Ero Copper is not treating this 2018 estimate as the current mineral resources or Mineral Reserves.

Table 13 - 2018 Mineral Resource Estimate

Deposit	Classification	Tonnes (kt)	Au (g/t)	Au (koz)
Brás Vein	Indicated	80.9	15.04	39.1
	Inferred	*39.6*	*18.96*	*24.1*
Buracão Vein	Indicated	4.8	30.39	4.7
	Inferred	*1.7*	*23.54*	*1.3*
Total	**Indicated**	**85.7**	**16.01**	**44.1**
	Inferred	***41.3***	***19.13***	***25.4***

1. Effective date of August 31, 2018.
2. Presented Mineral Resources inclusive of Mineral Reserves. All figures have been rounded to reflect the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Cut-off gold grade of 1.40 g/t.
4. Mineral resource estimated by ordinary kriging inside 10m by 10m by 2m blocks (sub-blocks of 2.5m by 2.5m by 0.5m).

Mineral resources which are not mineral reserves do not have demonstrated economic viability.

Table 14 - 2018 Mineral Reserve Estimate

Deposit	Probable Reserves	Tonnage (kt)	Au Grade (g/t)	Au Total (koz)
Brás Vein	Planned Stopes	60.9	11.40	22.4
	Gallery Development	2.5	11.00	0.9
	Probable Reserves	**63.4**	**11.40**	**23.3**
Buracão Vein	Planned Stopes	1.9	13.80	0.8
	Gallery Development	0.5	6.60	1.1
	Probable Reserves	**2.4**	**12.30**	**1.9**
Total Probable Reserves		**65.8**	**11.40**	**25.2**

1. Effective date of August 31, 2018.
2. All figures have been rounded to reflect the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Mineral Reserve cut-off gold grade of 3.2 g/t.
4. The Mineral Reserve estimates are prepared in accordance with the CIM Standards, and Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral Reserves are based on a long-term gold price of US$1,250 per oz, and a USD:BRL foreign exchange rate of 3.20. Mineral Reserves are the economic portion of the Indicated Mineral Resources. Mineral Reserve estimates include mining dilution at 5% grading 0.5g/t Au and 7% grading 0.5g/t Au for the Brás and Buracão veins, respectively. Practical mining shapes (wireframes) were designed using geological wireframes / Mineral Resource block models as a guide.
5. Assumes mining dilution of 5% grading 0.5g/t Au and 7% grading 0.5g/t Au for the Brás and Buracão veins, respectively.
6. Mining recovery of 95%.

2019 Mineral Resource and Reserve Estimate

In 2019, Ero Copper released a Mineral Resources and Mineral Reserves estimate for the NX Gold Mine in a report titled “Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina”, dated February 3, 2020 with an effective date of September 30, 2019, prepared by Porfirio Cabaleiro Rodrigues, MAIG, Leonardo Leonardo de Moraes Soares, MAIG, and Paulo Roberto Bergmann, FAusIMM, all of GE21 (the “2019 Technical Report”). Each of Porfirio Cabaleiro Rodrigues, MAIG, Leonardo de Moraes Soares, MAIG and Paulo Roberto Bergmann, FAusIMM, was a “qualified person” and “independent” of Ero Copper within the meanings of NI 43-101.

The detailed economic, geotechnical and engineering parameters used for the Mineral Resource and reserve estimates are described in detail in the 2019 Technical Report. The 2019 historical mineral resource and mineral reserve estimate has been provided for reference purposes only. Ero Copper is not treating this 2019 estimate as the current mineral resources or Mineral Reserves.

Table 15 - 2019 Mineral Resource Estimate

Deposit		Classification	Tonnes (kt)	Au (g/t)	Au (koz)
Brás	Zone 1	Indicated	26.3	8.32	7.0
		Inferred	-	-	-
	Zone 2	Indicated	6.9	3.36	0.7
		Inferred	*149.3*	*4.81*	*23.1*
	Total	**Indicated**	**33.2**	**7.29**	**7.8**
		Inferred	***149.3***	***4.81***	***23.1***
Buracão	Zone 1	Indicated	5.8	23.08	4.3
		Inferred	-	-	-
	Zone 2	Indicated	-	-	-
		Inferred	*7.7*	*2.77*	*0.7*
	Total	**Indicated**	**5.8**	**23.08**	**4.3**
		Inferred	***7.7***	***2.77***	***0.7***
Santo Antônio		**Indicated**	**403.7**	**12.53**	**162.6**
		Inferred	***164.2***	***11.31***	***59.7***
Matinha		**Indicated**	**-**	**-**	**-**
		Inferred	***149.0***	***12.15***	***58.2***
Total		**Indicated**	**442.6**	**12.28**	**174.7**
		Inferred	***470.2***	***9.37***	***141.7***

1. Mineral Resource effective date of August 31, 2019.
2. Presented Mineral Resources inclusive of Mineral Reserves. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Mineral resource gold cut-off grade of 1.90 gpt gold. Mineral resources have been estimated using ordinary kriging inside 2.5m x 2.5m x 0.5m block sizes and minimum stope dimensions of 1.25m x 1.25m x 1.50m. The Mineral Resource estimates were prepared in accordance with the CIM Standards, and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines, adopted by CIM Council on November 23, 2003 (the 'CIM Guidelines"), using geostatistical and/or classical methods, plus economic and mining parameters appropriate to the deposit.

Mineral resources which are not mineral reserves do not have demonstrated economic viability

Table 16 - 2019 Mineral Reserve Estimate

Deposit		Reserve Class	Tonnes (kt)	Au (g/t)	Au (koz)
Brás	Zone 1	Proven	-	-	-
		Probable	3.0	3.83	0.4
Buracão	Zone 1	Proven	-	-	-
		Probable	2.7	5.42	0.5
Santo Antônio		Proven	-	-	-
		Probable	373.2	11.45	137.4
Total		**Proven**	**-**	**-**	**-**
		Probable	**378.9**	**11.35**	**138.2**

1. Mineral Reserve effective date of September 30, 2019.
2. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Mineral reserve estimates were prepared in accordance with the CIM Standards and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral reserves are based on a long-term gold price of US$1,350 per oz, and a USD:BRL foreign exchange rate of 3.80. Mineral reserves are the economic portion of the Indicated Mineral Resources. Mineral reserve estimates include operational dilution of 10% plus planned dilution of approximately 10% within each stope. Assumes mining recovery of 90% and pillar recovery of 60%. Practical mining shapes (wireframes) were designed using geological wireframes / Mineral Resource block models as a guide.

6.1 Exploration and Drilling

There has been a considerable amount of both surface and underground drilling performed on the property during pre-production and after the start of commercial production. Pre-production drilling totalled 161 surface drill holes for a total of 31,955 meters, and after the start of commercial production in 2012 an additional 284 drill holes were drilled from surface and 150 drill holes were drilled from underground in support of the operations. Total drilling on the property prior to the Effective Date is 134,461 meters from surface and 13,209 meters from underground, as summarized in Table 17.

Table 17 - Historical Drilling

	Surface Drilling			Underground Drilling		
Year	**Drill Holes**	**Meters**	**Core Size**	**Drill Holes**	**Meters**	**Core Size**
2006	8	2,306	NQ			
2007	81	17,619	NQ			
2008	70	11,531	NQ			
2009	2	499	NQ			
2012	51	11,486	NQ	32	1,895	NQ/BQ
2013	37	9,514	NQ	63	4,894	NQ/BQ
2014	43	12,494	NQ	29	2,752	NQ/BQ
2015	24	5,814	NQ	15	1,781	NQ/BQ
2018	51	23,847	NQ			
2019	45	21,208	NQ/BQ	8	1,315	NQ/BQ
2020	33	18143	NQ/BQ	3	572	NQ/BQ
Total	**445**	**134,461**		**150**	**13,209**	

6.2 Historical Production

The NX Gold mine started production in May 2012 and poured its first bullion in June of the same year. The mine has been in continuous production since 2012, processing approximately 1.57 million tonnes of ore, resulting in a cumulative production of 241,304 ounces of gold, as summarized in Table 18.

Table 18 - Historic Production of the NX Gold Mine

Year	Tonnes (t)	Au (oz)	Recovery
2012	137,980	6,654	40%
2013	261,726	26,216	67%
2014	208,259	23,730	83%
2015	226,608	35,115	87%
2016	213,776	29,098	84%
2017	135,013	25,173	88%
2018	117,857	39,808	91%
2019	158,275	29,755	86%
Jan to Sep 30th 2020	117,067	25,755	90%
Total	**1,567,561**	**241,304**	**84%**

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The NX Gold property is located in the Paraguay Belt, part of the Tocantins Geological Province. This fold belt was formed during the Neoproterozoic era at the south-east margin of the Amazon Craton during the Brasiliano cycle and is characterized by a series of tectonic events. The Paraguay Belt represents an arcuate shaped tectonic domain extending for 1,500 km in a NE-SE to E-W direction with an average width of 300 km.

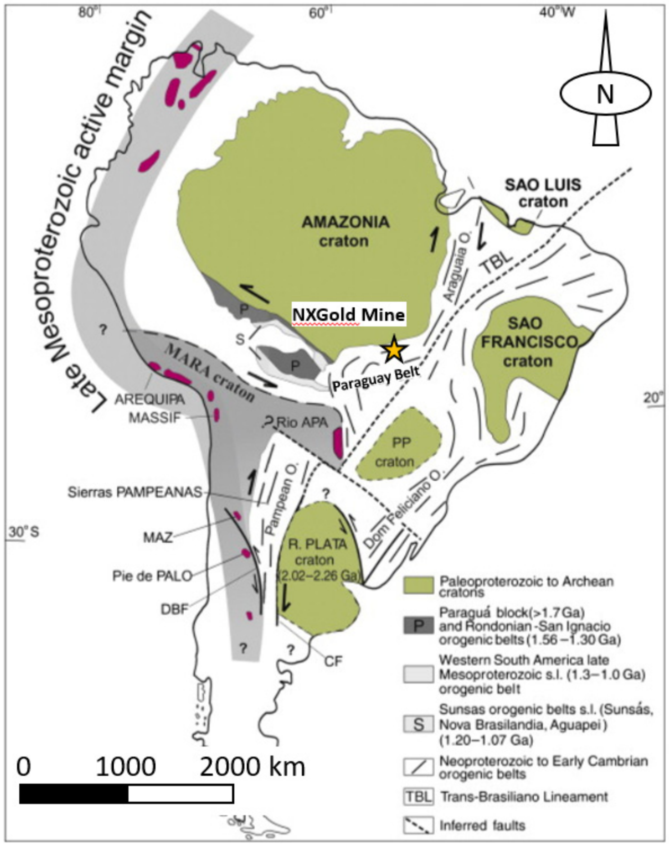


Figure 5 - Sketch of South America with Archean cratons and Middle-to-Late Mesoproterozoic and Neoproterozoic to Early Cambrian orogenic belts (Casquet et al., 2016).

The Paraguay Belt is a sequence of metamorphosed and folded volcanic and sedimentary rock units presenting deformation and metamorphic variations in the direction of the craton. The belt can be subdivided into three main structural domains: (i) the Internal Structural Zone characterized by intensely folded and metamorphosed volcano-sedimentary sequences intruded by granite and referred to as the Cuiabá Group, (ii) the External Structural Zone consisting of folded sedimentary sequences affected by low metamorphic grade and referred to as the Alto Paraguay Group and (iii) the Sedimentary cover referred to as the Parecis and Paraná basins (Almeida, 1984, Alvarenga and Trompette, 1993, and Alvarenga et al., 2000).

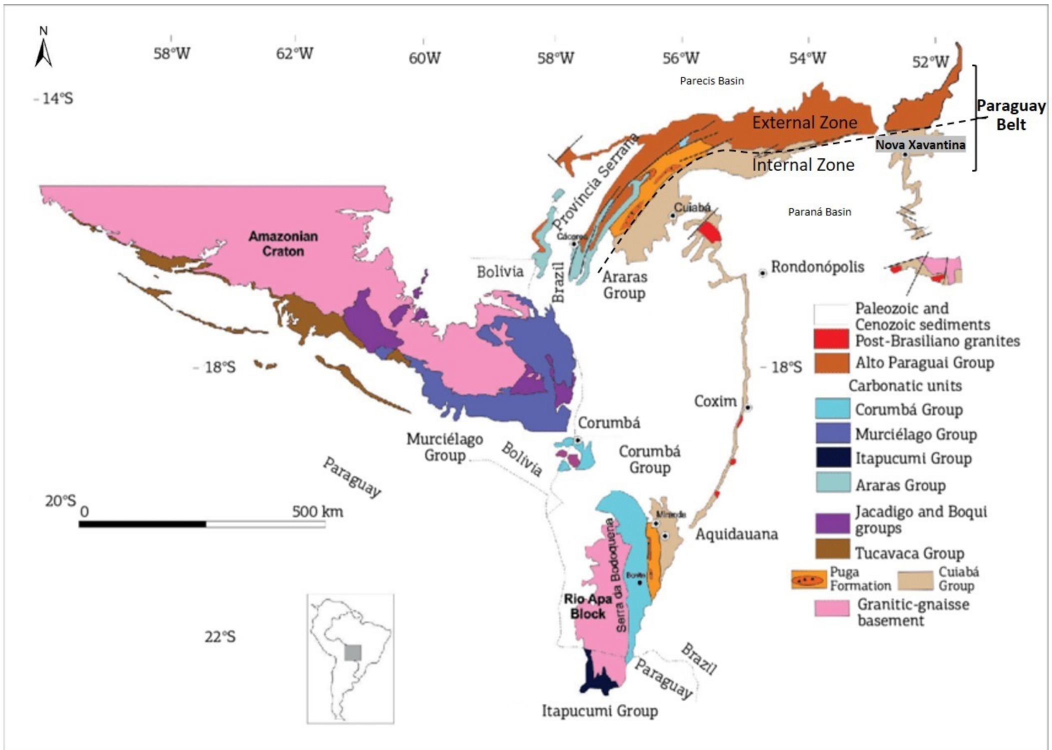


Figure 6 - Simplified geological map of the Paraguay Belt showing the areas of outcrop of the Araras, Cuiabá, Corumbá, Itapucumi and the Murciélago groups (Sial et al. 2016, modified from Boggiani et al. 2010).

The Nova Xavantina region, which has been described as a possible basal sequence of the internal zone of the Paraguay Belt, comprises meta-volcanic and meta-sedimentary rocks, and was initially defined as the Cuiabá Group by Ameida (1984). Pinho (1990) further characterized the rock units in the region of the NX Gold Mine as the Nova Xavantina Volcano-Sedimentary Sequence.

Pinho (1990) interpreted the Nova Xavantina Volcano-Sedimentary Sequence as a sub-marine environment in a back-arc basin setting; however, the geochemical analysis performed by Silva (2007) suggests the rock units of this sequence were generated in an intracontinental rift environment involving bimodal magmatism with the presence of a mantle plume at the base of the continental crust. The model formulated by Silva (2007) further included the opening and formation of an oceanic crust during the evolution of the rift.

7.2 Local Geology

7.2.1 *Lithologic Units*

The rock units present within the NX Gold Mine belong to the Nova Xavantina Volcano-Sedimentary Sequence as defined by Pinho (1990), part of the upper regional Cuiabá Group.

In subsequent geological classification surrounding the mining area, the Nova Xavantina Volcano-Sedimentary Sequence was renamed the Araés Volcano-Sedimentary Sequence and was further subdivided into three lithological associations (Martinelli *et al.* 1997; Martinelli 1998; Martinelli and Batista 2007; Socio 2008; Martinelli 2010). From the base to the top of the sequence these lithological associations are:

i. basic and intermediate metavolcanic association represented by meta-basalt, meta-andesite, meta-tuff, and meta-lapilli-tuff;
ii. chemical metasedimentary rock association containing meta-chert and meta-banded iron formation;
iii. clastic sedimentary rock association such as meta-sandstone, metasiltite, and meta-phyllite.

In more recent work, the rock units of the NX Gold Mine have been re-defined into metavolcanic, metasedimentary, and intrusives by Desrochers (2017). The volcanic units include massive to fragmental basalt with frequent amygdules.

The sedimentary units include (i) debris flow characterized by centimetric subangular to angular fragments of volcanic rock units and fragments of black calcareous phyllite, (ii) siliceous siltstone with poorly developed bedding which may contain pyrite-rich layers parallel to bedding, (iii) siliceous to magnetite-rich chert, (iv) thinly laminated carbonaceous phyllite.

The intrusive units include two types of diorite dyke and one type of felsic dyke. The diorite dyke units can be classified as either foliated or cross-cutting and the felsic dyke units are classified as cross-cutting. Cross-cutting diorite and felsic dykes post-date the main deformation event.

All rock units have been metamorphosed to greenschist facies as indicated by chlorite, sericite and calcite assemblages.

Table 19. Simplified Lithologic Categories (Desrochers, 2017).

Volcanic rock units	Sedimentary rock units	Intrusive rock units	Vein and breccias
Basalt (amygdular, massive to flow breccia)	Debris flow	Diorite dykes	Quartz vein
	Siltstone	Felsic dykes	Silica matrix breccia
	Carbonaceous phyllite		Carbonaceous matrix breccia
	Laminated chert		

7.2.2 *Structural Geology*

The volcano-sedimentary rock units, and some diorite dykes, are strongly foliated and frequently display intense transposition. There are two main phases of folding recognized at the NX Gold Mine (Campos Neto, 2013, Desrochers, 2017).

The first phase of folding is associated with a variably oriented, shallowly to moderately dipping schistosity (S1). The S1 schistosity is deformed by a crenulation cleavage (S2) oriented generally 234/66 but varying in strike from 190 to 270 degrees with westerly to northerly dips varying between 30 and 80 degrees. Both foliations (schistosity and cleavage) are present at the mine and have been documented as far as the Cristal vein located approximately 1,800 metres northeast of the mine (Campos Neto 2013).

The development of the S2 cleavage is heterogeneous and is generally better developed near the mine to a point where the S1 is completely re-oriented along the S2 foliation planes. This S2 cleavage is attributed to the Araés Shear zone by NX Gold geologists and by Martinelli and Batista (2007).

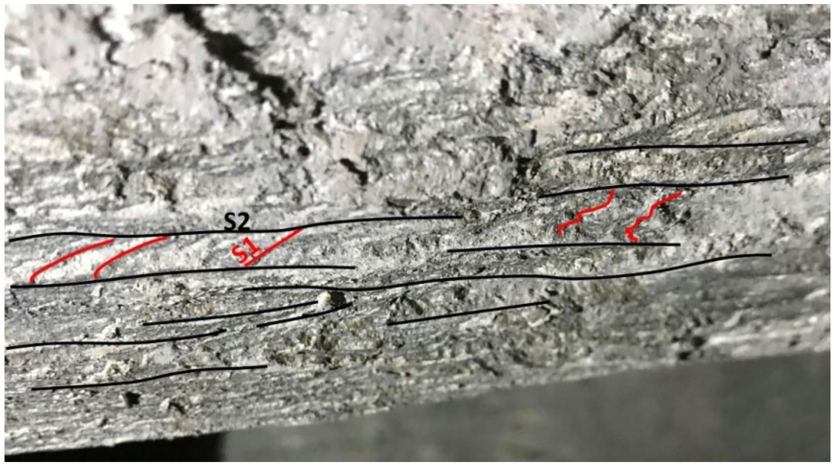


Figure 7 - Photograph of S1 and S2 foliations. Access ramp to Buracão vein (NX Gold, 2018).

7.3 Mineralization

Known gold mineralization at the NX Gold mine is structurally controlled and hosted in four major sulphide-rich quartz veins, with hyaline quartz druse, dipping approximately 40 degrees to the north-northeast and striking between east-west and west-southwest. The veins are hosted in strongly deformed metamorphosed sedimentary rock units and diorite that trend to the northeast with a 30 to 65-degree dip to the northwest. The veins exhibit a typical laminated pattern in parallel with the vein contacts. The laminations are characterized by alternating centimeter to decimeter quartz bands and foliated host rocks indicating multiple pulses of mineralized fluids during their formation.

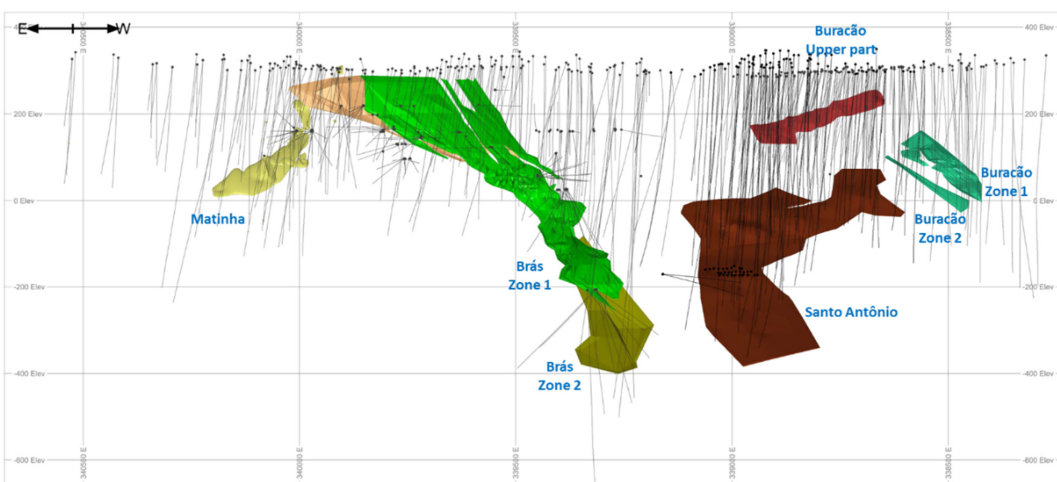


Figure 8 - Main Ore Bodies in the NX Gold Property

The Buracão vein is located on the western part of the property and includes a primary laminated vein measuring 100 meters along strike, dipping 45 degrees to the northwest in the upper portion of the mine and 70 meters along strike dipping 40 degrees to the northwest in the lower portion of the mine (as is shown in Figure 9). The average thickness of the vein is 4.5 metres with a maximum thickness of up to 6 meters.

The Brás vein is located to the east of the Buracão vein and includes a primary laminated vein measuring 220 meters along strike length in the upper part of the mine and 50 metres along strike in the lower levels of the mine. The average thickness of the vein is 5 metres with a maximum thickness of up to 10 metres.

The Santo Antonio vein is located centrally between the Brás and Buracão veins, within the same structural corridor. The vein has the same geologic characteristics of the Brás and Buracão veins and similar mineralization characteristics, including range of gold grades and sulphide concentrations. The primary difference between the Santo Antonio vein and the historically mined veins of Brás and Buracão, is that mineralization does not outcrop at surface and the dominant plunge direction, to date, is opposite of that the Brás and Buracão veins, particularly within the upper panel of the Santo Antonio vein.

The Matinha vein has had limited drilling to date and is located at the eastern extent of known mineralization. The Matinha vein plunges in the same direction as the Santo Antônio vein. While mineralization encountered to date is similar to the other veins, it has exhibited lower gold grades. Additional work in this area is planned to further evaluate continuity of grade and thickness.

Gold mineralization in all veins is associated with sulphides that are primarily disseminated within the quartz but can also be associated with minor gold bearing sulphides disseminated within the host rock. The veins generally contain 2 to 15 percent total sulphide represented largely by pyrite and galena, with minor chalcopyrite, bornite, pyrrhotite, and sphalerite. Higher gold grades are generally associated with galena, chalcopyrite, bornite, and sphalerite.

The veins are typically bordered on the eastern and western edges by discontinuous breccias of less than 2 metres in thickness. Breccias can be described as those with a siliceous matrix containing angular fragments of quartz veins, a matrix containing pyrite and galena typically containing gold grades less than 5 grams per tonne, and as breccias with a carbonaceous matrix containing sub-rounded to sub-angular fragments of diorite and quartz vein. Breccias with a carbonaceous matrix have not been found to contain meaningful concentrations of gold.

Figure 9 - Laminated quartz vein inside the Buracão mine (NX Gold, 2018).

Figure 10 - Quartz vein with high sulfidation (Pyrite and Galena) and high gold grade (NX Gold, 2018).

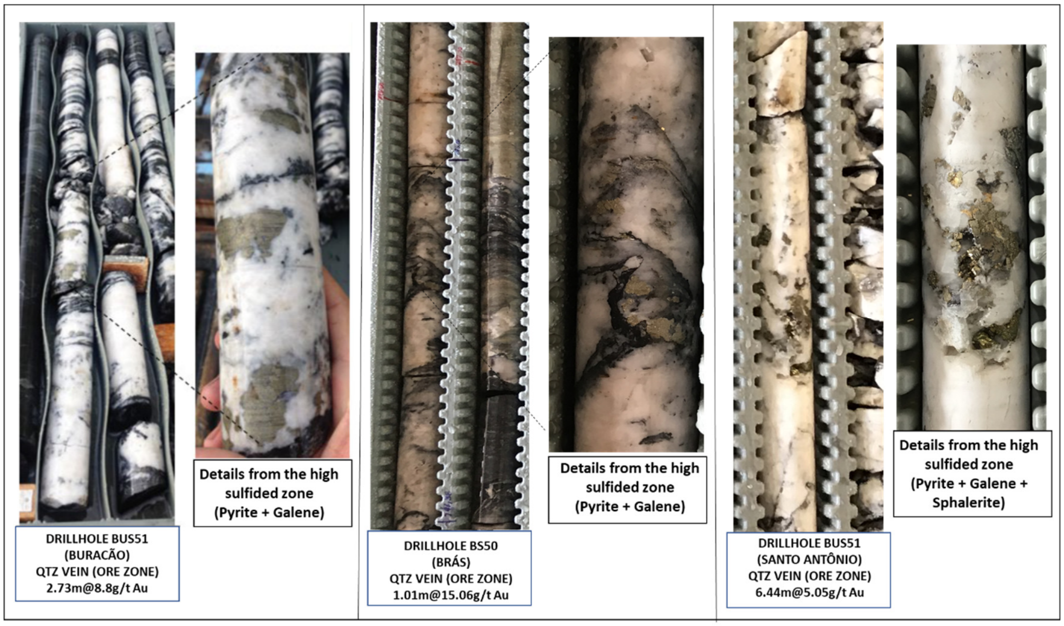


Figure 11 - NX Gold quartz veins – Buracão, Brás and Santo Antônio (Pyrite, Galena and Sphalerite) and high gold grade.

8.0 DEPOSIT TYPES

The geology of the property is characterized by strongly deformed volcano-sedimentary rocks altered to greenschist metamorphic grade. The gold mineralization is structurally controlled and hosted in sulphide-bearing, laminated shear veins that cross-cut the previously deformed and metamorphosed volcanic and sedimentary rock. The laminated nature of the veins indicates multiple pulses of quartz intruding a shear zone.

The characteristics of the gold mineralization at NX Gold are similar to orogenic gold described by Groves et al. 1998. Those deposits represent the main source of gold in deformed Precambrian metavolcanic environments and are characterized by high gold grades that range from 5 grams per tonne to over 10 grams per tonne and are hosted in quartz-carbonate veins associated with shear zones. Well-known examples of important gold deposits of this type include the Yilgarn Craton in Australia (Golden Mile and Norseman mines) and the Superior Province in Canada (McIntyre-Hollinger and Kerr-Addison mines).

9.0 EXPLORATION

Historical exploration work completed in the area of the property by the property's operators prior to NX Gold is discussed in greater detail in Chapter 6, History.

9.1 Geological Mapping

In 2011, Callori and Maronesi (2011) mapped the area at a scale of 1:10,000. Their work illustrates the folding of the volcano-sedimentary units hosting the NX Gold deposit together with an ENE-striking thrust fault parallel to the deposit as shown in Figure 12.

In 2014, a group of geologists from the General Geological Department of the Federal University of Mato Grosso ("UFMT"), with the assistance of NX Gold Mine geologists, mapped an area beginning at the mine property to the north, approximately 35 kilometers from the mine at a scale of 1:50,000. The map produced in this effort is similar to that produced by Callori and Maronesi (2011) but shows a greater abundance of sedimentary rock units and additional interpreted thrust faults.

University professor and structural geologist, Campos Neto (2013), conducted detailed structural mapping in the underground mine, at surface expressions of the gold bearing quartz veins and in other quartz vein distributed throughout the property (in showings stretching over approximately 1.8 kilometres). He divided the area into 2 structural sectors with the southern sector being the most deformed and culminating along the Araés shear zone located approximately 80 metres to the south of the known gold-bearing veins of the NX Gold mine as shown in Figure 13.

Beginning in 2018, NX Gold Mine geologists started to produce underground geological maps for each mine level to support geological control of mineralization and geological data integration. Figure 14 provides an illustrative map prepared during face mapping of the -161 level within the Brás underground mine. In 2019 and 2020, geological mapping and soil geochemistry campaigns were initiated in an area east of the NX Gold Mine, called Mata Verde. This exploration program will continue in 2021.

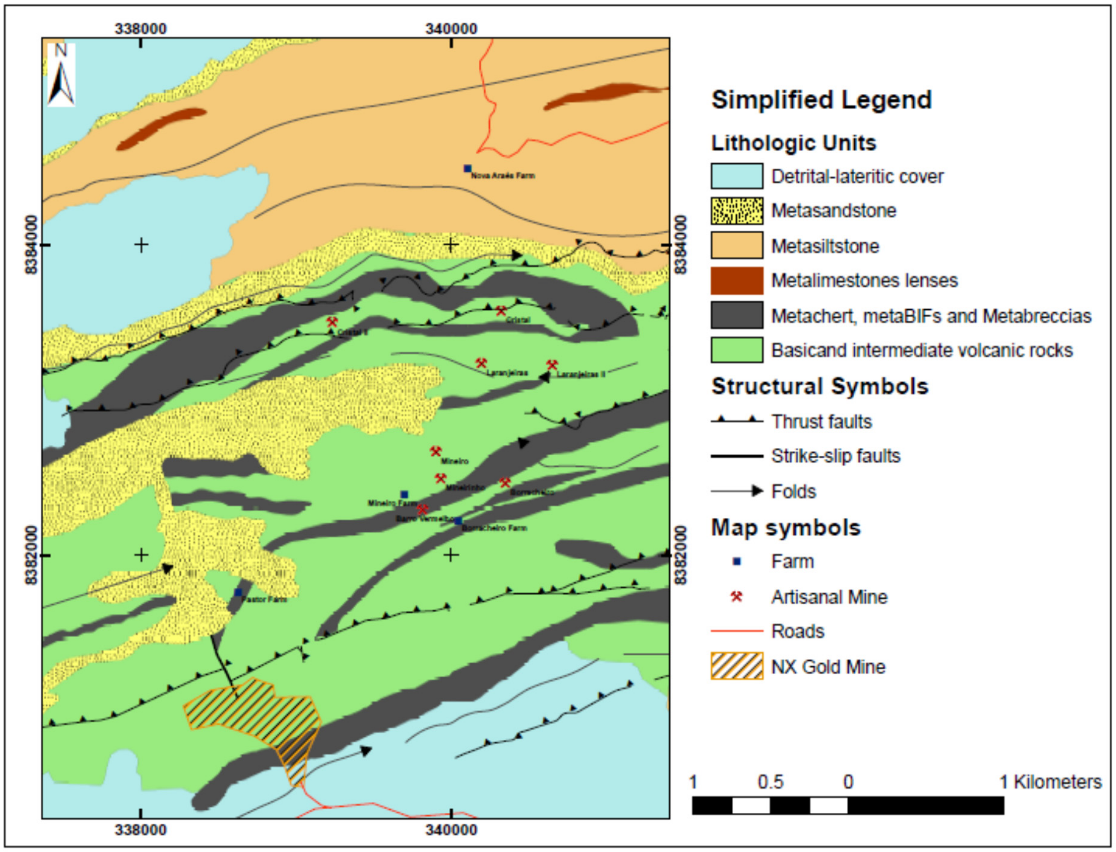


Figure 12 - Geological map in the area of the NX Gold Mine at a scale of 1:10,000 showing the folded volcano-sedimentary sequence (Callori, D. and Maronesi, M., 2011).

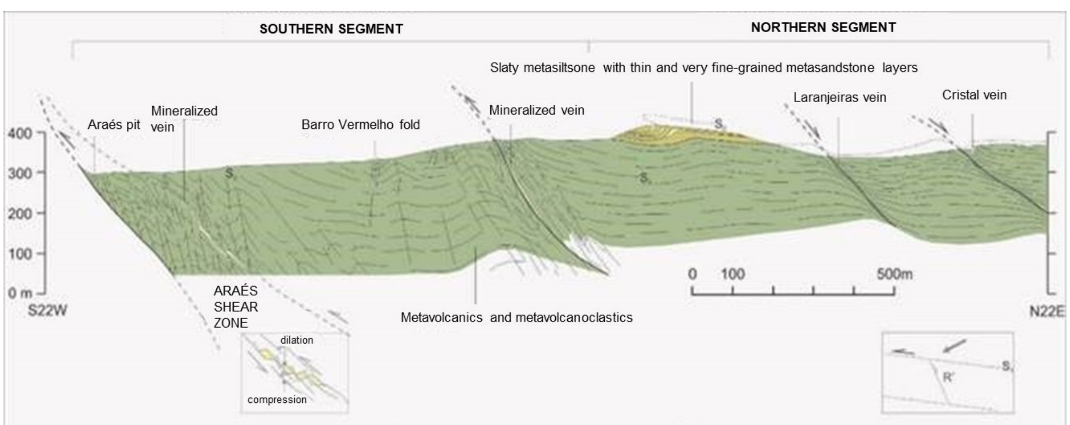


Figure 13 - Composite vertical cross-section looking west. The northern segment (segment meridional) demonstrates less deformed rock units when compared to the southern segment (segment meridional). The foliation of the rock units become progressively more developed towards the Araés shear zone that marks the southern limit of the section (Campos Neto, 2013).

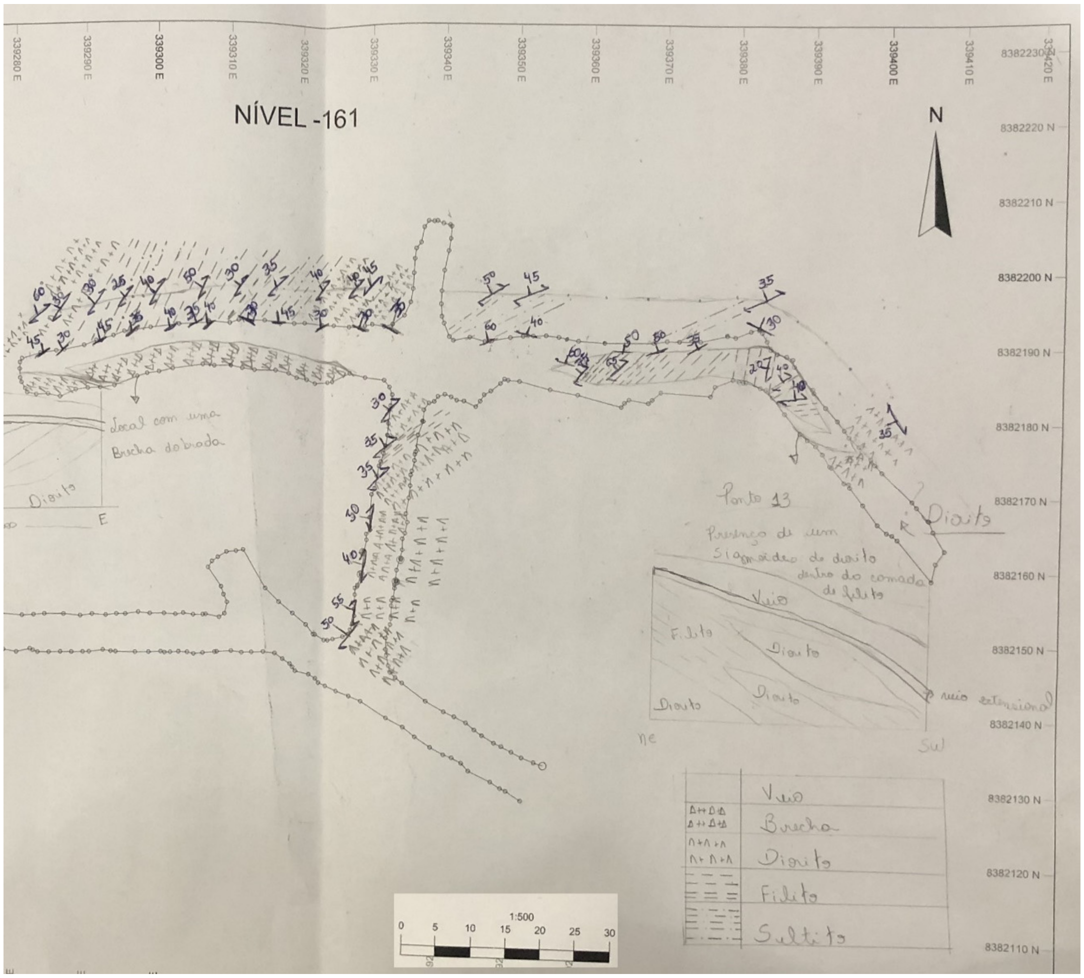


Figure 14 - Illustrative geological map produced by the NX Gold technical team within the Brás vein (NX Gold, 2018).

9.2 Soil Sampling

Between 2012 and 2014, NX Gold collected a total of 2,271 soil samples to evaluate the potential for additional gold mineralization on the property. In 2012, a total of 776 samples were sent were sent to ALS Minerals for gold analysis together with 53 other elements. In 2014, a total of 37 samples were sent to ACME labs for gold analysis and a suite of 39 other elements.

Later in 2014, NX Gold collected 828 soil samples that were sent to SGS GEOSOL for gold analysis and an additional 117 samples that were sent to SGS GEOSOL for gold analysis plus 39 other elements. In 2015, NX Gold collected 513 samples that were sent to SGS GEOSOL for gold analysis and a suite of 37 other elements.

The results of the soil sampling program have been used to inform the targeting priorities of the Company's planned exploration efforts. A comprehensive soil geochemistry and regional exploration survey covering the extent of the Company's exploration licenses commenced in

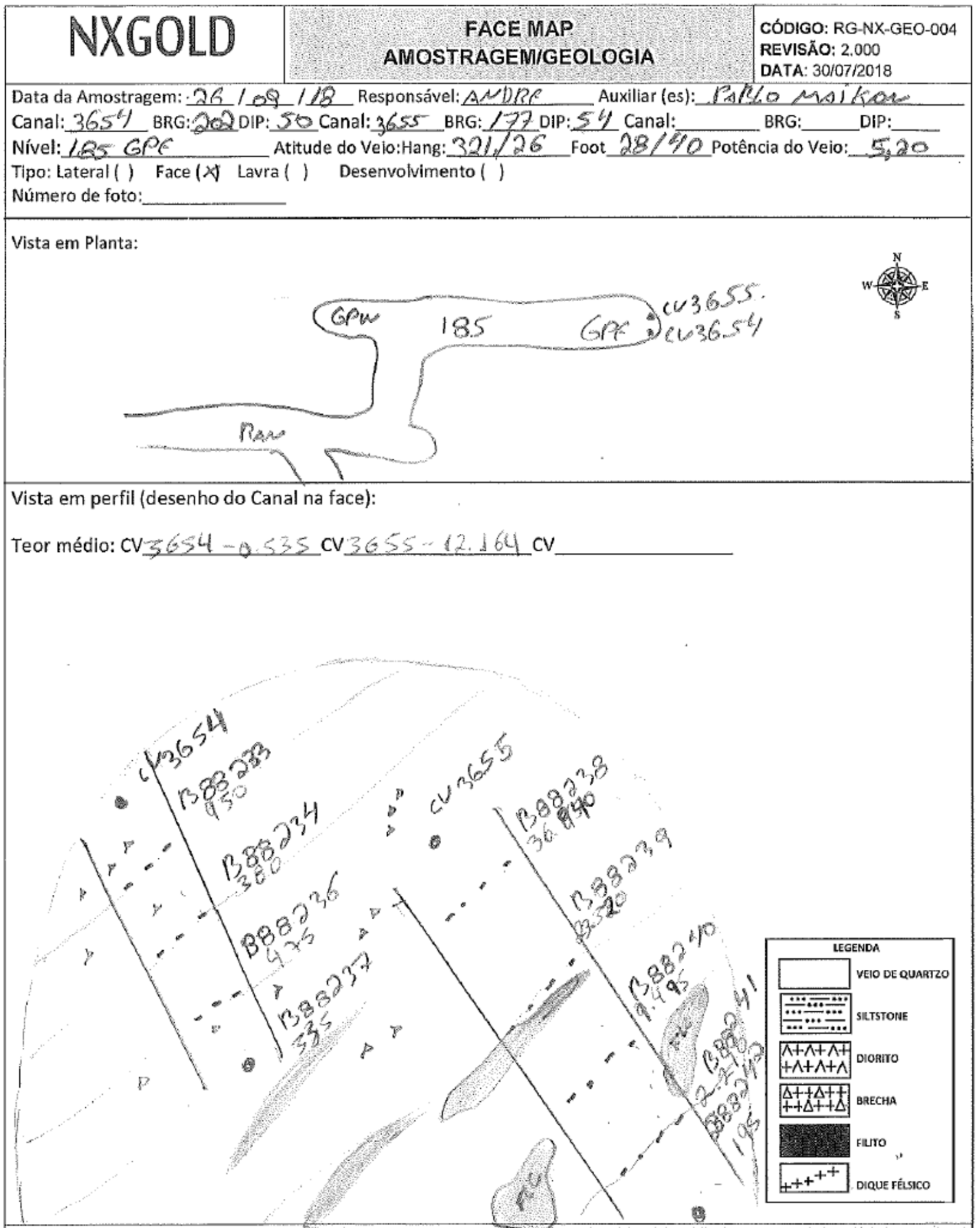
2020, and will continue into 2021. As at the Effective Date, a total of 602 new soil samples were collected in the Mata Verde exploration area, located east of the NX Gold Mine.

9.3 Channel Sampling

Channel samples from mine drifts are routinely taken from the walls of the drifts for geological control and mapping purposes. Sampling is designed to crosscut the entire thickness of the quartz vein wherever possible. The channel sampling database includes sampling lines that are spaced at approximately 3 meters and sample lengths that vary from 0.5 meters to 1.0 meter. The procedure of channel sampling in the NX Gold Mine is similar to a chip sampling where discontinuous fragments are broken in a rectangular zone along the sampling line. The average weight of samples utilized by the Company for mapping and planning purposes are approximately 4.0 kg for each sample line.

A photographic register of the drift channels is taken for each channel sample to improve geological information and inform detail on mineralization controls.

Channel sampling is performed in conjunction with geological mapping in underground drifts to improve geologic understanding of primary mineralization controls and to support geological data integration.


NXGOLD | FACE MAP AMOSTRAGEM/GEOLOGIA | CÓDIGO: RG-NX-GEO-004 REVISÃO: 2.000 DATA: 30/07/2018

Data da Amostragem: 26 / 09 / 18 Responsável: ANDRE Auxiliar (es): Pablo Maikon
Canal: 3654 BRG: 202 DIP: 50 Canal: 3655 BRG: 177 DIP: 54 Canal: BRG: DIP:
Nível: 185 GPE Atitude do Veio:Hang: 321/26 Foot 28/40 Potência do Veio: 5,20
Tipo: Lateral ( ) Face (X) Lavra ( ) Desenvolvimento ( )
Número de foto:

Vista em Planta:

Vista em perfil (desenho do Canal na face):

Teor médio: CV3654 - 0.535 CV3655 - 12.164 CV

Figure 15 - Geological / production face map produced by the NX Gold technical team on a Brás vein drift with channel samples.

9.4 Geophysical Survey

In August 2013 Mineração Caraíba S/A contracted Lasa Prospecções S.A to execute an airborne magnetic and gama-spectrometry survey in the Nova Xavantina area, including the NX Gold Mine and adjacent exploration areas as shown in Figure 16. The survey totaled 1969.40 line-km flown at a nominal 100 metres above ground and covered a total area of 156 km^2. The north-south flight lines were flown at 100 meter spacing and the East-West tielines were flown with 1,000 meter spacing.

The data processing was completed by FUGRO-LASA using the Oasis Montaj software developed by GEOSOFT. The report included maps of the total magnetic intensity, magnetic analytical signal, and magnetic first vertical derivative as well as maps of the potassium, uranium, and thorium concentrations and ratios. The report also included a map of the digital topography.

The analytical signal of the magnetic data shows a strong lineament to the south of the gold-bearing lenses that correspond to the Araés shear zone. The magnetic highs located near the known ore veins of the NX Gold Mine are interpreted to be folded magnetic banded iron formations.

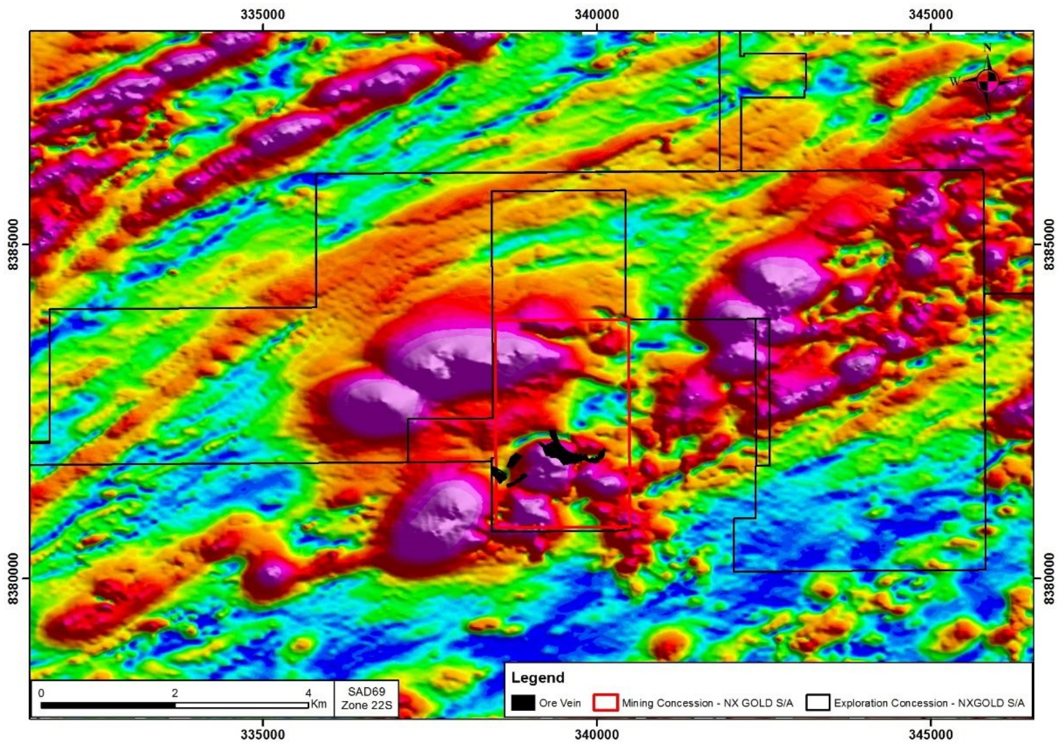


Figure 16 - Airborne geophysical magnetic data of NX Gold Mine (NX Gold, 2018)

9.5 Densities

Drill core density measurements of the quartz veins are routinely taken during drilling campaigns at the NX Gold Mine. Segments of drill core are coated with wax and their bulk densities determined using the buoyancy method. The average density of all rock types in the area of the NX Gold Mine, based on a density database that includes over 2,600 samples of drill core, is approximately 2.83 tonnes per cubic meter. For the purposes of the current mineral resource estimate, and updated Santo Antonio Vein resource estimate, density data from drilling within the vein established a density of 2.68 tonnes per cubic meter within the mineralized vein, based on 49 samples.

A Summary of density data by Rock Type from drilling performed at the NX Gold Mine is presented in Table 20.

Table 20 - Density data (Santo Antonio Vein)

Lithology	Samples	Density (g/cm^3)
Chert	95	2.81
Felsic dike	195	2.82
Diorite	15	2.79
Carbonaceous phyllite	115	2.68
Meta Volcanic	162	2.76
Debris Flow	146	2.75
Sandstone/siltstone	190	2.76
Quartz vein (Santo Antonio)	49	2.68
Total	**967**	**2.76**

9.6 Drone Survey

A 37 line-kilometer drone survey covering an area of 14.5 km^2 was completed June 2018. This survey produced a high-quality image with a 17 cm spatial resolution as well as a Digital Elevation Model (spatial resolution of 1 m and a vertical precision of 2 m). The survey covers the mine area and the area of the planned 2018 drilling program. The primary use of the survey results was for planning access roads and drill platform locations.

9.7 Sampling Method and QA/QC

During recent drilling campaigns undertaken by NX Gold since 2013 in support of the current mineral resource estimate, NX Gold personnel performed gold assays on drill core according to written sampling procedures. The remaining core is stored on-site in core boxes on covered metal racks. All holes drilled by Mineração Caraíba and NX Gold that intersect the gold-bearing quartz vein are NQ diamond core size.

Preparation of selected core intervals to be sampled was completed by the following method (summarized in Figure 17):

- Core boxes were delivered to the core logging facility by the drilling crew where the core was laid out in sequence. The core was checked by NX Gold technicians before logging to ensure that core was correctly placed in boxes by the drillers.
- The core was then marked up using a marker pencil showing 1 m depth intervals allowing for better depth precision between the 3-m core block markers inserted by the drillers. The core boxes were labelled with the start and end of the interval for that box and the range of sample numbers and photographed.

- Core was logged by a geologist who recorded features including structure, veining, lithology, and mineralization. Geotechnical logging was carried out, including measurements of total core recovery, rock quality designation ("RQD"), and fracture angle and type.
- Samples were selected for bulk density measurements and measurements were performed on site with wax coated core using the water displacement method.
- Intervals of core selected for sampling were marked up using a red pencil showing arrows that indicated the "from" and "to" range of each sample interval and a reference line drawn parallel to the core axis and through the approximate center of the rock fabric.
- The samples were defined on a geological basis to respect lithological or structural contacts. The samples were collected with a minimum length of 0.2 meters and a maximum length of 2 meters with an average length of 0.5 meters. As much as was geologically reasonable, the sample lengths were 0.5 meters in mineralized section and 1 meter in host rock.
- Core marked and tagged for sampling was moved to a different location to be cut using diamond bladed rock saws. The technician would saw and sample the core one sample at a time, starting with the first tag and following through the sample number sequence until the end of the sampled interval.
- Half-core samples were taken for sampling and the remaining half-core was carefully stored. Sampling commenced at least 1 meter before the start of the mineralized zone and extended at least 1 meter beyond the limit of the mineralized zone.
- Control samples (blanks and reference material) were inserted as core was sampled to ensure that sample numbers were in sequence with core samples and therefore could not be identified based on sample numbers.
- Duplicate pulp splits were generated by the laboratory facility.
- Unbiased sampling was managed by consistent selection of the left half from each split core. The left half of the core samples was placed in a heavy-duty transparent plastic bag and the right half was placed back into its original position in the core box. Broken core, such as fault gouge or fault breccia, was sampled by scooping the left half into a sample bag while the right half remained in the core box.
- Packets of certified gold reference standards were assigned by the core-logging geologist and verified by the technicians.
- Each sample shipment to the assay laboratory comprised samples from only one borehole; this practice allowed laboratory batches to represent one borehole only and simplified tracking of assay quality control samples as well as requests for batch re-assays.

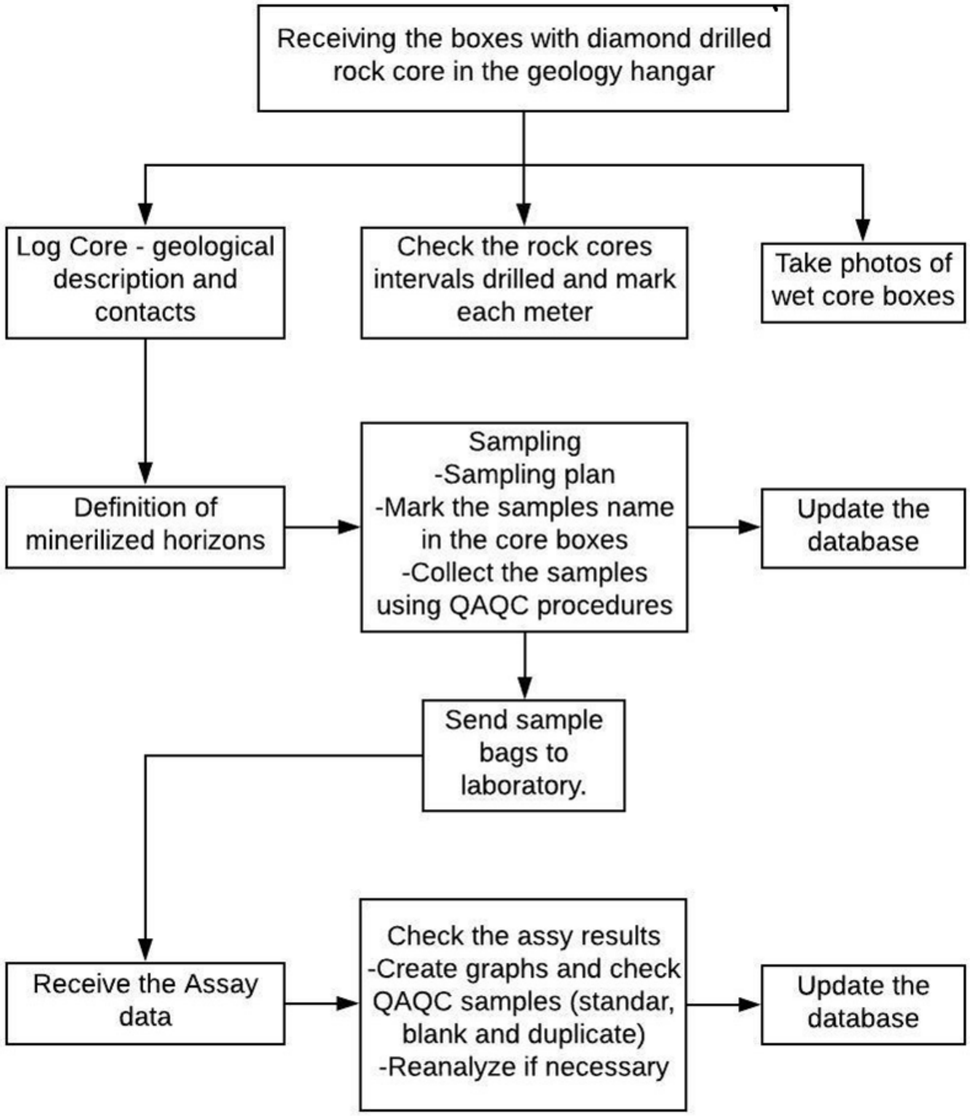


Figure 17 - Flowchart with sample preparation and analysis.

Figure 18 details the individual unit operations of the work being performed on site under standard operating procedures.

Figure 18 - Pictures of the work site and standard operating procedure:

(A) Geological description and geotechnical selection of the best intercepts for laboratory analysis; (B) Density Assay; (C)

Cutting the rock cores; (D) Sampling; (E) batch ready to send to laboratory; (F) Hangar to file the core boxes (NX Gold, 2018).

9.8 GE21 Comment

GE21 reviewed the sampling methods and quality control methods used by NX Gold with a focus on sources of information used in the current mineral resource and reserve estimate. The review concluded that drill core sampling procedures are in accordance with industry standards. Channel sampling procedures were classified as having a moderate confidence level for resource estimation, primarily due to a lack of information on crosscut sampling. Accordingly, the influence of channel samples was limited in the current mineral resource estimate.

GE 21 generated the following recommendations based on observations from technical visits and discussions with the NX Gold technical team:

- Duplicate sample preparation procedures must be revised to ensure validity of duplicate sampling on a go forward basis. Specifically, duplicate samples should be selected and prepared outside of the assay laboratory. Although there is no evidence that tampering of duplicate samples has occurred at the NX Gold Mine, revising duplicate sample preparation procedures will ensure data quality and align with industry best practice.

10.0 DRILLING

Between 2018 and 2020, in support of the current mineral resource estimate, NX Gold drilled 129 surface diamond drill holes totaling approximately 63,200 meters and 11 underground diamond drill holes totaling 1,887 meters on the property. The total number of surface diamond drill holes drilled on the property since 2006 by all operators is 445 totaling 134,461 meters.

NX Gold initiated a drill program in early 2018 with the objective of testing the down-plunge extension of the Buracão and Brás veins, as well as the area between the two veins, and below the existing access ramp connecting the two veins. The Santo Antônio vein was discovered and further delineated during the 2018, 2019 and 2020 drilling campaigns.

The Mineral Resource evaluation presented considers only a part of the drilling completed by NX Gold in 2015 and from the 2018/2019 campaigns, as a large portion of the Brás and Buracão veins had been mined out at the Effective Date. The majority of the Company's current mineral resource estimate and all of the Company's current mineral reserve estimate is contained within the Santo Antonio vein.

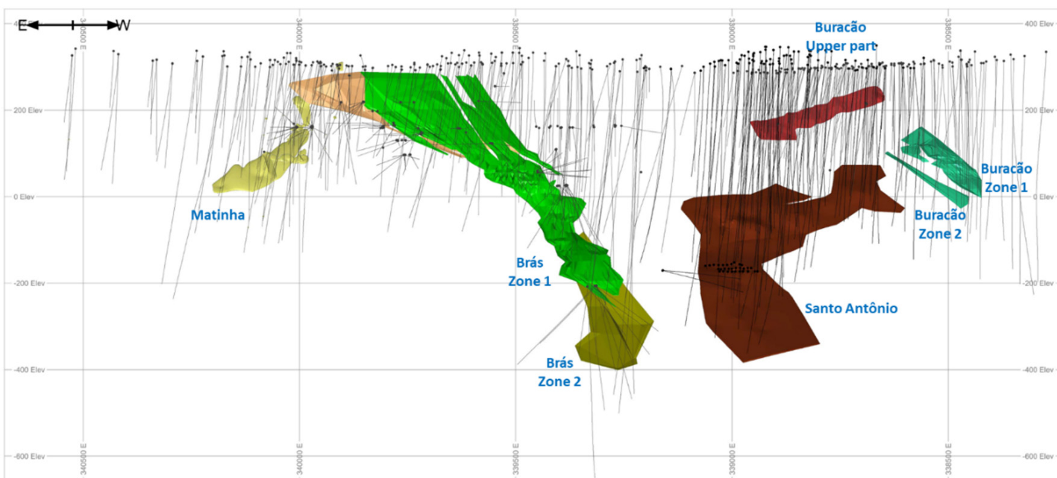


Figure 19 - All holes drilled at the NX Gold mine.

Table 21 - Surface Drilling Summary

SURFACE DRILLING					
Company	**Year**	**Hole IDs**	**Number of Holes**	**Meters**	**Core Size**
Andrade Guitierrez	1995	SAR1 - SAR8	8	2306.3	
Caraíba S/A	2007	FSA3001,FSA3101,FSA3201,FSA3202,FSA3203,FSA3301,FSA3302,FSA3303,FSA3401,FSA3401A,FSA3402,FSA3501,FSA3501A,FSA3502,FSA3502A,FSA3601,FSA3602,FSA3603,FSA3702,FSA3702A,FSA3902,FSA4002,FSA4102,FSA4102A,FSA41501,FSA41502,FSA41503,FSA4201,FSA4202,FSA4203,FSA4204,FSA42501,FSA42502,FSA42503,FSA4301,FSA4302,FSA4303,FSA4303A,FSA43501,FSA43502,FSA43503,FSA4401,FSA4401A,FSA4402A,FSA4402B,FSA4403,FSA44501,FSA44501A,FSA44501B,FSA447502,FSA4501A,FSA4501B,FSA4502,FSA45501,FSA45501A,FSA45502,FSA457501,FSA457503,FSA457504,FSA4601,FSA4602,FSA4603,FSA46501,FSA46502,FSA4701,FSA4702,FSA4702A,FSA4801,FSA4801A,FSA4802,FSA4802A,FSA4901,FSA4901A,FSA4902,FSA4902A,FSA5001,FSA5002,FSA5002A,FSA5101 ,FSA5101A,FSA5102	81	17,618.6	NQ
Caraíba S/A	2008	FSA3201A,FSA3203A,FSA3204,FSA3301A,FSA3301B,FSA3303B,FSA33501,FSA33502,FSA33503,FSA33504,FSA3401B,FSA3402A,FSA34501,FSA34502,FSA34503,FSA3501B,FSA35501,FSA35501A,FSA4003,FSA40503,FSA4103,FSA412501,FSA412502,FSA412503,FSA41501A,FSA417501,FSA417502,FSA417503,FSA417503A,FSA417504,FSA4201A,FSA4204A,FSA422501,FSA422501A,FSA422502,FSA422503,FSA42501A,FSA42503A,FSA427501,FSA427502,FSA427503,FSA427504,FSA432501,FSA432501A,FSA432502,FSA432503,FSA437501,FSA437502,FSA437502A,FSA437503,FSA442501,FSA442502,FSA447501,FSA4703,MCA40501,MCA4101,MCA4101A,MCA41501,MCA4201,MCA42501,MCA42501A,MCA4301,MCA43501,MCA43501A,MCA4401,MCA44501,MCA4501A,MCA45501,MCA4601,REV01	70	11,530.7	NQ
Caraíba S/A	2009	FSA3102,FSA3903	2	498.9	NQ
Caraíba S/A	2012	BP1001,FSA3102A,FSA312501,FSA312502,FSA31501,FSA317501,FSA317502,FSA317502A,FSA317502B,FSA322501,FSA322502,FSA322503,FSA322504,FSA32501,FSA32502,FSA32503,FSA327501,FSA327502,FSA327502A,FSA327503,FSA332501,FSA332502,FSA332503,FSA332503A,FSA337501,FSA337502,FSA337502A,FSA337503,FSA342502,FSA342503,FSA342503A,FSA347501,FSA347502,FSA347503,FSA352501,FSA352501A,FSA352502,FSA357501,FSA442503,FSA442504,FSA443701,FSA443702,FSA44502,FSA44503,FSA447503,FSA447504,FSA4503B,FSA452501,FSA45503,FSA45504,FSA458701	51	11,485.8	NQ
NXGold S/A	2013	BS01 - BS17, BUS01 -BUS16, FSBVE01, RB01 - RB02	37	9,513.6	NQ
NXGold S/A	2014	BS18 - BS36, BUS17 - BUS35, MS01 - MS04, RB04	43	12,494.3	NQ
NXGold S/A	2015	BS37 - BS39, BUS36 - BUS55, RS01	24	5,814.1	NQ
NXGold S/A	2018	BS40, BS41,BS48-BS5,1 BUS58 - BUS65, BUS67 – BUS76, SA01 – SA10, SA12 – SA24, SA26 – SA28, SA32	51	23,847.2	NQ
NXGold S/A	2019	BS53C, BS54, MAT01 – MAT09, SA25, SA29 -SA31, SA33-SA36, SA38 – SA63	45	21,208.4	NQ/BQ
NXGold S/A	2020	SA65-SA85, MAT10-MAT12, RC01-RC02, MTV01-MTV07	33	18,142.9	NQ/BQ
TOTAL			412	134,460.5	

Table 22 - Underground Drilling Summary

UNDERGROUND DRILLING					
Company	**Year**	**Hole IDs**	**Number of Holes**	**Meters**	**Core Size**
Caraíba S/A	2012	BP1002,BP1E01,BP1E02,BP1E03,BP1E04,BP2001,BP2002,BP2003,BP2004,BP2005,BP2006,BP2007,BP2008,BP2009,BP2010,BP2011,BP2012,BP2013,BP2014,BP2015,BP2015A,BP2015B,BP2016,BP2016A,BP2017,BP2017A,BP2017B,BP2018,BP3001,BP3002,BP3002 A,BP3003	32	1 895.1	NQ/BQ
NXGold S/A	2013	BP3003A,BP3003B,BP3007,BP3013,BP3013A,BP3013B,BP3014,BP3014A,BP3015,BP3015A,BP3015B,BP3016,BP3017,BP3017A,BP3017C,BP3017D,BP3018,BP3019,BP3020,BP3022,BP3022A,BP3023,BP3024A,BP3025,BP3026,BP3027,BP3028,BP3029,BP3029A,BP3031,BP3032,BP3033,BP3034,BP3034A,BP3035,BP3040,BP3041,BP3041A,BP3041B,BP3042,BP3043,BP3044,BP3045,BP3052,BP3053,BP3054,BP4002,BP4002A,BP4003,BP4004,BP4005,BP4006,BP4007,BP4010,BP4011A,BP4012,BP4013,BP4014,BP4015,BP4015A, BP4016,BP4017A,BP4018,	63	4 893.5	NQ/BQ
NXGold S/A	2014	BP3046,BP3047,BP3048,BP3049,BP3050,BP3051,BP3055,BP3055A,BP3056, BP3057,BP 3058,BP3059,BP3060, BP3061, BP3062,BP3063,BP3064,BP3064A,BP3065, BP4021,BP4022,BP4023,BP4024,BP4025,BP4026,BP4027,BP4028,BP4029,BP4030	29	2 752.3	NQ/BQ
NXGold S/A	2015	BP3046,BP3047,BP3048,BP3049,BP3050,BP3051,BP3055,BP3055A,BP3056, BP3057,BP3058,BP3059,BP3060,BP3061,BP3062	15	1 781.4	NQ/BQ
NXGold S/A	2019	BSUG01 – BSUG08	8	1,315.1	NQ/BQ
NXGold S/A	2020	BSUG09, SAUG01-SAUG02	3	571.7	NQ/BQ
TOTAL			147	13,209.1	

10.1 Nova Xavantina Mineração Ltda. (1995)

In 1995 Nova Xavantina Mineração Ltda. tested the depth extension of the veins to a maximum depth of 200 metres below surface. Drill company GEOSOL completed 8 diamond drill holes for a total of 2,306 metres in the Brás and Buracão sectors, including one drill hole testing the continuity between the two veins.

The sampling method and approach used by Nova Xavantina Mineração Ltda in 1995 is unknown and the core is not available.

10.2 Mineração Caraíba S/A (2007-2014)

Mineração Caraíba S/A drilled a total of 204 surface diamond drill holes totaling 41,134 meters and 32 underground drill holes totaling 1,895 meters in the period from 2007 to 2014. These holes were drilled to a vertical depth of 380 meters below surface in the Brás vein and to a vertical depth of 200 meters below surface in the Buracão vein. All surface drill holes were drilled using NQ size and underground drill holes were drilled using NQ and BQ size.

Collar locations were measured using differential GPS with a precision of less than 1 centimeter by surveyors from the mine. Borehole deviation data was collected at intervals of 3 meters with a Maxibor tool for the surface drill holes and with an EZ-track tool for the underground drill holes.

10.3 NX Gold (2013-2014)

After the property was transferred to NX Gold, the company drilled a total of 22,008 meters in 80 surface diamond drill holes and a total of 7,645 metres in 92 underground diamond drill holes. The drilling tested the Buracão vein to a depth of 240 meters below surface and the Brás vein to a depth of 420 meters below surface. All surface drill holes were drilled using NQ size and underground drill holes were drilled using NQ and BQ size.

Collar locations were measured with a precision of less than 1 centimeter by surveyors from the mine. Borehole deviation data was collected at intervals of 3 meters with a Maxibor tool for the surface drill holes and with an EZ-track tool for the underground drill holes. The drilling program consisted of infill drilling and drilling at depth to evaluate the depth extension of the two veins.

10.4 NX Gold (2015)

In 2015 NX Gold drilled a total of 5,814 metres in 24 surface diamond drill holes and 1,781 metres in 15 underground holes. All surface drill holes were drilled using NQ size and underground drill holes were drilled using NQ and BQ size. Only 5 surface drill holes in the Buracão sector and 2 surface drill holes in the Brás sector drilled in 2015 are used in the current resource calculation.

Collar locations were measured with a precision of less than 1 centimeter by surveyors from the mine. Borehole deviation data were collected at intervals of 3 meters with a Maxibor tool for the surface drill holes and with an EZ-track tool for the underground drill holes. The drilling program consisted of testing the extension of the Brás vein to a depth of 440 metres below surface and the Buracão vein to a depth of 320 metres below surface.

10.5 NX Gold S/A (2018 and 2019)

In the 2018 / 2019 exploration program NX Gold drilled a total of 45,055 metres in 96 surface NQ-size diamond drill holes plus an additional 8 underground holes (total of 1,315 meters, both NQ and BQ-sized). The 2018 and 2019 drill holes were used in the current resource estimate. The primary objective of this drilling was the discovery and delineation of a new mineralized vein – Santo Antonio.

Collar locations were measured with a precision of approximately 1 centimeter by survey. Downhole deviations were monitored during drilling using a DeviShot tool to control and, if necessary, compensate for drift. After completion of drilling, all boreholes were surveyed at 3-meter intervals with a DeviShot tool.

As most of the drilling conducted in prior campaigns (pre-2015), only a selection of more recent drill data was used in the calculation of the current mineral resource estimate.

10.6 NX Gold S/A (2020)

In the 2020 exploration program NX Gold drilled a total of 18,143 meters in 33 surface NQ and BQ-size diamond drill holes plus an additional 3 underground holes, totalling 571 meters, BQ-size. All drill holes completed during 2018, 2019 and 2020 on the Santo Antônio vein were used in the current mineral resource estimation. The primary objective of the drilling was to expand the know limits of the Santo Antônio Vein. Also, in 2020, NX Gold drilled a total of 3 drillholes (1,362 m) to test extensions of the Matinha vein located to the east of the Bras vein. The Company also drilled 2 drillholes (1,278 m) in the Rocinha target, located east of the Matinha vein, and initiated a preliminary regional exploration program with 7 wide-spaced drillholes (2,551 m) to test the Mata Verde target area.

Collar locations were measured with a precision of approximately 1 centimeter by survey. Downhole deviations were monitored during drilling using a REFLEX GIRO tool at each 30 meters of drill hole advance, and, if necessary, to compensate for drift. After completion of drilling, all boreholes were surveyed at 3-meter intervals with a REFLEX GIRO tool.

The company is currently conducting directional drilling with a third-party contractor to further evaluate the continuity of mineralization at depth.

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

In drilling programs undertaken by both MCSA and NX Gold, a combination of an external laboratory, ALS Chemex Laboratories (ALS Chemex), and the NX Gold Mine laboratory were used for sample preparation and analyses. ALS Chemex sample preparation was performed in Goiânia, Brazil then sent to Chile to be assayed for gold using a fire assay procedure and atomic absorption finish on a 50-g charge (ALS Minerals code AA25). The management system of the ALS Minerals group of laboratories is accredited ISO9001:2000 by QMI Management Systems.

A brief synopsis of the sampling, analyses and security for each of the drill programs has been provided below; however, it should be noted that only information from the 2015, 2018/2019 and 2020 drilling campaigns undertaken by NX Gold has been used in the determination of the current mineral resource estimate.

11.1 Historical Sampling (1995)

The drillhole sampling preparation, analyses, and security procedures utilized by Nova Xavantina Mineração Ltda. during 1995 are unknown. There is no core remaining from this drilling program and no historical samples have been incorporated into the Company's current mineral resource estimate.

11.2 Mineração Caraíba Sampling (2007-2012)

Core samples were assayed for gold using fire assay procedures. The analyses were performed in the NX Gold laboratory and at ACME Labs as required under the QA/QC program in place at that time. The sampling and operational procedure are described in Chapter 9.

11.3 NX Gold Sampling (2013-2015)

Core samples were sent to the NX Gold laboratory. On a few occasions, the samples were sent to ACME Labs or SGS GEOSOL, both are independent of the Company. The sampling and operational procedures are described in Chapter 9.

11.4 NX Gold Sampling (2018-2020)

All core samples were sent to the NX Gold laboratory and to the ALS laboratory following the Company's QA/QC program. ALS is independent of the Company. The sampling operational procedure is described in Chapter 9 of this Report.

11.5 Quality Assurance and Quality Control Programs for 2013 to 2020 Exploration Programs

In 2013, NX Gold implemented QA/QC procedures to verify the use of exploration datasets used in estimating Mineral Resources and evaluating exploration potential. These include written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management, as well as database integrity and sample security.

Analytical control measures include both internal and external laboratory control checks implemented to monitor the precision and accuracy of the sampling, preparation, and assaying, as well as prevent sample mix-up and to monitor contamination of samples and their results. Assaying protocols involve regular duplicate and replicate assays as well as insertion of quality control samples. Check assaying is performed as an additional reliability test of assaying results and includes the routine re-assaying a set number of rejects and pulps at a second umpire laboratory.

11.5.1 *Soil Sampling Analytical Quality Control*

NX Gold's analytical quality control for soil sampling was carried out using a QA/QC control program that meets generally recognized industry best practices. NX Gold has used the integration of blank and standard reference sampling, as discussed in greater detail below.

Laboratories that conducted the assaying were SGS GEOSOL, ACME Lab, ALS, and rarely the NX Gold laboratory is used for soil sampling programs.

Prior to 2014 there was no analytical quality control for soil sampling.

11.5.2 *NX Gold Analytical Quality Control*

The exploration work conducted by NX Gold since 2014 has been carried out using a QA/QC program in accordance to industry best practices. Standardized procedures were used in all aspects of the exploration data acquisition and management including surveying, drilling, sampling, sample security, assaying, and database management.

NX Gold has included analytical quality control measures as part of the routine standard core sampling procedures since 2014 and, in addition, has used the integration of blank and standard samples allowed for the verification of fire assay analysis in the laboratory.

Analytical quality control measures for the 2014, 2015, 2018, 2019 and 2020 drilling programs consisted of inserting quality control samples (comprised of both blank and standard reference material) within all sample batches submitted for assaying. The control samples were inserted at the frequency of 1 gold certified reference material every 20 samples and 1 blank sample every 20 samples. The Company also requested that the laboratory prepare a duplicate sample every 20 samples.

NX Gold used certified reference materials procured from ROCKLABS and ITAK (Table 23). During the course of the 2014 to 2020 soil, rock chip and drill campaigns a total of 724 blank, 550 duplicate and 676 standard samples were analyzed.

Table 23 - Analytical data table showing quantities of blank, standard and duplicate samples.

	Year	Blank	Duplicate	Standard	Standard Type
Soil	2014	47	36	46	**ROCKLABS** (OxC88, OxD108, OxE86, SG66, SJ80)
	2015	25	13	25	**ROCKLABS** (OxG103, SG66, SI64,SJ80)
Rock Chip	2014	18	8	17	**ROCKLABS** (OxC88, OxD108, OxH112, SG66, SH69,SJ80)
	2015	8	4	7	**ROCKLABS** (OXG103, SI64, SJ80)
	2018 – 2020	104	136	115	**ITAK** (ITAK-527, ITAK-567, ITAK-586, ITAK-591)
Drilling	2011	5	5	5	**ROCKLABS** (SL51, SK52)
	2012	33	33	33	**ROCKLABS** (SK52,SJ53, SK62, SI64, SH55, SL51, SH41)
	2013	90	84	88	**ROCKLABS** (SG56, SG66, SK62)
	2014	59	42	88	**ROCKLABS**(OxD108,SG66,SJ80, SK78)
	2015	188	105	114	**ROCKLABS** (OxG103, SJ80, SK78, SI64)
	2018 - 2020	147	84	138	**ITAK** (ITAK-527, ITAK-567,ITAK-586, ITAK-591)
TOTAL		**724**	**550**	**676**	

11.6 Sample Security

The sample security procedures for the pre-2013 sample preparation, analyses and transportation is unavailable. However, all drill core, including the remaining half core of the sampled intervals, are stored in an orderly fashion at a secure facility at the NX Gold Mine. It should be further noted that no pre-2013 samples were used in the determination of the current mineral resource estimate.

For the exploration conducted by NX Gold in 2015, 2018 and 2019, all drilling assay samples were prepared by NX Gold personnel. Where applicable previously and for the 2020 drill program, sample batches were shipped from the property to the ALS Minerals laboratory in Goiânia by a reliable third-party transportation company, trusted by NX Gold.

The core sample batches from NX Gold's drilling were typically shipped either the same day or the day following the completion of the sampling. Samples awaiting transport were assembled in an area of the core shack until they were ready to be taken to ALS Minerals for preparation and assaying. The core shack was locked after hours and the samples were secured at all times, from splitting to delivery to the laboratory by an NX Gold employee. Transportation of the samples from the property to ALS Minerals was performed by a reliable transportation company trusted by NX Gold.

11.7 Verifications by GE21

In order to validate the data for use in the current mineral resource estimate, GE21 selected a series of QA/QC samples from those performed by NX Gold. The set of samples was taken from the current mineral resource estimate and corresponds to samples taken from the 2018-2020 drilling campaign.

The results of the blank, duplicate and standard control samples are discussed in the following sections.

11.7.1 *Blanks*

Figure 20 shows the result of the blank sample analysis for drill hole and channel samples. All results were within the acceptance limit of 0.05 ppm Au. No contamination problems were detected in the samples and chemical analyses.

The blank sample results were demonstrated to be within the acceptance limits for the classification of Mineral Resources at the NX Gold Mine.

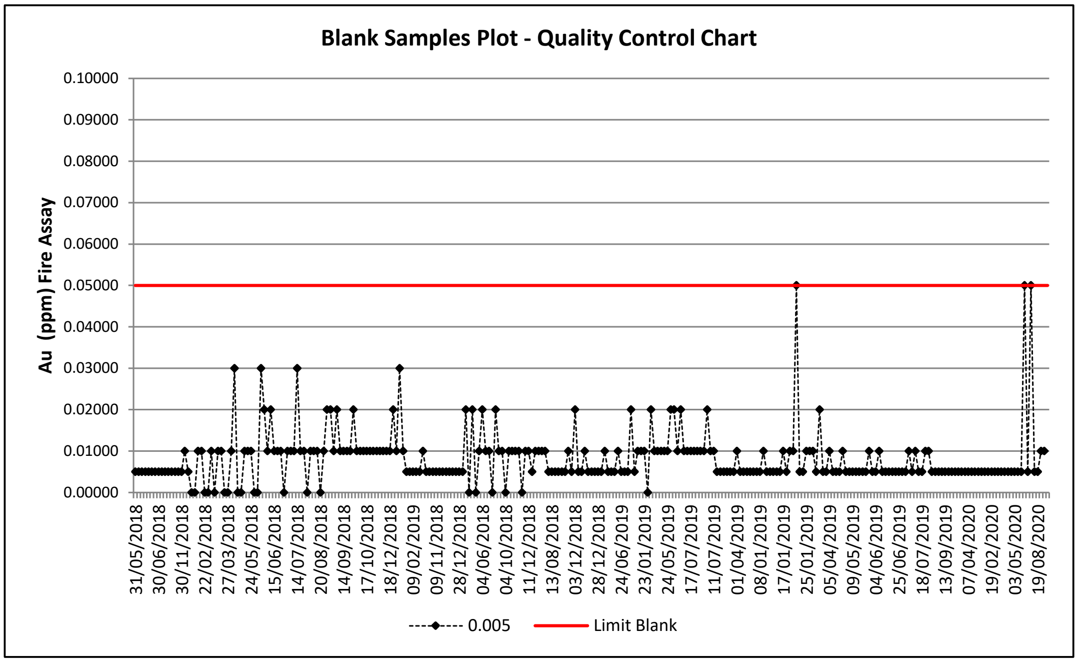


Figure 20 - Blank sample analysis for drill holes and channel samples

11.7.2 *Standard Sample Analysis*

Figure 21 to Figure 24 present the results for the standard sample analysis for both drill hole and channel samples. The majority of the standard samples demonstrate results within two standard deviations of the mean.

The results for the ITAK-527 samples demonstrated results with a high percentage inside two standard deviation limits, but with the average grade showing bias towards lower-grade

The results for the ITAK-586 samples demonstrated results with a moderate percentage inside two standard deviation limits with an average grade showing bias to higher-grade.

The results for the ITAK-567 and ITAK-591 samples are inside acceptance limits without relative biases.

The standard sample results are considered to be within the acceptance limits for the classification of the current mineral resources at the NX Gold Mine.

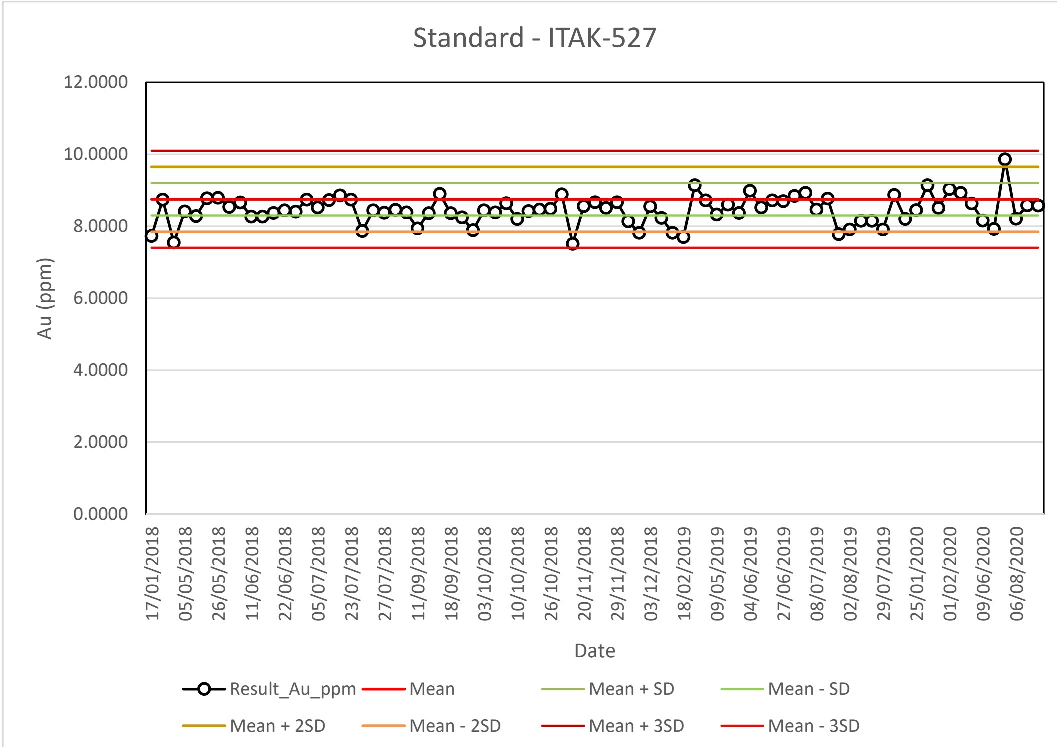


Figure 21 - Standard sample analysis - MRC-ITAK-527 for drill hole and channel samples

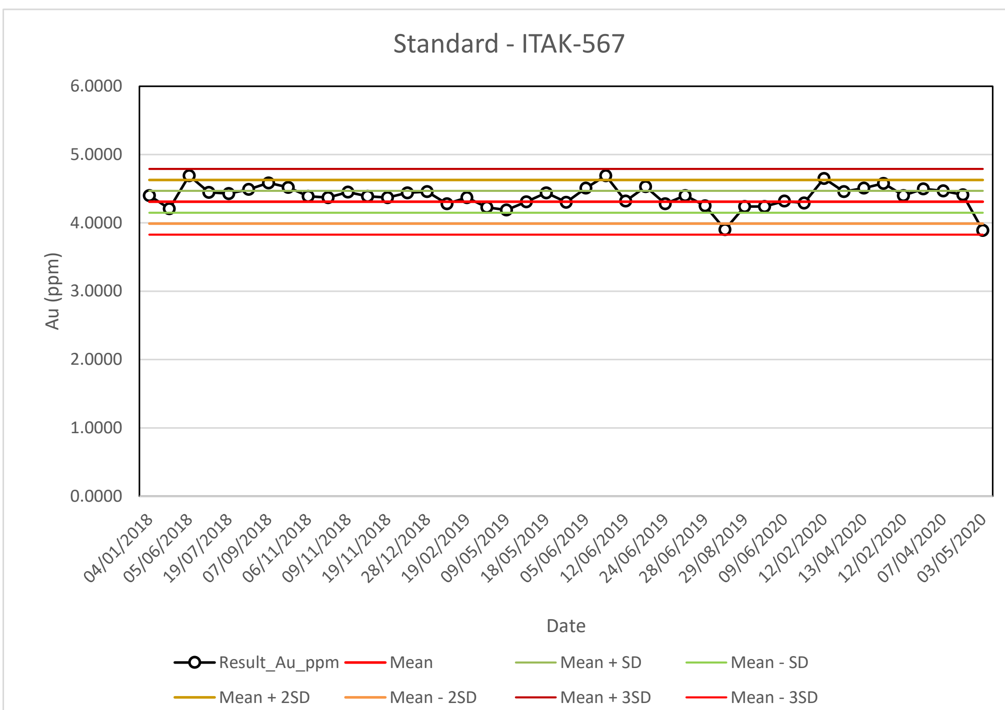


Figure 22 - Standard sample analysis - MRC-ITAK-567 for drill hole and channel samples

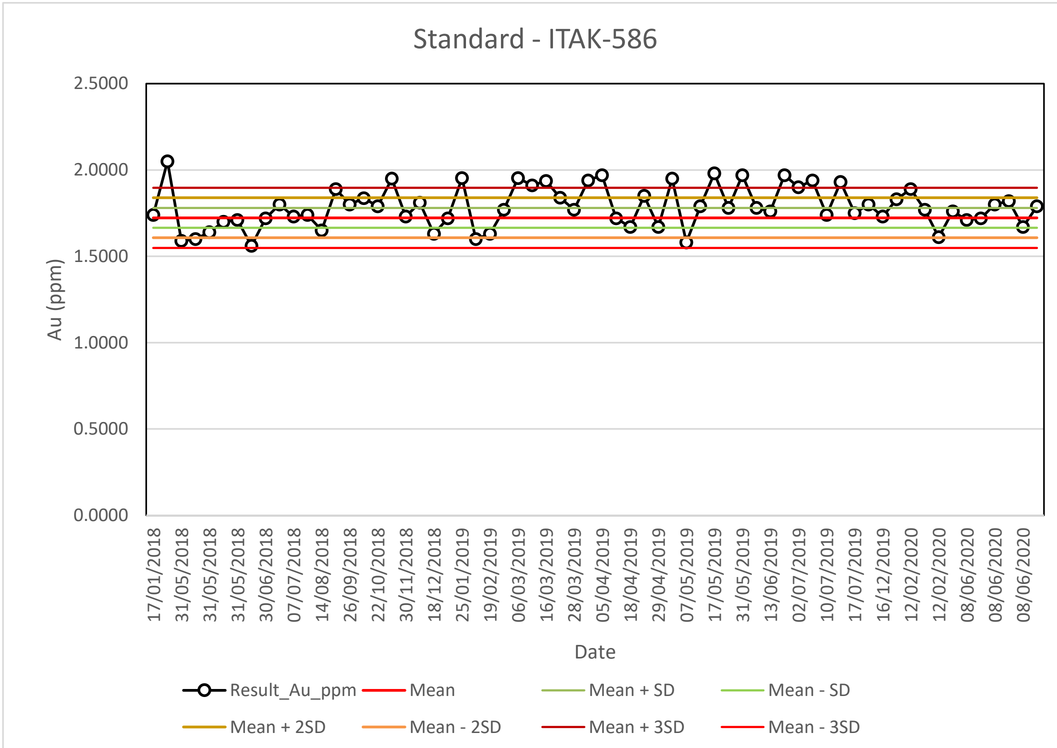


Figure 23 - Standard sample analysis - MRC-ITAK-586 for drill hole and channel samples

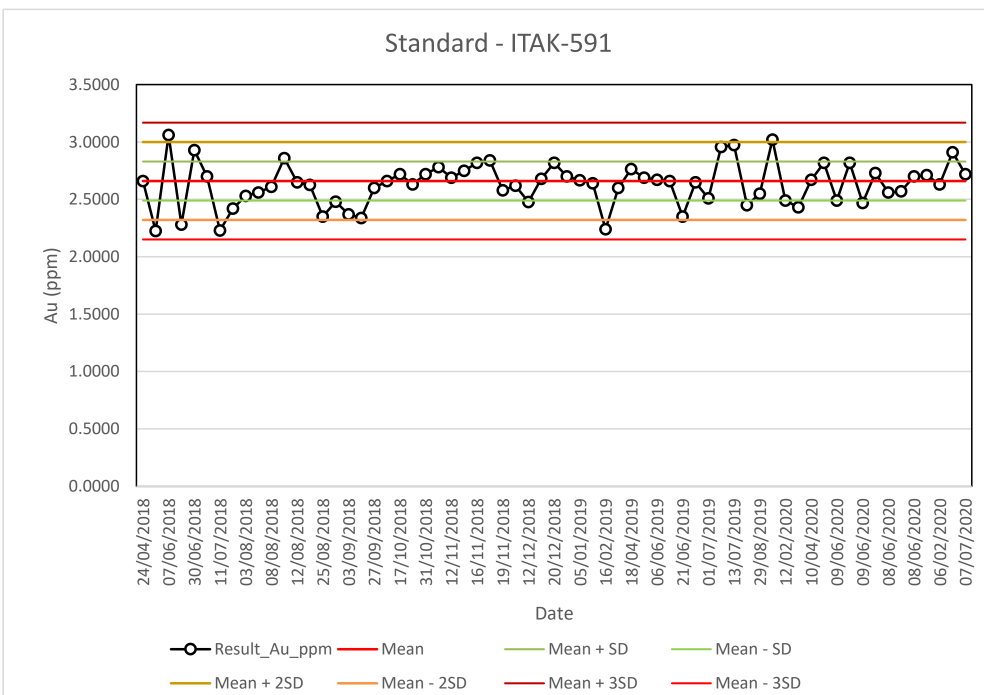


Figure 24 - Standard sample analysis - MRC-ITAK-591 for drill hole and channel samples

11.7.3 *Duplicate Samples*

Duplicate samples were analyzed separately for drill core samples and channel samples. The results of the duplicate sample analysis for drill hole and channel samples are presented in Figure 25 and Figure 26, respectively. Limits for the analysis were set at 20% relative standard deviation (“RSD”).

For drill core samples, shown in Figure 25, 93% of the samples are within the 20% RSD limits, demonstrating that the accuracy of chemical analyses is within the acceptance limits.

The duplicates for channel samples (shown in Figure 26) show 95% of the samples are within the 20% RSD limits, and inside acceptance limits for industry standards.

NX Gold contracted a third-party laboratory to prepare duplicate samples during the 2020 drill program. It is recommended that duplicate samples be selected and prepared without assay laboratory involvement to ensure validity of duplicate sample results.

Target	All - Core sample
Reference	Dupl. Crushed
Variable	Au_ppm
Accuracy limit	20%
Number of pairs	74

	Sample	Duplicate
Minimum	0.03	0.1
Maximum	138.0	138.5
Average	9.515	10.299
Median	1.535	1.695
HARD median		10.9

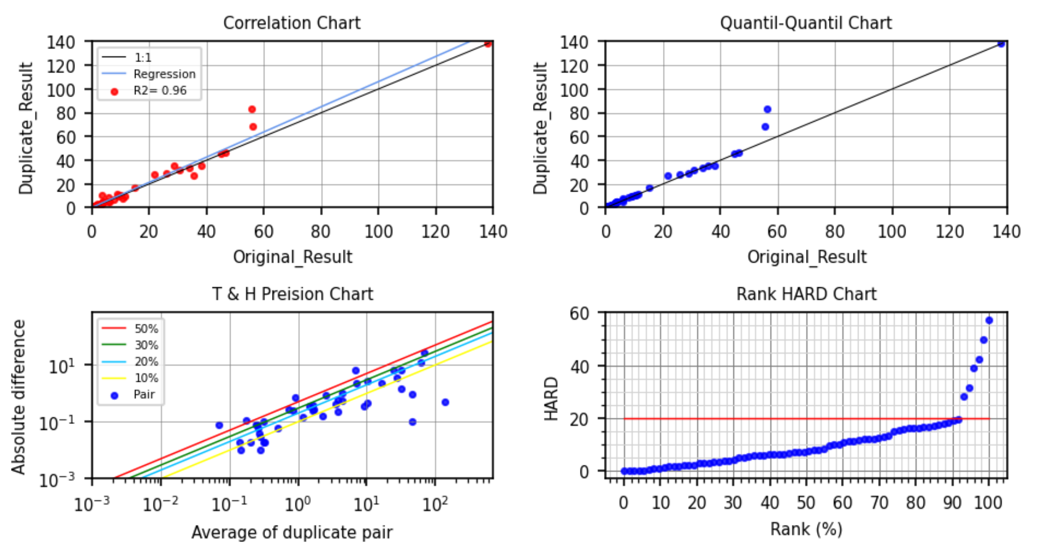


Figure 25 - Duplicate sample analysis for drill hole samples

Target	All - Channel sample
Reference	Dupl. Crushed
Variable	Au_ppm
Accuracy limit	20%
Number of pairs	136

	Sample	Duplicate
Minimum	0.018	0.02
Maximum	333.02	332.9
Average	12.009	11.861
Median	1.3	1.235
HARD median		6.7

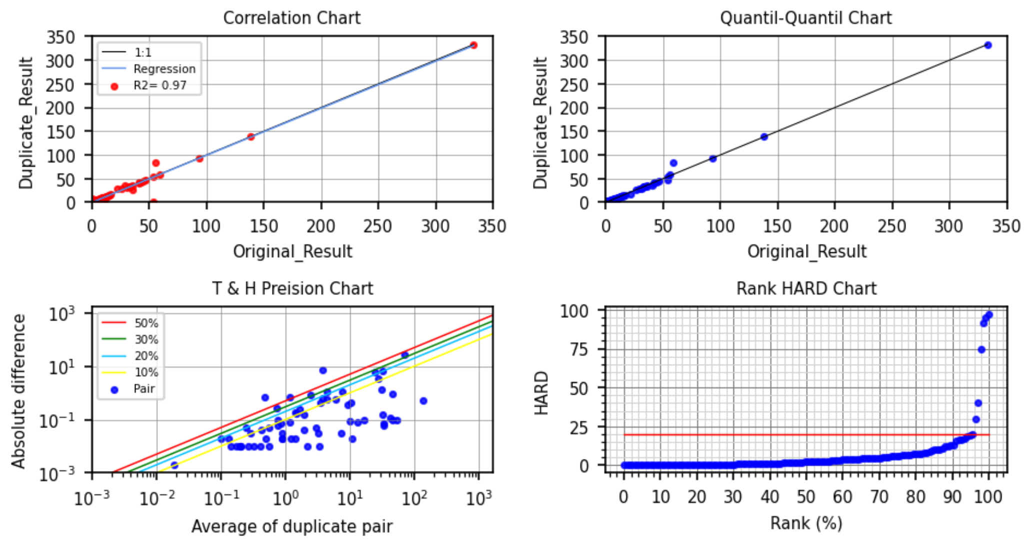


Figure 26 - Duplicate sample analysis for channel samples

11.8 GE21 Comment

It is the opinion of the QPs, that the data used in the current mineral resource and Mineral Reserve estimate, which was verified by GE21 as described in greater detail in Chapter 12, is adequate for the purpose of this Report, considering blank and standard sample controls.

Duplicate sample preparation procedures must be revised to ensure validity of duplicate sampling on a go forward basis. Specifically, duplicate samples should be selected and prepared outside of the assay laboratory. Although there is no evidence that tampering of duplicate samples has occurred at the NX Gold Mine, revising duplicate sample preparation procedures will ensure data quality and align with industry best practice.

12.0 DATA VERIFICATION

The NX Gold Mine closely monitors the analytical quality control data on a real-time basis from laboratory samples. Failures of quality control samples were investigated and appropriate actions were taken, including re-assaying of certain sample batches, if required. Where appropriate, results from re-assayed batches replaced the original assay of the failed batch.

12.1 GE21 Site Review

In addition to the blank, standard and duplicate analysis as more fully described in Chapter 11, a site review was carried out by all QPs in 2020, and in prior years. NX Gold allowed unlimited access to the Company's facilities and data during these periodic reviews.

Authors of this report inspected property on follow dates:

- Porfirio Rodriguez personally inspected the property from the 28th through the 30th of September, 2020; the 18th to 19th of September, 2019; and on the 17th to 18th of September, 2018.

- Bernardo Viana personally inspected the property from the 28th through the 30th of September, 2020.

- Leonardo Soares inspected the property from the 18th to 19th of September, 2019; the 14th to 18th of May, 2018; and, the 19th to 22nd of February, 2018.

The location of drill rigs, several survey markers, the Company's core shed, underground mine, assay lab and plant facilities were reviewed for sampling, preparation and assay procedures.

GE21 visited the NX Gold internal assay lab and observed sample preparation procedures. Sampling preparation was found to be in accordance with industry standards and procedures, and were inside accepted limits of quality, to guarantee correct sample splitting, and avoid sample contamination.

Assaying methodology and procedures were deemed to be in accordance with industry standards. The laboratory follows national industry standard certification institute (INMETRO) rules. External monthly assaying checks were performed, and certified standard samples were applied on QA/QC procedures.

Exploration program and QA/QC sampling procedures and result analysis were found to be performed according to industry standards.

Photos of each area reviewed are shown below:

- Drill hole survey landmark (Figure 27);
- Drill rig site (Figure 28)
- Drill core shed (Figure 29 and Figure 30);
- Drilling logs (Figure 31);
- Underground mine (Figure 32 and Figure 33);
- Sample preparation lab (Figure 34);
- Assay lab (Figure 35 and Figure 36);

Figure 27 - Data verification: Drill hole survey landmark

Figure 28 - Data verification: Drilling rig on the field

Figure 29 - Data verification: Sampled drill core boxes on core shed

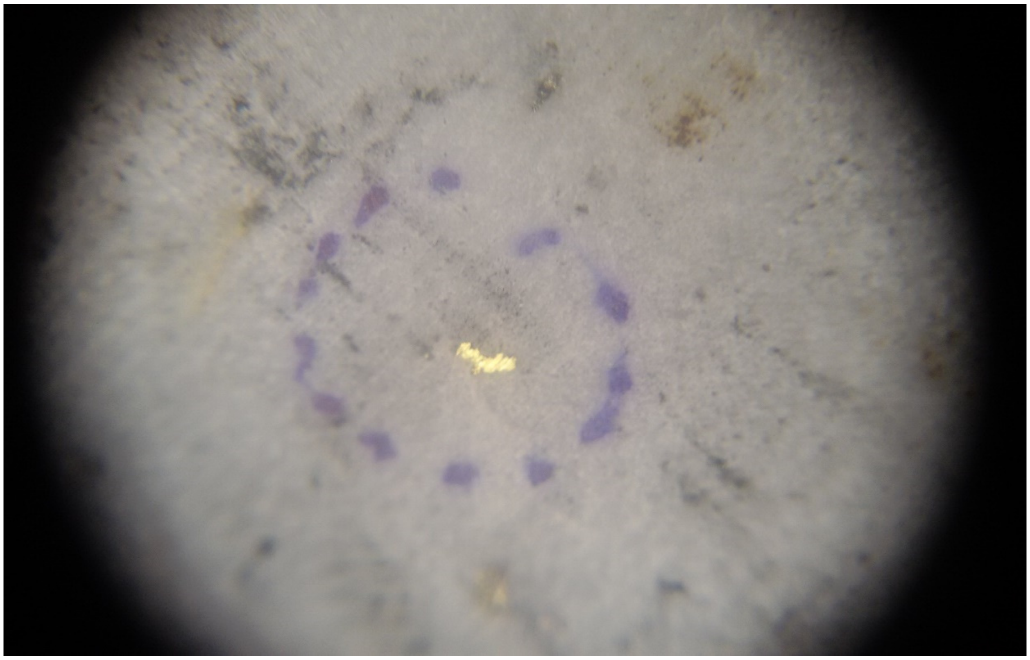
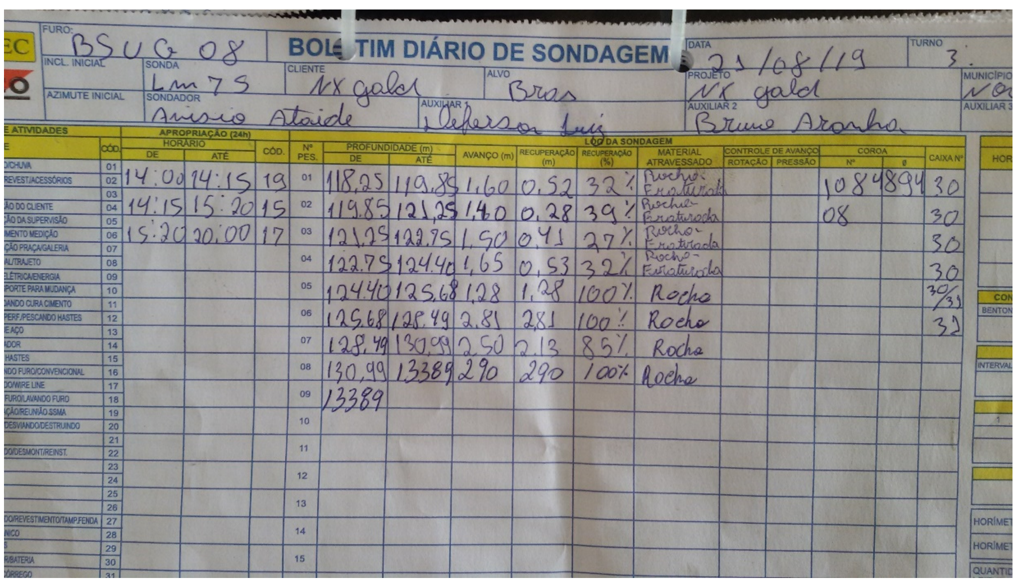


Figure 30 - Data verification: Native gold in drill core



BOLETIM DIÁRIO DE SONDAGEM

FURO: BSUG 08
DATA: 21/08/19
TURNO: 3
SONDA: Lm 75
CLIENTE: NX gold
ALVO: Bras
PROJETO: NX gold
SONDADOR: Anisio Ataide
AUXILIAR 1: Jeferson Luiz
AUXILIAR 2: Bruno Aronha
INCL. INICIAL
AZIMUTE INICIAL
MUNICÍPIO: NO

APROPRIAÇÃO (24h)

CÓD.	HORÁRIO DE	HORÁRIO ATÉ	CÓD.
01			
02	14:00	14:15	19
03			
04	14:15	15:20	15
05			
06	15:20	20:00	17

LOG DA SONDAGEM

Nº PES.	PROFUNDIDADE (m) DE	PROFUNDIDADE (m) ATÉ	AVANÇO (m)	RECUPERAÇÃO (m)	RECUPERAÇÃO (%)	MATERIAL ATRAVESSADO	CONTROLE DE AVANÇO ROTAÇÃO	CONTROLE DE AVANÇO PRESSÃO	COROA Nº	COROA ø	CAIXA Nº
01	118,25	119,85	1,60	0,52	32%	Rocha Fraturada			1084894		30
02	119,85	121,25	1,40	0,28	39%	Rocha Fraturada			08		30
03	121,25	122,75	1,50	0,41	27%	Rocha Fraturada					30
04	122,75	124,40	1,65	0,53	32%	Rocha Fraturada					30
05	124,40	125,68	1,28	1,28	100%	Rocha					30/31
06	125,68	128,49	2,81	2,81	100%	Rocha					31
07	128,49	130,99	2,50	2,13	85%	Rocha					
08	130,99	133,89	2,90	2,90	100%	Rocha					
09	133,89										
10											
11											
12											
13											
14											
15											

Figure 31 - Data verification: Drilling bulletin

Figure 32 - Data verification: Sulfide quartz vein in underground mine

Figure 33 - Data verification: Underground mine stope

Figure 34 - Data verification: Sample preparation lab

Figure 35 - Data verification: Internal lab QAQC bulletin board

Figure 36 - Data verification Assay lab: Atomic absorption analyzer

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The NX Gold Mine is currently in operation and achieving metallurgical recoveries in excess of 90%. This Chapter provides an overveiw of prior testwork performed in support of mine development. The Company's forecast recovery of approximately 92% is based on actual plant performance and modeled reserve grades as set out in the production plan herein. Average metallurgical recoveries of 92.0% were achieved during the third quarter of 2020 on ore mined and processed from the Santo Antonio vein.

Prior to the transition of the NX Gold Mine to NX Gold S.A in 2019, MCSA requested that Amdel Mineral Laboratories investigate the metallurgical response of samples from the NX Gold Mine in support of its development.

The aim of the testwork was to investigate processing options and to optimise gold recovery. The test work included:

- Sample characterisation;
- Gravity separation;
- Cyanide leach tests;
- Flotation optimisation; and,
- Bulk processing under optimised conditions.

The test work, described in greater detail below, showed that despite preg-robbing characteristics, the combination of gravity, flotation and CIL leaching resulted in overall gold recoveries of 96% being achievable at a target grind size of 106 micron ("µm"). The results of the optimization test work evaluating varying process routes is shown below in Table 24.

Table 24 - Processing Route results.

Processing Route	Au Calc Head (g/t)	Gravity Con 1 (dist %)	Float Con (dist %)	Gravity Con 2 (dist %)	Process Recovery (%)
Gravity- Float (regrind cons) - CIL – Gravity Float tails	2.44	73.0	24.9	1.01	96.4
Gravity - Deslime - Float (regrind cons) - CIL	2.58	70.2	16.3	-	86.6
Gravity-Float (regrind cons) - CIL	2.41	71.4	25.7	-	96.0
Gravity-CIL	3.11	66.1	-	-	96.2

Additional evaluation showed that a simple gravity/CIL circuit resulted in similar recoveries as gravity, flotation, followed by CIL of the flotation concentrate. Kerosene addition of 3kg/t was required to optimise CIL recovery from the float concentrate. Regrinding the flotation concentrate, from 106µm to 30µm, resulted in an additional 1% gold recovery.

13.1 Metallurgical Test work

13.1.1 *Sample Characterisation*

A sub sample of the Nova Xavantina/Araés Composite was assayed in duplicate to determine the head grade. A summary of these results can be found in Table 25.

Table 25 - Assayed Head Grades

Assay	Au (g/t)				As (ppm)	S (ppm)	Org C (%)
Original	3.55	3.11	4.04	2.00	21	8700	0.48
Duplicate	5.36	2.40	2.81	-	19	8800	0.49

In initial characterization work, the gold grade in the Nova Xavantina/Araés Composite ranged from 2.00g/t to 5.36g/t while the average grade was 3.32 g/t. The discrepancy indicated the presence of coarse gold in the sample. In addition, significant amounts of organic carbon were found to be present in the sample (approximately 0.5%), indicating that preg-robbing was likely to occur in leaching stages.

ICP analysis was also conducted on the composite sample, as shown below in Table 26. The assay data indicated significant quantities of lead were present, approximately 0.14%, while only trace quantities of arsenic and antimony were present.

Table 26 - ICP Composite Characterization

Element	Unit	Detection Limit	Assay
Ag	ppm	0.5	3.25
Pb	ppm	1	1385
As	ppm	1	20
Sb	ppm	0.2	3.5
Fe	%	0.01	1.56
Si	%	0.1	43.95
CO_2	%	0.1	1.05
Tot C	%	0.01	0.77
Na	%	0.01	0.01
Mg	%	0.01	0.295
Ca	%	0.01	0.58

13.1.2 *Sequential Leach*

For sequential leach test work, a 1kg composite sample charge was ground to 80% passing 106µm, and subjected to a sequential leach analysis, involving gravity concentration, leaching of the concentrate and tails, followed by a regrind and re-cyanidation step, and finally aqua regia digestion to determine final recoveries.

High final tail gold grades, and lower than expected recovery from the first three stages of the diagnostic test, indicated that preg-robbing may have occurred. To confirm this, a portion of the tailings from the reground intense cyanidation test were subjected to acetonitrile leaching, followed by roasting for 2 hours at 900°C to remove the carbonaceous component. The roast residue was then subjected to aqua regia digestion.

Based on the acetonitrile leaching, it was determined that only 1% of the gold was found to have preg-robbed in the first two stages. Recovery in the aqua regia digest was significantly higher on the roasted product, indicating that carbonaceous material was interfering with the aqua regia digestion, which is a known phenomenon, whereby the gold chloride produced can be reduced to metallic gold by the natural carbon in the ore.

In summary, the diagnostic test work indicated:

- 57% gold is gravity recoverable;

- 29% gold is recoverable by CIL (with slight benefit from regrinding);
- 5% of the gold is refractory gold associated with sulphides; and,
- 7% of the gold is associated with silica or silicates.

Table 27 - Diagnostic leach summary results.

Diagnostic Step	Au Dist'n	Acetonitrile Leach	After Roasting	Generic Mineral Associations
Gravity / Amalgam	57%			Free gold
Intense Cyanide Leach	28%			Partially liberated gold and gold accessible by cyanide
Intense Cyanide Leach after grinding	0%	1%		Fine encapsulated gold
Aqua Regia Soln	1%		5%	Gold associated with sulfides
Aqua Regia Res	13%		7%	Gold encapsulated in fine grained silicates

13.1.3 *Preg-Robbing Factor Tests*

Preg-robbing factor ("PRF") tests were conducted on whole ore samples, as well as rougher flotation concentrate from the sequential leach test work. The test involved subjecting the pulverized sample to a 40 mg/L gold solution for 1 hour. %PRF is expressed as the percentage of gold in solution that was removed by the ore.

Table 28 - Preg-robbing factor test summary.

Sample	% solids	% PRF
Whole ore	23	5.0
Whole ore	15	2.2
Rougher con	33	80.1

The results of the tests confirmed that the whole ore sample exhibits mild preg-robbing characteristics, with the flotation concentrate having significantly stronger preg-robbing properties, likely due to the concentration of organic carbon into the flotation concentrate (refer to float test data where total organic carbon ("TOC") levels ranged from ~4 to 5% in the concentrates).

13.1.4 *Whole Ore Leaching*

A bottle roll cyanide leach test was conducted on whole ore composite sample at a grind size of 80% passing 106 µm. Figure 37 shows the recovery plateaus at 8 hours, then slowly declines to 24 hours. This indicates that a portion of the leached gold is being lost to the carbonaceous component of the ore.

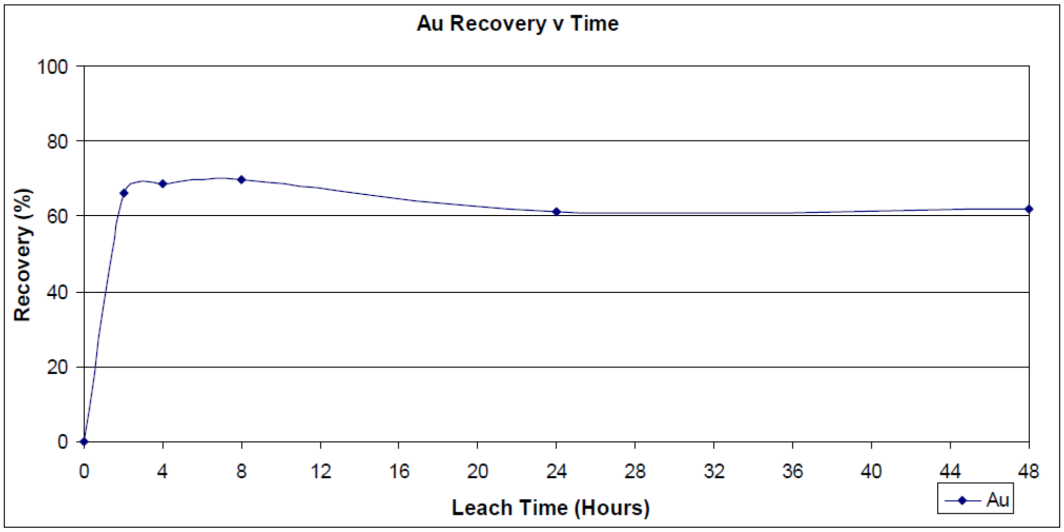


Figure 37 - Results from bottle roll tests.

Whole ore CIL tests were conducted at three grind sizes to determine the relationship between recovery and grind size. The test conditions are summarized as follows:

- 33 g/L Activated Carbon;
- 750 ppm NaCN initial dose;
- 500 ppm NaCN maintained;
- pH 10-10.5 adjusted with Lime;
- 40% Solids;
- Dissolved Oxygen > 10 ppm; and,
- 48-hour total leach time.

Test work demonstrated that gold recoveries increased with finer grind size, as illustrated in the results tabulated below. Where the use of fresh carbon was employed, higher recoveries were achieved compared with the use of "aged carbon" (test CIL1.4). It is hypothesized that the aged carbon had less ability to counter-act the natural adsorption properties of the ore and this became an important process design consideration.

Table 29 - Summary of whole of ore leach tests.

Test Parameter	Leach Test	Grind Size (µm)	Gold				
			Recovered (%)	Residue (g/t)	Calc Head (g/t)	Assay Head (g/t)
Grind Size	CIL 1.1	106	93.0	0.23	3.27	3.32
Grind Size	CIL 1.2	75	94.8	0.12	2.25	
Grind Size	CIL 1.3	53	96.1	0.12	3.09	
Aged Carbon	CIL 1.4	106	87.8	0.41	3.37	

13.1.5 *Flotation Optimisation*

Flotation test work was conducted on 1kg charges under the following conditions:

- 2.5L flotation cell
- 750 RPM

- 100 g/t PAX
- 30-60 g/t IF50 as required
- 14.5 minutes cumulative flotation time

A total of 7 rougher flotation tests were performed, examining the effect of grind size, copper sulfate addition and desliming on gold recovery. Table 30 summarises the results obtained.

Table 30 - Summary of Flotation Test Results.

Test Number	Grind Size (µm)	$CuSO_4$ Addition	Mass Pull (%)	Gold			
				Recovery (%)	Con. Grade (g/t)	Residue Grade (g/t)	Calc Head (g/t)
1.1	106	-	6.85	97.6	50.88	0.09	3.57
1.2	75	-	7.13	98.6	40.17	0.05	2.91
1.3	53	-	8.06	98.6	32.35	0.04	2.64
1.4	106 (deslimed)†	-	4.80	89.1	59.51	0.07	3.59
1.5	150	50g/t	7.36	97.3	36.73	0.08	2.78
1.6	212	50g/t	7.65	97.9	35.82	0.07	2.80
1.7	106	50g/t	7.14	98.8	44.70	0.04	3.23

The flotation test work results demonstrated that the samples were amenable to beneficiation by flotation, with greater than 97% of gold recovered into the flotation concentrate. Test 1.4 was conducted on a de-slimed flotation feed and showed significant losses of gold (approximately 9%) to the slimes fraction.

13.1.6 *Gravity Grind Optimisation*

Two 1kg lots were ground to different grind sizes and passed once through a Knelson concentrator to determine the optimum grind size for gravity separation. The results of the tests are summarized in Table 31. The results indicated that the samples were highly amenable to gravity recovery, with gold recoveries ranging from 65.1 to 77.9% into the gravity concentrate.

Table 31 - Results of gravity testwork

Grind Size p80 (µm)	Gravity Concentrate			Gravity Tails Grade (g/t)	Head Grade (g/t)	
	Recovery		Grade		Calculated (g/t)	Assayed (g/t)
	Mass (%)	Au (%)	Au (g/t)			
150	3.24	77.9	65.3	0.62	2.72	3.32
106	2.95	67.2	61.2	0.73	2.51	
75	2.12	65.1	65.2	0.76	2.12	
53	1.20	68.7	121	1.09	2.54	

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13.1.7 *Bulk Composite Testwork*

Three process routes were evaluated at a selected optimum grind size of 106 µm. The process routes evaluated were:

- **Test 1:** Gravity, Rougher Flotation, CIL of concentrate, Gravity separation of flotation tails.
- **Test 2:** Gravity, Deslime, Rougher Flotation, CIL of concentrate, Gravity separation of flotation tails.
- **Test 3:** Gravity, CIL of gravity tail.
- **Test 2.1:** Repeat of Test 2; non-deslimed Kerosene addition optimization.

Results of the bulk composite testwork program indicated that Knelson gravity recovery of 106 µm feed is approximately 67% at a 1% mass pull. As was noted previously, high intensity leach tests on the gravity concentrate resulted in gold recoveries from gravity concentrate of approximately 98%.

Subsequent flotation of the gravity tails without desliming was able to further recover approximately 25% of the gold, leaving between 1.5% and 3.0% of the gold in the flotation tails.

Recovery of gold from the flotation concentrate improved with regrinding, to a recovery of 90% after a 15 minute regrind (P80 after a 15 minute regrind of 30 µm).

Kerosene addition for optimization on the CIL test work conducted on non-deslimed flotation concentrates indicate that 3 kg/t of kerosene was sufficient to passivate the naturally occurring carbonaceous material that reported to the flotation concentrate.

Table 32 below shows the deportment of the gold into different concentrate streams in each 10 kg test, along with calculated gold head grade, and overall process recovery.

Table 32 - Bulk testing summary data.

Bulk Test No.	Au Calc Head (g/t)	Gravity Con 1 (dist %)	Float Con (dist %)	Gravity Con 2 (dist %)	Process Recovery (%)
2.1	2.44	73.0	25.0	1.01	96.1
2.2	2.58	70.2	16.3	-	86.6†
2.3	2.41	71.4	25.7	-	96.0
3.1	2.95	64.2	-	-	96.2

The methods and results of the bulk composite test work is described below in greater detail.

13.1.8 *Gravity – Flotation – Gravity Process Tests*

For the Gravity – Flotation – Gravity tests, a 10kg sample was ground to 80% passing 106 µm and passed through a Knelson concentrator. The concentrate was leached, and the tails floated. The flotation tails were then passed through a Knelson concentrator and leached in the same manner as the first gravity concentrate. The flotation concentrate was then wet split into four, and reground for 0, 5, 10 and 15 minutes. The milled concentrate was conditioned for 30 minutes with 33 kg/t kerosene.

The excess kerosene was removed with activated carbon. The carbon was screened out, and 20 g of fresh carbon added back to the slurry. 48 h CIL tests were conducted and the final concentrate and carbon assayed to determine recovery. Table 33 summarises the key recovery data from the test.

Table 33 - Test concentrate grinding optimisation.

1st Pass Gravity Con Au Dist	Assumed Gravity High Intensity Leach Recovery	2nd Pass Gravity Con Au Dist	Assumed Gravity High Intensity Leach Recovery	Flot Con Au Dist	Test	Concentrate Grind time	CIL Recovery (%)	Overall Process Recovery (%)
						(minutes)	Au	
73.0%	98%	1.01%	90%	24.7%	CIL 2.1	5	90.9	94.9
					CIL 2.2	10	93.0	95.4
					CIL 2.3	15	95.9	96.1
					CIL 2.4	0	90.5	94.8

The gravity leach recovery was lower than would be expected in an Acacia leach process, so an assumed recovery of 98% and 90% was applied to the two gravity concentrates in calculating the overall process recovery.

Additional flotation concentrate was generated to perform kerosene addition optimization tests. In each case the flotation concentrate was ground for 15 minutes. In subsequent tests, gravity concentrate leach conditions were conducted using conditions that were more aligned with full scale processes. Test conditions were 50 °C, 2.5% NaCN, 0.25% LeachWELL, 0.25% NaOH, 10% solids. The leach was monitored at 1, 2, 4, 6, 8 and 24 hours. Recovery was found to be 98.0%, with the leach being essentially complete after 4 hours.

Table 34 - Concentrate kerosene addition optimization.

1st Pass Gravity Con Au Dist	Actual Gravity High Intensity Leach Recovery	Flot Con Au Dist	Test	Kerosene	CIL Recovery (%)	Overall Recovery (%)
				(kg/t)	Au	
73.2%	98.0%	24.1%	CIL 2.8	0	72.4	89.1
			CIL 2.9	3.5	90.1	93.4
			CIL 2.10	6.6	88.6	93.0
			CIL 2.11	9.12	83.4	91.8

Kerosene addition to the float concentrate leach improved gold recovery by ~18%. Optimum kerosene addition was 3.5kg/t of concentrate, with higher addition rates providing no benefits in gold recovery. Note, lower addition rates than 3.5 kg/t were not tested.

Laser sizing analysis of the CIL residues was carried out, indicating the P80 of the concentrate after a 15 minute regrind to be 30 microns.

13.1.9 *Gravity – Deslime – Flotation – Gravity Process Tests*

Ten kilograms was ground to 80% passing 106 microns and passed through a Knelson concentrator. The concentrate was leached, and the tails deslimed before being subjected to flotation. The flotation concentrate was then wet split into three, and reground for 0, 7.5 and 15 minutes in a rod mill. The milled concentrate was conditioned for 30 minutes with 33 kg/t kerosene.

Note: this test was conducted prior to the kerosene optimization tests discussed previously. The excess kerosene was removed with activated carbon. The carbon was screened out, and

20 g of fresh carbon added back to the slurry. 48 h CIL tests were conducted and the final concentrate and carbon assayed to determine recovery.

Table 35 summarizes the key recovery data from the test.

Table 35 - Test Summary

1st Pass Gravity Con Au Dist	Assumed Gravity High Intensity Leach Recovery	2nd Pass Gravity Con Au Dist	Assumed Gravity High Intensity Leach Recovery	Flot Con Au Dist	Test	Concentrate Grind time	CIL Recovery (%)	Overall Process Recovery (%)
						(minutes)	Au	
70.2%	98.0%	0.74%	90%	19.6%	CIL 2.5	0	59.3	81.0
					CIL 2.6	7.5	76.8	84.5
					CIL 2.7	15	86.4	86.4

13.1.10 *Gravity – Leach Process Tests*

Ten kilograms was ground to 80% passing 106 micron and passed through a Knelson concentrator. The concentrate was leached at 50 °C, and the gravity tails split into 9 samples approximately of 1.1 kg each. CIL tests were conducted with interim and final solids sampling and the final and carbon assayed to determine recovery kinetics. Table 36 summarizes the key recovery data from the test.

CIL tests showed that recovery of gold proceeded rapidly, with maximum recoveries achieved in as little as 4 hours. Subsequently recovery appeared to decline significantly, however this may well be an artifact of interim sampling. Lead nitrate dosed at 1 kg per tonne appeared to have a deleterious effect on final gold recovery.

Table 36 - Test Knelson Tail CIL Summary Data

Gravity Con Au Dist	Actual Gravity High Intensity Leach Recovery	Gravity Tail Au Dist	Test	Total Leach Time	Initial CN: Test CN	Cyanide Consumption	CIL Recovery (Au)	Overall Recovery (%)
				Hours	ppm	kg/t	%	
64.2%	98.2%	35.8%	3.1.2	24	750:500	1.14	82.67	92.6
			3.1.3	24	500:250 lead nitrate	1.02	73.39	89.3
			3.1.4	24	500:250	0.92	80.63	91.9
			3.1.5	8	1250:1000	1.23	92.72	96.2
			3.1.6	8	1000:750	0.86	91.24	95.7
			3.1.7	8	750:500	0.75	90.73	95.5
			3.1.8	6	1000:750 1110g/t Au on carbon 40 kg/t Carbon	0.49	86.95	94.2
			3.1.9	6	1000:750 1110g/t Au on carbon 60 kg/t Carbon	0.64	85.96	93.8
			3.1.10	6	1000:750 1110g/t Au on carbon 20 kg/t Carbon	0.56	88.07	94.6

Final gold recovery increased with increasing cyanide levels, however cyanide consumption rose by 0.47 kg/t between test 3.1.5 and 3.1.7, while overall gold recovery increased by 0.03 g/t.

It was found that extended leach times had a deleterious effect on recovery, as shown by Figure 38 below representing gold recovery in the first three 24h CIL tests.

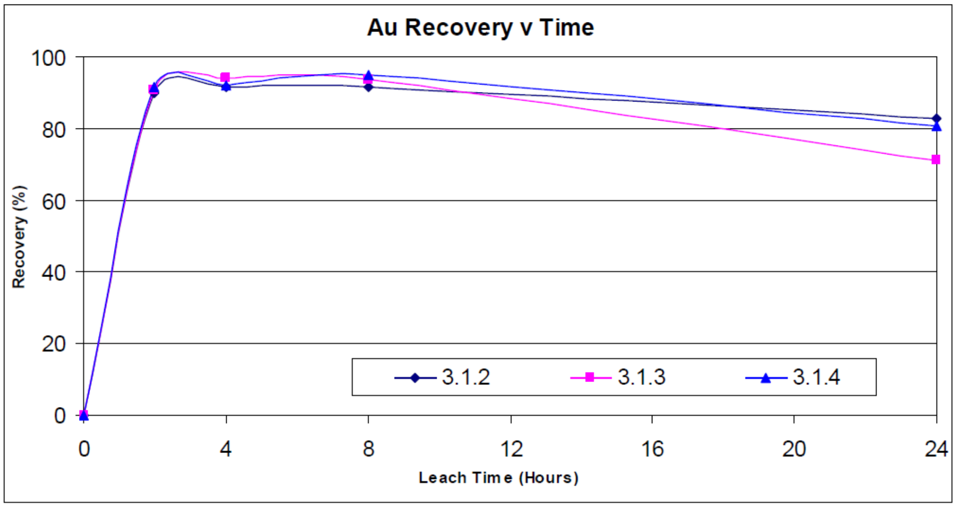


Figure 38 - Comparison of 24h leach tests.

The results suggest that the addition of lead in 3.1.3 results in an increase in preg-robbing. Given the natural content of lead in the ore, this may explain the observed decrease in calculated recoveries between 8 and 24 hours.

Further tests were conducted with an 8-hour residence time, with kinetic recovery data presented below in Figure 39.

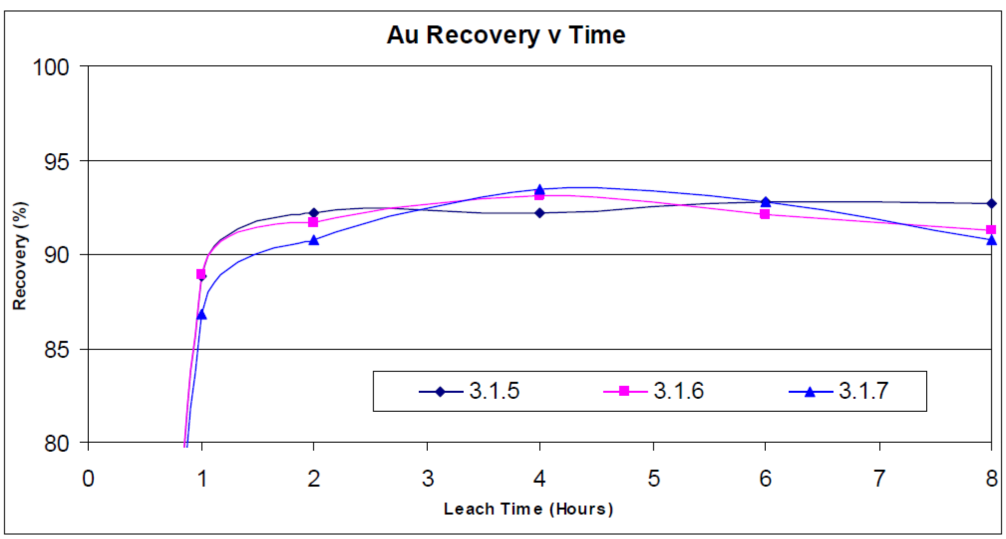


Figure 39 - Comparison of 8h leach tests.

The highest cyanide addition test (3.1.5) appears to have had the lowest losses of gold, while at the lower addition rate (3.1.7), losses appear to have been significant.

The 8-hour tests provide a level of confidence in the interim data for the 24 hour tests and show that leaching was essentially complete after only two hours using an initial cyanide dose of 1000 ppm.

A further three CIL tests were conducted at 20, 40 and 60 kg/t of carbon preloaded to 1110 g/t Au and employing a shorter residence time of 6 hours (Figure 40).

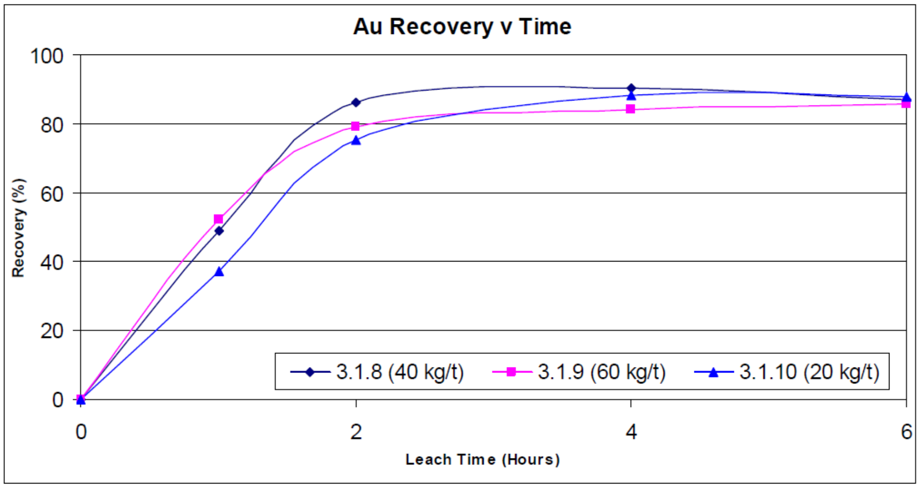


Figure 40 - Comparison of 6h leach tests.

Differences in the kinetics of each test are explained by interim sampling error. By comparison to recoveries achieved using fresh carbon, the leach recovery decreased by approximately 4%.

13.1.11 *Gravity Test – Santo Antônio*

Similar to the Buracão and Brás veins, as detailed more fully in Chapter 7, the Santo Antônio vein is hosted in deformed metamorphosed sedimentary rock units, which belongs to the Nova Xavantina Volcano-Sedimentary Sequence which have been metamorphosed to greenschist facies (indicated by chlorite, sericite and calcite assemblages). The Buracão, Brás and Santo Antônio veins are associated with the Araés shear zone and they are frequently bordered on the eastern and western edges by discontinuous tectonic/hydrothermal breccias.

The gold mineralization on Santo Antônio is structurally controlled and hosted in sulphide-bearing, laminated shear veins that crosscut the previously deformed and metamorphosed volcanic and sedimentary rock. The laminated nature of the veins indicates multiple pulses of quartz intruding Araés shear zone.

The gold mineralization in Santo Antônio vein is associated with sulphides, containing between 2% to 8% total sulphides, mainly pyrite and galena, with minor chalcopyrite, bornite, pyrrhotite, and sphalerite. Similar to previously mined ore bodies, higher gold grades are generally associated with higher concentrations of pyrite and galena.

In order to evaluate the metallurgical performance of the Santo Antonio vein, prior to commencing operations within the orebody in 2019, the Company conducted gravity concentration tests. A composite sample was taken from 9 drillholes from within the current Mineral Reserves of Santo Antonio. The average gold grade of the composite sample was 9.38 g/t.

The gravity tests were conducted in a bench-scale Falcon concentrator, model L40, shown in Figure 41.

Figure 41 - Falcon Concentrator L40 - Laboratory Size

The sample preparation process and laboratory testing flow-sheet is depicted below in Figure 42.

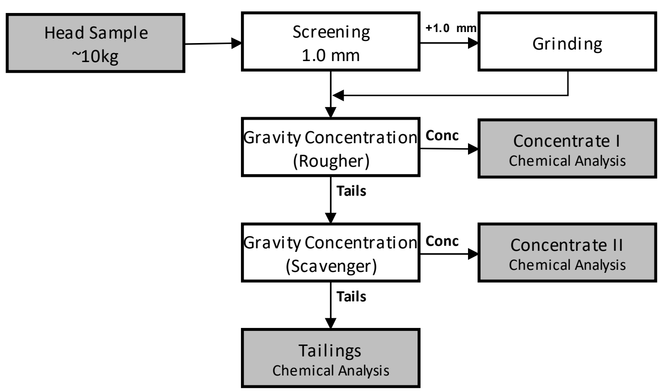


Figure 42 - Test work block diagram

During the gravity concentration test work, the laboratory set conditions aimed to mirror that of previous test work and simulate actual plant performance.

- Slurry flow: 5.0 liters per minute
- Solids Concentration: 25%
- G-Force: 150 G

- Duration: 2.0 minutes
- Flush Water: 12.0 liters per minute

Results of the Santo Antonio test work is shown below in Table 37.

Table 37 - Gravity test work results

		Au Grade (g/t)	Mass Distribution (%)	Au Distribution (%)	Enrichment Factor
Sample 1	Feed	8.44	100.0	100.0	26.6
	Concentrate	142.82	3.75	63.5	
	Tailings	3.2	96.25	36.5	

Based on the geologic consideration that the ore from Santo Antônio has the same structure, lithology and mineralogy of the ores in the other ore bodies (Brás and Buracão), the company assumed that the metallurgical recoveries for ore mined and processed from the Santo Antonio vein would be similar to the current recovery rates, processing the Brás and Buracão ores. This assumption is corroborated by operational results of tests, (conducted in 2018), and by actual operational results, whereby excellent metallurgical recoveries, in excess of 90% have been achieved from the Santo Antonio orebody in 2019 and 2020 prior to the Effective Date.

13.2 QP Opinion Summary

The recovery rates for the Santo Antônio vein are based on processing operational records. As noted, prior test work, plant performance to date and geologic evidence demonstrating continuity of mineralization styles, supports that ore produced from the Santo Antônio vein will continue to have the same mineralogical characteristics as the ore previously mined and processed from the mine.

Excellent metallurgical recoveries from ore mined and processed from the Santo Antonio vein have been achieved with the most recent full quarter of production (third quarter of 2020) achieving 92.0% metallurgical recovery, in-line with the forecast metallurgical recoveries in the current production plan.

14.0 MINERAL RESOURCE ESTIMATES

14.1 Database

GE21 received data from NX Gold in table in text file format (".CSV") referring to the results of sampling and survey works conducted at the NX Gold Mine. These files contained data that included X and Y coordinates, dimensions, final depth of the drill holes, geological description of the drilling intervals, thickness of the sampled interval, chemical analysis of the mineralized grades, as well as measurements of borehole deviation and density. Data collected from underground channel samples was also included in the database.

A database with available data was created in MS-Access format and was named *db_nxgold_ago2019.mdb*. This database contained the data summarized in Table 38.

Table 38 - NX Mine Database Summary

Summary	Drilling Campaign 2018/2019	Drilling Campaign 2020	TOTAL
Number of Drill holes	69	14	83
Total Length (m)	30,085	8,788	38,873
Number of Sample Assays	908	330	1238
Number of Underground Channel Sample Lines	7	23	30
Total Length of Channels (m)	30	99	129
Number of Channel Samples	46	151	197

An automatic validation was performed in the project database using the Geovia Surpac software database audit tool. This tool validates:

- Final Depth - Validates if the final depth in the Sampling, Geology and Survey tables does not exceed the value set as maximum depth in the Collar Table;
- Overlapping - Validates whether there is an overlap between sample intervals in the same drill hole;
- Collar - Validates if all key information such as coordinates, and final depth are complete.

GE21 validated the database using Geovia Surpac 6 software and found a small number of inconsistencies in the database that were subsequently revised by the NX Gold technical team prior to geological modelling and grade estimation for the current mineral resource estimate.

14.2 3D Model

The 3D model for the mineralization of the NX Gold Mine (grade shell) was generated based on drilling sampling and underground channels with grades above 1.20 g/t Au using LeapFrog Geo 5.1 software. This grade was selected based on cut-off calculation resulting in a reasonable prospect for eventual economical extraction. This grade is considered the geological modeling cut-off grade. Low grades located between samples of high grade were included in the 3D model and the internal dilution was assumed as part of the mineralization zone. Figure 43 highlights the parameters applied for economic compositing in LeapFrog Geo for the 2020 mineral resource estimate.

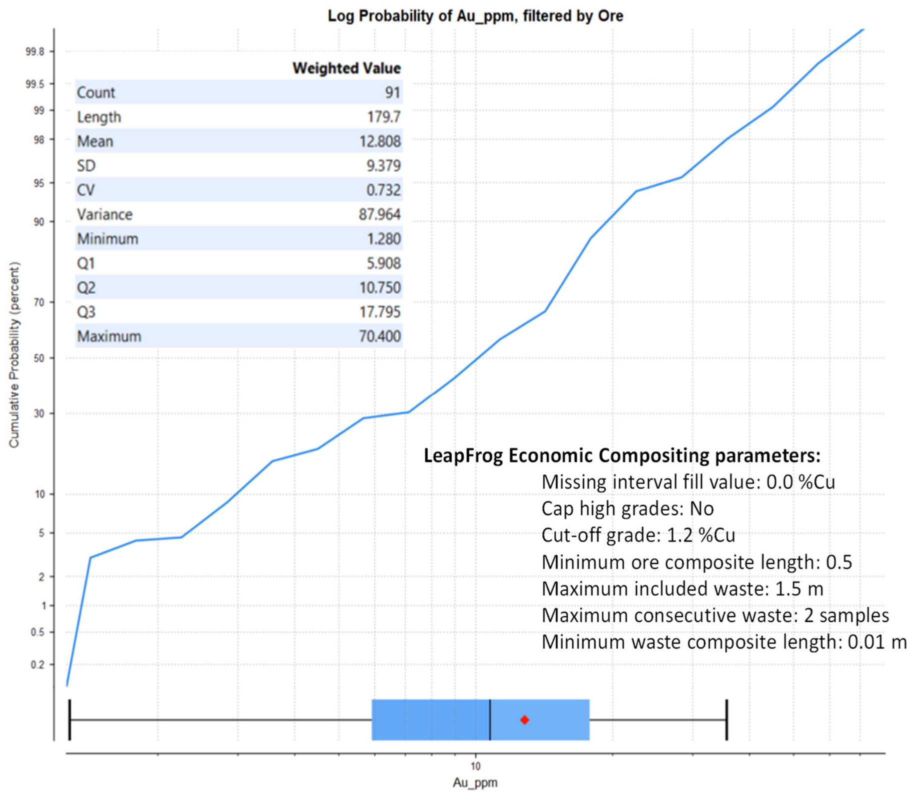


Figure 43 - Statistical analysis of economic compositing parameters, Santo Antonio drilling

The Santo Antônio 3D mineralization zone was developed based on drillhole and channel sample intercepts over a single inclined horizon corresponding to the Santo Antônio quartz vein. Figure 44 shows the 3D mineralization model of the Santo Antonio vein. Lateral extensions of the model were defined by occurrence of mineralized intervals within drill core and channel samples. The model was constrained by lithology as well as known structural controls on mineralization. Mineralization within the Santo Antonio vein was divided in two different domains defined by geotechnical analysis performed by the NX Gold team, primarily for mine planning purposes.

The NX Gold technical team was informed that a topographic divergence in the drillhole collar elevation was discovered between different drilling campaigns was identified during 3D modeling. A topographic audit was performed during 2020 to identify and correct these issues.

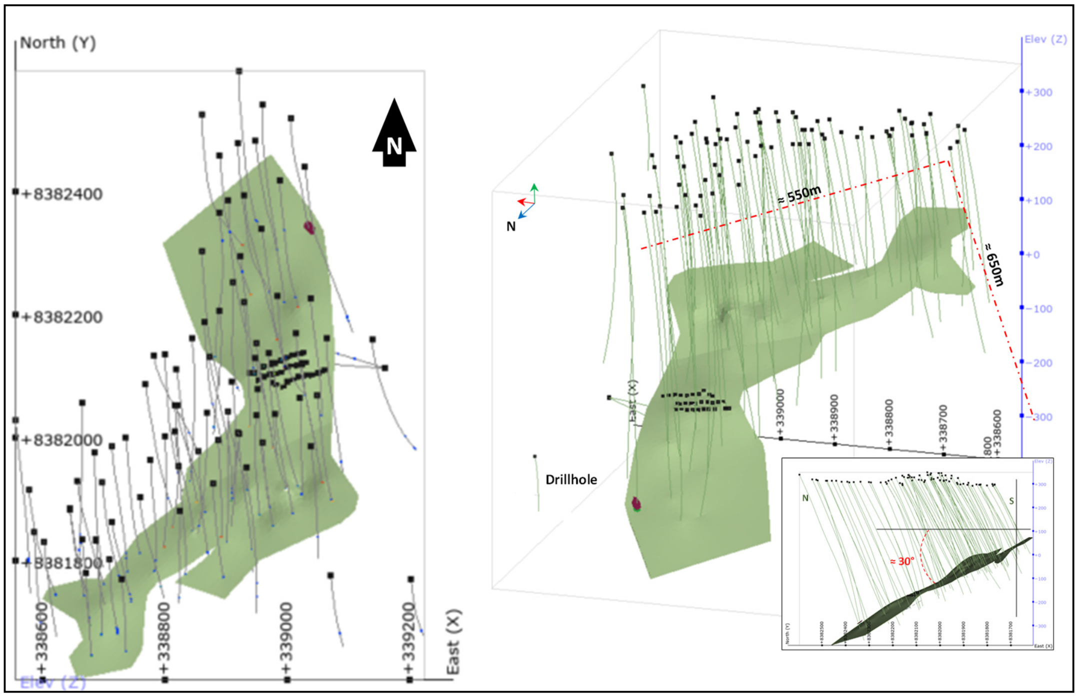


Figure 44 - Plan and long section view, Santo Antonio 3D Model.

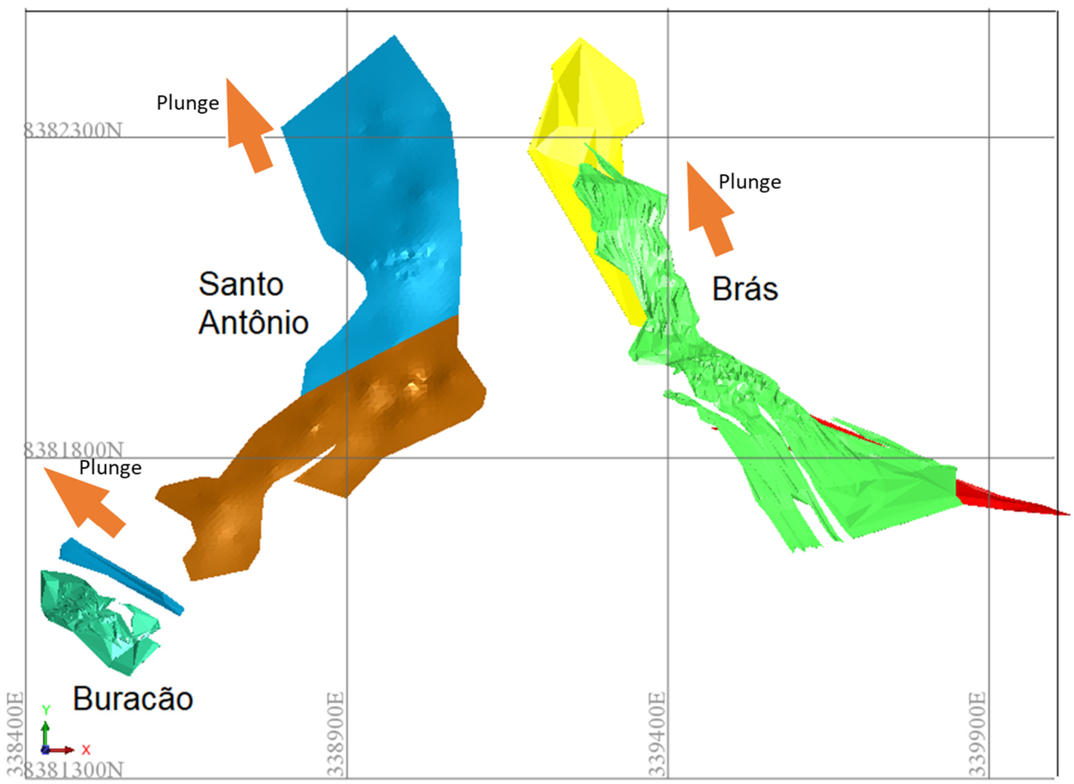


Figure 45 - NX Gold Mine 3D model, highlighting Santo Antonio location between Brás and Buracão veins. Colors denote different vein domains for ease of reference only.

14.3 Block Model

A block model was created for the Mineral Resource estimate using the parameters set out in Table 39. The block model was created in LeapFrog Edge software.

Table 39 - Block model dimensions

	Y	X	Z
Minimum coordinates	8381605	338520	-390
Maximum coordinates	8382475	339250	82
Parent block sizes (m)	10.0	10.0	2.0
Sub-block sizes (m)	1.0	1.0	0.2
Rotation (°)	-	-	-

Each block of the model was characterized by a series of attributes, as described in Table 40.

Table 40 - Attributes of the NX Gold block model

Attribute Name	Type	Description
au_ppm	Float	Au (ppm) resource
density	Float	Density (g/cm3)
rec_clas	Character	Resource Class: Ind= indicated; Inf=inferred
rec_cl_n	Integer	Resource Class: 2=indicated; 3=inferred

14.4 Sample Compositing

Composition consists of standardizing the size of the sample intervals. The objective is to achieve uniform sampling, reducing the impact of random variability, and minimizing the effect of different sample sizes on the sample mean. Each standardized sample is considered a composite. After analysis of the mean length of the sampled intervals, it was verified that the appropriate length for the drilling samples is 1.0 meter. This value commonly varies up to 50% of the nominal length after adjusting composite samples to account for the start / end of each interval within the mineralized zone, which on average, has a thickness of 3.0 meters.

14.5 Exploratory Data Analysis ("EDA")

The samples were assessed, following a classical statistical approach.

LeapFrog Edge software was used for statistical analysis. Statistical analysis allows inference on distributions, modals and anomalous values of the studied variables, in order to assist in structural analysis (variography). Figure 46 shows the complete analysis of this work.

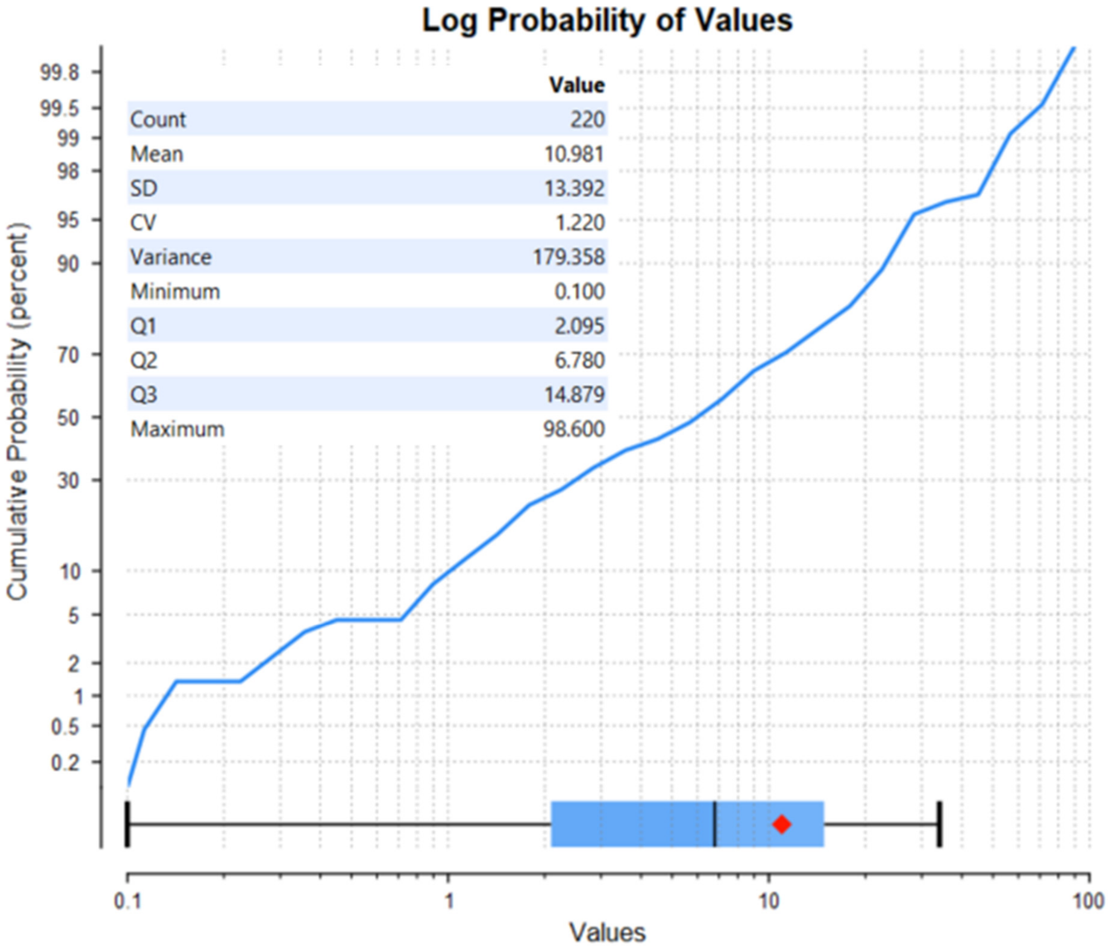


Figure 46 - EDA - Au (ppm), Santo Antonio vein

No outlier, commonly known as the cap, was applied to reduce high grade values over the local and global average. 70 gpt gold was selected as the limit for outlier treatment in the current mineral resource estimate based on the log-normal distribution analysis. 99.5% of the grade distribution within Santo Antonio falls below this limit, so no outlier treatment is required.

Structural / geotechnical domains within the Santo Antonio vein were defined by the NX Gold technical team and evaluated separately for EDA parameters. There is no meaningful difference in the median, mean, variability and distribution of the grades within the domains as highlighted in Figure 48 and Figure 49.

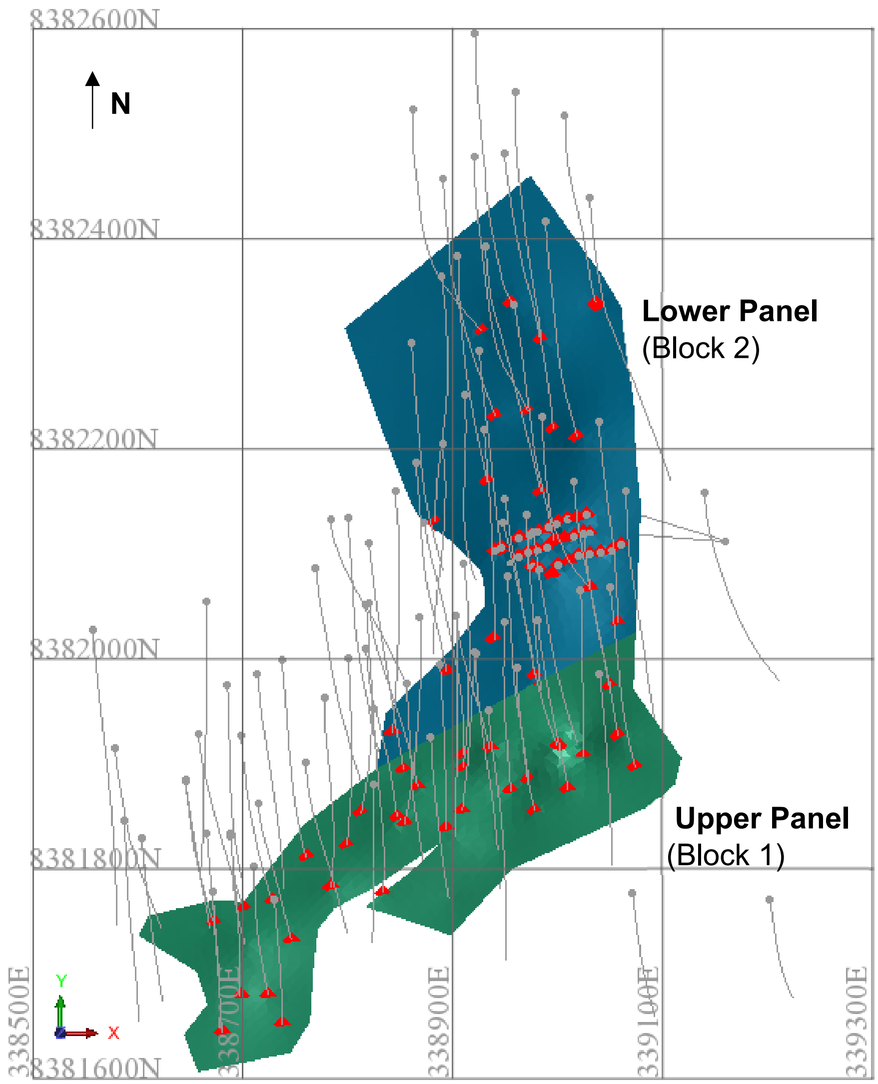


Figure 47 - Structural domains applied for geostatstical analysis

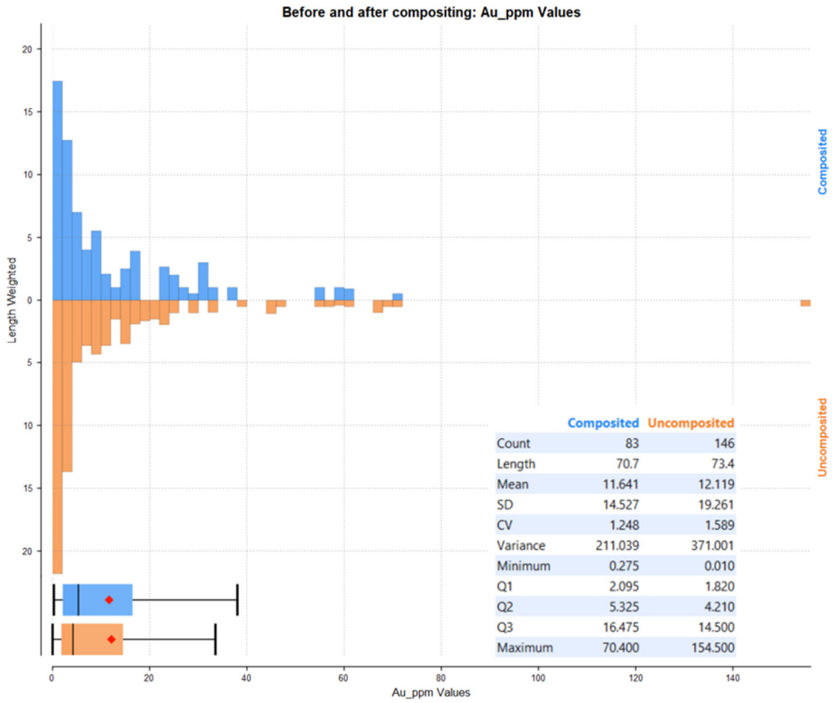


Figure 48 - EDA, Au (ppm) – Santo Antonio Block 1

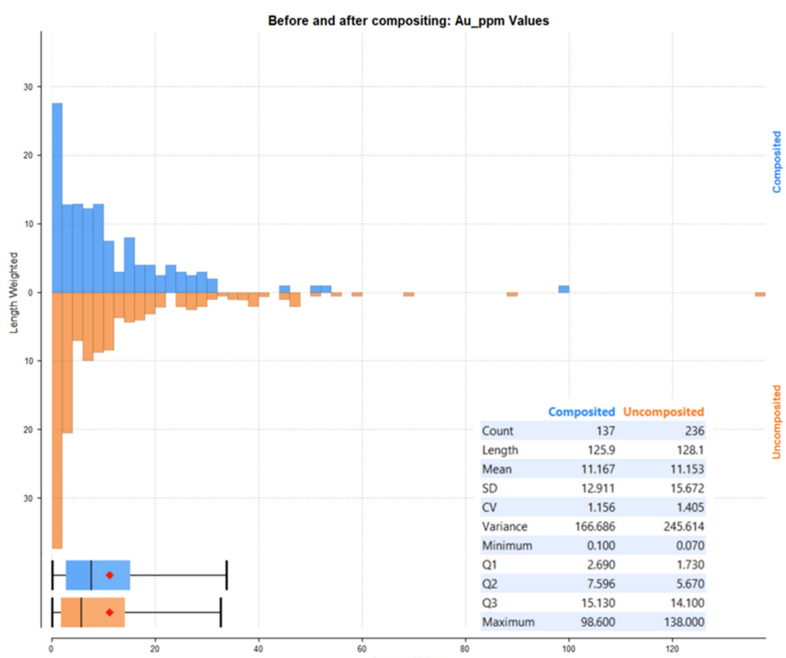


Figure 49 - EDA, Au (ppm) – Santo Antonio Block 2

14.6 Variography

Geostatistics aims at two main objectives:

- To mathematically structure the variability relationship between pairs of points in space, that is, to measure the zone of influence, and the degree and type of variability restricted to a homogeneous field.
- To establish a model of spatial distribution of a regionalized variable with a measure of the accuracy of its estimate.

The composite samples were analyzed in ppm (g/t) and the results variographic analysis performed in LeapFrog Edge are presented below in Figure 50 and Figure 51.

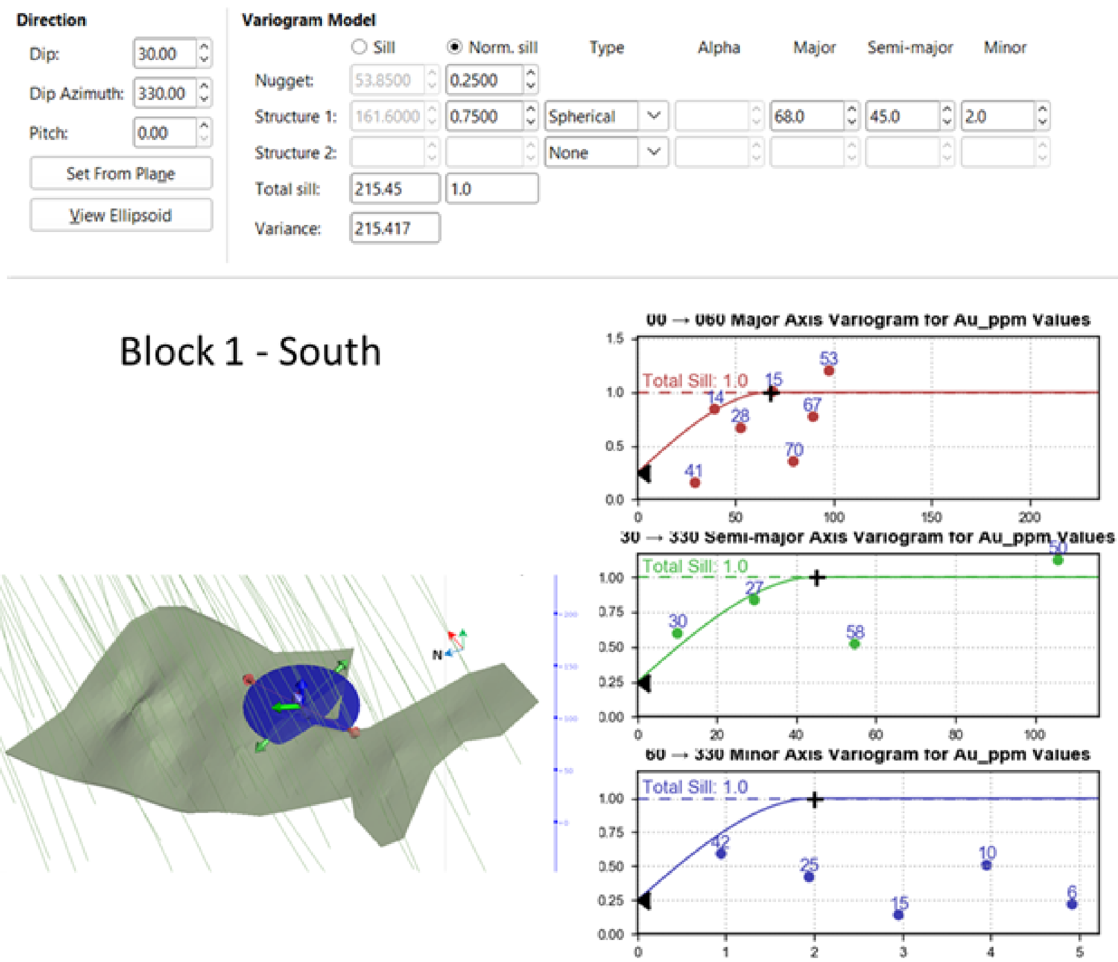


Figure 50 - Variogram, Au (ppm) – Santo Antonio Block 1

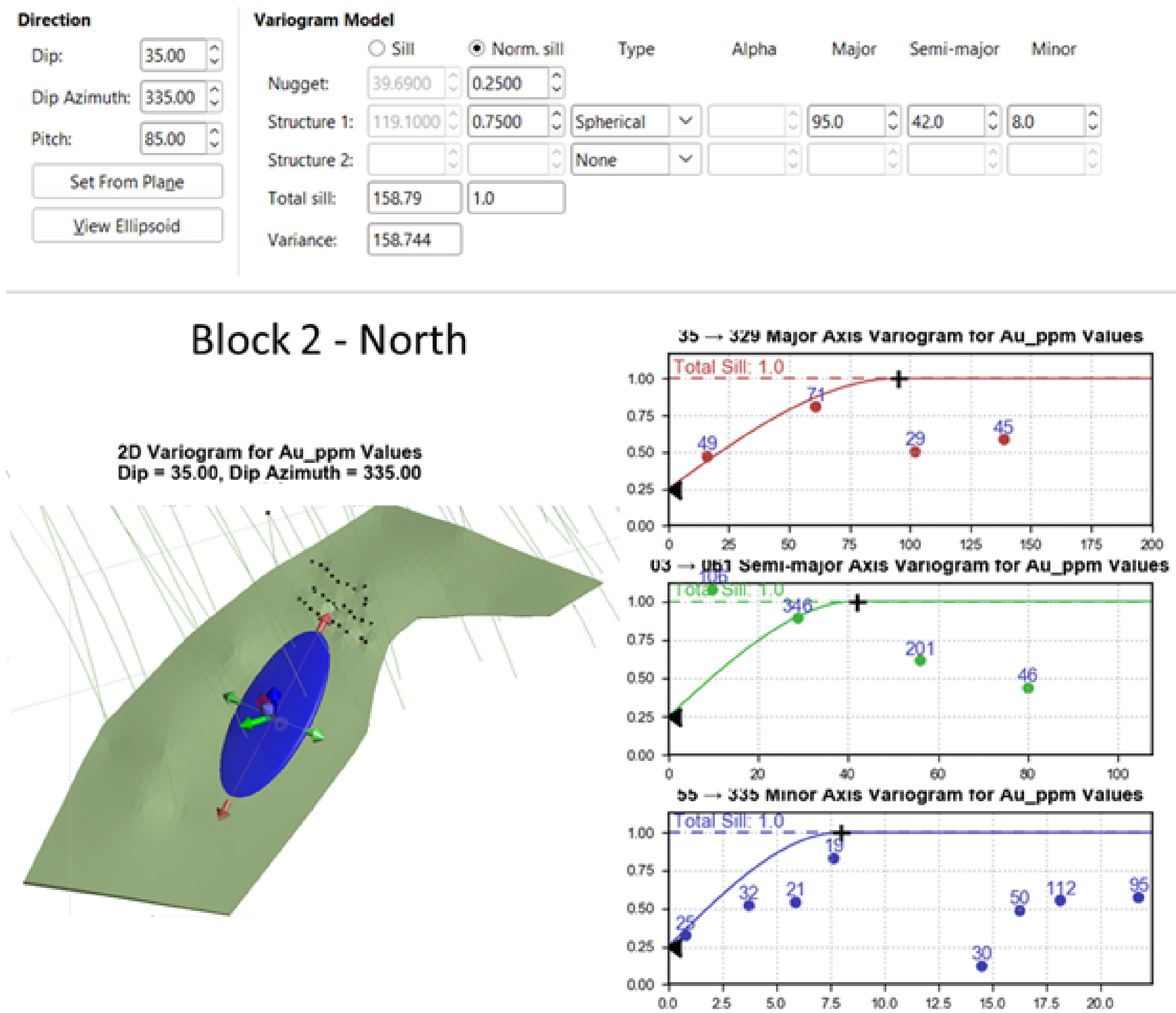


Figure 51 - Variogram, Au (ppm) – Santo Antonio Block 2

14.6.1 *Results & QP Opinion*

A maximum search ellipse range of 68 meters was applied for Block 1 and a maximum search ellipse for Block 2 was 95 meters. Although GE21 considers the robustness of the of the variographic analysis as low to medium, the analysis is sufficient for mineral resource classification in the indicated and inferred categories, in-part due to operating history within the modeled vein.

14.7 Grade Estimate

The Ordinary Kriging ("OK") method was used to generate the Au grade estimate for each block within the Mineral Resource grade shell wireframe. Grade estimation was performed in Leapfrog Edge software using the outlier upper limit of 70 ppm Au and application of a limited search radius.

14.7.1 *Ordinary Kriging*

OK is arguably one of the most common geostatistical methods for estimating block model grades. In this interpolation technique, the composite contributing samples are identified by a search applied from the center of each block. The weights are determined in order to minimize the error of the variance, considering the spatial location of the selected composites and the modeled variogram. Variography describes the correlation between composite samples as a function of distance and direction. The content of the weighted composite sample (in composite files) is then combined to generate the block estimate and the kriging variance.

The established kriging strategy for the NX Gold Mine considered up to 5 estimation passes, each relating to the degree of precision of the grade estimate pass, as presented in Table 41.

Table 41 - Kriging Strategy

Variable	Pass	Search Distance (m)	Search Type	Minimum Number of Samples	Maximum Number of Samples
Santo Antônio - Block 1					
Au g/t	1	22	Ellipsoid	4	8
	2	45	Ellipsoid	4	8
	3	68	Ellipsoid	4	8
	4	102	Ellipsoid	4	8
	5	>102	Ellipsoid	4	8
Ellipsoid Orientation and Anisotropy Dip Azimuth= 330; Dip= 30; Pitch= 0 Major/semimajor= 1.51 ;Major/Minor=47					
Variable	Pass	Search Distance (m)	Search Type	Minimum Number of Samples	Maximum Number of Samples
Santo Antônio - Block 2					
Au g/t	1	31	Ellipsoid	4	8
	2	63	Ellipsoid	4	8
	3	95	Ellipsoid	4	8
	4	143	Ellipsoid	4	8
	5	>143	Ellipsoid	4	8
Ellipsoid Orientation and Anisotropy Dip Azimuth= 335; Dip= 35; Pitch= 85 Major/semimajor= 2.26 ;Major/Minor=11.9					

Pass 1 and 2 were estimated only with drill hole samples. Channel samples were used together with drillhole samples for steps 3, 4 and 5. A maximum number of 2 drill hole samples to be used from each individual drill hole was also applied to the NX Gold kriging strategy.

14.8 Mineral Resource Classification

Mineral Resource classification was based on following criteria:

- Measured Resources: blocks estimated in the same continuity considered in passes 1 and 2 of kriging strategy, only using drill hole samples, corresponding to a drilling grid size of 25 m by 25 m. No resources were classified as measured due to the lack of sample densities required to meet these conditions.
- Indicated Resources: Blocks estimated in the same continuity considered in a drilling grid size less or equal to 60 m x 60 m, with drill hole and channel sample composites considered.
- Inferred Resources: Any other block estimated within the same continuity of the mineralized zone, using drill hole and channel samples.
- Classifications were revised using modeled boundaries to standardize classification zones within the resource.
- Mined stopes were depleted form the model to avoid Mineral Resource classification of these volumes.

Figure 52 presents the distribution of resource classification within the classified block model.

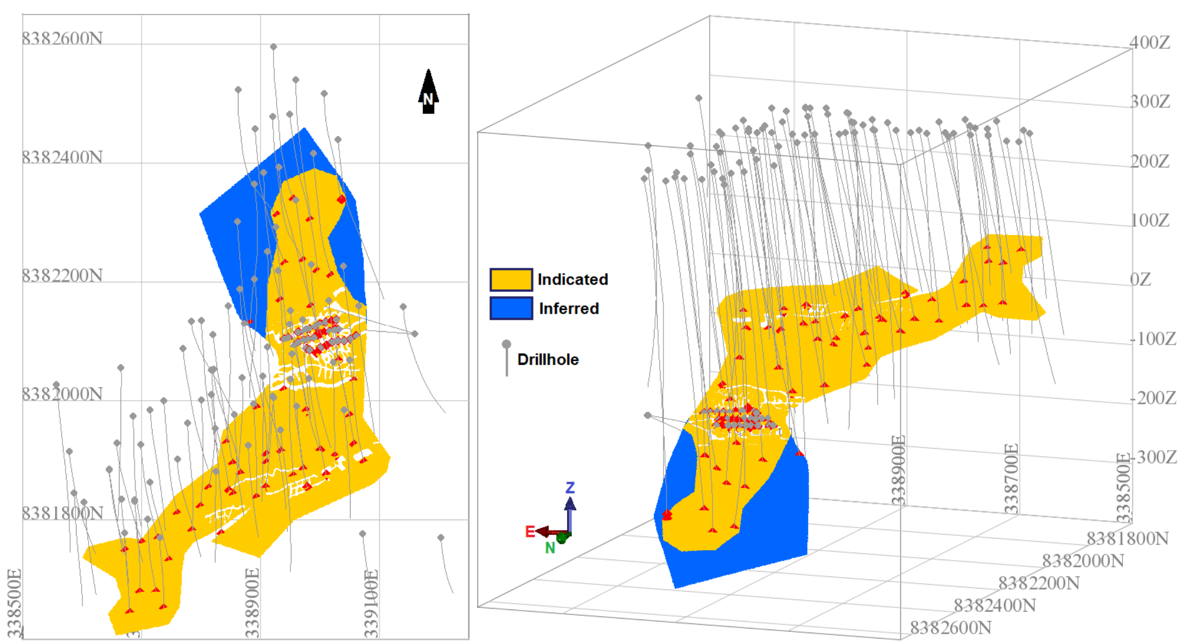


Figure 52 - Block model classified by resource category, Santo Antonio

14.8.1 *Density (Specific Gravity):*

Density values stored in the drill hole database from laboratory testwork were selected inside the 3D model of the mineralized portion of the Santo Antonio vein. The average value of 2.70 tonnes per cubic meter was applied, based on the mean value of all samples within the database.

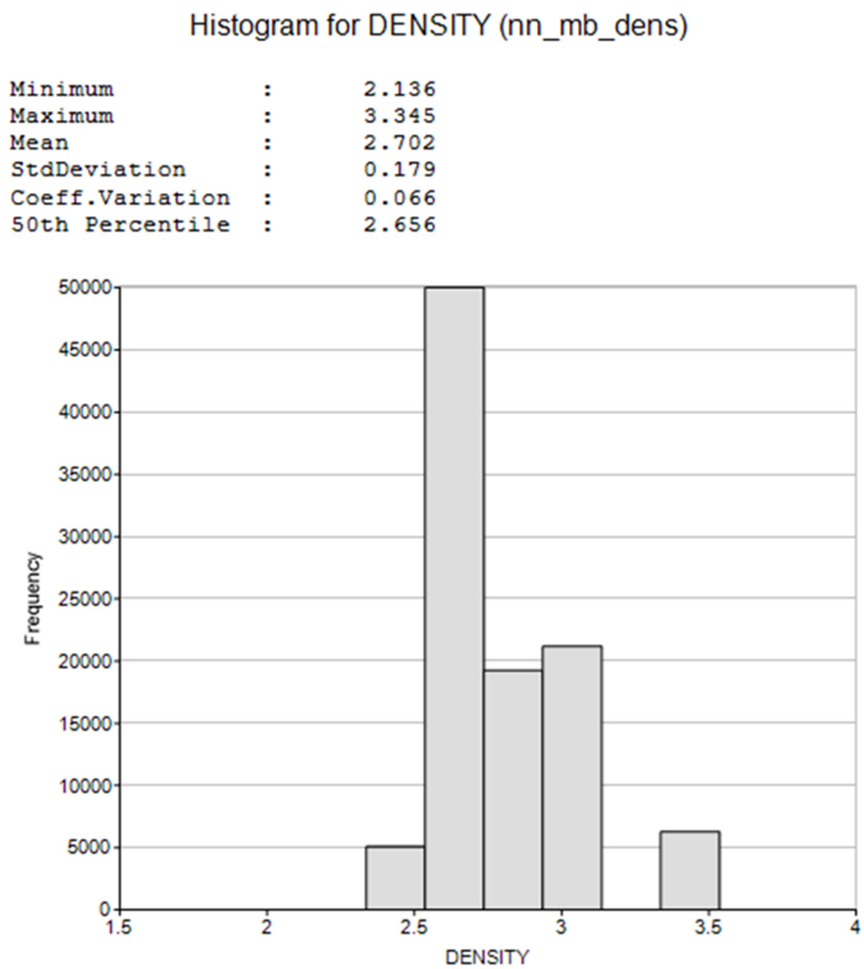


Figure 53 - Density Histogram, Santo Antonio vein

14.8.2 *Mineral Resource Statement*

In order to determine the quantities of material with reasonable prospects for eventual economic extraction (or "RPEE") GE21 used the grade shell method for bodies that would demand underground mining. The cut-off estimates took into consideration the extraction costs, whereby a 1.90 gpt Au cut-off was assumed for underground mining The main parameters used to define the underground stopes, for purposes of Mineral Resource estimation, are listed in Table 42, below:

Table 42 - RPEE Factors Used in the Current Mineral Resources Estimate

RPEE Factors	Input
Economic Parameters	
Gold Price ($US/oz)	$1,900.00
Cost Parameters	
UG Mining & Processing ($US/tonne)	$115.14

For the blocks amenable to underground mining, GE21 used the Geovia Surpac Software, conducting neighborhood analysis of each sub-block. The main geometric and economic parameters for defining the underground mine stopes are Table 43.

Table 43 - Underground Mining Geometrical Grade Shell Parameters

Stope Optimization Parameters	
Cutoff	1.90 gpt Au
Waste default density value	2.83 t/m^3
Minimum X axis length	1.25 m
Minimum Y axis length	1.25 m
Minimum Z axis length	1.50 m

The detailed Mineral Resource estimate for NX Gold Mine with the effective date of August 31, 2020 is shown in Table 44 below.

Table 44 - Mineral Resource Table, NX Gold Mine 2020

Classification	Tonnage (000 tonnes)	Grade (gpt Au)	Au Contained (000 ounces)
Indicated Mineral Resource (inclusive of Reserves)			
Santo Antonio Vein	763.3	10.97	269.2
Brás Vein	6.9	3.36	0.7
Buracão Vein	-	-	-
Total Indicated Resource	**770.2**	**10.90**	**269.9**
Inferred Mineral Resource			
Santo Antonio Vein	267.8	13.08	112.6
Matinha Vein	149.0	12.15	58.2
Brás Vein	149.3	4.81	23.1
Buracão Vein	7.7	2.77	0.7
Total Inferred Resource	***573.8***	***10.55***	***194.6***

1. Mineral Resource effective date of August 31, 2020
2. Presented Mineral Resources inclusive of Mineral Reserves. Indicated mineral resource totals are un-diluted. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Grade-shell 3D models using 1.20 gpt gold were used to generate a 3D mineralization model of the NX Gold Mine. Mineral resources were estimated using ordinary kriging within 2.5 meter by 2.5 meter by 0.5 meter block size. Mineral resource were constrained using a minimum stope dimension of 1.25 meters by 1.25 meters by 1.50 meters and a cut-off of 1.90 gpt based on gold price of US$1,900 per oz of gold and total underground mining and processing costs of US$115.14 per tonne of ore mined and processed. The mineral resource estimates were prepared in

accordance with the CIM Standards, and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate to the deposit.

Mineral resources which are not mineral reserves do not have demonstrated economic viability.

14.9 Grade Estimate Validation

14.9.1 *Nearest Neighbor ("NN") Check*

The NN technique was used to validate the Mineral Resource grade estimate established by OK.

The comparison of gold grade estimates using the two techniques was performed for the Indicated resource class only due to lack of sample density in the inferred class.

The grade estimate validation was performed through by comparing the results obtained from kriging and the NN estimation methods. Scatter plots and quantile-quantile plots were designed to verify no occurrences of global bias and to limit the smoothing of the grade estimate within the estimated volumes.

Figure 54 presents the comparison of estimated Au (ppm) levels for NN-Check validation throughout the deposit.

The results of the NN analysis show the smoothing of the Au grade estimate by kriging within an acceptance limit for the degree of reliability attributed to Indicated Mineral Resources and, in the opinion of the authors of this report, is in accordance with industry standards for the type of deposit.

14.9.2 *Swath Plot Check*

The Swath Plot was used to validate the Mineral Resource grade estimate established by OK. The comparison of local gold grade estimates using the two techniques was performed for the Indicated resource class.

The grade estimate validation was performed comparing the local average grade results obtained by kriging and NN estimation methods. Line plots along three coordinate axes were designed to test of the occurrence of any local bias and the smoothing of the grade estimate locally.

Figure 55 to Figure 57 show the results of this validation analysis. Local biases effect on estimate and local bias are considered inside acceptance limits for Indicated Mineral Resource classification and in accordance with industry standards for the deposit type.

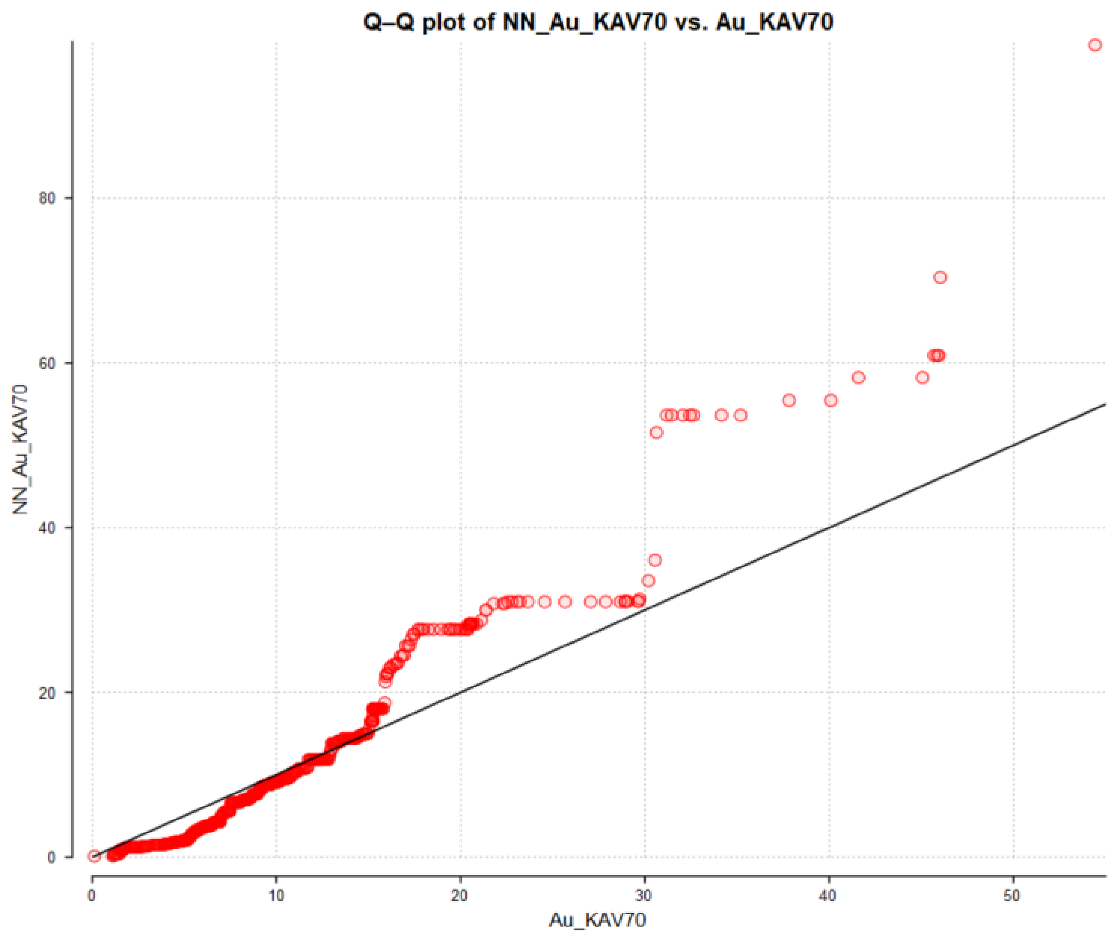


Figure 54 - NN-Check

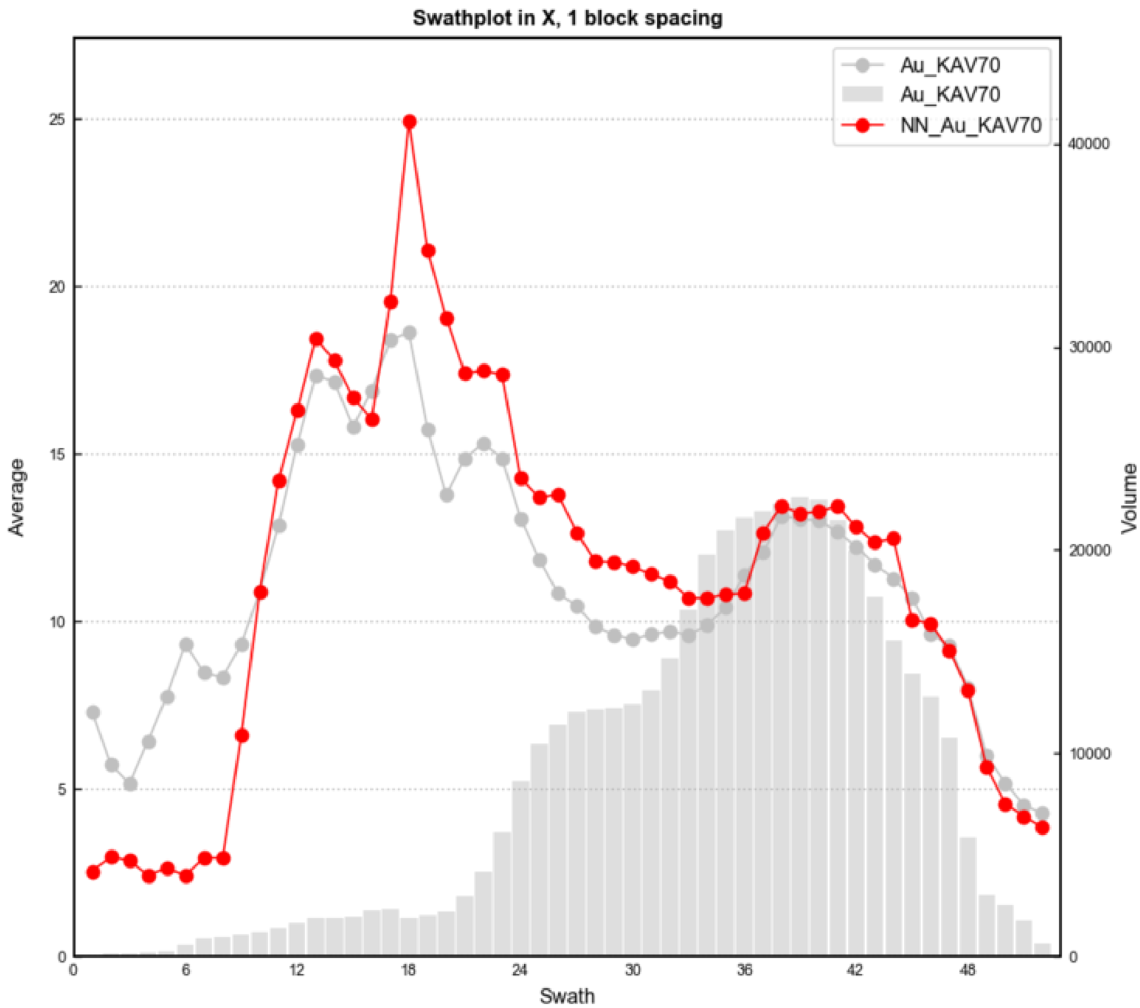


Figure 55 - Swath Plot, X coordinate axis

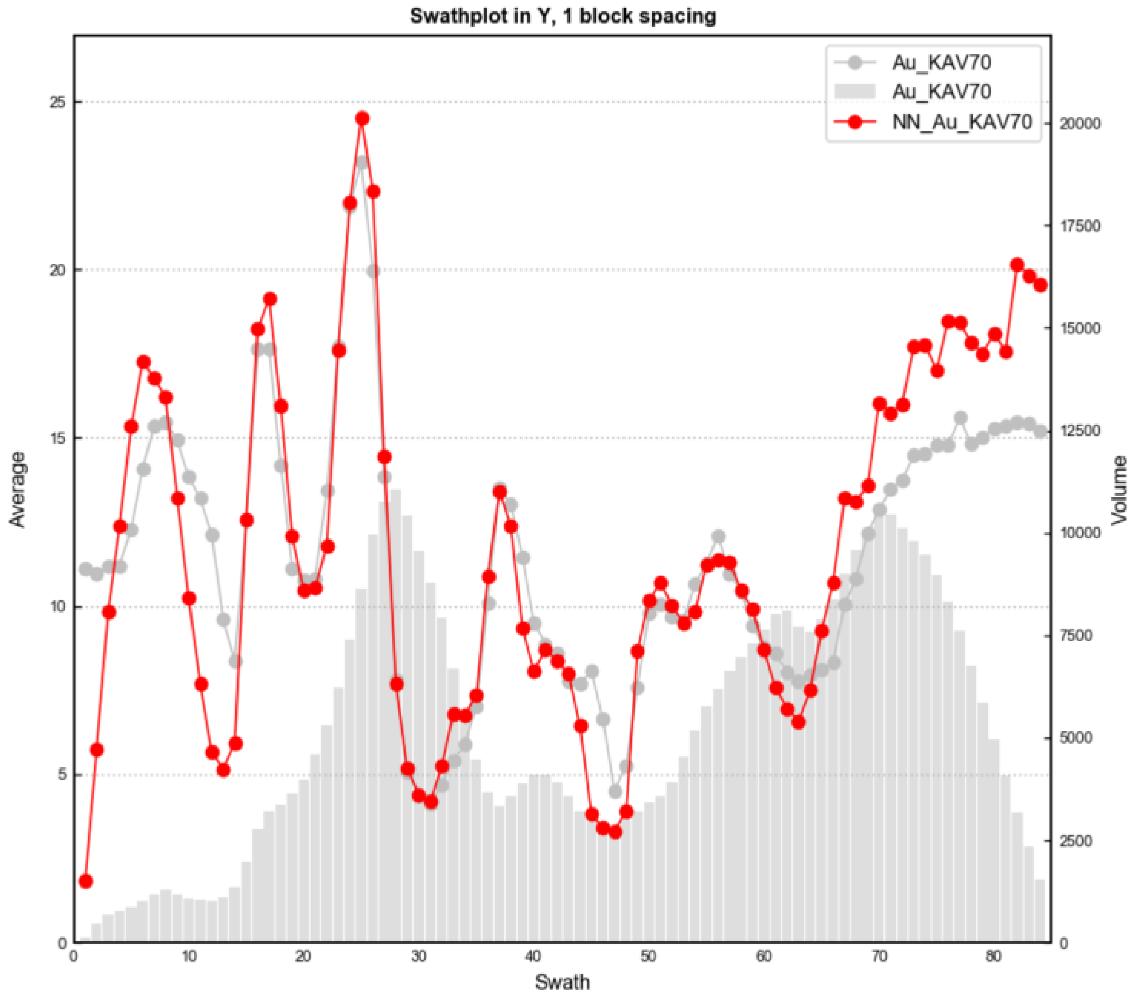


Figure 56 - Swath Plot, Y coordinate axis

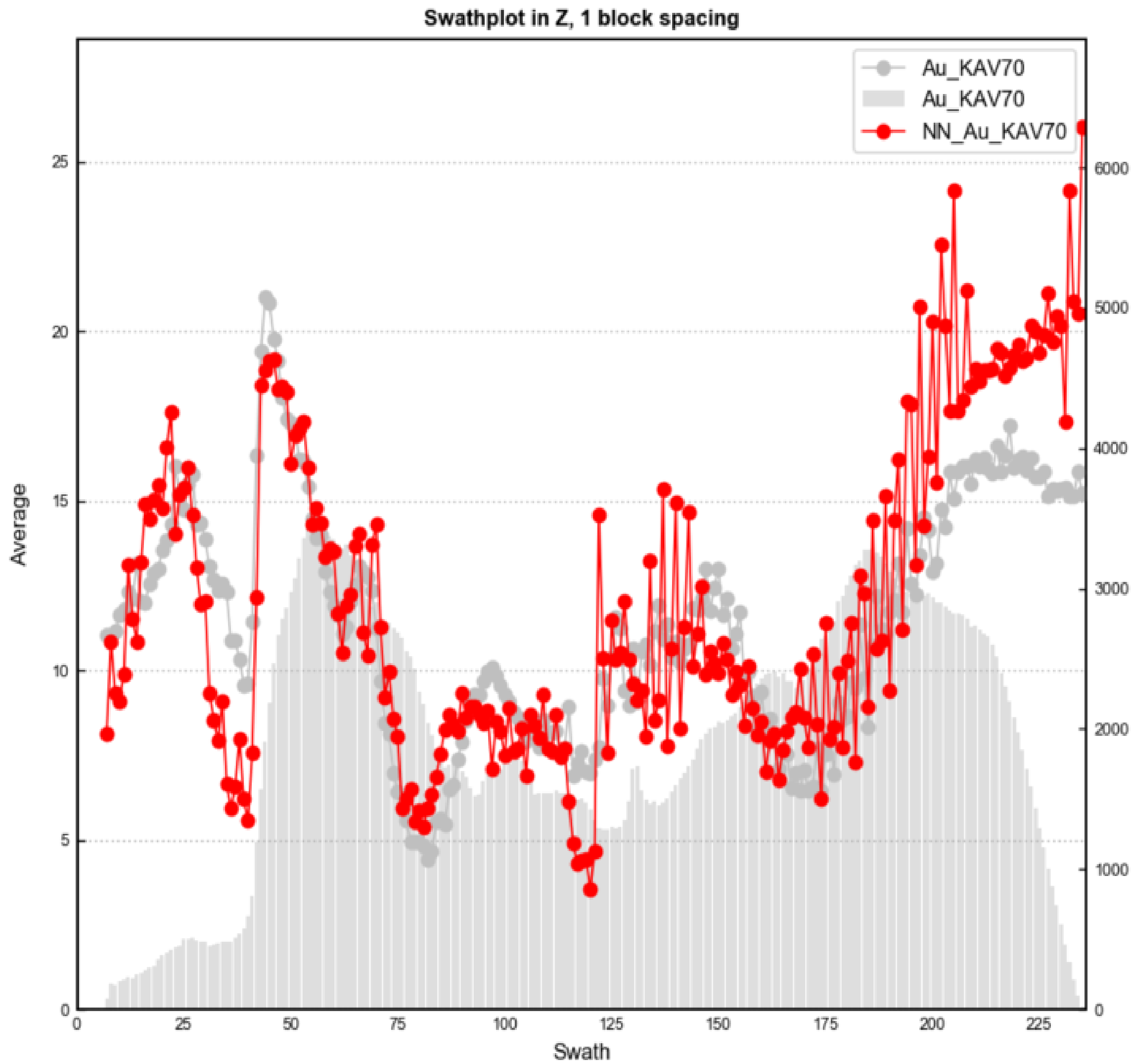


Figure 57 - Swath Plot, Z coordinate axis

15.0 MINERAL RESERVE ESTIMATES

The Mineral Reserve estimates for the NX Gold Mine were prepared in accordance with the guidelines of NI 43-101 and the CIM Standards.

GE21 is of the opinion that the September 30, 2020 reserves relating to the underground operations of the NX Gold Mine have been estimated in a manner that is consistent with industry best practices and NI 43-101 guidelines.

The gold grade data (undiluted) was provided within the Indicated Mineral Resource block model was used to develop the current Mineral Reserve estimates. The grades were modified to account for mining dilution and the block volumes were modified to allow for dilution and mining recovery. No Inferred mineral resources were used in the determination of the current mineral resource estimate.

A cutoff grade for reserves was calculated based on the current and name plate operating costs, and an estimated long-term price of gold. The following parameters were used:

Table 45 - Parameters for cut-off grade definition

Parameter	Units	Value
Plant Feed	tonnes/annum	160,000
Gold Price	USD/oz	1,650
Metallurgical Recovery	%	91.0

Other modifying cost factors considered in the determination of the Mineral Reserve estimate, are shown below expressed as per tonne of ore mined and processed ROM:

Table 46 - Operating cost parameters for Mineral Reserve estimates

Parameter (US$/tonne ROM)	Value
G&A Costs	$18.10
Mining Costs	$76.52
Indirect Costs	$22.07
Processing Costs	$38.62
Total	**$155.31**

Based on these cost parameters, cut-off grades applied to the Mineral Reserve estimate are summarized below:

- 3.14 gpt applied to mining stopes, in room and pillar mining areas, and 3.22 gpt to stopes in cut and fill mining areas, incorporating mining and development, processing, general and administrative and indirect costs;
- 0.80 gpt applied to gallery development incorporating development and processing costs; and,
- 2.30 gpt applied to mining marginal material adjacent to planned mining stopes incorporating mining, development and processing costs.

The Mineral Reserve estimate of the NX Gold Mine is detailed below:

Table 47 - Mineral Reserve Estimate

Classification	Tonnage (000 tonnes)	Grade (gpt Au)	Au Contained (000 ounces)
Probable Mineral Reserve			
Santo Antonio Vein	862.1	8.83	244.7
Brás Vein	-	-	-
Buracão Vein	-	-	-
Total Probable Reserve	**862.1**	**8.83**	**244.7**

1. Mineral Reserve effective date of September 30, 2020.
2. All figures have been rounded to the relative accuracy of the estimates. Summed amounts may not add due to rounding.
3. Mineral reserve estimates were prepared in accordance with the CIM Standards and the CIM Guidelines, using geostatistical and/or classical methods, plus economic and mining parameters appropriate for the deposit. Mineral reserves are based on a long-term gold price of US$1,650 per oz, and a USD:BRL foreign exchange rate of 5.00. Mineral reserves are the economic portion of the Indicated mineral resources. Mineral reserve estimates include operational dilution of 17.4% plus planned dilution of approximately 8.5% within each stope for room-and-pillar mining areas and operational dilution of 3.2% plus planned dilution of 21.2% for cut-and-fill mining areas. Assumes mining recovery of 92.5% and 94.7% for room-and-pillar and cut-and-fill areas, respectively. Practical mining shapes (wireframes) were designed using geological wireframes / mineral resource block models as a guide.

Other modifying factors considered in the determination of the Mineral Reserve estimate include:

- A cut-off grade of 3.14 gpt was applied to mining stopes within the room and pillar mining areas, and 3.22 gpt to stopes within the cut and fill mining areas, in the determination of planned mining stopes within the mineral resource blocks based on actual operating cost data and past operating performance of the mine.

- The mining method employed for the Santo Antônio vein is inclined room and pillar for the thicker lower-panel of the vein, and overhand cut and fill for the thinner upper panel of the vein incorporating paste-fill. A new paste-fill plant was designed, to be constructed at cost of approximately US$2 million, with the aim of improving overhand cut and fill operations as well as enhancing pillar recovery throughout the mine.

- Maximum stope spans in the room and pillar mining area are based on a design stope of 6m by 4m between pillars. For cut and fill mining areas the size of stopes are based on a designed stope measuring 18m along strike with a frontal slice of 3 vertical meters.

- Within designed stopes, all contained material was assumed to be mined with no selectivity. Inferred mineral resources, where unavoidably included within a defined mining shape have been included in the mineral reserves estimate at zero grade. Mining dilution resulting from Indicated blocks was assigned the grade of those blocks captured in the dilution envelope using the current mineral resource estimate.

Additionally, GE21 presents the following comments to the mineral resource and mineral reserve estimate:

- NX Gold holds the surface rights and requisite permits required support the mining operation as outlined in the Mineral Reserve estimate. Future development beyond the stated Mineral Reserves may require the acquisition of additional surface rights.
- GE21 has not identified any known mining, metallurgical, infrastructure, permitting, legal, political, environmental or other relevant factors that could materially affect the development or extraction of the stated Mineral Reserves.
- GE21 has carried out the appropriate review to satisfy that the Mineral Reserve can be technically and profitably extracted. Consideration has been given to all technical areas of the operations, the associated capital and operating costs, and relevant factors including marketing, permitting, environmental, land use and social factors. GE21 is satisfied that technical and economic feasibility has been demonstrated.

In summary, it is the opinion of the authors of this Report that there are no known mining, metallurgical, infrastructure, permitting, legal, political, environmental, title, taxation, socio-economic marketing or other relevant factors that could materially affect the potential development of the stated Mineral Reserves.

15.1 Study Level Consideration

GE21 adheres to the general industry guideline for feasibility level studies. Feasibility study means a comprehensive study of a mineral deposit in which all geological, engineering, legal, operating, economic, social, environmental and other relevant factors are considered in sufficient detail so that it could reasonably serve as the basis for a final decision by a financial institution to finance the development of the deposit for mineral production. In a feasibility study, the declaration of mineral reserves would be expected, and the economic viability of the mineral deposit must be demonstrated with sole reliance on the depletion of the mineral reserves without inclusion of mineral resources. In parallel to the development of the feasibility study, it is normally expected that an environmental and social impact assessment will have been completed. Typical contingencies included within the capital expenditure estimate range between 10% and 15% and accuracy ranges are typically ±15%.

The classification of the studies completed to date are dependent upon a combination of the scope completed, the availability of site-specific information, reliance on generic technical-economic assumptions and the degree of site-specific engineering design work completed. NX Gold is a fully licensed mine, operating since 2012. Consequently, the authors of the Report have assigned the current mineral reserve estimate to be at the feasibility level.

16.0 MINING METHODS

Commercial mining operations commenced in 2012 under NX Gold ownership, and the cumulative production since the commencement of commercial production is over 200 thousand ounces of gold. The current development of the underground mine is at level -220 in the Santo Antonio vein, which achieved first production during the fourth quarter of 2019.

Two mining methods will be employed in the mining of the Santo Antonio vein. The current method, inclined room and pillar, will continue throughout the life of mine in areas of good geotechnical quality and underhand cut and fill utilizing cemented paste backfill will be employed in areas of poor geotechnical quality.

16.1 Geotechnical Characterization

A geotechnical model for the Santo Antonio vein was developed utilizing Rock Quality Designation ("RQD") as defined by drill hole logging. Missing RQD values from original logging were determined using core photographs using Micromine software.

16.1.1 *Lithological Domains*

Geotechnical characterization was performed for each of the three primary lithological / structural units of the orebody, which includes the quartz vein, the hangingwall and the footwall. A summary of the predominant rock types and geomechanical strength characteristics is provided below. Where applicable, uniaxial compressive strength ("UCS") refers to the intact rock mass. Meta lavas within the hangingwall present the highest competence and geomechanical strength. The mineralized quartz vein or ore zone, while of high compressive strength, is typically of low competence due to intense fracturing.

- Quartz Vein / Ore Zone: Predominantly comprised of Breccias - BRX (UCS = 111 MPa) and quartz vein - VQZ (UCS = 101 MPa)

- Hangingwall: The predominant rock consists of Metalavas - MTL (UCS = 84 MPa), Diorite - DIO (UCS = 28 MPa), Siltstone - SST (UCS = 40 MPa) and Carbonaceous Phyllite - FLC (UCS = 44 MPa)

- Footwall: similar to hangingwall, predominantly consists of Metalavas - MTL (UCS = 21 MPa), Diorite - DIO (UCS = 28 MPa), Siltstone - SST (UCS = 40 MPa) and Carbonaceous Phyllite - FLC (UCS = 44 MPa)

16.1.2 *Major Discontinuities and Structural Families*

There are 3 main faults that have been mapped within the Santo Antonio vein to date and five discontinuity families. Both the faults and the discontinuities are visible within the quartz vein, hangingwall and footwall.

Table 48 - Main faults within the Santo Antônio vein

Fault ID	Dip (°)	Dip Direction (°)
1	64	18
2	52	72
3	74	288

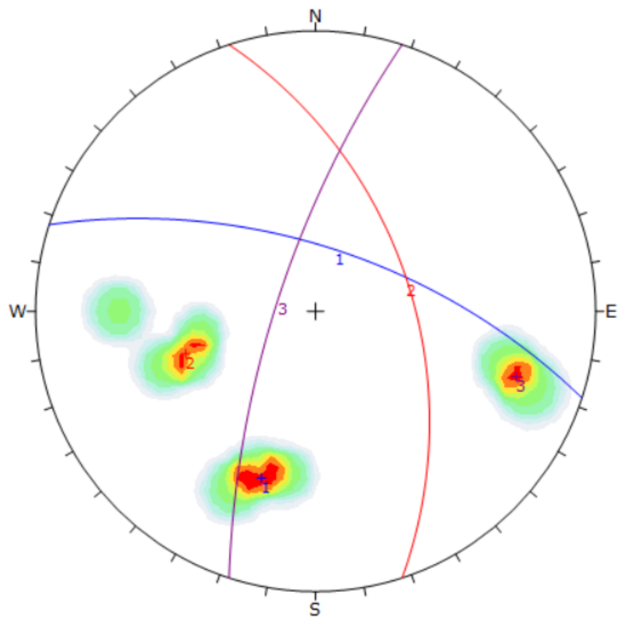


Figure 58 - Stereographic projection of main faults within the Santo Antonio vein

In addition to the 3 primary faults, there are five discontinuity families that have been mapped within the vein.

Table 49 - Discontinuity families within the Santo Antônio vein

Discontinuity ID	Dip (°)	Dip Direction (°)
1	55	050
2	75	069
3	34	333
4	83	229
5	63	235
6	24	038

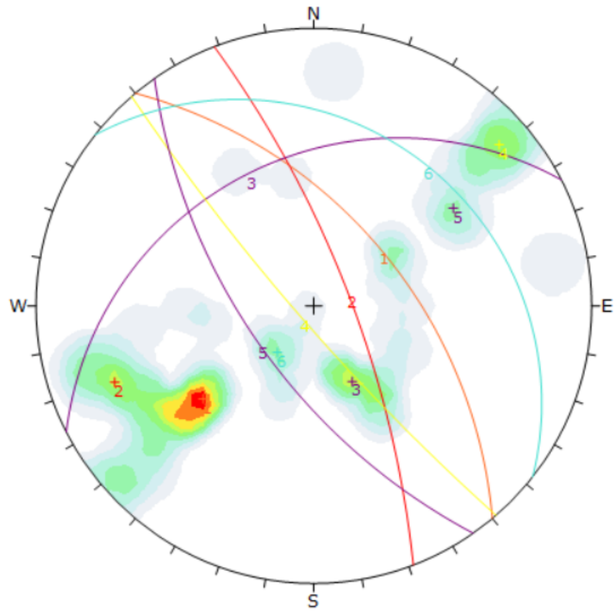


Figure 59 - Stereographic projection of main discontinuity families within the Santo Antonio vein

16.2 Geotechnical Model

A geostatistical model based upon RQD of the Santo Antonio vein, including the hangingwall and footwall was developed to evaluate areas of weakness within the planned mining area for planning purposes – principally to define the transition between mining methods employed throughout the life of mine.

RQD is a measure that represents the proportion of drill core over 10 centimeters, expressed as a percentage and is a proxy for the competency of the rock mass. RQD values below 25% are considered very poor, between 25% and 50% poor, between 50% and 75% fair, between 75% and 90% good, and any value above 90% is considered excellent.

The RQD dataset for the Santo Antonio vein is comprised of 2,000 samples collected from drill holes. 102 samples are from the quartz vein, 855 from the footwall and 1,043 from the hangingwall. RQD is a mean of 63.0% and a standard deviation of 28.0%. Representative samples from each area of the vein were selected for inclusion in the model. The following figures detail the location of samples included in the RQD geotechnical model:

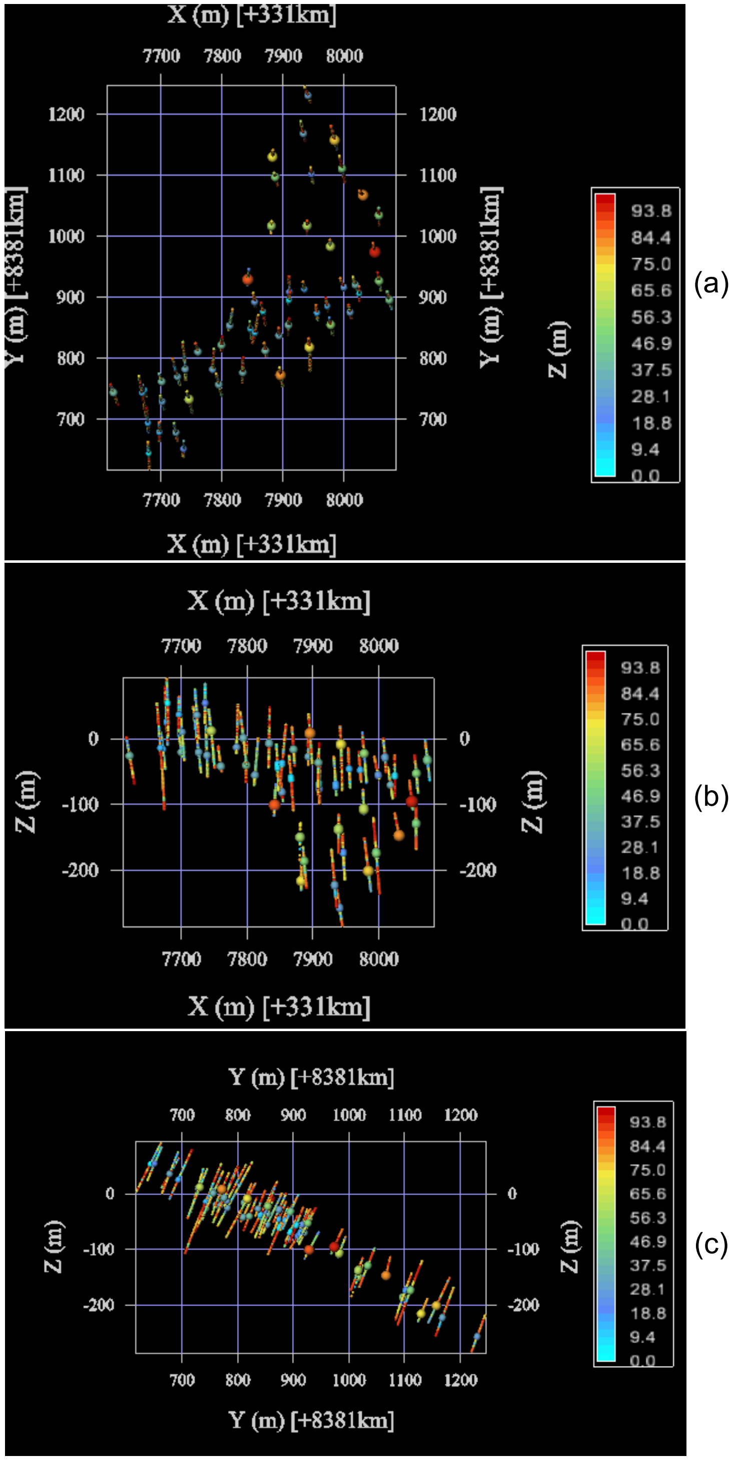


Figure 60 - Location of drill core RQD samples used in geotechnical model (RQD shown in %), detailing the (a) XY plane, (b) XZ plane and (c) YZ plane

Using the sample dataset, a discrete RQD model was built for each of the hangingwall, quartz vein and footwall utilizing the OK method to interpolate RQD values throughout the planned mining area of the Santo Antonio vein. Variographic analysis, performed in 8 different directions to test spatial anisotropy, was used after declustering of the original dataset to reduce the impact of outlier values within the database.

16.2.1 *Variographic Spatial Analysis*

For the quartz vein model, 3 nested structures were considered. The first corresponds to a nugget effect of 138.42, representing 25% of the total set variance; the second corresponds to a spherical structure with a sill value of 323, representing 59% of the set variance; and the third also corresponds to a spherical structure with a sill value of 84, representing 16% of the data set variance. The major spatial continuity is in the N67 direction and dip equal to 0 degrees, with a range of 373 meters.

For the footwall model , three nested structures were also considered. The first is the nugget effect with a sill value of 61, representing 10% of the total set variance; the second, a spherical structure with a sill value of 250, representing 42% of the set variance with a range of 30 m in the major anisotropy direction (N67), a 10 m range in the perpendicular direction (N167) and a vertical range of 22 meters; the third structure is spherical with a range of 125 m in the N67 direction, a range of 70 m in the N167 direction and a vertical range of 28 meters. The sill value of the third structure was 290, representing 48% of the total set variance.

The variogram model for the hanging wall also considers three nested structures in the same orientation the footwall data set, that is, the major anisotropy direction is N67, the average anisotropy direction is N157 and the minor anisotropy direction is vertical. The sill value of each structure is, respectively, 60 for the nugget effect, representing 8% of the total set variance; 340 for the first spherical structure, representing 43% of the total set variance and 383 for the second spherical structure, representing 49% of the total set variance. In addition, the ranges were 40 meters in the N67 direction and 55 meters for the structure in the N157 direction, as well as 20 meters in the vertical direction. The second structure has a range of 120 meters in the N67 direction, 70 meters in the N157 direction and 28 meters in the vertical direction.

16.2.2 *Geotechnical Block Model Parameters*

Block model values were generated using ordinary kriging within a developed block model, based upon variographic analysis. Details of the block model parameters is provided below:

Table 50 - Block Model Parameters (Quartz Vein)

Block model definition	East-West	North-South	Vertical
Minimum	338622	8381643	-258
Maximum	339074	8382230	62
Block size (m)	5	5	5
Number of blocks	100	125	64

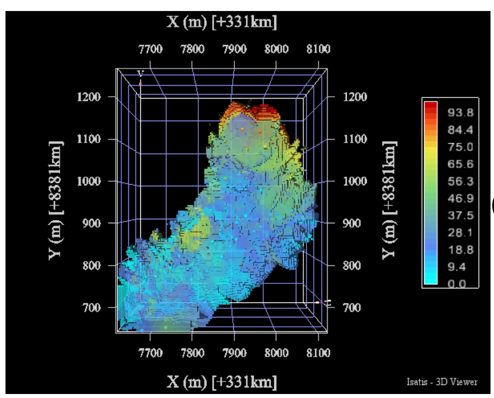
Table 51 - Block Model Parameters (Hangingwall / Footwall)

Block model definition	East-West	North-South	Vertical
Minimum	338622	8381619	-285
Maximum	339074	8382244	142
Block size (m)	5	5	5
Number of blocks	100	125	80

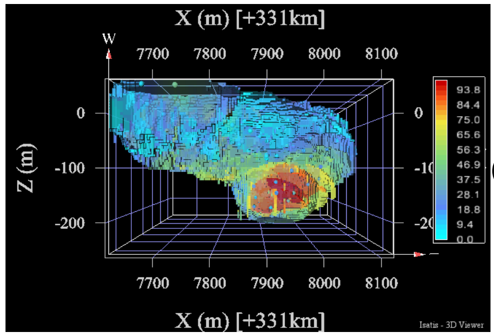
Estimation passes were used to interpolate RQD throughout the block models. For the quartz vein, a long search radius of 120 meters was used, with a short search radius of 90 meters. A minimum of 4 samples at a maximum distance of 50 meters between samples was applied. Outlier values at the high-end of the range were replaced with the upper limit (defined as 70.83%). For the hangingwall and footwall, a long search radius of 120 meters was applied with a short search radius of 70 meters. Similarly, a minimum of 4 samples at a maximum distance of 50 meters between samples was applied. No values within the dataset were calculated to be outliers that required capping as limited sample bias was observed.

16.2.3 *Geotechnical Block Model Results*

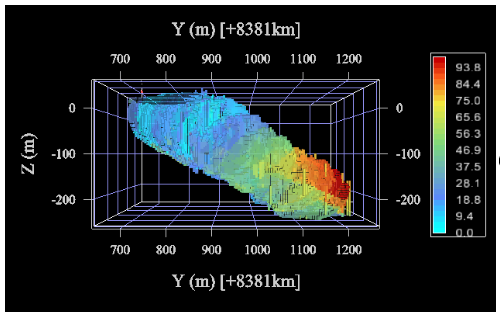
The quartz vein RQD block model for the Santo Antonio Vein highlights an overall improvement in rock mass quality at depth, with a separation from very good to fair rock quality grading to poor quality at higher elevations. The suitability and design of pillars within the vein to support the hangingwall as the vein is mined is a key factor in the overall mine design. Analysis on section highlights that, overall, characteristics of the rock mass within the to-be-extracted ore zone (quartz vein) can be further defined as good quality below level -100, and of poor quality above level -100, as further demonstrated in the following figures. This break in the rock mass, as well as further evaluation of the strength of the hangingwall and footwall were used to define the limits of the inclined room and pillar mining method, currently in use, and where paste back fill would be required. Development within this portion of the orebody has confirmed the modeled rock quality of the ore zone.



(a)



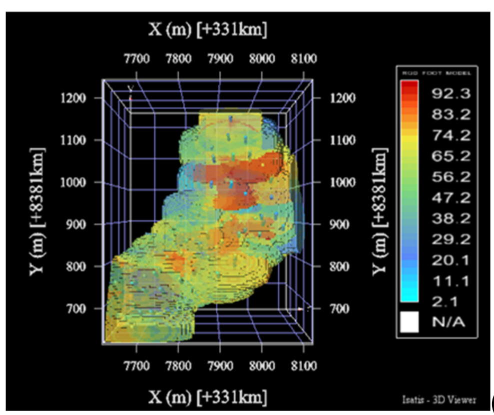
(b)



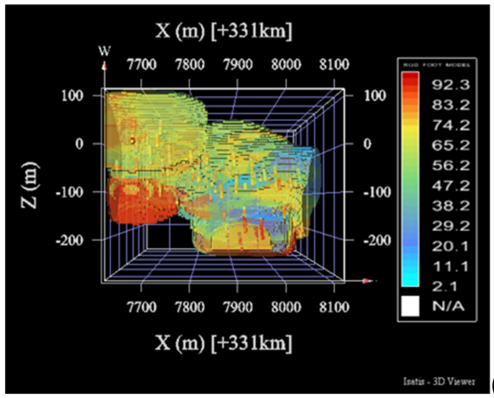
(c)

Figure 61 - Quartz vein RQD block model (RQD shown in %), detailing the (a) XY plane, (b) XZ plane and (c) YZ plane

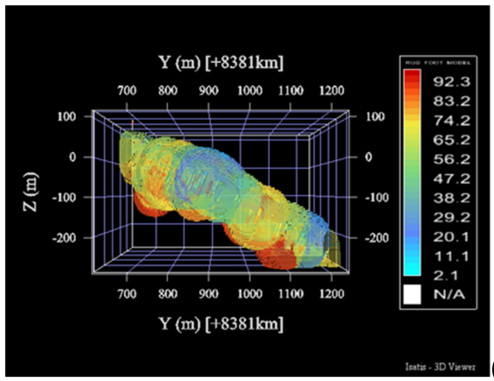
Within the footwall of the modeled mining area of Santo Antonio, important for determining pillar strength and support requirements, it can be observed that in the North-Northeast portion of the footwall, below the modeled quartz vein, as well as along the eastern and western edges, rock quality is between 2% and 40%, characterized as being poor or very poor; however, rock quality tends to improve centrally within the footwall, where interpolated values typically exceed 55%, and local interpolated values are between 65% and 90%. All permanent mine infrastructure including primary ramp development occurs within the footwall of the current and planned mining areas.



(a)



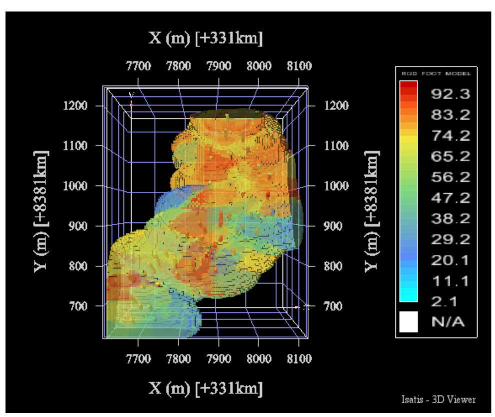
(b)



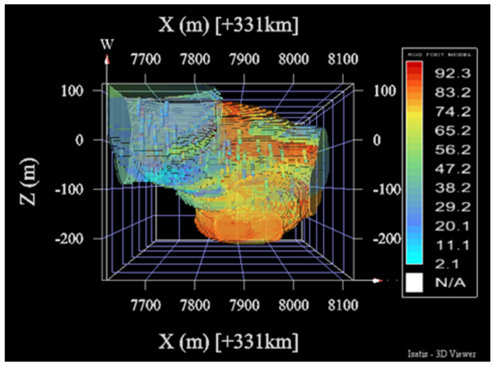
(c)

Figure 62 - Footwall RQD block model (RQD shown in %), detailing the (a) XY plane, (b) XZ plane and (c) YZ plane

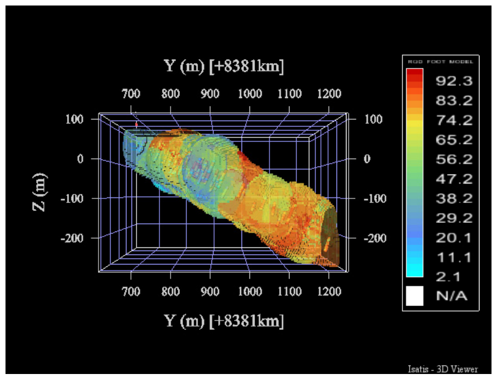
For the hangingwall model, critical in determining pillar strength, as well as overall mine design, including span widths and support requirements, the lowest quality rock mass was observed in the upper levels of the mine, and in particular at the southwest limits of the modeled mining area. Within the central and northern extent of the Santo Anonio vein mine design area, RQD values are generally above 55%, indicating a good quality rock mass within the hangingwall.



(a)



(b)



(c)

Figure 63 - Hangingwall RQD block model (RQD shown in %), detailing the (a) XY plane, (b) XZ plane and (c) YZ plane

16.3 Paste Backfill: Paste Characterization, Testwork & Design

Due to the poor quality of the upper portion of the Santo Antonio vein, as detailed in section 16.2, particularly for the ore zone in the upper panel (above level -100) as confirmed through actual development completed during the first half of 2020, the cut and fill mining method, incorporating paste backfill was selected to facilitate production from this area. The selection of the cut and fill method, incorporating paste backfill was selected for two primary reasons: (i) historically within the Brás and Buracão veins, the cut and fill mining method utilizing waste rock as backfill was previously used and practice and (ii) the integration of cemented paste to provide stability to the poor quality rock mass was confirmed through characterization work undertaken in 2020.

The physical, chemical and mineralogical characteristics of tailings generated by the NX Gold Mine were studied to confirm viability paste backfill. The following section details this work as well as design and implementation of paste backfill into the operations.

16.3.1 *Tailings Characterization*

The NX Gold Mine process plant, on average, processes 42 tonnes per hour (tph) of ore, generating approximately 39 tph of combined tailings. Only inert tailings generated from the flotation process which do not come into contact with cyanide were studied for suitability of paste material. In practice, non-inert tailings will be disposed of within the non-inert tailings dam, as is currently performed in practice.

Final flotation tailings are passed through a hydrocyclone prior to deposition within the inert tailings ponds, generating fine tailings (overflow) and coarse tailings (underflow) products. During the first quarter of 2020, two 5 kilogram samples, one of each coarse and fine tailings samples were sent to the Technological Characterization Laboratory (LCT) of Sao Paulo University, and an additional two 100 kilogram samples, one of each coarse and fine tailings samples were sent to the Laboratory of Mineral Research and Mine Planning (LPM) of the Federal University of Rio Grande do Sul.

Optical laser particle sizing of the samples was used to further classify each of the coarse and fine tailings samples by LCT, as shown in the figure below. In paste-fill applications, particle sizes below 20 microns (0.020 mm) is generally considered as the fine fraction and above 20 microns the coarse fraction.

Table 52 - Particle Size Distribution (LCT, 2020)

Sample	Size (µm)			
	D (0.1)	D (0.2)	D (0.5)	D (0.9)
Fine Tailings	4.5	8.4	26.8	77.0
Coarse Tailings	13.0	44.8	103.2	240.5

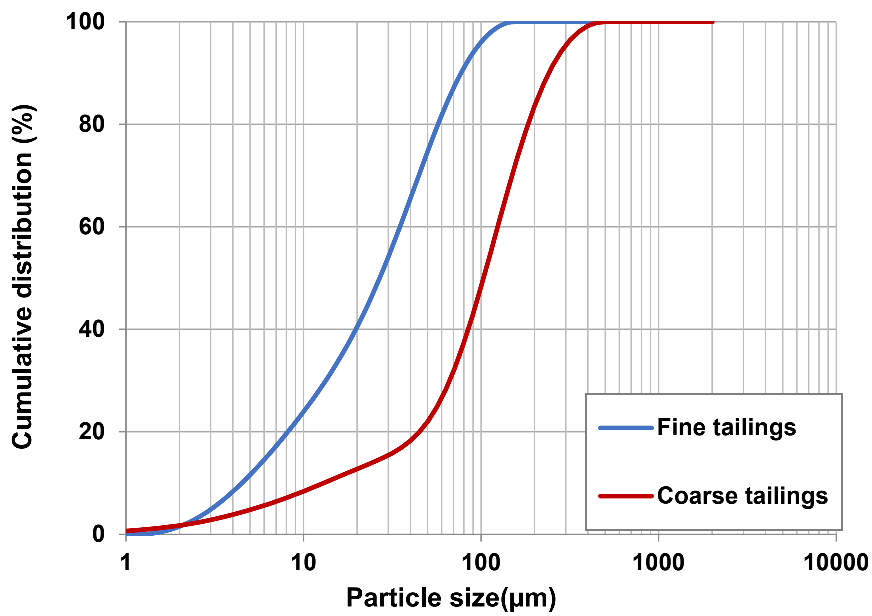


Figure 64 - Particle size distribution(s), coarse and fine tailings fractions (LCT, 2020)

Fines content in the tailings to be used for paste backfill must be controlled to achieve desired engineering properties. Strength capacity, sedimentation, transport efficiency and solid phase surface area of the mixture are important design parameters in determining the optimal "coefficient of uniformity", or optimal particle size distribution. The coefficient of uniformity is defined as the particle size at which 60% of the material passes ("P60") divided by the particle size at which 10% of the material passes (“P10”). In practice, the best quality paste, providing maximum strength while minimizing cement requirements, have coefficient of uniformities between 10 and 20.

In order to optimize the coefficient of uniformity for NX Gold paste, a blend of the coarse hydrocodone underflow combined with the fine hydrocyclone overflow at a ratio of 75% to 25%, respectively resulted in a calculated coefficient of uniformity of 13.5, within the recommended range. The particle size distribution of the blended material is shown below.

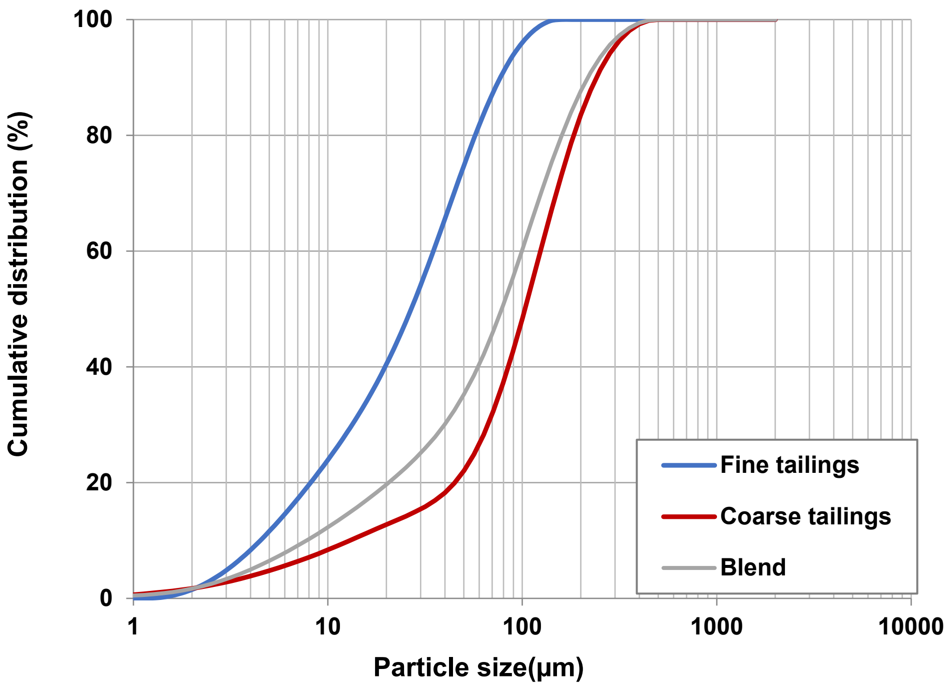


Figure 65 - Particle size distribution(s), coarse and fine tailings fractions as well as the 75%/25% blended tailings product (LCT, 2020)

16.3.2 *Tailings Blend Physical Properties*

Physical properties of the 75% coarse, 25% fine tailings product, including true density, apparent density, porosity and void ratio was determined using a blend of the samples provided. True density was determined using helium gas pycnometetry in a Micromeritics model AccuPyc II 1340, with 10 purging cycles and 10 measurement cycles. Apparent density was determined by the T.A.P. (Transverse Axial Pressure) method, in a Micromeritics model GeoPyc 1360, with 7 measurement cycles. The axial force applied was 21 N in a 38.1 mm camera. The samples were dried in an oven at 105°C for 12 h prior to physical property testing.

Table 53 - Physical properties of 75% coarse / 25% fine tailings blend (LCT, 2020)

	Mean	Std. Dev.
True density (g/cm³)	2.751	0.002
Apparent density (g/cm³)	1.732	0.032
Porosity	37%	
Void ratio	0.59	

16.3.3 *Tailings Blend Mechanical Properties Testing*

Paste strength at a variety of cement (binder) content and flow behavior was evaluated to further advance the integration of paste fill as well as design of pumping and piping solutions for the NX Gold Mine. UCS and ultrasonic wave measurements were used to evaluate the mechanical and curing properties of the paste while slump tests were used to evaluate flow and pumping characteristics.

The UCS required for paste fill varies and depends on support requirements. For the NX Gold Mine, where paste will be used in pillar recovery, values of over 1Mpa are recommended due to the primary support requirements of the paste. To achieve this strength, Portland cement was chosen for binding material as it is commonly available in Brazil and is currently used in shotcrete applications throughout the mine. A 45kg sample of cement from the mine's supply warehouse was sent to the LPM of the Federal University of Rio Grande do Sul along with the tailings samples for further evaluation.

16 samples were prepared utilizing 7% cement by weight and 16 samples utilizing 9% cement by weight were prepared for UCS testing and ultrasonic velocity tests. Samples measured 15cm in length and 7cm in diameter. An additional 28 samples utilizing 7% cement by weight and 28 samples utilizing 9% cement by weight were prepared for triaxial compressive tests. Triaxial samples measured 10cm in length and 4.40cm in diameter.

(a)  (b) 

Figure 66 - Sample preparation for 9% cement (a) and 7% cement (b) (LCT, 2020)

UCS results are shown as a function of curing time and cement addition below. The lowest obtained strength value occurred with 7% cement after 7 days cure time at 1.47Mpa, whereas the highest strength was achieved with 9% cement after 28 days of curing, which produced a UCS of 3.43Mpa. For the 7% cement sample, a marginally higher strength was achieved after 21 days of curing compared to 28 days of curing, which could be explained by irregularities in the 28 day samples such as air bubbles. In either case, UCS results show NX Gold Paste can achieve high compressive strength at both 7% and 9% cement additions.

Table 54 - UCS Results at 7% and 9% by weight (LCT, 2020)

Cement content	Curing time (days)	UCS (MPa)
7%	7	1.47
	14	1.49
	21	2.41
	28	2.10
9%	7	1.89
	14	2.03
	21	3.35
	28	3.43

A corresponding increase in ultrasonic pulse velocity ("UPV") was achieved over the curing time, as moisture content is reduced. The 9% cement sample exhibited higher UPV throughout the curing time, as expected.

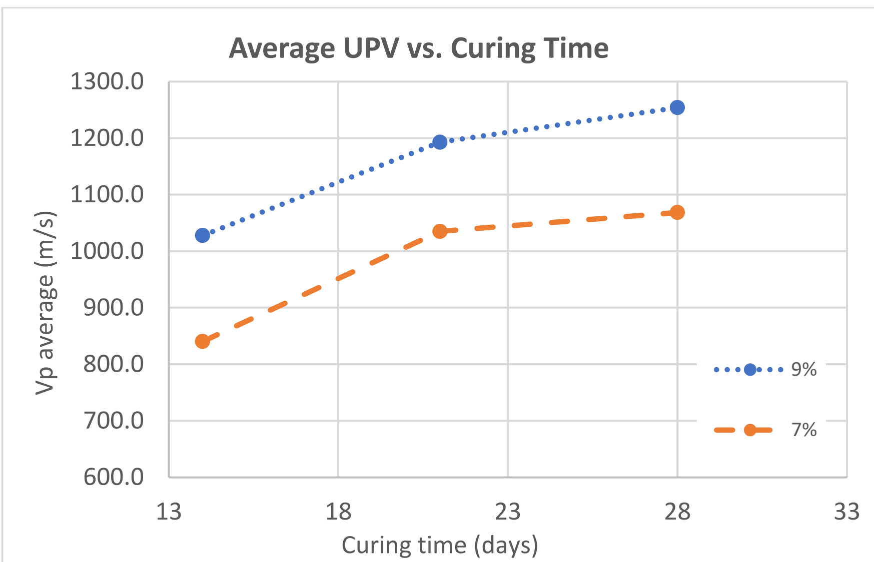


Figure 67 - UPV Results (LCT, 2020)

Triaxial tests were performed on the cured samples to obtain cohesion (C) and friction angle results for the 7% and 9% samples. Cohesion typically forms in paste-fill through intra-particle bonding with the cement hydration products, and is typically time dependent, similar to UPV, increasing with cure time. Friction angle, on the other hand decreases over the cure time. The reasons for this are not well known, but are believed to be as a result of cement hydroxides and paste surface oxidation. In either case, the triaxial results obtained from the NX Gold Mine are in-line with expectations, and confirm the suitability of either 7% or 9% cement addition to achieve desired results.

Table 55 - UCS Results at 7% and 9% by weight (LCT, 2020)

Cement content	Curing time (days)	Friction angle (°)	Cohesion (MPa)
7%	7	38.94	0.49
	14	37.5	0.55
	21	34.85	0.65
9%	7	42.83	0.38
	14	36.39	0.48
	21	37.76	0.77
	28	31.29	0.89

Slump tests were performed according to the Brazilian Standard NBR NM 67 (1998) and produced a 155mm slump for the 7% cement sample and a 175mm slump for the 9% cement sample. Water to cement (w/c) ratios obtained from the slump tests were 4.87 and 3.77 for the 7% and 9% cement samples, respectively.

16.3.4 *Paste Fill Plant & Equipment Selection*

Following the completion of physical and mechanical properties testing, the paste-fill equipment was designed with the following objectives:

- Design productivity of 35m³/h of paste fill;
- Total pumping distance of 1,300 m over the life-of-mine plan, 6-inch diameter tubes (metallic) with 311 meters vertical drilling to be performed from surface;
- HDPE tubes to be used on development areas within the underground mine;
- Initiate backfilling of first stopes during the third quarter of 2021; and,
- Delivery of a turn-key project.

The total segment design, incorporating 33 segments, that will be required to deliver paste throughout the mine in support of the current life of mine plan is detailed below:

Table 56 - Pumping Segment Design, Life of Mine Plan

Segment	Length (meters)	Inclination (degrees)	Connection Type
1	311	-90	Straight
2	1.6	-8.5	90 degrees
3	223.6	-8.5	Straight
4	1.6	-8.5	90 degrees
5	70	-8.5	Straight
6	2	-8.5	50 degrees
7	110	-37	Straight
8	2	-17.4	118 degrees
9	74	-17.4	Straight
10	2	-21	42 degrees
11	13	-21	Straight
12	2	-3	103 degrees

13	47	-3	Straight
14	2	-23.7	135 degrees
15	48.2	-23.7	Straight
16	2	-17.5	90 degrees
17	26.6	-17.5	Straight
18	2	-23.1	157 degrees
19	25.4	-23.1	Straight
20	2	-32.5	90 degrees
21	20	-32.5	Straight
22	2	-47.5	132 degrees
23	32	47.5	Straight
24	2	-27.1	157 degrees
25	80	-27.1	Straight
26	2	-30	162 degrees
27	45	-30	Straight
28	2	-29.8	165 degrees
29	40	-29.8	Straight
30	2	-27.1	170 degrees
31	38	-27.1	Straight
32	2	-23.7	150 degrees
33	40	-23.7	Straight

Pumpability tests on NX Gold flotation tailings were performed by Schwing Stetter on site, who was selected to deliver the turn-key modular paste fill plant for NX Gold. A maximum pressure of 90 bar for 5% cement and 80 bar for 7% cement was determined.

Based upon the design specification, and future needs of the NX Gold Mine, the HN2 paste fill model was selected. The model features a nominal productive capacity of 35m³ / h and is equipped with double 2.0 m³ horizontal shaft mixers. Schwing Stetter MC 150 BR Control and Supervision System to monitor material consumption as well as weight deviations, integrated slump meter and humidity sensor will be installed. The turn-key modular unit includes a 440V / 60Hz electrical panel, CCM and 230Vac relays, complete control and automation CPL Siemens S7 1500 with SIWAREX 24Vcc weighing modules (accuracy of dosage according to NBR 7212). Installed power of 250 kVA.

Figure 68 - NX Gold Paste Fill Project (Shwing Stetter, HN2, 2020)

A Piston Pump Duplex KSP 220XL + EHS 4500 (2x315kW) was selected for pumping to meet the current life of mine plan as well as support future expansions of the underground mine activities, beyond the current mineral reserves. The nominal pumping capacity of the pump is 50m³ / h. The pumping system features an open hydraulic circuit, poppet suction and pressure valves with CPR, capable of producing maximum of 120bar in operation. Heat exchangers with hydraulic drive for operation at room temperature up to 45 °C are included as well as Siemens HMI touch panel operation panel, 440V / 60Hz power panel, CCM and 230Vac relays, complete control, and automation Siemens S7-300 / 24Vcc CPL. Installed power of 850 kVA. This positive displacement pump has been specified to suit all phases of the project.

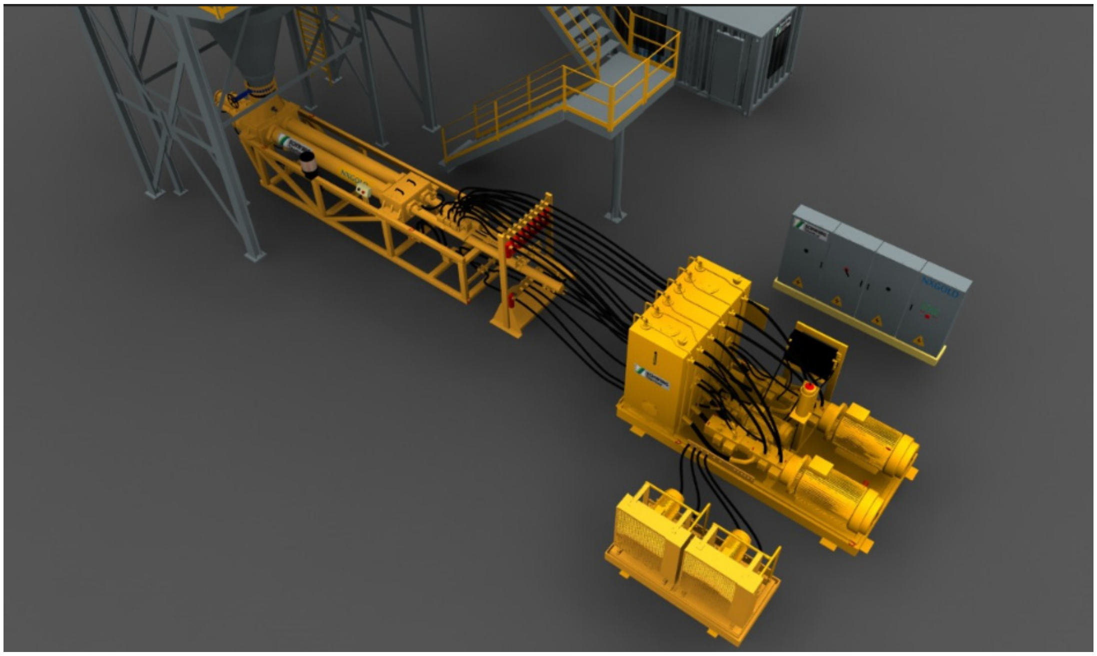


Figure 69 - NX Gold Paste Fill Project, Piston Pump Duplex KSP 220XL + EHS 4500

16.4 Geotechnical Design Parameters

Based upon the geotechnical model developed and the mechanical properties testing of the main units within the Santo Antonio vein, maximum self-supported spans were calculated for mine planning purposes. Support requirements were determined based upon hydraulic radius and quality of the underlying rock mass rating (“RMR”) after taking into account adjustments for blasting, induced stresses and joint orientation (“MRMR”). As development has occurred throughout the Santo Antonio vein, these empirical methods were evaluated alongside observations and operating practice.

Within the upper panel of the Santo Antonio vein, the hangingwall has been determined to have an average RMR value of 63. After adjusting for blasting (94%), joint orientation (80%) and induced stress (90%), the adjusted MRMR is 42.6, indicating openings with hydraulic radius (defined as the area divided by the perimeter of the opening) of up to 10.0 meters are stable without the need of systemic support. Between 10.0 meters and 19.0 meters of hydraulic radius, support is required and hydraulic radii values above 19.0 meters are unstable.

The use of cut-and-fill with a maximum advance rate of 4.0 meters indicates that even if the entirety of the vein strike length within the upper panel, approximately 300 meters, the hydraulic radius of 2.70 meters would still be within the design limit for an unsupported span. In the portion of the upper panel, where room and pillar mining is expected to occur, rooms have been designed utilizing 6.0 meter rooms between sill pillars in 90 meter panels, with the application of paste to recover the panels.

Within the lower panel of the Santo Antonio vein, strength has been demonstrated to improve, both in geotechnical modelling of the vein, and in practice, where the majority of the mine's current production activity occurs. MRMR values for the hangingwall within the lower have been calculated to be 55.5, a considerable improvement, as expected, over the upper panel. Within this mining area, inclined room and pillar has been selected and is currently in use. Full recovery of the pillars utilizing paste backfill is planned in an ascending operation. Rooms measure 6.0 meters between sill pillars and have been designed on 90 meter panels.

Factor of safety values for the expected design, incorporating the worst geomechanical results of the orebody range from 1.2 to 7.0 within the upper panel, and 2.9 to 5.7 within the lower panel.

16.5 Mining Methods

Incorporating geotechnical design parameters, the Santo Antonio vein was sub-divided into two main panels on level -65 (upper) and level -170 (lower) corresponding to the delineation between rock mass quality of the vein. As discussed in prior sections of this Report, the upper level is, in general, of lower rock quality, thus underhand cut and fill has been selected as the mining method of choice, incorporating the use of cemented paste backfill. The lower panel, which exhibits better rock quality and strength characteristic, will continue to employ the use of inclined room and pillar, with full recovery of the pillars expected utilizing cemented paste in an ascending operation.

The Santo Antonio vein measures, on average, over a total strike length ranging from 150 meters to 300 meters, features an average dip ranging from 32 to 40 degrees and has an average thickness of 3.0 meters. Localized thickening of between 5.0 and 6.0 meters has been observed within the lower panel during operations.

Table 57 - Santo Antônio Orebody Dimensions

Target	DIP (°)	Extension along strike (m)	Avg. Thickness (m)
Santo Antônio	32 to 40	300	3.0

Mine layout schematics are provided in Figure 70 and Figure 71.

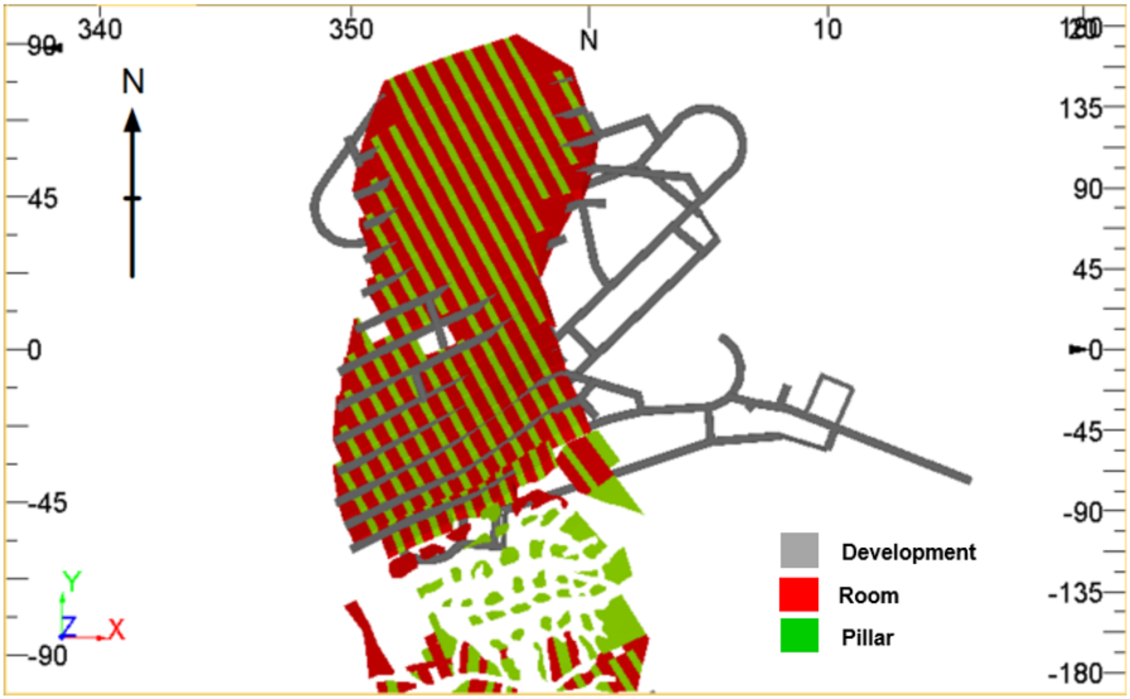


Figure 70 - Santo Antonio, Lower Panel Mine Design

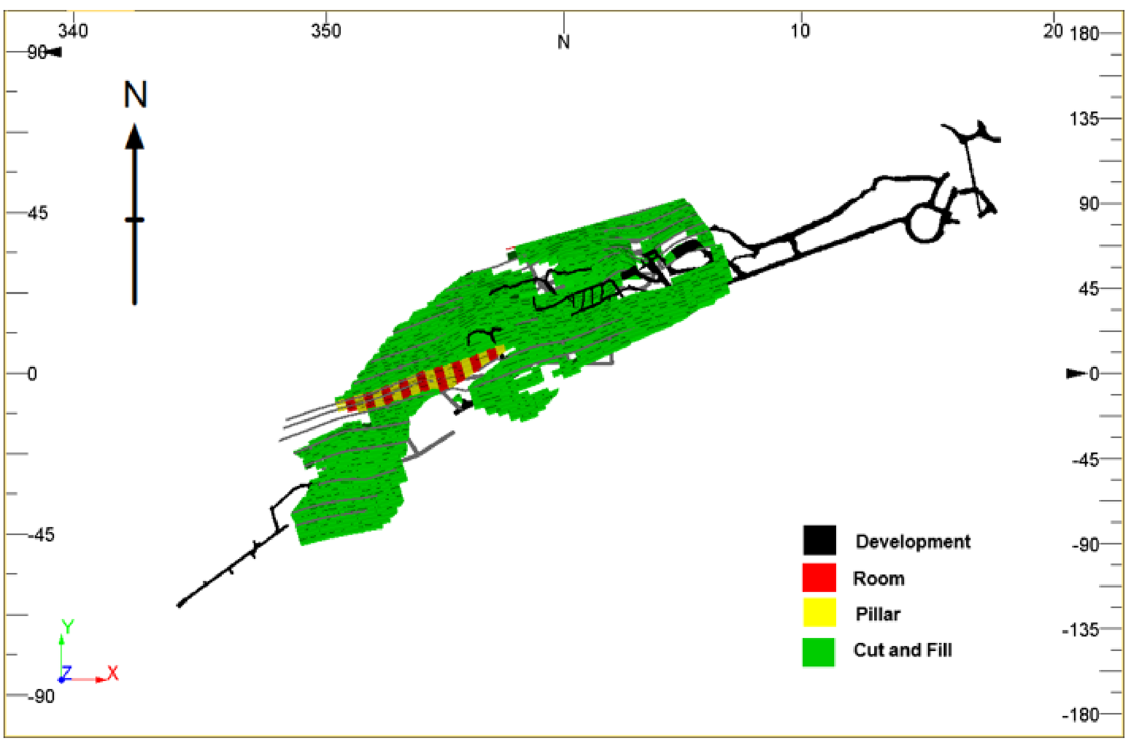


Figure 71 - Santo Antonio, Upper Panel Mine Design

16.5.1 *Mining cycles*

The mining cycle for inclined room in pillar operations within the lower panel of the Santo Antonio vein can be described as follows:

1. 40 mm diameter blasthole drilling at 1.4m depth using jackleg hammers;
2. Installation and blasting of cartridge explosives with a charge ratio of 1.35 kg per blasted tonne of ore / waste;
3. Loading and transport of material with 2-tonne capacity slusher / scraper to the loading drift;
4. Loading and transportation of the ore to the surface using 6-tonne capacity LHD loaders and 20-tonne capacity haul trucks;
5. Manual scaling;
6. Drilling for rock support and installation of splitsets using jackleg hammers according to geotechnical support requirements;
7. Paste fill used as backfill following the primary stage of mining; and,
8. Pillar recovery

The mining cycle for underhand cut-and-fill operations within the upper panel of the Santo Antonio vein can be described as follows:

1. 40 mm diameter blasthole drilling at 1.4m depth using jackleg hammers;
2. Installation and blasting of cartridge explosives with a charge ratio of 1.35 kg per blasted tonne of ore / waste;
3. Loading and transport of material with 2-tonne capacity slusher / scraper to the loading drift;
4. Loading and transportation of the ore to the surface using 6-tonne capacity LHD loaders and 20-tonne capacity haul trucks;
5. Manual scaling;
6. Drilling for rock support and installation of splitsets using jackleg hammers according to geotechnical support requirements;
7. On completion of mining, backfill the stope using cemented paste; and,
8. Frontal attack of the next 3.0 meter slice.

16.5.2 *QP Opinion*

Despite the poor to very poor rock mechanics of the hangingwall of the Santo Antonio vein, and in particular the upper panel of the vein, the long operational history of Buracão and Brás ore bodies, where cut and fill operations previously occurred, supports the conclusion that mining of Santo Antonio upper panel is feasible, along with the proposed mining method and support requirements. This is supported by operations in practice and development within the vein.

The paste characterization work and design of the paste fill system for the NX Gold Mine is adequate for the Report at feasibility level and provides support for the current Mineral Reserves and life of mine plan. Geomechanical characterization work should be performed on a continual basis, as is currently performed, to support mining operations, mine design and update geotechnical support requirements.

16.6 Santo Antonio Mine Plan

Based on operational experience, a productive mining rate of 500 tonnes/month per room was assumed for the inclined room and pillar mining method. The constraint for production using this method is based on number of jackleg operators per shift and developed rooms available for production. For the current reserve schedule and life of min plan, 9 jackleg machines operating per shift has been assumed. The rate considered on mechanized development was 40 meters per month and 25 meters per month on jackleg development.

Modifying factors employed in the development of the mine plan are based on actual operational performance of mining within the Santo Antonio vein to date. Operational dilution of 17.4% plus planned dilution of 8.5% was applied to each stope within the room and pillar operational area of the lower panel. Operational dilution of 3.2% plus planned dilution of 21.2% was applied to each stope for cut and fill operations in the upper panel of the vein.

The life of mine production schedule for the NX Gold mine is detailed below:

Table 58 - Mine Schedule

Underground Mining	Unit	Q4 2020*	2021	2022	2023	2024	2025	2026
Santo Antonio Vein								
Productive Development	t	24,923	68,519	48,106	14,270	8,747	102	-
Development Au Grade	g/t	6.21	6.05	7.43	8.07	4.76	3.78	-
Contained Au Development	kg	155	415	357	115	42	-	-
Ore Mined	t	21,531	98,470	131,333	156,592	130,668	80,522	78,400
Ore Mined Au Grade	g/t	9.22	8,02	8,67	9,22	9,94	9,88	11.61
Contained Au, Mined	kg	198	790	1,139	1,444	1,298	796	909
Production Total	t	46,455	166,989	179,438	170,863	139,415	80,623	78,400
Total Grade Mined	g/t	7.61	7,21	8,34	9,13	9,61	9,87	11.61
Contained Au, Total	kg	353	1204	1496	1559	1340	796	910
Contained Au, Total	Oz	11,359	38,716	48,105	50,130	43,076	25,597	29,264
Waste Total	t	39,183	130,485	69,452	5,975	1,466	-	-
Tonnes Total (ROM+Waste)	t	85,637	297,475	248,890	176,837	140,880	80,623	78,400
Mine Summary								
Production	**t**	**46,455**	**166,989**	**179,438**	**170,863**	**139,415**	**80,623**	**78,400**
Au Grade	**g/t**	**7.61**	**7,21**	**8,34**	**9,13**	**9,61**	**9,87**	**11.61**
Contained Au**	**kg**	**353**	**1204**	**1496**	**1559**	**1340**	**796**	**910**
Contained Au**	**Oz**	**11,359**	**38,716**	**48,105**	**50,130**	**43,076**	**25,597**	**29,264**

Note: summed amounts may not add due to rounding
*Q4 2020 denotes the period from October 1, 2020 to December 31, 2020
**Contained Au has not been adjusted for metallurgical recoveries

Table 59 - Processing Operational Summary

Process Plant	Unit	Q4 2020*	2021	2022	2023	2024	2025	2026
Ore Processed	t	46,455	166989	179438	170863	139415	80623	78,400
Au Grade Processed	g/t	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Recovery Gravimetric	%	78%	78%	78%	78%	78%	78%	78%
Flotation Recovery	%	82%	82%	82%	82%	82%	82%	82%
CIL Recovery	%	78%	78%	78%	78%	78%	78%	78%
Global Recovery	%	92%	92%	92%	92%	92%	92%	92%
Bullion Mass	**kg**	**930**	**3,168**	**3,936**	**4,099**	**3,522**	**2,093**	**2,391**
Au Contained in Bullion	**oz**	**325**	**1,109**	**1,378**	**1,435**	**1,233**	**732**	**837**
Ag contained in Bullion	**oz**	**10,458**	**35,647**	**44,291**	**46,121**	**39,631**	**23,550**	**26,901**

Note: summed amounts may not add due to rounding
*Q4 2020 denotes the period from October 1, 2020 to December 31, 2020

16.7 Underground Equipment Fleet, NX Gold Mine

The fleet of equipment currently in use at the NX Gold Mine as at the Effective Date, including equipment rentals, is shown in Table 60 and Table 61. The NX Gold Mine currently has all equipment needed to support the contemplated production plan as set forth in this Technical Report.

Table 60 - Fleet of equipment used for development of the underground mine at NX Gold

Category	Code/TAG	Type	Manufacturer	Model
Loading	LHD-01	Loader	Caterpillar	R1600G
	LHD-03	Loader	Caterpillar	R1600G
	LHD-06	Loader	Caterpillar	R1600G
	CG-08	Loader	Caterpillar	950
Rock Support and Infrastructure	BET-04	Concrete Mixer	Fiori	DB260SL
	PRJ-01	Shotcreet	Putzmeister	SPM 4210 wetkret
	RE-04	Backhoe loader	Case	580N
	RE-05	Backhoe loader	Caterpillar	120K
	MN-01	Motor Grader	Caterpillar	416E
	PLT-13	telehandler	Manitou	MTX1041A
	PLT-14	telehandler	Manitou	MTX1041A
	PLT-15	telehandler	Manitou	MTX1041A
	PLT-16	telehandler	Manitou	MTX1041A
Drilling	JB-01	Jumbo	Atlas Copco	S1D
	JB-02	Jumbo	Atlas Copco	S1D
	JB-03	Jumbo Drill	Atlas Copco	Boomer 282
	JB-06	Jumbo Drill	Atlas Copco	Boomer 282
	JB-08	Jumbo Drill	Atlas Copco	Boomer 282

Table 61 - Fleet of equipment for Santo Antônio mine

Category	Code/TAG	Type	Manufacturer	Model
Loading	Bobcat-01	Loader	Bobcat	Bobcat S650
	Bobcat-02	Loader	Bobcat	Bobcat S650
	Bobcat-03	Loader	Bobcat	Bobcat S650
	Winch and Scraper - 01	Scraper	Bafotech	LF230 M (37 KW)
Rock Support	Stope Support Drill 01	Jackleg	Tornibras	TB 46WS-8
	Stope Support Drill 02	Jackleg	Tornibras	TB 303 HW
	Stope Support Drill 03	Jackleg	Tornibras	TB 303 HW
Drilling	Stoping Drill 01	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 02	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 03	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 04	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 05	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 06	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 07	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 08	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 09	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 10	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 11	Jackleg	Tornibras	TB 303 AM
	Stoping Drill 12	Jackleg	Tornibras	TB 303 AM

16.8 Dewatering

The dewatering infrastructure of the mine has been designed to collect water from a fractured-rock aquifer that exits within the underground mine. Water egress occurs primarily within the mining levels (quartz veins), as the country host rocks generally do not have properties that allow their fractures to connect. Within each level of the mine, water collection points (sumps), each using a Flygt pump with 15 or 30 horsepower, are installed. These pumps are designed to pump water into the main pumping boxes which are interconnected by 6-inch pipelines with a vertical spacing of 60 m. Each main pumping box has one or two Metso HM100 pumps with a pumping capacity of 100 m^3/h each. At the final collection point, particulate matter is removed from the collected water by decantation, enabling the water to be recycled and used in other parts of the mine including the processing plant. The total output of mine dewatering at the time of the Effective Date was 200 m^3/h.

Santo Antonio uses the Brás dewatering system, which is already in place. Water from room and pillar panels will be drained to the pumping stations along the main ramp. The two primary panels on level -65 and level -170 will be dewatered by the pumping stations located on level -85 and level -200, respectively.

Table 62 - Dewatering infrastructure for the Brás and Buracão veins

Level	Number of Flygt pumps	Number of Metso pumps
217	-	2
155	-	2
76	-	1
36	-	1
-29	-	1
-30	1	1
-55	1	1
-85	-	1
-160	1	-
-180	1	-
-190	2	-
-200	3	-
-210	1	-
-220	1	-
Ramp 3	1	-
Main Ramp	4	-
132	1	-
157	1	-

16.9 Drilling and Blasting

Drilling at the Brás vein is performed using Atlas Copco S1D and 282 jumbos, both with 14-foot drills. The holes drilled are 51 mm in diameter and 3.8 m in depth with one meter spacing and separation, regardless of the section size. Holes with a diameter of 102 mm are used to drill the free face.

Jackleg drilling is used for development in the Buracão mine. Holes with a diameter of 40 mm are used for both loaded holes and free face holes. Drilling planes are spaced at 50 cm.

Production drilling and development drilling utilize the same equipment, in both the mechanized and jackleg mining processes. The pattern for production drilling consists of 51 mm holes drilled in a fan shape. Spacing and separation between the holes is 1.0 m and 0.8 m for mechanized drilling and for jackleg drilling respectively.

Rock blasting is performed with SENATEL MAGNAFRAG 38X600 1.5” x 24” cartridge explosives for mechanized mining, and with SENATEL MAGNAFRAG 1” x 24” cartridge explosives for jackleg mining. Ignition of explosives is done using BRINEL wires with timing delays ranging from 1 microsecond to 332 microseconds, distributed in an increasing order from the inside to the outside of the section. Other accessories used in the process include NP 5, NP 10 and NP60 detonating cord along with 2.5 meter No. 8 blasting caps. This configuration allows an average charge ratio of 1.35 kg/t to be defined.

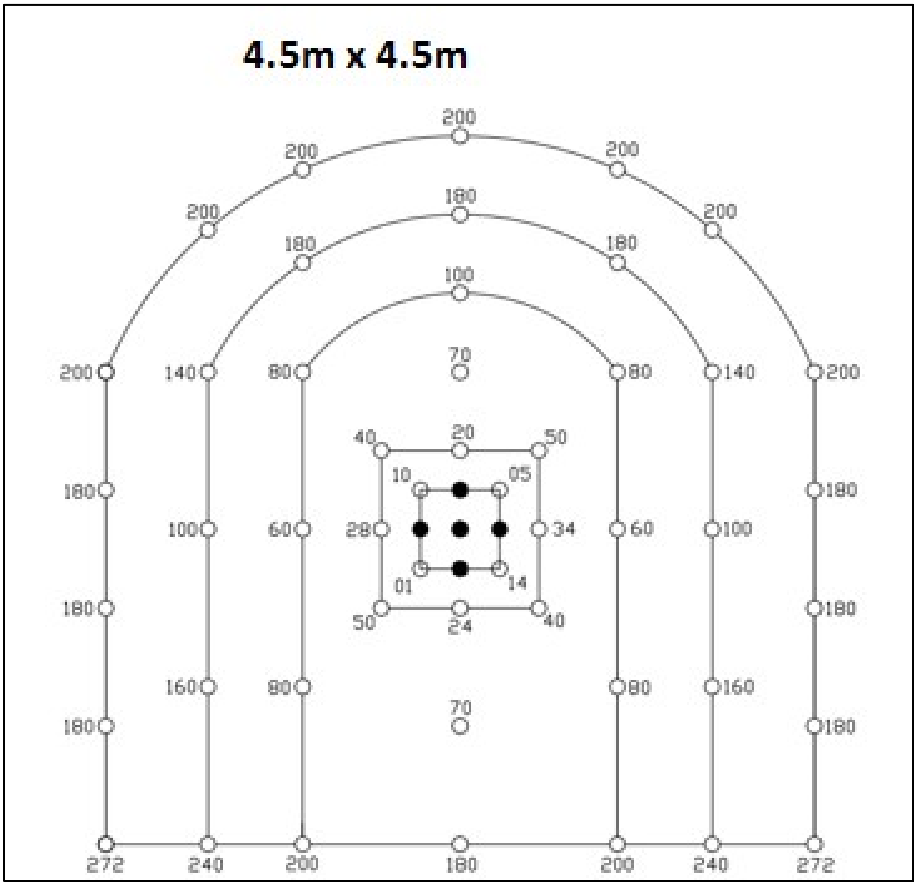


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Figure 72 - Drill and blast plan for mine development

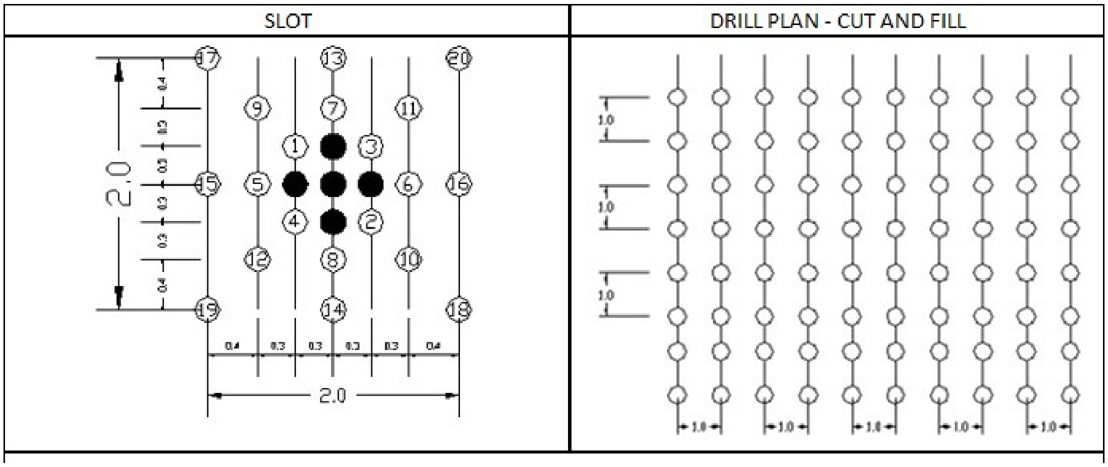

Figure 73 - Drill and Blast plan for cut-and-fill mining

Table 63 - Drilling equipment

Model	Fleet Size
Atlas Copco 282 Jumbo	3
Atlas Copco S1D Jumbo	2
Pneumatic hammer	12

Table 64 - Dimension and blast hole requirements of development mining

Development Face Dimension	Required blast holes
4.5m x 4.5m	61
4.0m x 4.5m	55
4.5m x 5.5m	70
2.2m x 1.8m	25
2.2m x 2.8m	35

16.10 Load and Dump

Loading and transportation of both ore and waste follow the same procedure. Loading is performed using LHDs with capacity of 3 m^3. Transportation is performed by 6 Mercedes 3131 trucks with a maximum capacity of 20 tonnes or 12 m^3.

NX Gold has 2 active LHDs (Caterpillar R1600). At jackleg mining sites, loading and transportation are performed using Bobcat S650s and scrapers, to move material to the stockpile site from where it is transported to the surface using LHDs and trucks.

Loading and hauling from the Santo Antônio uses a system based on Bobcat S650s, winch scrapers, as well as LHD loaders and 20 tonne 6x4 trucks.

Table 65 - Loading and Dumping equipment

Loading equipment	
Model	**Fleet Size**
LHD Caterpillar R1600	2
Winch and Scraper Bafotech in 37 KW	8
Dumping equipment	
Mercedes 3131 Trucks	5

16.11 Ventilation and Alternative Emergency Exit

Currently, the main ventilation circuit is composed of five raises connecting the underground mine to the surface. This includes two exhaust raises and three intake raises. The current intake of fresh air into the mine is 155.4m^3/s.

To meet the current air demand, three exhaust fans with 150 hp motors are installed at the surface providing air flow of 45 m3/s at a static pressure of 1,500 Pa each. Secondary ventilation includes sixteen fans underground: ten with 100 hp motors, two with 75 hp motors, one with a 50 hp motor, and one with a 175 hp motor. Current consumption of electric power is on the order of 864 MWh/ month for the underground mine operations.

Emergency escapeways are located within the intake raises and are interconnected up to level -170. The Santo Antonio vein has a rescue chamber installed at level -85.

16.12 Staff Table

The underground mine has a total of 219 staff on its roster, including 143 permanent employees and 76 third-party employees.

Table 66 - Underground mine staff

Company	Headcount
NX Gold S.A. Employees	143
Minere Ltda. Employees (mining contractor)	42
July Quartzo (ore and waste haulage)	34

16.13 Summary and Qualified Person's Opinion

After analyzing the documents and plans presented during a technical site visit to the site in September 2020, the authors of this Report make the following comments on the underground mining operations at NX Gold:

- The NX Gold underground mine is small operation (reaching a maximum of approximately 160,000 tonnes per annum as envisioned currently) with the possibility to increase production;
- There are inferred resources that should be further developed and explored in order to extend mining activities;
- The selection of an underhand cut-and-fill mining method for the upper panel of the Santo Antonio vein is appropriate given the nature of the deposit and geomechanical characterization work performed;

- The implementation of cemented paste fill is appropriate for the mining method and the supporting analysis has been performed according to industry best practices; and,
- Modifying factors and assumed productivity rates are based on actual operating performance within the Santo Antonio vein;

17.0 RECOVERY METHODS

The Nova Xavantina Plant includes a conventional 3-stage crush; ball milling; centrifugal gravity concentration (Falcon); intensive cyanidation - ILR (GEKKO); hydrocyclones; flotation (rougher, scavenger and cleaner); pre-lime and CIL of the flotation concentrate; desorption (atmospheric pressure Zadra stripping); acid washing (before and after desorption); and smelting. The Nova Xavantina Plant has been in operation since 2012.

Currently, all units of the plant operate in 3 shifts for 24 hours per day from Monday to Saturday. The crushing rate is 80 tph, and the grinding rate is 44.5 tph. Average utilization is currently 34.2% for crushing and 39.7% for grinding due to low mine feed. The plant has the capacity to process in excess of 300,000 tonnes of ore per year as compared to current maximum achieved rates of approximately 160,000 tonnes per year in the current life of mine plan.

The plant's operational staff currently includes 30 direct staff plus 27 more people for regular maintenance of mechanical and electrical parts. Overall plant recovery averages 92%, with more than 75% of the gold is being recovered through gravity and ILR.

Ore feed into the Nova Xavantina Plant averages 12 g/t gold and 22 g/t silver. The ore of the NX Gold Mine is difficult to process given the high carbonaceous content of approximately 8% carbon, which historically had resulted in significant losses of gold due to the preg-robbing effect. Due to the efforts of the processing team, recovery through CIL at NX Gold has improved significantly over the years to current levels, and is markedly higher than that of similar carbonaceous ores.

Following the plant there are two tailings ponds, one that receives the tailings from flotation, and another that receives tailings from CIL. The latter is coated with double layer of HDPE for natural degradation of residual cyanide, complemented by the addition of hydrogen peroxide in order to adjust cyanide levels as required by regulations. The tailings circuit is essentially a closed loop with water loss only occurring through evaporation and in the residual moisture content of the tailings. Process water is supplied via pumping from the underground mine.

The current capacity of the CIL tailings pond is approximately 450,000 tonnes, sufficient for more than 10 years of operation and while the flotation tailings pond has current storage capacity of about 10 months of operation, thickened inert tails are routinely removed from the pond and used to reclaim the artisanal open pit mines within the NX Gold mining concession. Figure 75 shows the characteristics and process flowsheet for both tailing dams.

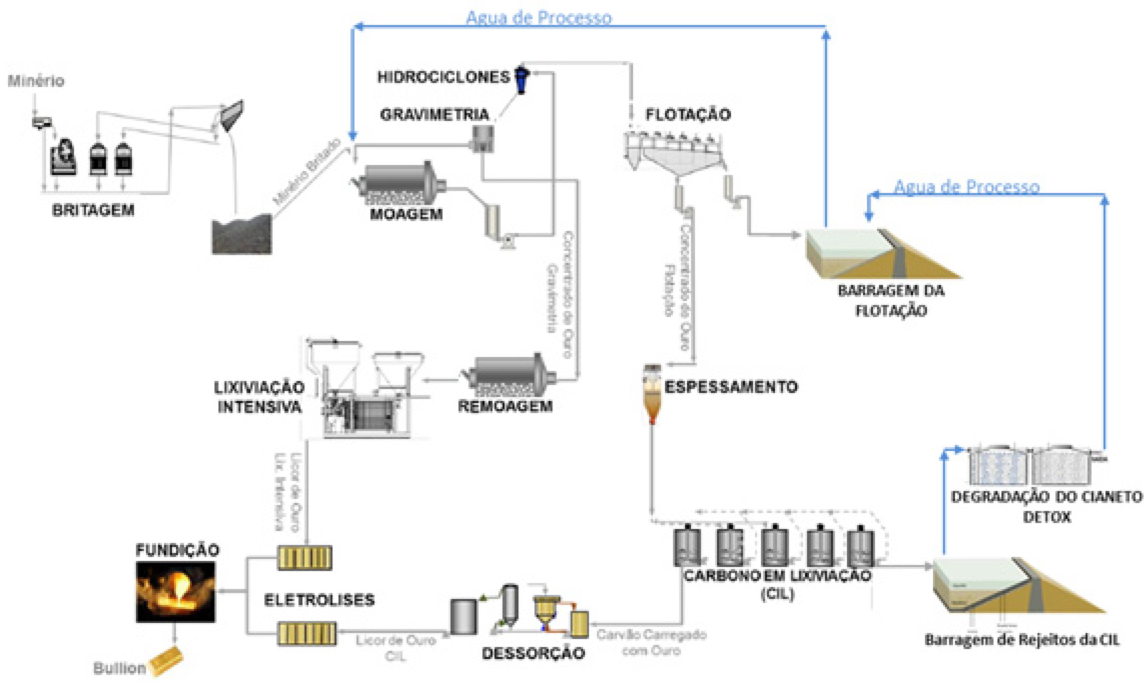

Figure 74 - Process flowsheet

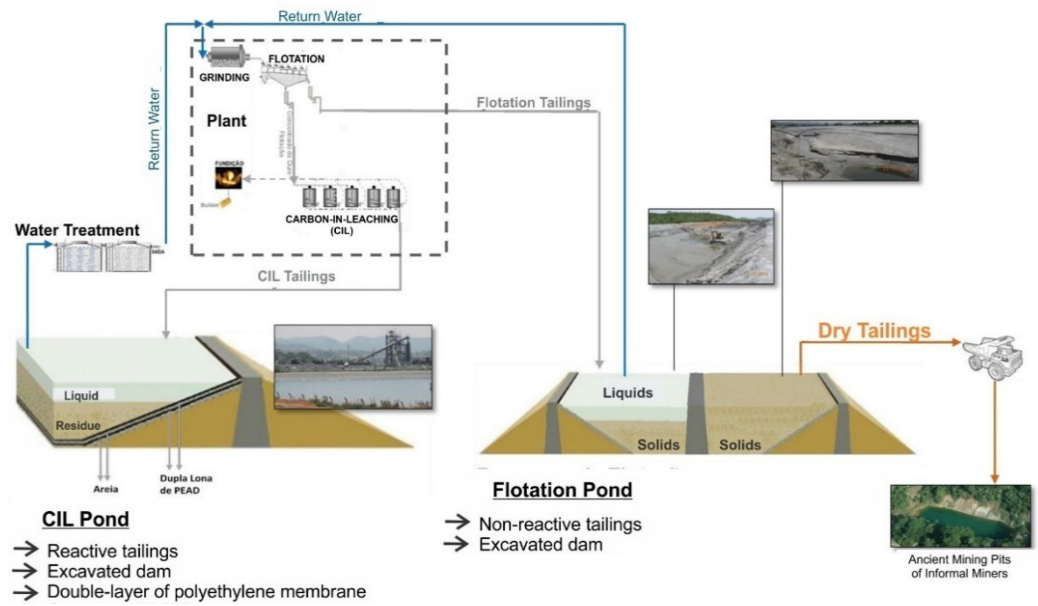

Figure 75 - Tailings disposal

17.1 Crushing

The nominal rate of the crushing unit is 80tph.

ROM material is transported by trucks from the underground mine and stored in surface buffer piles, with a storage capacity of 3,000 tonnes. From there it is taken up a loader to the feed hopper.

Using an apron feeder, the 100mm to 500mm coarse material is loaded into a Simplex SXBM 9060 jaw crusher with a closed-side setting (“CSS”) of 100 mm for primary crushing. Undersize material (sub 100mm) is moved to the SIMPLEX SXPL 6024/2D double-deck classification screen by a belt feeder for further separation of particle sizes of 22mm to 10mm.

Oversize fractions (greater than 20mm) and the fractions between 20mm and 10mm are transported by conveyor to the secondary and tertiary cone crushers, respectively. The secondary cone crusher is a SIMPLEX SXBC 12194 CS with a CSS of 20mm, and the tertiary cone crusher is a SIMPLEX SXBC 12194 CC with a CSS of 12mm. Ore from secondary and tertiary crushers is discharged onto the first screening belt which closes the crushing circuit.

Undersized material (sub 10mm) is placed on the second belt feeder to feed the ball mill.

Two operators per shift are required to operate the crushing unit (photo shown in Figure 76).

Figure 76 - Crushing Unit overview

17.2 Grinding

The nominal rate of the grinding unit is 44.5 tph.

Grinding consists of a 12 ft by 19 ft, 1,400 horsepower ball mills (Figure 77), loaded with a 30% charge of steel balls up to 80 mm in diameter. The ball mill operates in a closed circuit with a 15-inch diameter hydrocyclone. The circulating load within the milling circuit is approximately 400%.

Figure 77 - Ball mill overview

In the milling circuit, hydrocyclone underflow passes through a 2mm mesh diameter screen, with the oversize returning to the mill. Approximately one-third of underflow is used as feed for the Falcon centrifugal concentrator and the balance is returned to the mill. The Falcon centrifugal concentrator (photo shown in 8) operates at 60 G forces and in 19 minute-long cycles.

The daily production of gravity concentrate delivered into intensive cyanidation - IRL (GEKKO) (photo shown in 9) is 1,500 kg per batch (approximately 12 hours of operation). More than 75% of the gold is recovered during centrifugal concentration/IRL.

The feed grade of the Falcon concentrator typically averages 12.0 g/t gold, while the concentrate has an average grade of approximately 4,000 g/t gold.

Figure 78 - Falcon centrifugal concentrator overview

Figure 79 - Intensive cyanidation - IRL

Hydrocyclone overflow with a target P_{80} of 150 microns is used as flotation feed after passing through a 1m x 1.5m vibrating screen with mesh diameter of 1 mm.

17.3 Flotation

The flotation unit operation (photo shown in Figure 80) consists of 3 rougher cells, 3 scavenger cells, and 1 cleaner circuit. Each cell is a FLSmidth tank cell with a volume of 9m^3. Flotation feed averages approximately 2.5 g/t gold while the concentrate grade averages approximately 50 g/t.

Current flotation operations target a solids ratio of 30% by weight. Reagent dosages include 65 g/t of the collector potassium amyl xanthate and 30 g/t of Flomin as a frothing reagent. Flotation mass pull is approximately 2%, and gold recovery is approximately 90%. Tailings from flotation have a gold grade of approximately 0.3 g/t and are stored in the flotation pond.

The flotation concentrate is transferred to the CIL unit operation.

Figure 80 - Flotation Unit overview

17.4 Carbon-in-Leaching (CIL)

The CIL unit operation (photo shown in Figure 81), which further processes the flotation concentrate, is comprised of a series of 6 agitating tanks, each with 12m^3 of capacity. The first tank in the series is only used for a pre-lime step, with no carbon added, while the other five cells utilize carbon addition. Target carbon concentration in the 5 tanks is 20% by volume, and the calculated residence time in CIL is 60 hours.

Average gold feed grade is approximately 55 g/t compared to discharge grades of approximately 10 g/t, implying an average recovery of 81%, which is widely considered to be a good recovery level for the high-carbonaceous ores of the NX Gold Mine.

Loaded carbon with an average grade of 1,200 g/t is then pumped from the first CIL tank to the Desorption Unit. NaOH is used during the CIL process to control pH.

The concentration of cyanide contained in the slurry in the first tank approaches 1,200 ppm of CN, whereas the last tank has a concentration of 300 ppm. The slurry from the CIL process is then pumped to the respective tailings pond after passing through a small screen to ensure the retention of fine carbon. Typically, no additional detoxication steps are used in the procedure for cyanide degradation. Cyanide degradation occurs naturally through exposure to UV light in the tailings dam where concentrations of cyanide are within acceptable levels. When reusing water from the CIL tailings dam in the plant, a hydrogen peroxide system is used to ensure complete destruction of cyanide.

Figure 81 - CIL (Carbon-in-leach) Unit overview

17.5 Desorption, Electrowinning, Acid Washing, and Smelting

The desorption column has capacity for 2 tonnes of carbon, with three batches of desorption performed per week. The process applies Zadra stripping at atmospheric pressure. This consists of batch elution with 0.2% of NaCN and 2% of NaOH for a 30 hour period at 95 °C. Desorption is followed by acid washing at room temperature with 3% HCl followed by a final acid wash. There are two GEKKO Zadra electrowinning cells: one for processing the solution derived from intensive cyanidation unit operation, and another for processing the desorption solution.

After electrowinning, the plated cathodes are removed and sent to the NX Gold Plant smelting unit operation where 25 litre crucibles are used to produce bullion that average 40% by mass gold and 25% silver. Borax, potassium nitrate, sodium carbonate, and sand are used as smelting fluxes.

17.6 Reagent, power and water use

The NX Gold Mine is an established operating mine for which average use and consumption metrics of key process inputs are readily available.

Total fresh-water use for the NX Gold Mine during the full operating year of 2019 was 52,034m^3 with over 90% recycling rate of process water achieved. Power use averaged 12,000 MWh per month in 2019 in support of mining and processing operations. Critical process reagents described in this chapter have been forecast using per tonne consumption metrics on a go-forward basis. The authors of this Report have not identified any material risks with the continued supply of water, power nor supply of reagents to support the continued operations of the mine.

17.7 Process Plant Equipment and Simplified Plant Metrics

The equipment list for the process plant has been provided in Table 67 while a simplified information table on each of the process plant's key operating metrics at an assumed 12.0 gram per tonne feed has been provided in Table 68.

Table 67 - Processing Plant Equipment

PROCESSING EQUIPMENT		
Description	**Manufacturer**	**Function**
TC-06 CONVEYOR BELT	SIMPLEX	FEED TC-06
JAW PRIMARY CRUSHER	SIMPLEX	PRIMARY CRUSHING
CONE SECONDARY CRUSHER	SIMPLEX	SECONDARY CRUSHING
CONE TERTIARY CRUSHER	SIMPLEX	TERTIARY CRUSHING
DOUBLE-DECK INCLINED SCREEN	SIMPLEX	ORE CLASSIFICATION FROM 0 TO 8 MM
SPARE CYCLONE FEED PUMP	METSO	SLURRY PUMPING TO HYDROCYCLONES TRAIN
CLASSIFICATION HYDROCYCLONE	FLSMIDTH	CLASSIFICATION OF ORE FROM THE MILL
SPARE CLASSIFICATION HYDROCYCLONE	FLSMIDTH	CLASSIFICATION OF ORE FROM THE MILL
CENTRIFUGAL CONCENTRATOR	SEPRO	METAL CONCENTRATION OF UNDERFLOW SLURRY FROM HC
BALL MILL	METSO	ORE COMMINUTION
MAIN ENGINE OF BALL MILL	WEG	DRIVE BALL MILL
VIBRATORY SCREEN FOR OVERFLOW FROM HC	SIMPLEX	CLASSIFICATION OF OVERFLOW ORE FROM HC
VIBRATORY SCREEN FOR CENTRIFUGAL CONCENTRATOR	LUDOWICI	CLASSIFICATION OF UNDERFLOW ORE FROM HC
INTENSIVE LEACHING IRL	GEKKO	REACTOR FOR INTENSIVE LEACHING
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
ROUGHER FLOTATION CELL	FLSMIDTH	FLOTATION OF OVERFLOW MATERIAL FROM HC
SAFETY SCREEN	NX GOLD	CLASSIFICATION AND RECOVERY OF LOADED CARBON FROM CIL TAILINGS
CIL TANK 01	NX GOLD	STORAGE OF MATERIAL IN ACTIVATED CARBON LEACHING
CIL TANK 02	NX GOLD	STORAGE OF MATERIAL IN ACTIVATED CARBON LEACHING
CIL TANK 03	NX GOLD	STORAGE OF MATERIAL IN ACTIVATED CARBON LEACHING
CIL TANK 04	NX GOLD	STORAGE OF MATERIAL IN ACTIVATED CARBON LEACHING
CIL TANK 05	NX GOLD	STORAGE OF MATERIAL IN ACTIVATED CARBON LEACHING

Table 68 - Simplified Key Operating Metrics

PLANT INFORMATION CHART	
Rate	**(tph)**
Crushing	80
Grinding	44
Current Utilization	**(%)**
Crushing	34.2
Grinding	39.7
Unit operation (average gold grade)	**(g/t)**
Plant Feed	12.00
Gravity concentrate	4,000
Flotation Feed	2.50
Flotation Concentrate	55.00
Flotation Tailings	0.30
CIL Tailings	10.00
Loaded carbon	1,200
Recovery	**(%)**
Gravity and IRL	>75
Flotation	~90
CIL	~82
Overall	**91 - 92**
CN Concentration	**(ppm)**
CIL Feed	1,200
Dam Discharge	300
Recycled water	<0.005
Flotation Mass (%)	**2.0**
CIL Feed Rate (tph)	**0.9**
CIL Feed Flux (m^3/h)	**1.2**
Cyanidation Residence Time (h)	**60**

18.0 NX GOLD MINE INFRASTRUCTURE

The facilities at the NX Gold Mine include the mine portal, the Nova Xavantina Plant, tailings storage, mechanical workshop, administrative offices, metallurgical laboratory, security gate and guard facilities, medical clinic, cafeteria and gravel airstrip used to fly out doré bars after production. Please refer to Figure 3 for the layout of the NX Gold Mine.

National electrical service is available on site from the town of Nova Xavantina, located approximately 18 km from the NX Gold Mine. Water in sufficient quantities to support mining and processing operations is sourced from surface run-off and a fully permitted groundwater well located on the property.

19.0 MARKET STUDIES AND CONTRACTS

19.1 Market Studies

Ero Copper is currently selling gold (and silver) from the NX Gold Mine; hence, Ero Copper has not conducted any formalized marketing studies in respect to future NX Gold Mine gold production. Gold is currently sold to a preferred customer by the NX Gold Mine. Prior to the Effective Date in 2020, the NX Gold Mine sold gold at an average realized selling price of US$1,729 per troy ounce.

19.1.1 *Price*

The price of gold is a key factor in determining the profitability and cash flow from operations at the NX Gold Mine. Therefore, the financial performance of the NX Gold Mine has been, and is expected to continue to be, closely linked to the price of gold. Reserves have been determined at a price of $1,650 per troy ounce.

Gold and silver prices have fluctuated significantly. Table 19-1 shows the spot gold and silver prices (as of September 30, 2020) together with the last two-year and five-year average prices.

Table 69 - Gold and Silver Prices

Metal	Unit	Spot(1)	Two-Year Avg.	Five-Year Avg.
Gold	($/oz)	$1,886	$1,581	$1,387
Silver	($/oz)	$23.23	$18.33	$17.30

1. Spot pricing as of September 30, 2020

19.2 Contracts

While the gold produced by the NX Gold Mine is currently sold to a preferred customer by the NX Gold Mine, gold (and silver) are widely produced precious metals, for which there are many refining and sales options in Brazil. The current terms of sales made by the Company have been captured in the economic analysis of the property and are summarized in greater detail in Chapter 22.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL IMPACT

The NX Gold Mine is a fully permitted gold mine currently in operation. An environmental action program was developed for the Company prior to the mine reaching commercial production. The Company follows the guidelines set forth in the program to reduce its impact and recover impacted areas within the vicinity of the mine. NX Gold adheres to a program of frequent environmental monitoring including water quality control, as well as re-vegetation of historic artisanal mining areas that pre-date the Company. As a result of changes to the national dam safety policy in October of 2020, the operating freeboard level of the non-inert tailings dam was lowered by approximately 5 meters.

The mine's closure plan, adapted to the current social and environmental context within the area of the NX Gold Mine, has been designed to maximize the physical, chemical, biological, and socio-economic stability of the area after mining activities have concluded. The current estimated reclamation liabilities are approximately R$24.9 million BRL.

NX Gold maintains an excellent relationship with the neighboring community of Nova Xavantina as well as smaller neighboring land-owners, providing among other things, community outreach, children's educational programs and sponsorship of local sporting events and teams. The Company has provided technical and financial support towards the environmental rehabilitation of areas previously impacted by historic artisanal mining activities and has remained an important economic contributor to the region through both direct and indirect jobs, royalties and tax revenue.

21.0 CAPITAL AND OPERATING COSTS

Capital and operating costs are shown for 2020 through 2026 reflecting the period of operation from October 2020 to December 2026. For the purposes of the Technical Report, mine reclamation and closure are assumed to commence on the conclusion of mining of the Mineral Reserves; however, the Company is actively undertaking exploration activities to increase the mine's life. It is anticipated that a combination of Mineral Resource conversion, extension of the Santo Antonio ore body, and delineation of target areas will serve to augment the production profile and increase mine life subject to satisfactory exploration results, technical, economic, legal and environmental conditions.

Total capital costs are estimated at R$189.2 million, of which R$24.9 million is related to mine closure in 2026. Details of these capital expenditures are shown below in Table 70.

Table 70 - Forecast Capital Expenditures

	Q4 2020[1]	2021	2022	2023	2024	2025	2026
Capital Expenditures (R$ 000s)							
Development	9,531	36,964	19,822	1,705	418	-	-
Equipment	750	5,415	5,783	788	-	-	-
Ventilation & Safety Equipment	950	514	260	300	250	230	-
Environment	419	650	280	240	350	180	-
Other, Sustaining	552	0	5,964	2,618	2,239	2,074	-
Sustaining Capital, Sub-Total	12,201	43,543	32,109	5,652	3,257	2,484	-
Infrastructure	7,886	5,608	2,470	640	230	68	-
Other, Non-Sustaining (incl. Growth)	3,923	21,121	2,456	4,898	2,915	827	-
Exploration / Drilling	12,000	-	-	-	-	-	-
Reclamation & Closure Costs	-	-	-	-	-	-	24,939
Non-Sustaining Capital, Sub-Total	23,809	26,729	4,926	5,538	3,145	895	24,939
Total Capital Costs (R$ 000s)	**36,010**	**70,272**	**37,035**	**11,189**	**6,402**	**3,379**	**24,939**

Capital Expenditure Notes:

1. 2020 capital expenditure presented for the three months of the mineral reserve schedule from the day immediately following the Effective Date to December 31, 2020.
2. Amounts shown do not include discretionary greenfield or brownfield exploration in years 2021 through 2026.
3. Capital expenditures presented in BRL, thousands.

An operating cost forecast was prepared using the mine's operating history and current consumption coefficients. The expected C1 Cash Cost of the NX Gold Mine averages US$505 per ounce of gold produced and the AISC averages US$720 per ounce produced, as is outlined in Table 71 below.

Table 71 - Operating Cost Summary

	Q4 2020[1]	2021	2022	2023	2024	2025	2026
Tonnes Processed (000s)	46.5	167.0	179.4	170.9	139.4	80.6	78.4
Exchange Rate (USD:BRL)	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Gold Price (US$/oz)	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Silver Price (US$/oz)	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Operating Cost Detail (R$ 000s)							
Mining Costs (incl. Development)	20,982	88,365	93,448	65,702	60,909	36,084	39,012
Processing Costs	7,618	35,352	36,064	35,308	32,537	19,255	20,787
Operational Support	5,113	19,640	17,333	17,333	17,333	10,400	11,440
Sub Total (R$ 000s)	**33,714**	**143,357**	**146,845**	**118,343**	**110,778**	**65,739**	**71,238**
less: Silver Credit	(538)	(1,833)	(2,278)	(2,372)	(2,038)	(1,211)	(1,383)
less: Capitalized Development	(9,531)	(36,964)	(19,822)	(1,705)	(418)	-	-
less: Operator Bonus Provision	(775)	(6,154)	(6,154)	(6,154)	(6,154)	(6,154)	(6,154)
Total, C1 Basis (R$ 000s)	**22,870**	**98,405**	**118,591**	**108,111**	**102,167**	**58,373**	**63,700**
C1 Cast Cost (R$ per oz)	**$2,187**	**$2,761**	**$2,678**	**$2,344**	**$2,578**	**$2,479**	**$2,368**
C1 Cash Cost (US$ per oz)	**$437**	**$552**	**$536**	**$469**	**$516**	**$496**	**$474**
add: G&A (incl. Bonus Provision)	4,398	20,023	20,023	20,023	20,023	14,476	15,308
add: Sustaining Capital (incl. Development)[2]	12,201	43,543	32,109	5,652	3,257	2,484	-
add: CFEM Royalty (1.5%)	1,381	4,706	5,847	6,089	5,232	3,109	3,552
add: Transport & Insurance	20	72	72	72	72	72	72
Total, AISC Basis (R$ 000s)	**$40,870**	**$166,750**	**$176,643**	**$139,947**	**$130,752**	**$78,514**	**$82,632**
AISC (R$ per oz)	**$3,908**	**$4,678**	**$3,988**	**$3,034**	**$3,299**	**$3,334**	**$3,072**
AISC (US$ per oz)	**$782**	**$936**	**$798**	**$607**	**$660**	**$667**	**$614**

C1 Cash Cost / AISC Notes:

1. 2020 operating costs are presented for the three months of the mineral reserve schedule from the day immediately following the Effective Date to December 31, 2020.
2. Sustaining Capital (including Development) as further detailed in Table 70, "Forecast Capital Expenditures" of this Report.
3. C1 cash costs per ounce of gold produced and AISC are non-IFRS measures, as more particularly discussed under Section 22.1.
4. Operating Costs presented in BRL, thousands.

22.0 ECONOMIC ANALYSIS

An economic analysis was prepared for the NX Gold Mine using the following primary assumptions:

- The economic analysis considers commencing on the day immediately following the Effective Date and does not include actual performance achieved prior to October 1, 2020
- Total ore processed of 862.1 thousand tonnes at an average head grade of 8.88 g/t gold
- Gold sales are assumed to equal production, with total sales of 226,599 ounces of gold
- Metal prices of US$1,750 per ounce of gold and US$18.00 per ounce of silver
- USD:BRL foreign exchange rate of 5.00
- Export sales resulting in no sales taxes payable (PIS / Confins)
- 25% income tax rate, with 75% reduction due to the SUDAM incentive, for an effective income tax rate of 6.25%. No taxes are assumed payable over the production forecast as a result of both accumulated PIS / Confins credits accumulated during purchase of raw materials and services, plus accumulated net operating losses (“NOLs”) being applied against the 6.25% income taxes payable
- Social contribution tax rate of 9% on net profits
- Brazilian Federal CFEM royalty based on 1.5% of gross revenue (payable to the ANM). There are no other royalties applicable to the NX Gold property

The NX Gold Mine produces an undiscounted after-tax cash flow of approximately R$907million (approximately US$181 million)

The after-tax Net Present Value (“NPV”) at a 5% discount rate is US$156.3 million. The results of the economic analysis are shown below in Table 72.

In addition, an after-tax sensitivity analysis was performed considering changes in gold price, foreign exchange rates, and capital and operating costs. The analysis shows that the NX Gold Mine is most sensitive to gold prices and foreign exchange rates and is shown below in Table 73.

Table 72 - Economic Analysis of the NX Gold Mine

Assumptions		2020 [1]	2021	2022	2023	2024	2025	2026
Exchange Rate	R$/US$	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Gold Price	US$/oz	1,750	1,750	1,750	1,750	1,750	1,750	1,750
Production								
Ore Mined	tonnes	46,455	166,989	179,438	170,863	139,415	80,623	78,352
Gold Grade Mined	g/t	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Ore Processed	tonnes	46,455	166,989	179,438	170,863	139,415	80,623	78,352
Gold Grade Processed	g/t	7.61	7.21	8.34	9.13	9.61	9.87	11.61
Global Recovery	%	92.1	92.1	92.1	92.0	92.0	92.0	92.0
Gold Contained	**ounces**	**10,458**	**35,647**	**44,291**	**46,121**	**39,631**	**23,550**	**26,901**
Capex								
Investments	000 R$	36,010	70,272	37,035	11,189	6,402	3,379	24,939
Total	**000 R$**	**36,010**	**70,272**	**37,035**	**11,189**	**6,402**	**3,379**	**24,939**
Operating Costs								
General & Administrative	000 R$	3,622	13,869	13,869	13,869	13,869	8,321	9,153
Operational Support	000 R$	5,113	19,640	17,333	17,333	17,333	10,400	11,440
Underground Mining	000 R$	20,982	88,365	93,448	65,702	60,909	36,084	39,012
Processing	000 R$	7,618	35,352	36,064	35,308	32,537	19,255	20,787
Sub Total	**000 R$**	**37,336**	**157,226**	**160,714**	**132,212**	**124,647**	**74,060**	**80,392**
Depreciation/Exhaustion	**000 R$**	**10,500**	**40,486**	**56,115**	**57,452**	**51,885**	**37,476**	**38,109**
Total Costs	**000 R$**	**47,837**	**197,712**	**216,829**	**189,664**	**176,531**	**111,536**	**118,500**
Revenue								
Gold Sales	ounces	10,458	35,647	44,291	46,121	39,631	23,550	26,901
Gross Metal Revenue	000 R$	91,507	311,909	387,549	403,556	346,771	206,059	235,387
Total Net Metal Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Total Net Revenue	**000 R$**	**90,664**	**309,035**	**383,979**	**399,839**	**343,577**	**204,166**	**233,219**
P&L								
Net Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Opex	000 R$	(47,837)	(197,712)	(216,829)	(189,664)	(176,531)	(111,536)	(118,500)
Less Capitalized Development [2]	000 R$	9,531	36,964	19,822	1,705	418	-	-
Gross Profit	000 R$	52,358	148,287	186,971	211,881	167,464	92,630	114,719
Effective Tax Rate	*%*	*14.8*	*15.5*	*12.9*	*13.6*	*13.4*	*9.7*	*11.8*
Income & Social Contribution Taxes	000 R$	(7,749)	(23,036)	(24,138)	(28,737)	(22,502)	(8,947)	(13,518)
Net Profit	**000 R$**	**44,609**	**125,251**	**162,834**	**183,144**	**144,962**	**83,683**	**101,201**
Cash Flow								
Revenue	000 R$	90,664	309,035	383,979	399,839	343,577	204,166	233,219
Opex (ex-Depreciation & Exhaustion)	000 R$	(37,336)	(157,226)	(160,714)	(132,212)	(124,647)	(74,060)	(80,392)
Less Capitalized Development [2]	000 R$	9,531	36,964	19,822	1,705	418	-	-
Income & Social Contribution Taxes	000 R$	(7,749)	(23,036)	(24,138)	(28,737)	(22,502)	(8,947)	(13,518)
Employee Bonuses	000 R$	-	(6,860)	(6,860)	(6,860)	(6,860)	(6,860)	(6,860)
Operating Cash Flow	**000 R$**	**55,110**	**158,877**	**212,089**	**233,736**	**189,986**	**114,298**	**132,449**
CAPEX	000 R$	(36,010)	(70,272)	(37,035)	(11,189)	(6,402)	(3,379)	(24,939)
Free Cash Flow	**000 R$**	**19,099**	**88,605**	**175,054**	**222,547**	**183,584**	**110,919**	**107,510**
Accumulated Free Cash Flow	000 R$	19,099	107,704	282,758	505,305	688,889	799,809	907,319
Free Cash Flow	**000 US$**	**3,820**	**17,721**	**35,011**	**44,509**	**36,717**	**22,184**	**21,502**
Accumulated Free Cash Flow	000 US$	3,820	21,541	56,552	101,061	137,778	159,962	181,464
Discount Rate	**%pa**	**5%**						

Results		
After-Tax NPV_5	000 US$	156,342
IRR	%pa	n/a
Simple Payback	years	n/a

[1] 2020 based on the 3 months from October 1, 2020 to December 31, 2020

Table 73 - Sensitivity Analysis for the NX Gold Mine

Parameters	Units	-20%	-15%	-10%	-5%	Base Case	+5%	+10%	+15%	+20%
Gold Price	LT US$/oz Au	1,400	1,488	1,575	1,663	1,750	1,838	1,925	2,013	2,100
	NPV - 000 US$ [1]	87,772	104,914	122,057	139,200	156,342	173,485	190,627	207,770	224,912
	IRR - %/year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Foreign Exchange	LT R$/US$	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00
	NPV - 000 US$ [1]	109,715	123,429	135,619	146,526	156,342	165,224	173,298	180,669	187,427
	IRR - %/year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Capex	000 US$	151,382	160,843	170,304	179,766	189,227	198,688	208,150	217,611	227,072
	NPV - 000 US$ [1]	160,703	159,613	158,523	157,432	156,342	155,252	154,162	153,072	151,981
	IRR - %/year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Opex	000 US$	613,269	651,598	689,927	728,257	766,586	804,915	843,245	881,574	919,903
	NPV - 000 US$ [1]	183,344	176,594	169,843	163,093	156,342	149,592	142,841	136,091	129,340
	IRR - %/year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

(1) After Tax NPV5

22.1 Non-IFRS Measures

C1 Cash Cost of gold produced per ounce

C1 cash cost of gold produced (per ounce) is the sum of production costs, net of capital expenditure development costs and silver by-product credits, divided by the gold ounces produced. By-product credits are calculated based on actual precious metal sales during the period divided by the total ounces of gold produced during the period. C1 cash cost of gold produced per ounce is a non-IFRS measure used by the Company to manage and evaluate operating performance of the Company's operating mining unit and is widely reported in the mining industry as benchmarks for performance but does not have a standardized meaning and is disclosed in addition to IFRS measures.

AISC of gold produced per ounce

AISC of gold produced (per ounce) is the sum of production costs including capital expenditure development costs, sustaining capital costs, on-site general and administrative costs, royalties, transport and insurance contract costs, net of silver by-product credits, divided by the gold ounces produced. By-product credits are calculated based on actual precious metal sales during the period divided by the total ounces of gold produced during the period. AISC of gold produced per ounce is a non-IFRS measure used by the Company to manage and evaluate operating performance of the Company's operating mining unit and is widely reported in the mining industry as benchmarks for performance but does not have a standardized meaning and is disclosed in addition to IFRS measures

23.0 ADJACENT PROPERTIES

There are no relevant adjacent properties to the NX Gold Mine.

24.0 OTHER RELEVANT DATA AND INFORMATION

There is no other relevant data available regarding the NX Gold Mine.

25.0 INTERPRETATION AND CONCLUSIONS

The authors of this Report have carried out a review and assessment of the material technical issues that could influence the future performance of the NX Gold and classified the mineral resource and mineral reserve estimates. The authors found that the procedures and processes adopted by NX Gold personnel to produce the geological models were executed according proper industry standards. Sampling, QA/QC, security and data control were similarly in line with industry best practices and support the current mineral resource and reserve estimate. The authors note the following:

a. NX Gold holds the surface rights and permits required to conduct the mining operation as outlined in the Mineral Reserve estimate. Future development beyond the stated Mineral Reserves may require the acquisition of additional surface rights.

b. The authors have carried out the appropriate review to satisfy that the Mineral Reserve can be technically and profitably extracted. Consideration has been given to all technical areas of the operations, the associated capital and operating costs, and relevant factors including marketing, permitting, environmental, land use and social factors. The authors are satisfied that technical and economic feasibility has been demonstrated.

c. The authors have not identified any known mining, metallurgical, infrastructure, permitting, legal, political, environmental or other relevant factors that could materially affect the development or extraction of the stated Mineral Reserves.

A 3D model for mineralization was developed for the NX Gold Mine, using LeapFrog Geo 5.1 software based on drill hole and channel sampling constrained to grades above 1.20 gpt gold. This grade was selected based on reasonable prospect for economic extraction considering the current mining methods and operational history of the mine.

Structural and geotechnical analysis resulted in the division of the Santo Antonio vein, which contains the majority of the Company’s current mineral resource and all of the current mineral reserve, into two panels primarily for mine planning purposes. While there is no difference in the mineralogical characteristics between the panels, EDA was performed on each panel independently in the development of the current mineral resource.

26.0 RECOMMENDATIONS

Regarding the mineral resource and mineral reserve estimation process, and to continue to ensure the continuity of mining operations, the authors recommend a work program that includes the following:

- Intensify the exploratory program in the regions classified as exploration potential to further define and classify these zones into incremental Mineral Resources (and Mineral Reserves);
- Undertake additional infill drilling campaigns to upgrade the classification of Indicated Mineral Resources into Measured Mineral Resources and Inferred Mineral Resources into Indicated Mineral Resources.
- It is recommended that NX Gold implement an update to its QA/QC procedures to ensure that there is no possibility of contamination in the preparation and analytical results of the Company's duplicate check-sample program.
- Undertake a study to improve model to mine reconciliation.

The hanging wall of the deposit, in the opinion of the authors of this Report, is competent enough for the current mining method provided mining support is implemented as designed. GE21 recommends the Company undertake a third-party geotechnical study to further evaluate the potential of reducing sill pillar thickness with the aim of increasing mine recovery during the primary mining phase of the operations.

A summary of the proposed work program is detailed below. At the time of this Report, 8 drill rigs had been mobilized to the property and were undertaking various exploration programs aimed at increasing the current mineral resource and mineral reserves of the property.

Table 74 - GE21 Recommended Work Program

Program	Budget (US$)
Exploration drill program in the regions identified as having exploration potential	$5,000,000
Infill drill campaign to promote the classification of measured Mineral Resources	$5,000,000
QA/QC Program Update & Validation	$20,000
Mine to mill reconciliation program	$50,000
Geomechanics study to improve mine recoveries	$300,000
Total	**$10,370,000**

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Effective Date: September 30, 2020

Report Date: January 8, 2020

<signed & sealed in the original>

Porfirio Cabaleiro Rodriguez, MAIG

<signed & sealed in the original>

Leonardo de Moraes Soares, MAIG

<signed & sealed in the original>

Bernardo Horta de Cerqueira Viana, MAIG

<signed & sealed in the original>

Paulo Roberto Bergmann, FAusIMM

APPENDIX A

Technical Report QP Certificates

I, Porfirio Cabaleiro Rodriguez, MAIG, (#3708), as an author of the technical report titled “Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina”, dated January 8, 2021 with an effective date of September 30, 2020 (the “Technical Report”), prepared for Ero Copper Corp. (the “Issuer”), do hereby certify that:

1) I am a Mining Engineer and Director for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.

2) I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Mining Engineering (1978). I have practiced my profession continuously since 1979.

3) I am a Professional enrolled with the Australian Institute of Geoscientists (“AIG”) - (“MAIG”) #3708.

4) I am a professional Mining Engineer, with more than 40 years’ relevant experience in Mineral Resource and Mineral Reserves estimation, which includes numerous mineral properties in Brazil, including gold properties.

5) I have read the definition of “qualified person” set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (“NI 43-101”) and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

6) I am responsible for Chapters 2, 3, 15, 16, 18, 19, 20, 22, 23, and 27 and jointly responsible for Chapters 21 and 24. I am also responsible for the corresponding sections within Chapters 1, 25 and 26 that are related to the foregoing Chapters of this Technical Report.

7) I have had prior involvement with the property that is the subject of this Technical Report as an author of the independent technical report titled “Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina”, dated January 21, 2019 with an effective date of August 31, 2018, and as an author of the technical report titled “Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina”, dated February 3, 2020 with an effective date of September 30, 2019, both prepared for the Issuer. The relationship with the Issuer was solely for professional works in exchange for fees based on rates set by commercial agreement. Payment of these fees is in no way dependent on the results of the Technical Report.

8) I personally inspected the property that is the subject of this Technical Report from the 28th to 30th of September, 2020; the 18th to 19th of September, 2019; and, the 17th to 18th of September, 2018.

9) As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10) I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.

11) I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.

12) I have read NI 43-101 and Form 43-101F1 – Technical Report, and the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, January 8, 2021

< <signed & sealed in the original>

____

Porfirio Cabaleiro Rodriguez, MAIG

I, Leonardo de Moraes Soares, MAIG (#5180), as an author of the technical report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated January 8, 2021 with an effective date of September 30, 2020 (the "Technical Report"), prepared for Ero Copper Corp. (the "Issuer"), do hereby certify that:

1) I am a Geologist for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.

2) I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Geology (2002). I have practiced my profession continuously since 2002.

3) I am a Professional enrolled with the Australian Institute of Geoscientists ("AIG") - ("MAIG") #5180.

4) I am a professional Geologist, with more than 18 years' relevant experience in Mineral Resource and Mineral Reserves estimation, which includes numerous mineral properties in Brazil, including gold properties.

5) I have read the definition of "qualified person" set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6) I am responsible for Chapter 14 and jointly responsible for Chapters 5, 6, 7, 8, 9, 10 and 11. I am also responsible for the corresponding sections within Chapters 1, 25 and 26 that are related to the foregoing Chapters of this Technical Report.

7) I have had prior involvement with the property that is the subject of this Technical Report as an author of the independent technical report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated January 21, 2019 with an effective date of August 31, 2018, and as an author of the technical report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated February 3, 2020 with an effective date of September 30, 2019, both prepared for the Issuer. The relationship with the Issuer was solely for professional works in exchange for fees based on rates set by commercial agreement. Payment of these fees is in no way dependent on the results of the Technical Report.

8) I personally inspected the property that is the subject of this Technical Report from the 18th to 19th of September, 2019; the 14th to 18th of May, 2018; and, the 19th to 22nd of February, 2018.

9) As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10) I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.

11) I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.

12) I have read NI 43-101 and Form 43-101F1 – Technical Report, and the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, January 8, 2021

<signed & sealed in the original>

Leonardo de Moraes Soares, MAIG

I, Bernardo Horta de Cerqueira Viana, MAIG, (#3709), as an author of the technical report titled “Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina”, dated January 8, 2021 with an effective date of September 30, 2020 (the “Technical Report”), prepared for Ero Copper Corp. (the “Issuer”), do hereby certify that:

1) I am a Geologist and Director for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.

2) I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Geology (2002). I have practiced my profession continuously since 2002.

3) I am a Professional enrolled with the Australian Institute of Geoscientists (“AIG”) - (“MAIG”) #3709.

4) I am a professional Geologist, with more than 18 years’ relevant experience in ore resource estimation and geology exploration, which includes numerous mineral properties in Brazil, including gold properties.

5) I have read the definition of “qualified person” set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (“NI 43-101”) and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.

6) I am responsible for Chapters 4 and 12, and jointly responsible for Chapters 5, 6, 7, 8, 9, 10, 11 and 24. I am also responsible for the corresponding sections within Chapters 1, 25 and 26 that are related to the foregoing Chapters of this Technical Report.

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

8) I personally inspected the property that is the subject of this Technical Report from the 28th to 30th of September, 2020.

9) As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10) I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.

11) I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.

12) I have read NI 43-101 and Form 43-101F1 – Technical Report, and the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, January 8, 2021

<signed & sealed in the original>

Bernardo Horta de Cerqueria Viana, MAIG

I, Paulo Roberto Bergmann, FAusIMM (#333121), as an author of the technical report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated January 8, 2021 with an effective date of September 30, 2020 (the "Technical Report"), prepared for Ero Copper Corp. (the "Issuer"), do hereby certify that:

1) I am a Mining Engineer for GE21 Consultoria Mineral Ltda., which is located on Avenida Afonso Pena, 3130, 12th floor, Savassi, Belo Horizonte, MG, Brazil - CEP 30130-910.

2) I am a graduate of the Federal University of Minas Gerais, located in Belo Horizonte, Brazil, and hold a Bachelor of Science Degree in Mining Engineering (1983). I have practiced my profession continuously since 1983.

3) I am a Professional enrolled with the Australasian Institute of Mining and Metallurgy ("AusIMM") - ("FAusIMM" #333121).

4) I am a professional Mining Engineer, with more than 35 years' relevant experience in Mineral Processing and Mineral Reserves estimation, which includes numerous mineral properties in Brazil, including gold properties.

5) I have read the definition of "qualified person" set out in National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association as defined in NI 43-101, and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6) I am responsible for Chapters 13 and 17, and jointly responsible for Chapter 21. I am also responsible for the corresponding sections within Chapters 1, 25 and 26 that are related to the foregoing Chapters of this Technical Report.

7) I have had prior involvement with the property that is the subject of this Technical Report as an author of the technical report titled "Mineral Resource and Mineral Reserve Estimate of the NX Gold Mine, Nova Xavantina", dated February 3, 2020 with an effective date of September 30, 2019, prepared for the Issuer. The relationship with the Issuer was solely for professional works in exchange for fees based on rates set by commercial agreement. Payment of these fees is in no way dependent on the results of the Technical Report.

8) I personally inspected the property that is the subject of this Technical Report from the 21st to 23rd of October, 2019.

9) As of the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections of the Technical Report that I have authored and am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

10) I have no personal knowledge, as of the date of this certificate, of any material fact or material change which is not reflected in this Technical Report.

11) I am independent of the Issuer, applying all the tests in section 1.5 of NI 43-101.

12) I have read NI 43-101 and Form 43-101F1 – Technical Report, and the Technical Report has been prepared in compliance with such instrument and form.

Belo Horizonte, Brazil, January 8, 2021

<signed & sealed in the original>

Paulo Roberto Bergmann, MAIG