EQUINOX GOLD CORP.

NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil

QUALIFIED PERSONS:

Felipe M. Araújo, MAusIMM (CP)
Hugo R. A. Filho, FAusIMM (CP)
Gunter C. Lipper, M.Sc., FAusIMM
César A. Torresini, FAusIMM
Tiãozito V. Cardoso, MBA, FAusIMM

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Glossary

Abbreviations and Acronyms

3-D	three-dimensional
Ag	silver
AGV	CLX2 and Canto horizons
amsl	above mean sea level
ANM	Agência Nacional de Mineração (National Mining Agency)
ARD	acid rock drainage
Au	gold
Brio	Brio Gold Inc.
Cap	capped composites
CAX	sericite-chlorite-carbonate schist
CCX	carbonate-chlorite schist
CIL	carbon-in-leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIP	carbon-in-pulp
CLX	quartz-chlorite schist
Coffey	Coffey Consultoria e Serviços Ltda
COG	cut-off grade
Comp	uncapped components
CRM	certified reference material
CTRS	Centro Tecnológico de Referência SulAmericano
CV	coefficient of variation
CVRD	Companhia Vale do Rio Doce
EL	Exploration License
Equinox	Equinox Gold Corp.
FA/AAS	fire assay/atomic absorption spectroscopy
FBDM	Fazenda Brasileiro Desenvolvimento Mineral
FX	foreign exchange
G&A	general and administrative

Geostats	Geostats Pty Ltd
GPS	Global Positioning System
GRX	graphitic schist
ID3	inverse distance cubed
INEMA	Institute of Environment and Water Resources
IRR	internal rate of return
ITAK	Instituto de Tecnologia August Kekule
Leagold	Leagold Mining Corporation
LHD	load–haul–dump
LOM	life-of-mine
LT	long term
LVA	locally varying anisotropy
MCF	Mine Call Factor
MCP	Mine Closure Plan
MFBF	F Zone
MFBG	G Zone
MM	Mine Model
MO	Mine Operation
MP	Mine Planning
NI 43-101	NI 43-101 Standards of Disclosure for Mineral Projects
NN	nearest neighbour
NPV	net present value
OK	ordinary kriging
P_{80}	80% passing (various percentages expressed)
PAX	plagioclase-actinolite schist
QA/QC	quality assurance/quality control
QP	Qualified Person
R$	Brazilian Real
RC	reverse circulation
RF	revenue factor
RPA	Roscoe Postle Associates Inc.
SD	standard deviation
SG	specific gravity
SO	Stope Optimizer (Deswik)
ST	short term
TOC	total organic carbon
UG	underground

US$	United States dollar
UTM	Universal Transverse Mercator
WGM	Watts, Griffis and McOuat Limited
Yamana	Yamana Gold Inc.

Units of Measure

%	percent
μm	micrometre
°	degrees Celsius
a	annum
cm	centimetre
d	day
g	gram
g/L	gram per litre
g/m^3	grain per cubic metre
g/t	grams per tonne
h	hour
ha	hectare
k	kilo (thousand)
kg	kilogram
kg/h	kilogram per hour
km	kilometre
koz	thousand ounces
kt	thousand tonnes
kWh	kilowatt-hour
L	litre
MW	Megawatts
m	metre
M	million
m^2	square metre
m^3	cubic metre
m^3/h	cubic metres per hour
masl	metres above sea level
mm	millimetre
Moz	million ounces
Mt	million tonnes
Mt/a	million tonnes per annum
MW	Megawatt
oz	Troy ounce (31.1035 g)
t	tonne (SI)
t/a	tonne per year
t/d	tonne per day
t/h	tonnes per hour
t/h	tonnes per hour

1 SUMMARY

1.1 Executive Summary

The Fazenda Brasileiro Gold Mine (Fazenda) is in the eastern part of Bahia State, Brazil. This Technical Report was prepared by Equinox Gold Corp. (Equinox) under the guidance and supervision of the Qualified Persons (QP). This Technical Report provides an update on the Mineral Resources and Mineral Reserves as of December 31, 2020. The Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). Frequent site visits were carried out by the QPs between January and June 2021.

Equinox is a publicly listed Canadian mining company with significant gold producing, development, and exploration stage properties in Canada, USA, Brazil and Mexico. Gold production in 2020 totalled was approximately 477 koz Au. Units of measure used in this report conform to the International System of Units, the metric system. All currency in this report is United States dollars (US$) unless otherwise noted.

The mine is operated by Fazenda Brasileiro Desenvolvimento Mineral (FBDM), a wholly owned Brazilian-domiciled subsidiary of Equinox.

Equinox has all required environmental licences and permits to conduct work on the property. Fazenda operates by the power transmission line connecting to the Brazilian national electric grid operated by COELBA.

Fazenda it is primarily an underground mine, with supplementary small open pits. Fazenda started as a heap leaching operation and carbon-in-pulp (CIP) milling facilities were added in 1988. The plant was subsequently converted to utilize pre-aeration with carbon-in-leach (CIL). In 2020, 1.34 Mt of ore were processed, producing a total of 65 koz Au, with most of the ore sourced from the underground mine. Fazenda's production from 1984 until the end of December 2020 totalled 3.38 Moz Au.

The plant is scheduled to process up to 3,300 t/d (1.35 Mt/a). Current production will recover 277 koz Au over a mine life of five years.

Table 1-1 summarizes the updated Mineral Resource estimate exclusive of Mineral Reserves, as of December 31, 2020. Table 1-2 summarizes the updated Mineral Reserve estimates as of December 31, 2020. The Mineral Resource and Mineral Reserve estimates conform to Canadian Institute of Mining, Metallurgy and Petroleum (CIM) *CIM Definition Standards for Mineral Resources & Mineral Reserves*, dated May 10, 2014 (CIM Definition Standards, 2014).

Table 1-1: Mineral Resources Summary (Exclusive of Reserves)—December 31, 2020

Category	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Measured			
Underground	2,237	2.21	159
Open Pit	399	1.48	19
Total Measured	**2,636**	**2.10**	**178**
Indicated			
Underground	1,189	1.88	72
Open Pit	1,342	1.02	44
Total Indicated	**2,531**	**1.43**	**116**
Measured + Indicated			
Underground	3,426	2.10	231
Open Pit	1,741	1.13	63
Total Measured + Indicated	**5,167**	**1.77**	**294**
Inferred			
Inferred—Underground	1,720	1.90	105
Inferred—Open Pit	1,563	1.05	53
Total Inferred	**3,283**	**1.50**	**158**

Notes: **1.** CIM Definition Standards (2014) definitions were followed for Mineral Resources.
2. Mineral Resources are exclusive of Mineral Reserves.
3. Open pit Mineral Resources are reported at varying cut-off grades from 0.54 to 0.85 g/t Au.
4. Underground Mineral Resources are reported at a cut-off grade of 1.19 g/t Au.
5. Mineral Resources are estimated using a gold price of US$1,500/oz and constrained by conceptual pit shell and stope shells.
6. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
7. The Mineral Resources statement has been prepared by Felipe Machado de Araújo, MAusIMM(CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
8. Totals may not add due to rounding.

Table 1-2: Mineral Reserves Summary—December 31, 2020

Category	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Proven			
Underground	3,858	1.67	207
Open Pit	1,461	1.32	62
Subtotal Proven	**5,319**	**1.57**	**269**
Probable			
Underground	434	1.49	21
Open Pit	835	0.84	23
Stockpile	66	1.52	3
Subtotal Probable	**1,335**	**1.09**	**47**
Total Proven & Probable	**6,653**	**1.47**	**315**

Notes: **1.** CIM Definition Standards (2014) definitions were followed for Mineral Reserves.
2. Mineral Reserves are reported at a cut-off grade of 1.32 g/t Au for underground and ranging between 0.59 and 0.89 g/t Au for open pits.
3. Mineral Reserves are estimated using an average long-term gold price of US$1,350/oz and a Brazilian Real (R$):US$ exchange rate of R$4.75:US$1.00.
4. A minimum mining width of 2.0 m was used for underground Mineral Reserves.
5. Bulk density ranges from 2.64 to 3.01 t/m^3.
6. The Mineral Reserve statement has been prepared by Hugo Ribeiro Andrade Filho, FAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
7. Numbers may not add due to rounding.

1.2 Technical Summary

1.2.1 Property Description and Location

Fazenda is in east central Brazil, close to the Atlantic coast, in the eastern part of Bahia State, 180 km northwest of the state capital city of Salvador. Topographic coordinates of the Mine area are 11° 27' south latitude and 39° 03' west longitude.

1.2.2 Land Tenure

The Fazenda property covers an area totalling 58,651 ha, including 28 Exploration Licenses (EL) (33,522 ha), 15 Exploration Applications (12,909), 8 mining permits (7,732 ha), 3 mining permits in application (2,556 ha), and 1 EL with Final Positive Exploration Report submitted (1,932 ha). Equinox is not aware of any environmental liabilities on the property. Equinox has all required permits to conduct work on the property. Equinox is not aware of any other significant factors or risks that may affect access, title, or the right or ability to perform work program on the property.

1.2.3 History

The Weber Belt has been explored by Companhia Vale do Rio Doce (CVRD) since the late 1960’s by its exploration division, DOCEGEO. Mineralization at Fazenda was discovered in the late 1970’s, and the mine entered production in 1984. Yamana Gold Inc. (Yamana) operated the mine from 2004 to 2014, and Brio Gold Inc. (Brio) from 2015 to 2018. Leagold Mining Corp. (Leagold) acquired the mine in 2018. On March 10, 2020, Equinox acquired Leagold, which owned Fazenda Brasileiro as well as the Pilar and Riacho dos Machados gold mines and the Santa Luz Project, in Brazil, and the Los Filos gold mine, in Mexico.

1.2.4 Geology and Mineralization

Fazendais situated within the Rio Itapicurú Greenstone Belt (RIGB) which is a 100 km-long and 60 km-wide north–south trending volcano-sedimentary belt situated within the São Francisco Craton.

The structural history of the area is complex, with at least three phases of ductile and ductile–brittle deformation followed by late brittle faulting which laterally offset mineralization by up to 100 m.

Fazenda is an epigenetic, structurally controlled, and hydrothermally altered Precambrian quartz vein-hosted lode-gold deposit that has been subjected to greenschist facies metamorphism. There is some suggestion of a partial syngenetic origin for the gold because of the anomalous, 0.05 to 0.10 g/t Au content throughout visibly unmineralized quartz-chlorite schist (CLX).

The main mineralization, in the form of sulphide-bearing quartz veining, is associated with a second deformation event. The stacked veins vary in true width from 1.5 to 40 m and horizontal mining widths vary from 3 to 40 m. The regional strike of mineralization is north–south, while locally the veins are generally arcuate in an east–west trend, and south dipping at 40° to 70°, with a shallow-to-moderate east plunge. The plunge is quite variable, with some zones plunging westerly.

1.2.5 Exploration Status

Most of the recent exploration at Fazenda has been drilling to increase and/or replace reserves depleted during mining. Much of this exploration drilling has been carried out from underground drifts with the objective of identifying new resources and converting Mineral Resources to Mineral Reserves. Currently, the Exploration Team is developing new geological models to guide future exploration.

Exploration potential exists along strike and at depth. The region has seen 40 years of geological exploration along the mineral trend, which has successfully identified additional underground and open pit resources that are in various stages of mine development. This exploration success is anticipated to continue and includes both open pit and underground targets.

Most regional concessions have seen little exploration activity other than regional mapping, regional geochemical surveys and currently the exploration is carrying out regional reconnaissance over several targets, including geological–structural mapping, soil geochemistry sampling, and early-stage exploratory drilling.

Since mid 2020, an integration and interpretation of combined underground and superficial geological datasets is being completed aiming to identify untested potential targets hosted within rocks of the

Weber Belt and active exploration permits across the RIGB, with a complete revision of the existing and new geophysical and remote sensing for target generation and ranking.

The main components of the 2020 review and interpretation, which provided data for input to the 2021 exploration program were:

- Data compilation and integration
- Geophysical interpretation
- Target generation
- Geological/structural mapping over selected targets
- Soil and rock sampling.

1.2.6 Mineral Processing and Metallurgical Testing

Currently, Fazenda operates using distribution power lines from supplier COELBA, but diesel emergency-power generators need to be installed due to the frequent power outages. An emergency power generator setup will be up and running by the end of 2021.

Fazenda was originally advised that metallurgical recovery would be 91% at a particle size of 80% passing (P_{80}) 74 µm. However nowadays, Fazenda operates at P_{80} 80 µm recovering 90.6% on average, after a series of process improvements implemented along 2020 and 2021. The process had been improving every year to get more extraction efficiency as the feed grade decreases each year.

Since 2019, a series of process improvements were implemented resulting in an approximately 4% increase in the metallurgical recovery which is reaching 90.6% with better stability. The target is to reach 91% recovery, as predicted; to attain that goal, a new series of studies is under development in 2021.

To reduce gold recovery losses with more carbonaceous ore in the blend, testwork was carried out using kerosene, resulting in a gold recovery increase of approximately 2%. The pH adjustment used to be 9.8, which was controlled by dosing lime at 1,100 g/t in the cyanide dosing tank. Then the pre-aeration tank was transformed into a pre-lime tank at a dosage of pH 10.2. The outcome of this process-change was an increase in lead nitrate effectiveness that resulted in an approximately 10% reduction in cyanide consumption and an approximately 2% increase in gold recovery.

During November 2020, plant recovery dropped significantly, from 91% to 89%; this was due to a combination of carbonaceous and high-sulphide ores fed to the plant from the Canto Sequence, which meant that leaching recovery dropped to 50%. Then particle-size leaching testwork was performed, varying the granulometry of the leaching feed without dosing kerosene and lead nitrate.

It was observed that the lowest limit to prevent gold losses is P_{80} at 74 µm. So, it was decided to make the following process modifications to reach P_{80} 74 µm:

- Reduce the ball mills' F_{80} by changing the sieves of the tertiary screening from 8 to 5 mm
- Increase the steel load from 32% to 38%
- Reduce the hydrocyclones apexes from 110 to 100 mm.

With these modifications the plant has not reach the target and is presently operating at a P_{80} 80 µm.

Fazenda will investigate the increase of the dissolved oxygen in the pre-aeration tanks to improve the gold dissolution and thereby increase gold recovery. The testwork will entail dosing hydrogen peroxide in the pre-aeration tanks at 200 g/t in 2021.

The current first step of the elution process is desorption. The second step is acid washing, which removes base metals and scaling compounds such as calcium carbonate and sodium silicate from the carbon after the elution. The current elution recovery is approximately 90%; however, testwork is needed to change the order of the steps to see if recovery is increased, and at the same time avoiding damage to the regeneration kiln.

Currently the regeneration kiln is deteriorated and is not able to regenerate the total carbon in the circuit. A study of the process was carried out and indicated that on average regenerated carbon activity is 25%, affecting gold adsorption. So, it is necessary to install a new regeneration kiln with a capacity of 500 kg/h; that will be operating by the end of 2021.

Beyond process improvements listed above, several structural refurbishments in the metallurgical plant are necessary, such as refurbishing:

- Pillars that support the leaching tanks
- Tanks and channels of the leaching area
- Support beams of the desorption building
- Columns and beams in the milling building
- Leaching platform structures.

1.2.7 Mineral Resources

Fazenda constructed a block model to estimate the Mineral Resources as of December 31, 2020, using the results of new grade-control drilling that Fazenda conducted during 2019 and 2020. Equinox audited the model and found that it was reasonably prepared and provided a good representation of the geologic data. Equinox has summarized the Mineral Resources in Table 1-1 based on the end of December 2020 topographic surface. The Mineral Resources in Table 1-1 are stated exclusive of the Mineral Reserves. This Mineral Resource estimate conforms to CIM Definition Standards (2014).

1.2.8 Mineral Reserves

Fazenda prepared the Mineral Reserve estimate as of December 31, 2020.

The Mineral Reserves as summarized in Table 1-2 were estimated using a cut-off grade of 1.32 g/t Au for underground operations and 0.59 to 0.89 g/t Au for open pit operations, using a gold price of US$1,350/oz Au.

Equinox's QP is of the opinion that the Measured and Indicated Mineral Resources can be classified as Proven and Probable Mineral Reserves, and is not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

1.2.9 Mining Method

1.2.10 Open Pit

Over the course of the operation's history, several shallow open pits have been excavated to extract near surface deposits. Currently, several small open pits are in operation, and mining is being completed using contractors.

These small pits are 25 to 80 m deep and are being developed using air-track drills and backhoe excavators for mining, and highway-type trucks for haulage to the mill. Pit depths are dependent on the economics of stripping overlying waste. Mineralization exceeding pit depths is considered for underground mining.

1.2.11 Underground

Underground mining employs blasthole stoping from sublevels developed in the mineralization's footwall. The stoping areas are accessed initially from 5 m wide by 5.5 m high main haulage ramps developed at 15% road grade in the footwall, which lead to primary development crosscuts, secondary development drifts, crosscuts 4.5 m wide by 4.9 m high, and secondary development drifts and crosscuts also 4.5 m wide by 4.9 m high. Sublevels are spaced at 20 m vertical intervals. Mined out stopes are not backfilled.

At Fazenda, active stoping areas are called bodies, with the following names: B, C, D, E, EW, EDEEP, and F. All bodies have a planned dilution of 15%, except for the EDEEP and EW, which have dilutions of 20%. Planned mining recovery is estimated to be 90%.

From the sublevels, access drifts are developed into the stoping areas, and blastholes fan-drilled into the mineralization are used to further define the boundaries of the mineralization and design the ultimate blast patterns. After blasting, remote-controlled, 10-tonne-capacity load-haul-dump (LHD) machines are used to load and haul the ore from the stoping areas to 30-tonne-capacity haulage trucks at loading points in the sublevels.

Because of the sub-horizontal plunge an approximate 45° dip of the orebody, maximum stope heights are 20 m. Future operations in the deeper areas of E Ramp will have higher haulage costs that will be partially offset by the shorter underground haulage in the F and G Ramps. To date, most of the waste rock has been hauled to surface.

All bodies have a planned dilution of 15%, except for the EDEEP and EW, which have a dilution of 20%. Planned mining recovery was estimated to be 90%.

1.2.12 Recovery Methods

The Mine is mainly operated underground and the plant is a CIL operation, which is scheduled to process up to 3,300 t/d (1.35 Mt/a).

The overall process flowsheet consists of:

- Three-stage crushing circuit
- Two ball grinding mills, closed circuit with hydrocyclones

- Thickener to produce a leach feed of 50% solids
- Cyanide leaching circuit
- Zadra pressure stripping of the carbon
- Electrowinning of the carbon eluent
- Casting of gold doré bars in an induction furnace.

1.2.13 Project Infrastructure

All the necessary infrastructure for the operation is in place, which includes, but is not limited to a 470 m vertical shaft; a series of underground ramps; the CIL milling and processing facility; lined heap leach pads and associated process equipment; geomembrane-lined tailings disposal ponds; warehouse, maintenance shops, drill core logging, splitting, and storage facilities; assay laboratory; cafeteria; a helipad for emergency use and shipment of gold doré bars; office complexes; a water supply system; a fuel station; and explosives magazine.

1.2.14 Market Studies

The principal commodity the Fazenda operation produces is gold, which is freely traded, at prices that are widely known, so that prospect for sale of any production is virtually assured.

1.2.15 Environmental, Permitting, and Social Considerations

Fazenda has a comprehensive environmental policy, partially inherited from the Yamana and CVRD operations. This policy has been developed in line with the Mine Closure Plan (MCP), as outlined by ANM. In 2018, Mineral Engenharia e Meio Ambiente, an external consulting firm prepared the MCP for Fazenda. The environmental authorities in Brazil use the MCP as a commitment to complete the rehabilitation required for mine closure. The guidelines primarily involve revegetating the areas with native species, covering the pits, or converting the pits to store water, along with stabilizing and rehabilitating waste dumps and tailings dams. Demolishing and removing all structures and facilities that will not be used in the future is also included.

All required environmental licences and permits to conduct work on the property are in good standing or currently being obtained. The permits currently effective at Fazenda are given in Table 1-3. As of the date of this readdressed report, Equinox has advised that all licences and permits are in good standing.

Table 1-3: Fazenda Institute of Environment and Water Resources (INEMA) Permitting Status

Document	Description	Certificate No.	Process No.	Granting Date	Expiry Date	Status
Licence to Operate Wastewater Treatment for Housing in Teofilândia	Dwellings and wastewater treatment for mine workforce	INEMA 8.143/2014	2013.001.000486 / INEMA/LIC-000486	16/08/2014	17/08/2022	Active
Water Withdrawal Permit	Grant for use of resource water—Biritinga	INEMA 616.761/2018	2017.001.005339 / INEMA/LIC-05339	25/08/2018	25/08/2022	Active
Operating Permit	Mine operating permit for Mine, mineral processing facilities, waste rock storage and tailings dam	INEMA 2.184/2020	2018.001.002047 / INEMA/LIC-002047	06/03/2020	06/03/2025	Active
Operating Permit	Operating permit for open pit mine—FW Oeste	INEMA 21.773/2020	2020.001.004552 / INEMA/LIC-04552	10/11/2020	10/11/2024	Active
Alteration Licence	Alteration licence for raising Lake IV—elevation 345 m	INEMA 21.027/2020	2019.001.167949 / INEMA/REQ	15/07/2020	06/03/2025	Active
Operation Permit	Operating permit for open pit mine—LG III	INEMA 19.061/2019	2017.001.001967 / INEMA/LIC-01967	06/09/2019	06/09/2020	In Renewal

1.2.16 Capital and Operating Cost Estimates

The life-of-mine (LOM) plan capital cost estimate includes sustaining capital expenditures, followed by closure and reclamation. The capital cost of these activities is estimated to total US$134.2 million and is based on a Brazilian Real (R$):US$ exchange rate of 4.75:1 (Table 1-4).

Table 1-4: Summary of Total Capital Costs

Description	2021 (US$ M)	2022 (US$ M)	2023 (US$ M)	2024 (US$ M)	2025 and beyond (US$ M)	Total (US$ M)
Sustaining Capital						
Buildings & Infrastructure	0.5	0.8	0.5	0	0	1.8
Machinery & Equipment	1.2	0.7	0.3	0	0	2.3
Capitalized Underground + Open Pit	6.3	10.2	7.8	0.5	2.1	26.9
Underground Mine Development	56.0	9.2	7.7	0.5	2.1	25.5
Open Pit Mine Development	0.3	0.9	0.1	0	0	1.4
Technical Studies	0.8	0	0	0	0	0.8

Description	2021 (US$ M)	2022 (US$ M)	2023 (US$ M)	2024 (US$ M)	2025 and beyond (US$ M)	Total (US$ M)
Tailings Dam Expansion	1.5	1.7	3.4	1.7	0	8.2
Subtotal Sustaining	**10.3**	**13.4**	**12.0**	**2.2**	**2.1**	**40.0**
Non-Sustaining						
Machinery & Equipment	0	0	0	0	0	0
Underground Mine Development	4.2	0	0	0	0	4.2
Exploration	0	0	0	0	0	0
Subtotal Non-sustaining	**4.2**	**0**	**0**	**0**	**0**	**4.2**
Closure & Reclamation	0.3	3.8	0	11.0	74.9	90.0
Total	**14.9**	**17.2**	**12.0**	**13.2**	**77.0**	**134.2**

A summary of the unit operating costs over the LOM is shown in Table 1-5. The LOM plan estimated unit operating cost averages US$40.6/t milled. Processing costs are estimated to be US$12.10/t milled for the LOM, which is also reasonable.

Table 1-5: Projected Unit Operating Costs

Activity	2021 (US$/t milled)	2022 (US$/t milled)	2023 (US$/t milled)	2024 (US$/t milled)	2025 (US$/t milled)	Average (US$/t milled)
Open Pit Mining	4.0	5.6	4.1	4.5	2.8	4.23
UG Mining	24.8	24.3	23.6	11.2	11.1	19.1
Milling	12.3	12.6	12.4	12.0	13.7	12.1
G&A	5.6	5.7	5.9	4.6	4.9	5.11
Total	**46.7**	**48.3**	**45.9**	**32.3**	**32.5**	**40.6**

Note: G&A = general and administration

1.3 Economic Analysis

An economic analysis of the Mine was performed using the estimates presented in this report and confirms that the outcome is a positive cash flow that supports the statement of Mineral Reserves.

1.4 Conclusions

Based on review of the Mine documentation, and discussions with Fazenda personnel, the QPs make the following conclusions:

1.4.1 Geology and Mineral Resources

- The QP has reviewed the Fazenda Mineral Resources estimate and is of the opinion that the parameters, assumptions, and methodology used are appropriate for the style of mineralization.
- Mineral Resources were prepared in accordance with CIM Definition Standards (2014).

- The geological model that Fazenda geologists employed is reasonably well understood and is well supported by field observations in outcrops, mine facing, and drill intersections.
- Interpretations of the geology and the three-dimensional (3-D) wireframes of the estimation domains derived from these interpretations are reasonable.
- Sampling and assaying have been carried out following standard industry quality assurance and quality control (QA/QC) practices. These practices include, but are not limited to, sampling; assaying; sample chain of custody; sample storage; use of third-party laboratories for interlaboratory checks; use of standards, blanks, and duplicates.
- The resource model has been prepared using appropriate methodology and assumptions. These parameters include:
    - Treatment of high assays
    - Compositing length
    - Search parameters
    - Bulk density
    - Grade estimate validation
    - Cut-off grade
    - Classification.
- The block model has been validated using a reasonable level of rigor consistent with common industry practice.
- Mineral Resources for Fazenda comply with all disclosure requirements for Mineral Resources as set out in NI 43-101.
- Exploration potential exists laterally along strike to the north and south and at depth below the existing mine operations. The area has seen 40 years of extensive geologic exploration along the mineral trend and has successfully identified numerous additional underground and open pit targets that are in various stages of exploration. This exploration success is anticipated to continue.

1.4.2 Mining and Mineral Reserves

- The mining methods used at Fazenda include both conventional open pit mining and underground mechanized sublevel stoping. These methods are appropriate for the deposit.
- The Modified Avoca mining method has been planned for mining orebodies with rocks that are susceptible to premature wall collapse. For these orebodies, higher dilution and lower productivity has been planned and included in the LOM production schedule.
- Proven and Probable Mineral Reserves for the Mine as of December 31, 2020 total 6.7 Mt grading 1.47 g/t Au for 315 koz of contained gold.
- The bulk of the mill feed is being sourced from underground. Small open pits are used to supplement underground production. Total mining capacity is approximately 3,660 t/d.

- Five separate declines originate on surface and access the various orebodies over a strike length of several kilometres. The deepest level for underground workings is the −750 RL (750 m below the Mine's reference elevation).
- The underground workings have good ground conditions that do not require any special support to ensure stable openings.
- The LOM mining and processing schedules are based on Mineral Reserves only.
- The Mineral Reserve estimates have been prepared using appropriate methodology and assumptions including:
  - Dilution
  - Mining extraction
  - Ground conditions
  - Access development
  - Stope design
  - Extraction sequence
  - Productivities
  - Operating costs
  - Sustaining capital costs
  - Mine closure costs (only for open pits).
- Annual development and definition diamond drilling programs have been successful in converting enough Mineral Resources to Mineral Reserves to replace those extracted and processed during the year. This conversion of Mineral Resources to Mineral Reserves has been repeated annually for more than a decade.
- Mineral Reserves are being estimated in an appropriate manner using current mining software and procedures consistent with reasonable practice.

1.4.3 Mineral Processing and Metallurgical Testing

- One of the main production constraints at Fazenda has been frequent power outages from the power grid supplier COELBA; this circumstance has made it necessary to install diesel generator sets to keep the agitators operating to avoid settling inside the leaching tanks.
- Following a series of process improvements implemented in 2019, Fazenda operates at P_{80} 80 µm, at a feed rate of 168 t/h, recovering around 90% on average. The process had been improved every year, to get more extraction and recovery efficiencies as the feed grade decreases each year due to more carbonaceous matter and sulphides being fed to the plant.
- To mitigate gold losses, the following actions were taken:
  - With more carbonaceous ore in the blend, testwork was carried out using kerosene, resulting in gold recovery increasing about 2%.
  - With higher sulphides in the blend composition, testwork was carried out using lead nitrate, which proved to be efficient at accelerating gold dissolution in the leach, evidenced by the

cyanide consumption reduction about 10% and an additional gold recovery increase of about 2%.

- The pH was adjusted to 10.2 to get a better effectiveness of the lead nitrate, resulting in about a 10% reduction in cyanide consumption and about 2% increase in gold recovery.

- The regeneration kiln is deteriorating and is unable to regenerate all the carbon in the circuit. A process study was made on the activity of regenerated carbon, which is 25% on average, thus affecting the performance of gold adsorption. So, it is necessary to install a new regeneration kiln with a capacity of 500 kg/h in 2021.
- The old CVRD heap leaching waste dumps show a potential for mining in the future, with an estimated 3 Mt of oxidized material at an estimated average grade of 0.6 g/t Au. Testwork was carried out, with gold recovery higher than 70%.
- The plant facility requires refurbishments as well as normal maintenance. The structural steel in the grinding, leaching, and acid wash circuits is showing significant deterioration due to corrosion. Maintenance work includes replacing the structural steel on a periodic basis, and over a span of several years during ongoing operations.

1.4.4 Infrastructure

- Fazenda has been operational for 37 years and has all the necessary roads, power lines, access, and medical facilities, that provide workers and services that one would expect to find in one of the state's major employers.
- Water is supplied by a series of well fields with a total production capacity of 310 m^3/h.
- The power requirement for the mine and site facilities is approximately 9.95 MW, which is supplied by the local grid.

1.4.5 Environmental, Social, and Permitting Considerations

- Fazenda has a comprehensive environmental policy, partially inherited from the Yamana and CVRD operations. This policy has been developed in line with the MCP as outlined by ANM. In 2018, Mineral Engenharia e Meio Ambiente, an external consulting firm prepared the MCP for Fazenda. The environmental authorities in Brazil use the MCP as a commitment for the Company to complete the rehabilitation required for mine closure.
- Fazenda is an established gold mine with more than 37-year history and an established record of accomplishment with the Brazilian and Bahia State government regulatory agencies. All required environmental licences and permits to conduct the proposed work on the property are in good standing or currently being obtained.
- A detailed acid rock drainage (ARD) evaluation of the mine tailings was carried out in 2012. A total of 57 samples of tailings was collected from the three existing tailings facilities, and analytical results showed that almost 100% of samples presented a neutralization potential two times higher than the acid-generating potential.
- The arsenopyrite and pyrrhotite in the tailings facilities have low potential to become future ARD generators, as the proportion of carbonates is well in excess of the amount of the sulphides. From

these results it is possible to conclude that ARD generation will not be a significant risk for the Fazenda operation and closure.

- Fazenda staff working with consultants developed a field procedure to test different types of tailings covers that could effectively prevent surface water and precipitation from having contact with the tailings. Since 2013, ongoing tests of these barriers have been performed. The results from these tests have consistently showed that a cover layer with 30 cm of oxide material from an exhausted heap leach pad, combined with a capillarity break layer of 15 cm is sufficient to prevent the infiltration of water through the cover and into the tailings.
- Fazenda has developed an exemplary and creditable program for social and community involvement in the area of the Fazenda operations, which should be maintained for the life of the mine.
- The main socioeconomic impacts that will be generated by the Fazenda closure include unemployment, decreased tax revenues, end of demand for local regional suppliers, reduction in personal income, and the end of projects with the local communities. Fazenda has developed mitigation measures for some of these impacts.

1.4.6 Capital and Operating Costs

- The most recent capital and operating cost estimates have been updated to reflect the current plan for the Mine and current prices. The majority of the capital and operating cost estimates were completed in R$ and converted using a 4.75 to 1.0 (R$:US$) exchange rate.
- LOM plan operating costs are estimated to total US$269.2 million, which averages US$40.58/t milled.

1.5 Recommendations

The QPs make the following recommendations:

1.5.1 Geology and Mineral Resources

- Geologic Model (Leapfrog):
  - Implement the implicit modelling for all the wireframe solids
  - Model the weathering boundaries focusing on the open pit deposits
  - Update the lithological and hydrothermal alteration modelling to support the separation between the C-Quartz structure with the CLX and Canto stationary domains.
- Bulk Density:
  - Evaluate the average bulk density measurements by lithological domains in the Canto Sequence
  - Execute the measurements of the bulk density in the drill core of the C-Quartz domains.
- Mineral Resources:
  - Complete an underground survey program on the unsurveyed mine workings in the Main Underground (UG) deposit.

1.5.2 Mining and Mineral Reserves

- Evaluate the suitability of different mining methods to better recover orebodies with low dipping angle (for instance, room-and-pillar, cut-and-fill).
- Continue to evaluate the suitability of applying modified Avoca mining methods at WRI area, reviewing the dilution and detailing the cycle for a better productivity rate estimate.
- Evaluate the suitability of applying paste backfill with cement to recover the pillars in high-grade zones.

1.5.3 Mineral Processing and Metallurgical Testing

- Long-term geometallurgy study to develop process route to mitigate the impact of high total organic carbon (TOC) and high sulphide ores in the Plant recovery.
- Work index testwork to propose necessary changes in the grinding circuit to absorb losses in the P_{80}.
- Sulphur and arsenic chemistry analyses in the routine from the leaching feed samples to better predict the necessary process changes.
- Analyses of the particle size distribution of the blasted ore to improve the F_{80} of the comminution circuit.
- Equinox should go forward in the conceptual and basic engineering for the processing of old CVRD heap leaching waste dumps.
- Maintenance work at the plant should continue, including refurbishing equipment and structures.

1.5.4 Infrastructure

- Implement diesel power gensets in the plant to de-risk COLEBA power failures.

1.5.5 Environmental, Social, and Permitting Considerations

- Complete the implementation of the integrated environmental license management system and its requirements.
- Complete the studies for the mischaracterization of Lakes I, II, and III to meet the Agência Nacional de Mineração (ANM) (National Mining Agency) requirements.
- Update the MCP, incorporating the studies on Lakes I, II, and III, as well as the acid drainage studies in accordance with the new LOM.

1.5.6 Capital and Operating Costs

- Analyze multi-mine scenarios between open pit and underground to understand the best proportion to improve free cash flow generation.

2 INTRODUCTION

This Technical Report on the Fazenda Brasileiro gold mine, in the eastern part of Bahia State, Brazil, was prepared by Equinox under the guidance and supervision of the Qualified Persons (QP). The Technical Report provides an update on the Mineral Resources and Mineral Reserves, as of December 31, 2020. The Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects (NI 43-101). Site visits were carried out by the QPs between January and June, 2021.

Equinox is a publicly listed Canadian mining company with significant gold producing, development, and exploration-stage properties in Canada, USA, Brazil, and Mexico. Gold production in 2020 totalled approximately 477 koz Au.

In operation since 1984, Fazenda is primarily an underground mine with supplementary small open pits. Fazenda started as a heap leaching operation and carbon-in-pulp (CIP) milling facilities were added in 1988. The plant was subsequently converted to utilize pre-aeration with carbon-in-leach (CIL). In 2020 1.34 Mt of ore were processed, producing a total of 65 koz Au, with most of the ore sourced from the underground mine. Fazenda's production from 1984 until the end of December 2020 totals 3.38 Moz Au.

2.1 Sources of Information

Table 2-1 provides a list of QP's, their responsibility for sections of this Technical Report, and names of the contributors to this Technical Report. The QP's certificates are included in Section 29.

Table 2-1: Qualified Persons and their Respective Sections of Responsibility

Section	Title of Section	Qualified Persons
Section 1	Summary	Felipe M. Araújo, Equinox Hugo A. R. Filho, Equinox Gunter C. Lipper, Equinox César A. Torresini, Equinox Tiãozito V. Cardoso, Equinox
Section 2	Introduction	Tiãozito V. Cardoso, Equinox
Section 3	Reliance on Other Experts	Tiãozito V. Cardoso, Equinox
Section 4	Property Description & Location	Felipe M. Araújo, Equinox
Section 5	Accessibility, Climate, Local Resources, etc.	Felipe M. Araújo, Equinox
Section 6	History	Felipe M. Araújo, Equinox
Section 7	Geological Setting and Mineralization	Felipe M. Araújo, Equinox
Section 8	Deposit Types	Felipe M. Araújo, Equinox
Section 9	Exploration	Felipe M. Araújo, Equinox
Section 10	Drilling	Felipe M. Araújo, Equinox
Section 11	Sample Preparation, Analysis, and Security	Felipe M. Araújo, Equinox
Section 12	Data Verification	Felipe M. Araújo, Equinox
Section 13	Mineral Processing and Metallurgical Testwork	Gunter C. Lipper, Equinox

Section	Title of Section	Qualified Persons
Section 14	Mineral Resource Estimates	Felipe M. Araújo, Equinox
Section 15	Mineral Reserve Estimates	Hugo A. R. Filho, Equinox
Section 16	Mining Methods	Hugo A. R. Filho, Equinox
Section 17	Recovery Methods	Gunter C. Lipper, Equinox
Section 18	Project Infrastructure	Tiãozito V. Cardoso, Equinox
Section 19	Market Studies and Contracts	Tiãozito V. Cardoso, Equinox
Section 20	Environmental Studies, Permitting, and Social or Community Impact	César A. Torresini, Equinox
Section 21	Capital and Operating Costs	Tiãozito V. Cardoso, Equinox Gunter C. Lipper, Equinox César A. Torresini, Equinox
Section 22	Economic Analysis	Tiãozito V. Cardoso, Equinox
Section 23	Adjacent Properties	Tiãozito V. Cardoso, Equinox
Section 24	Other Relevant Data and Information	Tiãozito V. Cardoso, Equinox
Section 25	Interpretation and Conclusions	Felipe M. Araújo, Equinox Hugo A. R. Filho, Equinox Gunter C. Lipper, Equinox César A. Torresini, Equinox Tiãozito V. Cardoso, Equinox
Section 26	Recommendations	Felipe M. Araújo, Equinox Hugo A. R. Filho, Equinox Gunter C. Lipper, Equinox César A. Torresini, Equinox Tiãozito V. Cardoso, Equinox
Section 27	References	Felipe M. Araújo, Equinox Hugo A. R. Filho, Equinox Gunter C. Lipper, Equinox César A. Torresini, Equinox Tiãozito V. Cardoso, Equinox

2.2 Qualified Persons Site Visits

The following QPs visited the site in relation with this work:

- Felipe M. Araújo, MAusIMM (CP), Equinox Brazil Principal Geologist, visited the site several times, most recently from June 28 to July 2, 2021.
- Hugo A. R. Filho, FAusIMM (CP), Equinox Brazil, Fazenda Brasileiro Geology and Mine Planning Manager, works at the mine.
- Gunter C. Lipper, M.Sc., FAusIMM, Equinox Brazil Principal Metallurgist, visited the site several times, most recently from May 17 to 21, 2021.

- César A. Torresini, FAusIMM, Equinox Brazil VP Public Affairs and Permitting, visited the site several times, most recently on May 20, 2021.
- Tiãozito V. Cardoso, MBA, FAusIMM, Equinox Brazil Technical Services Director, visited the site several times, most recently from June 23 to 24, 2021.

2.3 Units of Measure and Currency

Units of measure used in this report conform to the International System of Units (metric system). All currency in this report is United States dollars (US$) unless otherwise noted.

3 RELIANCE ON OTHER EXPERTS

The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Equinox at the time of preparation of this Technical Report.
- Assumptions, conditions, and qualifications as set forth in this report.

The QP's have not performed an independent verification of the land title and tenure information, as summarized in Section 4, nor have they verified the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, as summarized in Section 4. Instead, for land title and tenure information, and for the legality of any underlying agreement(s), the QP's of this report have relied on information provided by Equinox's legal department.

In addition, the QP's have not performed an independent verification of the permitting and environmental monitoring information, and instead have relied on documents and information provided by Equinox's Health, Safety, Environment, and Community (HSEC) teams.

The QP's have also relied on various Equinox departments for guidance on applicable taxes, royalties, and other government levies or interests that apply to revenue or income from the Fazenda mine.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location

Fazenda is in east central Brazil close to the Atlantic coast, in the eastern part of Bahia State, 180 km northwest of the state capital city of Salvador, as shown in Figure 4-1. Topographic coordinates of the mine area are 11° 27' south latitude and 39° 03' west longitude. Equinox owns 100% of the mineral licenses through its indirect wholly owned subsidiary Fazenda.

4.2 Mineral and Surface Rights in Brazil

Brazilian mining rights are administered by the Agência Nacional de Mineração (ANM) (National Mining Agency). In Brazil, all mineral ownership has standard protocols and applications for all aspects of exploration and mining of mineral deposits.

The exploration and exploitation of mineral deposits in Brazil are defined and regulated in the 1967 Mining Code (amended by government decree No. 9,406/2018) and overseen by the ANM. Two main legal classifications under the Mining Code regulate exploration and mining in Brazil: the Exploration License (EL) (Autorização de Pesquisa) and the Mining Concession (Concessão de Lavra).

Application for an EL is made to the ANM and are available to any company incorporated under Brazilian law and maintaining a main office and administration in Brazil. ELs are granted following submission of required documentation by a legally qualified Geologist or Mining Engineer, including an exploration plan and evidence of funds or financing for the investment forecast in the exploration plan. The EL holder pays an annual fee per hectare to ANM based on the number of hectares held (as of March 2021, the fee ranges from R$3.70/ha to R$5.56/ha); and reports of exploration work performed must be submitted when required according to law.

ELs are valid for a maximum of three years, with a maximum extension equal to the initial period, issued at the discretion of the ANM after the submission and approval of a partial exploration work report. After submitting a Final Exploration Report, the EL holder may request a mining concession. Mining concessions are granted by the Brazilian Ministry of Mines and Energy, are renewable annually, have no set expiry date, and remain in good standing subject to submission of annual production reports and payments of royalties to the federal government.

For those areas where the maximum extension of an EL has been reached, and a positive Final Exploration Report and mining concession request has not been submitted by the company holding the EL, the company no longer holds an EL, and the area is designated with “Available” status. Until 2018, the best technical projects submitted by interested parties were selected for available ELs; Decree No. 9,406/2018 introduced a new selection model, under which areas must be the object of prior public offer by ANM. In the event that two or more parties are interested in one area, an electronic auction is held, and the EL is awarded to the highest bidder. Equinox has participated of a round of available areas released by the ANM in December 2020 and was declared winner for 15 areas that are currently under EL Application status.

Figure 4-1: Project Location

Surface rights can be applied for if the land is not owned by a third party. The owner of an EL is guaranteed, by law, access to perform exploration fieldwork, provided that adequate compensation is paid to third-party landowners, and the EL holder accepts all environmental liabilities resulting from the exploration work.

4.3 Land Tenure

The Fazenda property (Figure 4-2) covers an area totalling 58,650.84 ha, including 28 ELs (33,521.77 ha), 15 Exploration Applications (12,908.73), 8 mining permits (7,732.04 ha), 3 mining permits in application (2,556.46 ha), and 1 EL with Final Positive Exploration Report submitted (1,931.84 ha). The ELs are listed in Table 4-1. EL applications are listed in Table 4-2; EL with a final positive report submitted is listed in Table 4-3. Mine Concessions are listed in Table 4-4; Mine applications are listed in Table 4-5, and reflect their status as of July 2021.

Equinox is not aware of any environmental liabilities on the property and has all required permits to conduct work on the property. Equinox is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.

Table 4-1: Exploration License List

ANM Number	Application Date	Expiry Date	Area (ha)	Status
870.637/2009	6-May-09	4-Mar-23	1,973.79	Expl. License Phase 2
872.313/2010	13-Oct-10	4-Mar-23	1,912.20	Expl. License Phase 2
870.423/2011	31-Jan-11	14-Apr-23	26.77	Expl. License Phase 2
874.678/2011	6-Dec-11	4-Mar-23	1,000.05	Expl. License Phase 2
870.143/2012	19-Jan-12	4-Mar-23	998.11	Expl. License Phase 2
870.145/2012	19-Jan-12	4-Mar-23	948.92	Expl. License Phase 2
870.315/2012	9-Feb-12	14-Sep-18	193.88	Expl. License—Renewed Pending
870.461/2012	22-Feb-12	4-Mar-23	77.26	Expl. License Phase 2
870.765/2012	22-Mar-12	4-Mar-23	2,000.00	Expl. License Phase 2
870.769/2012	22-Mar-12	4-Mar-23	1,920.86	Expl. License Phase 2
872.022/2012	25-Sep-12	4-Mar-23	999.91	Expl. License Phase 2
872.253/2012	22-Oct-12	4-Mar-23	1,105.17	Expl. License Phase 2
872.282/2012	24-Oct-12	4-Mar-23	999.90	Expl. License Phase 2
872.045/2013	28-Aug-13	26-May-23	1,174.79	Expl. License Phase 2
872.282/2013	2-Oct-13	18-Jan-24	1,924.77	Expl. License Phase 2
870.090/2015	20-Jan-15	14-Apr-23	220.49	Expl. License Phase 2
872.554/2015	6-Nov-15	31-May-19	1,000.01	Expl. License—Renewed Pending
872.556/2015	6-Nov-15	31-May-19	1,566.61	Expl. License—Renewed Pending
871.470/2016	12-Jul-16	28-Sep-24	414.44	Expl. License Phase 2
871.473/2016	12-Jul-16	28-Sep-24	1,999.45	Expl. License Phase 2
871.476/2016	12-Jul-16	28-Sep-24	999.66	Expl. License Phase 2

ANM Number	Application Date	Expiry Date	Area (ha)	Status
871.521/2016	14-Jul-16	28-Sep-24	1,130.87	Expl. License Phase 2
871.522/2016	14-Jul-16	28-Sep-24	1,999.21	Expl. License Phase 2
871.528/2016	14-Jul-16	6-Oct-19	932.50	Expl. License—Renewed Pending
871.836/2016	10-Aug-16	28-Sep-24	1,945.61	Expl. License Phase 2
871.856/2016	11-Aug-16	28-Sep-24	1,128.85	Expl. License Phase 2
870.553/2017	2-Mar-17	28-Sep-24	1,293.65	Expl. License Phase 2
871.429/2017	12-Jul-17	21-Dec-20	1,634.04	Expl. License—Renewed Pending
Total	**28**		**33,521.77**	

Note As of the date of this re-addressed report, Equinox has advised that all ELs are in good standing.

Table 4-2: Exploration License Application

ANM Number	Application Date	Expiry Date	Area (ha)	Status
870.795/2021	11-Jun-21	-	999.87	Expl. License Application
870.796/2021	11-Jun-21	-	646.63	Expl. License Application
870.798/2021	11-Jun-21	-	1,080.36	Expl. License Application
870.799/2021	11-Jun-21	-	341.86	Expl. License Application
870.800/2021	11-Jun-21	-	626.06	Expl. License Application
870.847/2021	14-Jun-21	-	755.91	Expl. License Application
870.848/2021	14-Jun-21	-	174.94	Expl. License Application
870.850/2021	14-Jun-21	-	995.05	Expl. License Application
870.851/2021	14-Jun-21	-	962.79	Expl. License Application
870.852/2021	14-Jun-21	-	714.31	Expl. License Application
870.853/2021	14-Jun-21	-	801.03	Expl. License Application
870.854/2021	14-Jun-21	-	996.96	Expl. License Application
870.856/2021	14-Jun-21	--	571.84	Expl. License Application
870.857/2021	14-Jun-21		1,439.11	Expl. License Application
870.858/2021	14-Jun-21	-	1,802.01	Expl. License Application
Total	**15**	-	**12,908.73**	

Table 4-3: Exploration License with Final Positive Report Submitted

ANM Number	Application Date	Area (ha)	Status
870.827/11	10-Mar-11	1,931.84	Final Positive Exploration Report Submitted
Total	**1**	**1,931.84**	

Table 4-4: Mine Concession List

ANM Number	Date of Application	Date of Award	Area (ha)	Status
802.203/1975	17-Mar-75	28-Jan-94	1,000.00	Mine Concession
802.206/1975	17-Mar-75	28-Jan-94	1,000.00	Mine Concession
802.212/1975	17-Mar-75	3-Mar-86	1,000.00	Mine Concession
802.266/1978	10-Apr-78	28-Jan-94	1,000.00	Mine Concession
807.869/1975	3-Sep-75	3-Oct-84	875.74	Mine Concession
870.226/1982	29-Apr-82	4-Sep-95	856.30	Mine Concession
870.425/1985	10-Jun-85	14-Aug-06	1,000.00	Mine Concession
871.077/1984	6-Nov-84	13-Sep-06	1,000.00	Mine Concession
Total	**8**		**7,732.04**	

Table 4-5: Mine Application Status as of July 2021

ANM Number	Date of Application	Date of Award	Area (ha)	Status
802.264/1978	10-Apr-78	-	669.82	Mine Application
802.265/1978	10-Apr-78	-	949.68	Mine Application
870.898/1983	13-Sep-83	-	936.96	Mine Application
Total	**3**		**2,556.46**	

4.4 Royalties

The Brazilian government collects a 1.5% gross revenue royalty on all gold operations in Brazil. This royalty is split among the various levels of government, with 75% of the royalty payable to the municipality (this portion of the royalty is split further between Barrocas, which receives 52%, Teofilândia, which receives 26%, and Araci, which receives 22%), 15% of the royalty is paid to the Bahia State government and the remaining 10% of the royalty is paid to the federal government.

Under Brazilian law, surface owners have a right to a 0.5% gross revenue royalty. Fazenda owns most of the surface rights over planned production areas; however, there are a few small parcels of land to which this royalty applies.

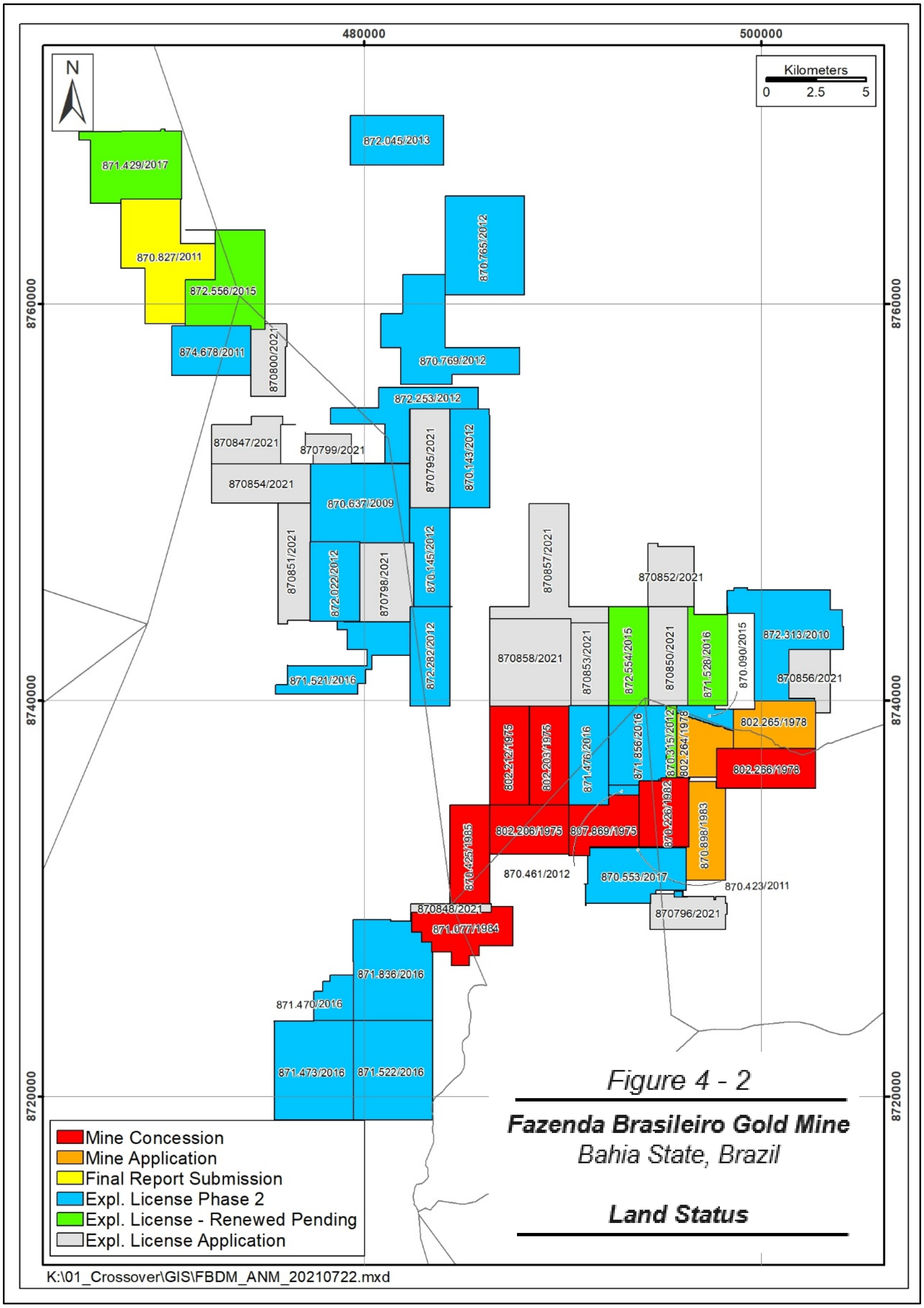


Figure 4-2: Land Status

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

5.1 Accessibility

Access to the Fazenda Mine from the city of Salvador is by 180 km of paved road on the BR-324 that connects Salvador to Feira de Santana (106 km), then BR-116 Feira de Santana to Teofilândia (74 km) and 12 km on a secondary road to reach the Fazenda area. This final 12 km of the road is unpaved but of good quality. There are numerous direct flights daily from Salvador to São Paulo, Belo Horizonte, Brasília, and other major Brazilian cities, and connections are available to various international destinations. Various secondary and tertiary roads lead from the Mine area to portions of the exploration properties, some of which are of poor quality.

5.2 Climate

The climate is semi-arid, and seasonal variations are minimal; however, rain is more prevalent between November and January. The average annual rainfall measured on the site is approximately 500 mm. The yearly average temperature is about 24°C, with a minimal month-to-month variation. The local climate is conducive to year-round mining operations.

5.3 Local Resources

The town of Teofilândia in Bahia State serves as the main community for Fazenda workers. The local population is approximately 22,555, of which the vast majority live in Teofilândia. The general area of the exploration properties is inhabited largely by subsistence farmers and *garimpeiros* (local artisanal miners who work prospect pits on a small scale).

In addition to mining, the local economic activity consists of subsistence agriculture, goat herding, and cattle ranching. Sisal is the main crop, with its sword-shaped leaves being transformed into twine and rope-making material, and more recently, into craft objects for export to Europe.

Teofilândia is a full-service town, and along with the mine, has access to electricity from the national power grid distributed by local supplier COELBA. A freight-only rail line passes through the area in a northwest-southeast direction close to Fazenda. The mine does not use the rail line.

5.4 Infrastructure

Mine site infrastructure includes a series of underground ramps; a 1.350 Mt/a (3.85 kt/d) underground mine; a CIL plant facility; a series of geomembrane-lined tailings disposal ponds; a warehouse; maintenance shops; drill core logging, splitting, and storage facilities; a sample preparation facility; a chemistry laboratory; a cafeteria; and several office complexes. In addition, the mine has a water system consisting of a wellfield in Biritinga (east of Teofilândia), a buried pipeline, and a pumping system to provide potable and processing water to the Mine. The water supply is more than sufficient for the mining operations and has been relied on for years. Sufficient surface area exists for all necessary surface facilities, including the tailings disposal facilities and waste rock dumps and stockpiles.

5.5 Physiography

Topography is gently rolling, with elevations of 300 to 500 m above mean sea level (masl). Relief is generally 50 to 100 m, although in some areas, there are hills and ranges of hills rising 200 to 300 m. Vegetation is generally sparse. Plant cover comprises rough, low grasses, algarroba (mesquite-like) trees, and commercially harvested sisal plants. There are very few flowing watercourses in the area, although several small, gentle depressions and valleys carry water during the occasional rainy periods.

6 HISTORY

6.1 Prior Ownership and Exploration History

Companhia Vale do Rio Doce's (CVRD) exploration division, DOCEGEO, has explored the Weber Belt since the late 1960s. Mineralization at Fazenda Brasileiro deposit was discovered in the late 1970s, and the Mine entered into production in 1984.

Table 6-1 summarizes Fazenda's exploration history prior to Equinox's acquisition.

Table 6-1: Exploration History

Year	Description
1969–1970	CPRM, the Brazilian Federal government geologic survey, conducted prospecting for alluvial gold along the Itapicurú River.
1972	DOCEGEO conducted base-metal oriented regional stream geochemical surveys in the area. Numerous anomalies were detected.
1974 and 1975	DOCEGEO carried out ground follow-up, including detailed stream geochemical surveys. Numerous important copper and zinc anomalies were identified.
1976	DOCEGEO conducted airborne electromagnetic (EM) surveys, and 300 of the 2,500 anomalies were selected for follow-up. Surface sampling programs were implemented, and the most significant sample returned 2.0 g/t Au. Additional magnetic, induced polarization (IP), and geochemical surveys were conducted at a higher level of detail than previous surveys.
Post–1976	DOCEGEO/CVRD conducted surface exploration programs, including significant diamond drilling focusing on the Weber Belt rocks, which contain the mineralization at Fazenda. CVRD drilled approximately 28,200 holes, for a total of approximately 1,288,000 m. CVRD discovered the Fazenda Brasileiro deposit in the late 1970s and began mining operations in 1984 with an open pit and heap leach gold operation. In 1988, underground mining operations commenced. Fazenda mine has been in continuous production since start-up. In the late 1990s, Barrick conducted limited work on some properties in the northern Rio Itapicurú Greenstone Belt (RIGB), which hosts most of the known gold deposits.
2003	Yamana acquired Fazenda and carried out drilling of approximately 20,300 holes for approximately 905,000 m.
2015	Brio acquired Fazenda and carried out drilling of approximately 4,100 holes for approximately 220,000 m.
2018	Leagold acquired Fazenda through its acquisition of Brio.
2020	Equinox acquired Leagold and assumed ownership of the Fazenda mine.

6.2 Historical Resource Estimates

In 2003, immediately prior to the sale of Fazenda to Yamana, CVRD estimated a Proven and Probable Mineral Reserve of 2.4 Mt grading 3.39 g/t Au for a total of 261.5 koz of contained gold. In addition, CVRD estimated an Indicated Mineral Resource for the G Zone (MFBG) and F Zone (MFBF) of 311 kt at 6.12 g/t Au for an additional 61.2 koz of contained gold.

Watts, Griffis and McOuat Limited (WGM, 2003) estimated an Indicated Mineral Resource for the EDEEP zone of 462 k grading 4.48 g/t Au for an additional 66.6 koz of contained gold. A 2.0 g/t Au cut-off grade was applied.

Following the WGM (2003) report, Yamana internally updated the Mineral Resource estimate on a regular basis. Two technical reports were prepared for Yamana: the first by MCB Serviços e Mineração Ltda. (MCB, 2011), and a second by Coffey Consultoria e Serviços Ltda (Coffey, 2014), which reported an open pit Indicated Mineral Resource of 1.5 Mt grading 2.35 g/t Au for a total of 102.6 koz of contained gold, and an underground Indicated Mineral Resource of 6.8 Mt grading 2.21 g/t Au, for a total of 486.8 koz of contained gold as of July 2014. In addition, Coffey (2014) estimated Inferred Mineral Resources to be 0.5 Mt grading 1.36 g/t Au for a total of 23.3 koz of contained gold for the open pit and 3.1 Mt grading 2.20 g/t Au for a total of 219.4 koz of contained gold for the underground.

In May 2016, Roscoe Postle Associates Inc. (RPA) audited and prepared an NI 43-101 technical report on Fazenda Mineral Resources and Mineral Reserves estimated by Yamana as of December 31, 2015 (Michaud, Moore, & Hampton, 2016). Exclusive of Mineral Reserves, total open pit and underground Measured and Indicated Mineral Resources were estimated to be 1.9 Mt grading 3.72 g/t Au containing 229 koz of gold. Inferred Mineral Resources were estimated to be 1.0 Mt grading 2.8 g/t Au containing 90 koz of gold. Total open pit and underground Proven and Probable Mineral Reserves were estimated to be 6.5 Mt grading 1.88 g/t Au containing 392 koz of gold.

In November 2018, RPA audited and prepared an NI 43-101 technical report on Fazenda Mineral Resources and Mineral Reserves estimated by Leagold as of May 31, 2018 (Michaud et al., 2018). Inclusive of Mineral Reserves, total open pit and underground Measured and Indicated Mineral Resources were estimated to be 7.54 Mt grading 2.30 g/t Au containing 558 koz of gold. Inferred Mineral Resources were estimated to be 6.0 Mt grading 2.45 g/t Au containing 476 koz of old. Total open pit and underground Proven and Probable Mineral Reserves were estimated to be 5.4 Mt grading 1.84 g/t Au containing 319 koz of gold.

The Mineral Resource and Mineral Reserve estimates described above are superseded by the estimates documented in Section 14.

6.3 Past Production

Production at Fazenda began in 1984 as an open-pit mining operation with gold extraction by conventional heap leaching. In 1988, underground production operations commenced. The majority of the underground ore has been processed in a CIP plant that was commissioned in 1988. The circuit was subsequently converted to pre-aeration and a CIL circuit. A small amount of heap leach production continued until after 2003 when oxide resources were mostly exhausted; heap leach operations were stopped sometime between 2003 and 2007.

Table 6-2 summarizes historical production for the heap leach, CIP, and subsequent CIL operations. Fazenda has produced approximately 3.4 Moz of gold as of December 31, 2020.

Table 6-2: Fazenda Historical Production 1984 to 2020

Company	Method	Year	Production (koz)
CVRD	Heap Leach	1984	3
		1985	15
		1986	15
		1987	17
		1988	21
	CIP + Heap Leach	1989	63
		1990	77
		1991	115
		1992	138
		1993	148
		1994	148
		1995	151
		1996	175
		1997	172
		1998	170
		1999	141
		2000	154
		2001	165
		2002	152
Yamana	CIP Converted to pre-aeration and CIL	2003	79
		2004	95
		2005	74
		2006	76
		2007	88
		2008	96
		2009	76
		2010	70
		2011	55
		2012	67
		2013	70
		2014	64
Brio	CIL	2015	61
		2016	71
		2017	61
		Jan–May 2018	27
Leagold	CIL	Jun–Dec 2018	47
		2019	73
		Jan–Feb 2020	12

Company	Method	Year	Production (koz)
Equinox	CIL	Mar–Dec 2020	53
Total			**3,355**

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

Fazenda is situated near the south end of the RIGB, within the São Francisco Craton. The RIGB extents over 100 km north–south and contains a 60 km wide volcano-sedimentary belt (Figure 7-1).

The RIGB is of early Proterozoic age and is generally divided into three lithologic domains:

1. A mafic volcanic domain of pillowed and massive tholeiitic basalts
2. A felsic volcanic domain of calc-alkaline andesites, rhyodacites, and pyroclastics
3. A sedimentary domain of fine-grained clastics and conglomerates of volcanic origin.

These supracrustal rocks are intruded by Proterozoic granitoids and are locally metamorphosed up to greenschist or amphibolite facies. The belt is underlain by Archaean basement gneisses and migmatites.

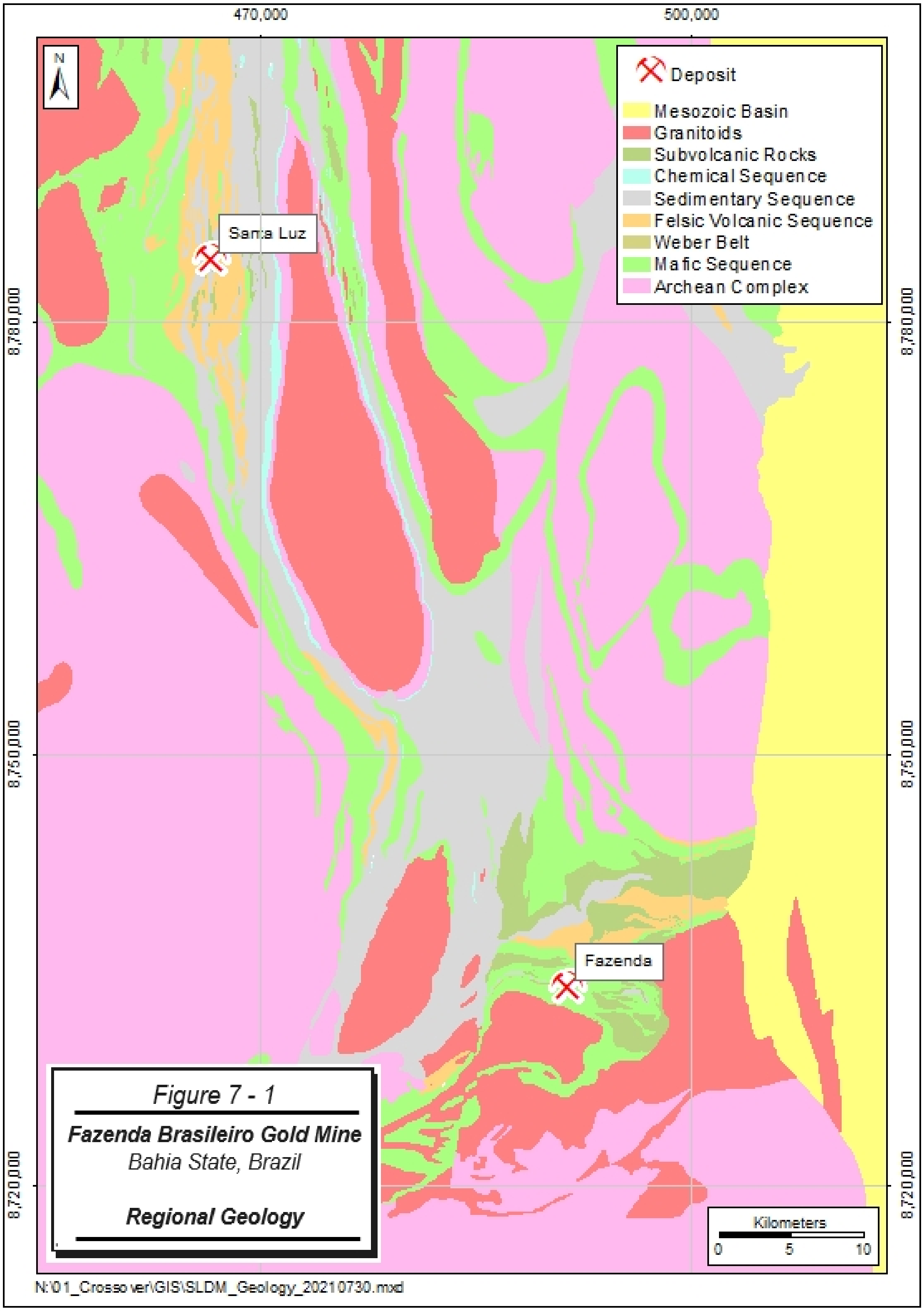


Figure 7-1: Regional Geology

7.2 Local Geology

Outcrop is sparse (±10%) both regionally and locally throughout the Fazenda area. Most of the detailed geological information is obtained from surface trenching, drilling, and data collected from the open pit and underground operations at Fazenda.

The Weber Belt is a 10 km long, arcuate east–west-trending, south-dipping shear zone. It is abruptly folded toward the south, near its western extremity, reflecting the deformation generated by a later sinistral north–south structure. The Weber Belt hosts the most significant gold mineralization in the RIGB, and Fazenda lies within it. The Weber Belt also hosts the Footwall (FW) Oeste, Lagoa do Gato, Canto 1 Sul (Main UG), and Canto 2 deposits, all of which are either in small-scale production or have been in production from small-tonnage open pits.

The Weber Belt is divided into four distinct overturned sequences from south to north:

1. The Riacho do Incó unit, comprising carbonate-chlorite schist (CCX) with minor intercalations of carbonaceous schist. The protolith of this rock is assumed to be basaltic lava.
2. The Fazenda Brasileiro unit, dominated by felsic and mafic schists and contains the most important gold concentrations. This unit is subdivided into three units, namely:
   - The graphitic schist (GRX), which forms the hanging wall of the main Fazenda ore zone; due to its lateral persistence and distinctive character, is considered a marker horizon
   - The magnetic quartz-chlorite schist (CLX), which consists of two major layers of 20 m and 3 m average thickness; part of this unit is at contact with the GRX and hosts the main Fazenda ore shoot
   - The Intermediate Sequenceis comprised of sericite-chlorite-carbonate schist (CAX) and plagioclase-actinolite schist (PAX); the CAX rocks represent less-mafic surrounding basalts. PAX is derived from weakly altered gabbroic bodies, which show ophitic to subophitic textures, and occur disseminated within the CAX and sometimes within the CLX units.
3. The Canto unit consists of fine-grained carbonaceous sediments (pelites and rhythmically banded pelites and psammites), volcanic layers, and an agglomeratic pyroclastic sequence. The pyroclastic sequence is the main host rock for the Canto mineralization.
4. The Abóbora unit in the northernmost part of the Weber Belt is comprised of a thick sequence of basalt flows with local, narrow sedimentary intercalations.

Deformation along the main east–west shear zone has destroyed most of the original features in the rocks in the Fazenda area. Figure 7-2 and Figure 7-3 show the Weber Belt surface geology and a schematic section of the Fazenda geology, respectively.

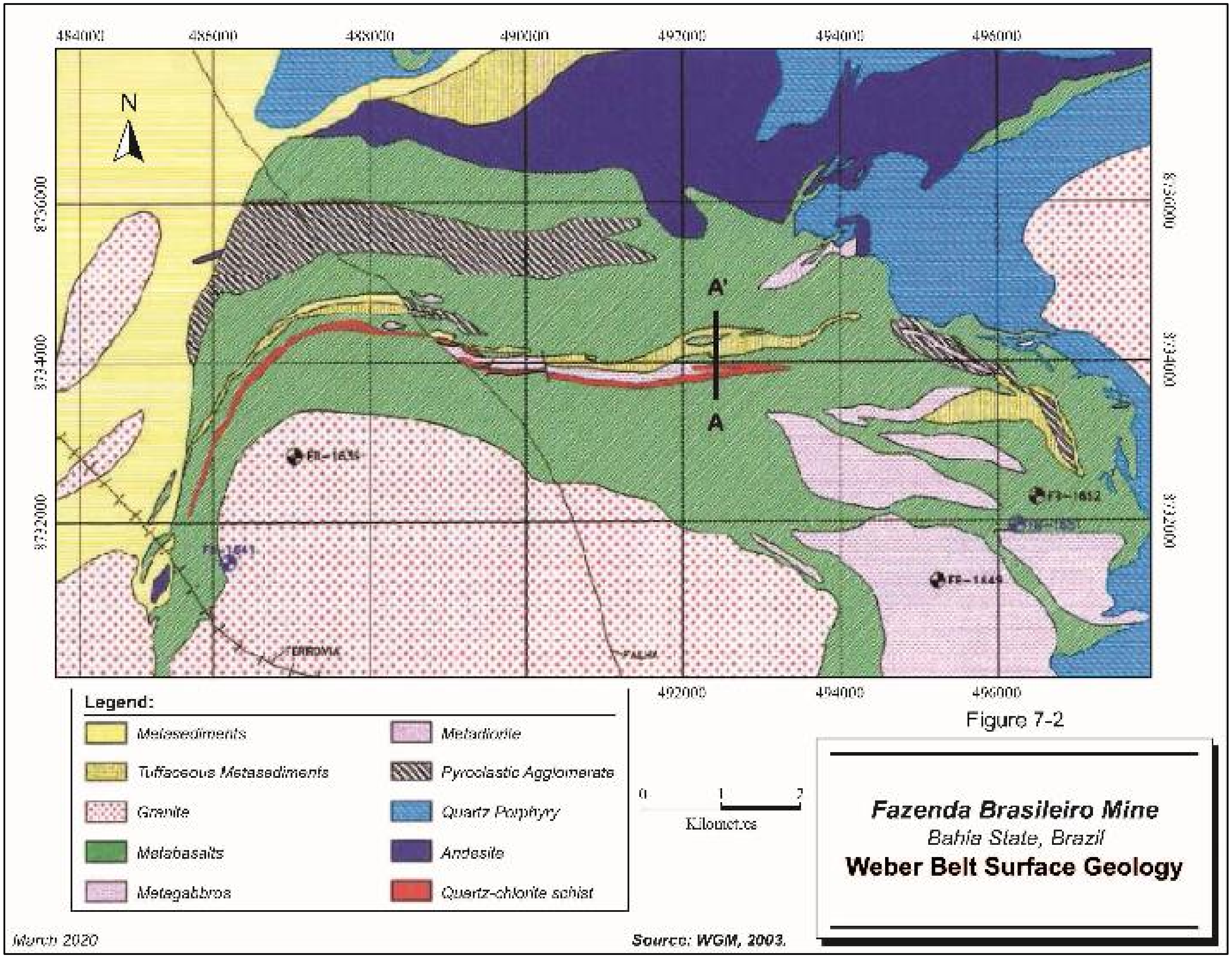


Figure 7-2: Weber Belt Surface Geology

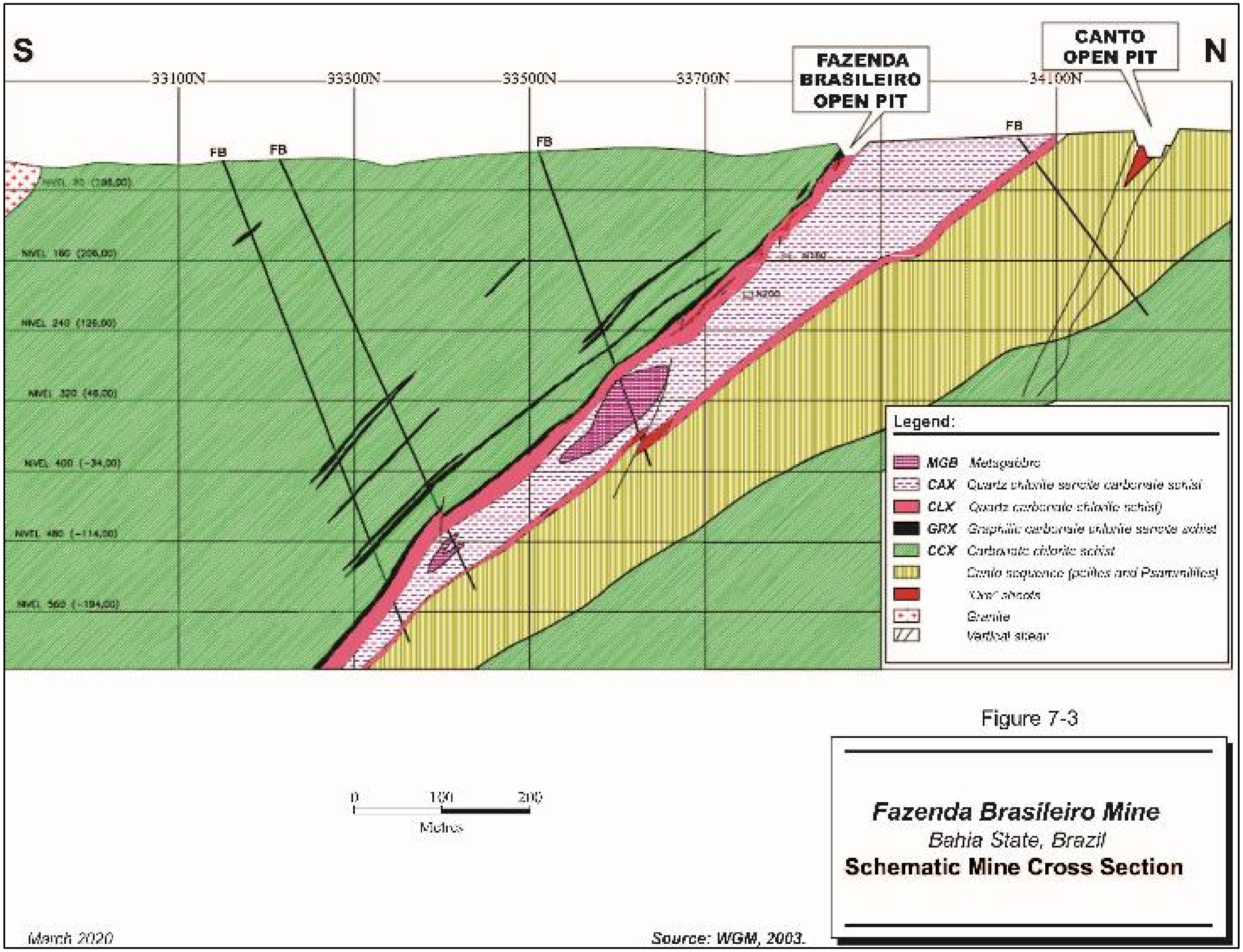


Figure 7-3: Schematic Mine Cross-Section

The structural history of the area is complex, with at least three phases of ductile and ductile–brittle deformation followed by late brittle faulting which laterally offset the Fazenda ore shoots by up to 100 m. The first phase (D1) consisted of an intense ductile shearing with no major folds observed, which produced an undulating lineation extending east–west. The second event (D2) produced northward-verging asymmetric folds (F2) on all scales, which folded the existing shear fabrics and produced ductile–brittle shear zones. These are oriented approximately east–west, parallel to the axial planes of the folds. This event appears to have been responsible for the present southerly dip of the entire local succession. Late localized crenulations to open metre-scale folds have refolded the first set of folds but are not important regionally. The main mineralization, in the form of sulphide-bearing quartz veining, is associated with the second deformation event.

In 2013, the Fazenda database had 241 different rock types, subdivided into 21 major rock codes. A program was initiated that simplified the lithology by combining 18 of the major rock types in the stratigraphic column for the RIGB using the criteria of geomechanics, mineralization, and presence of carbonaceous material. Further refinement simplified the 18 rock types into nine distinct lithotypes (Figure 7-4).

Type	Code	Description		Geotechnical Priority?	Priority
Soil	ATR	Hilling (Aterro)		Significant	18
	SOLO	Soil/Saprolite		Significant	19
Riacho do Incó Sequence	VF	Volcanic Felsic (Intrusive)?			10
	ANF	Amphibolite			11
	DIO	Quartz Diorite (Papagaio?)			9
	CCX	Metabasalt/Basalt/Metamafic/Basalt Mylonitic		Significant	8
Fazenda Brasileiro Sequence Intrusive	GRX	Graphite SCHIST		Most Significant	5
	CLX	Chlorite schist			1
	CAX	Carbonate Actinolite Schist		Significant	7
	MGB	Metagabbro/Plagioclase Actinolite Schist			17
Canto Sequence	BIX	Biotite Schist	Metasedimentary Domain		16
	GRX	Graphite Schist	Carbonaceous Domain	Most Significant	6
	MCH	Chert/Metachert	Intermediate to Felsic Lava Domain		15
	MDA	Meta Dacite/Quartz Porphyry			14
	MPC	Metapelite Carbonaceous			3
	AGV	Volcanic Agglomerate			2
	MPV	Greywacke—Metatuff		Significant	4
	MAD	Andesite/Metaandesite			13
Teofilândia Tonalite	TON	Tonalite/Microtonalite			12

Code Legend	
(pink)	Carbonaceous
(light green)	Main Ore (Observation: in Canto Sequence the MPV is mineralized with gold, and the MPC could be mineralized or not)

Source: Leagold, 2018.

Soil	
Riacho do Incó Sequence	Waste except the DIO
Fazenda Brasileiro Sequence	FB GRX
	CLX
	CAX + MGB + BIX (BIX are not FB Sequence but would be included)
Canto Sequence	Canto GRX
	AGV + MPV (Would be observed grade to be modelled)
	MCH + MDA + MPC +MAD—Canto waste
Teofilândia Tonalite*	Tonalite/Microtonalite

*Tonalite is not modelled because of the limited number of intercepts.

Figure 7-4: Fazenda Simplified and Refined Stratigraphy Column (2013)

7.3 Mineralization

Gold mineralization is related to multi-phase quartz veining events. The gold occurs in at least three textural settings at Fazenda: as particles attached to sulphide grains; as particles within fractures in sulphide grains; and as particles within fractures in quartz/albite gangue. Gold grains typically contain less than 5% Ag.

The bulk of the mineralization is hosted by quartz-albite-sulphide veins within the CLX unit. The main mineralized domain is the 1st level of chlorite schist known as CLX1. Individual veins vary from 1 to 4 cm thick, have irregular margins, and are typically oriented subparallel to the predominantly east–west trend of the felsic and mafic schists. The veins occur in multiple vein sets that vary in true width from 1.5 to 40 m, and in horizontal mining width from 3 to 40 m. The regional strike of mineralization is north–south, while locally the veins are generally arcuate in an east–west trend and south-dipping at 40° to 70°, with a shallow to moderate east plunge. The plunge, however, is quite variable, with some zones plunging westward.

Mineralization is also found stratigraphically below the CLX1 mineralized domain, in the CLX2 and Canto (AGV) horizons (Figure 7-5). Economic mineralization occurs in horizontal to sub-horizontal shoots, the locations of which are influenced by a combination of folding and shearing. Shoots range from tens of metres to hundreds of metres in length, and tens of metres in height.

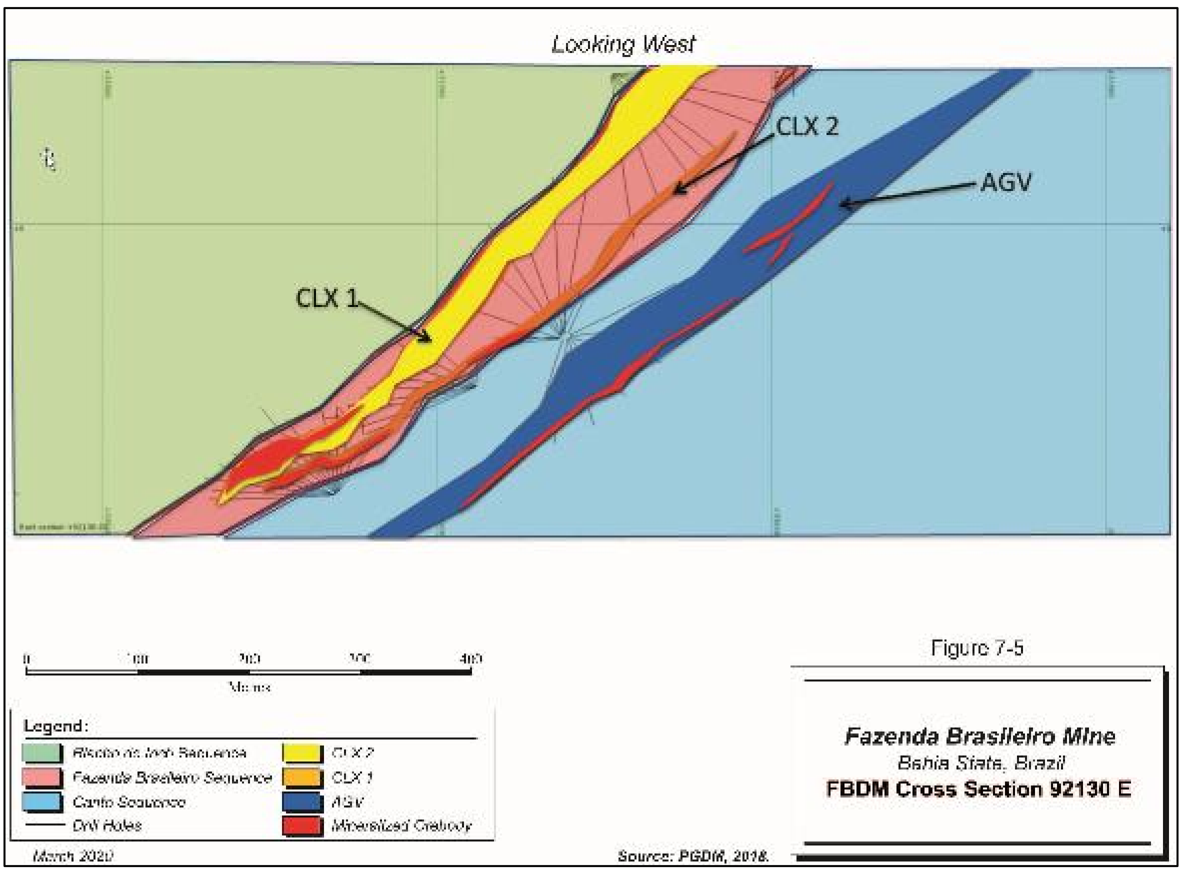


Figure 7-5: Fazenda Cross-Section 92130E

8 DEPOSIT TYPES

The Fazenda Brasileiro gold deposit is an epigenetic, structurally controlled, and hydrothermally altered Precambrian quartz vein gold deposit that has been subjected to greenschist facies metamorphism. There is some suggestion of a partial syngenetic origin for the gold because of the anomalous gold content (0.05 g/t Au to 0.10 g/t Au) throughout visibly unmineralized CLX.

Hydrothermal alteration and the style of veining are typical of well-studied greenschist facies deposits such as Sigma and Kerr-Addison in the Canadian Archaean, and the Hunt Mine in Western Australia.

The Fazenda deposit area has been well studied, with multiple scientific investigations completed over the past 40 years. The current models developed by Fazenda geologists reflect the large amount of available data in the area and provide both mining operations and exploration programs with a substantial database to guide further work.

9 EXPLORATION

Historical exploration is described in Section 6. Recent exploration at Fazenda has mostly been drilling to increase and/or replace reserves depleted during mining. Much of this exploration drilling has been carried out from underground drifts with the objective of identifying new resources and converting Mineral Resources to Mineral Reserves. Currently, the Exploration Team is conducting an oriented core drilling program to explore potentially high-grade gold zones. Drilling programs carried out at Fazenda are described in Section 10.

9.1 Exploration Potential

Exploration potential still exists along strike and at depth. The area has seen 40 years of exploration along the mineral trend which has successfully identified additional underground and open pit resources and targets that are in various stages of mine development. This exploration success is anticipated to continue, including open pit, underground, and underground deeper targets.

Most regional concessions have seen little exploration activity other than regional mapping, regional geochemical surveys, and airborne surveys completed by the previous owners.

A compilation and interpretation of the combined underground and superficial geological dataset, which began in mid-2020, is nearing completion and it aims to identify untested potential targets hosted within rocks of the Weber Belt and active exploration permits across the RIGB and includes a complete revision of existing and new geophysical and remote sensing for target generation and ranking.

The Fazenda Exploration Team is carrying out regional reconnaissance over several targets, including detailed geological-structural mapping, soil geochemistry sampling, and early-stage exploratory drilling. The main components of the 2020 review and interpretation provided the following data for input to the 2021 exploration program:

- Data compilation and integration
- Geophysical interpretation
- Target generation
- Geological/structural mapping over selected targets
- Soil and rock sampling.

The 2021 regional exploration program contemplates executing an intensive oriented core and reverse circulation drilling program associated with detailed geological-structural mapping and soil geochemistry program.

10 DRILLING

Since 1979 several companies have conducted diamond drilling in phases at Fazenda, entailing 55,560 drill holes totalling more than 2,568 km. The drilling at Fazenda is summarized in Table 10-1, and hole locations are shown in Figure 10-1.

Table 10-1: Drilling Completed as of December 31, 2020

Mine Ownership	Number of Drill Holes	Metres Drilled
CVRD 1979–2003	28,224	1,287,739
Yamana 2003–2014	20,295	905,205
Brio 2015–2018	4,104	220,106
Leagold 2018–2019	1,762	101,807
Equinox 2020	1,175	53,201
Total	**55,560**	**2,568,058**

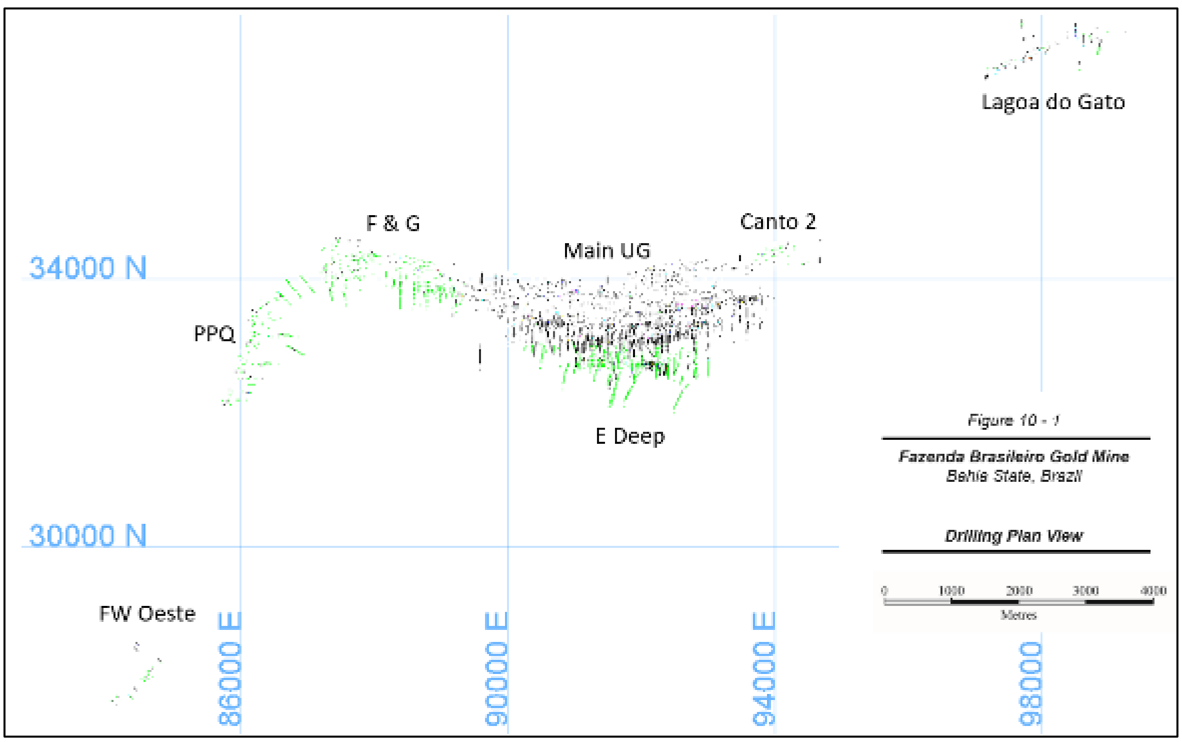


Figure 10-1: Drilling Plan View

Prior to 2003, CVRD conducted surface diamond drilling in the initial search for new mineralization. This was followed by underground fan drilling on a 100 by 50 m grid using B-sized equipment to establish Indicated Mineral Resources. A-sized core fan drilling on a 25 by 10 m grid pattern was then used to upgrade the classification of Mineral Resources from Indicated to Measured. After 2003, both Yamana and Brio maintained the same methodology of drilling as CVRD.

In 2020, Equinox completed a 1,175 m drilling program totalling 53,201 m to upgrade Inferred Mineral Resources to Indicated, and converting Indicated to Measured, to support the Mine operation. Drilling results show that there is an opportunity to increase both Mineral Reserve and Mineral Resource estimates.

In 2021, Equinox is advancing with a more than 55 km underground drilling program aimed at upgrading Inferred Mineral Resources to Indicated and converting Indicated to Measured to support the Mine Operation. Drilling results to date are confirming opportunities to increase both Mineral Reserve and Mineral Resource estimates.

10.1 Sampling Method and Approach

Site geologists and technicians set up surface diamond drill holes (DDH) in the field using a Global Positioning System (GPS). An accurate GPS or total station instrument is used to obtain the final collar coordinates if the site is appropriate for constructing a drilling pad. Final positions are collected in Universal Transverse Mercator (UTM) coordinates (Zone 24 South, SAD69 datum). In the underground mine, Fazenda surveyors mark collars prior to drilling, then return when the hole is complete to determine accurate collar coordinates.

Historically, all drill holes were surveyed downhole at 3.0 m intervals with either a REFLEX Maxibor or Flexibor instrument. In recent years, Yamana ceased surveying holes shorter than 150 m due to the minimal deviation recorded in earlier drilling programs. In 2015, longer drill holes were surveyed using a nonmagnetic MultiShot instrument manufactured by Devico. Currently, the REFLEX Gyro Smart survey tool manufactured by Stockholm Precision Tools (SPT) is being used.

Drill core is placed in wooden core boxes with a nominal capacity of 4 m for NQ-sized drill core, 4.6 m for LTK-sized core, and 3 m for HQ-sized core. The drill hole number, box number, and downhole depths are stamped onto an aluminum tag and affixed to the edge of the box. The driller places wooden downhole core depth-markers in the core box, affixed with an aluminum tag stamped with the depth, interval length, and the recovered sample length.

Upon receipt of the drill hole core at the logging shed, the entire length of the drill hole core is photographed and marked for lithological contacts. Samples are marked down the entire length of the hole at 1.0 m intervals in mineralization and in waste, except at lithological contacts where the sample is selected to respect lithological boundaries. Paper sample number tags are plasticized and stapled to the core box next to the corresponding sample, with a red square marked on the box with a pen indicating the start and end of the sample interval.

Before sampling, the geologist logs the core in detail for lithology, structure, mineralization, and alteration. Codes are assigned for oxidation, lithology, and alteration (including pyrite, pyrrhotite, arsenopyrite, chalcopyrite, silicification, biotitization, sericitization, amphibolitization, and albitization). Angles of structures such as foliation, faults, or quartz veins are recorded, although drill holes are not oriented. In addition, any log observation relevant is also described in the “remarks,” especially the details of mineralized zones. Sample intervals and sample numbers are also recorded on the log.

Core sample recovery is not recorded by the geologist, although the driller makes a manual record of drill hole recovery on a run-by-run basis. Recovery in the mineralized zones is generally good, on average better than 90%. Core recovery values are used to confirm the sample's reliability and determine how to assign grades to any missing sample portions.

The drill core is then sawn in half with an electric diamond core saw. A site geological technician selects half-core samples and places them in numbered plastic bags along with a paper sample tag. The bags are closed and secured with a string tie. Sample weight is approximately 1.5 kg for mineralization and 3.0 kg for waste.

The drilling and logging methods are acceptable for the purposes of a Mineral Resource estimate.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Sample Preparation and Analyses

The Fazenda laboratories and core logging facilities are clean, well maintained, and serviceable for the functions designed. The Fazenda laboratory incorporates quality assurance and quality control (QA/QC) procedures, including inserting reference material, blank, and duplicate samples, which are continually monitored to ensure reliable results. Between December 2010 and April 2014 INMETRO (Brazil) accredited the laboratory with ISO 17025:2005 for gold fire assay with an atomic absorption spectrometry (FA/AAS) finish chemical and geochemical analyzes. Fazenda's laboratory uses the Thermo Fisher-EUA Sample Manager LIMS system for managing sample preparation and chemical analysis. An internal professional prepares monthly and annual reports of laboratory performance.

Sample preparation and assaying procedures are as follows:

- Each sample is dried at 100°C (±10°C).
- All core samples are coarse-crushed to P_{90} 2.0 mm.
- This material is passed through a rotary splitter.

A 500 g aliquot is taken and pulverized to P_{95} 150 mesh. The crushing and grinding equipment are cleaned with compressed air after each sample, and barren silica sand is passed through the equipment prior to running batches of samples.

Gold determinations are carried out on 50 g (±0.10 g) samples using FA/AAS.

Granulometric tests are performed three times per shift on the crushing and pulverizing processes. Preparation duplicates are inserted every 20 to 30 samples.

In view of all the controls implemented, with systematic compliance with the technical requirements established in the implemented operational standards, as well as the guarantee of traceability and data integrity, it is correct to say that the sample preparation and analytical methods used at Fazenda are appropriate. Sufficient quality-control data exist to allow thorough review of the analytical performance of the site assay laboratory.

11.2 Quality Assurance/Quality Control

The Fazenda laboratory and protocols were established in 1984 by CVRD and since then Yamana, Brio, Leagold, and Equinox have maintained the laboratory and incorporated all protocols into their operation of the mine. The QA/QC program used at Fazenda includes inserting Certified Reference Material (CRM), blanks, and duplicates into the sample stream at the frequency summarized in Table 11-1. For each lot of samples analyzed, the results are reviewed and requests all failed samples to be rerun by the laboratories, which complies with the best standards of the mining industry, and underpins the accuracy of the Mineral Resources estimate.

Table 11-1: Laboratory QA/QC Protocols

QA/QC Type	Insertion Frequency	Acceptance Criteria
Blank	1 in 30	Assay ≤0.04 g/t Au
Preparation Duplicate	1 in 30	Relative Difference ≤ ±20%
CRM	1 in 20	95% of samples ≤ ±2 SD ≤1% of samples ≥ ±3 SD
Check Pulps	100 per month sent to 1 external laboratories	Relative Difference ≤ ±10% SD ≤15% Difference between means ≤5% R^2 ≥0.9
Proficiency Test Program	3 or more in year	Z-score ≤3 Accuracy (Relative Error–RE), % Precision (Amplitude–R), ppm Youden Performance

Note: SD = Standard Deviations

In compliance with good practices, as well as meeting the requirements of ISO 17025:2005 and ISO17025:2017, the Fazenda laboratory participates annually in the Proficiency Test Programs in Gold Ore by FA/AAS, promoted by Instituto de Tecnologia August Kekule (ITAK), Brazil, and Centro Tecnológico de Referência SulAmericano (CTRS), Brazil. The results are discussed in Section 11.2.5. The objective is to impartially assess the laboratory's performance and the reliability of its generated results.

With respect to the Mine Geology QA/QC protocols, 14,704 QA/QC samples were submitted from June 2018 to December 2020 for the DDH sample program. Equinox reviewed the protocols set in place if any of the blanks, CRMs, duplicates, or check pulps return a failed assay. Results are reviewed on a monthly and requests all failed samples be rerun by the laboratories. In the QP's opinion, protocols set in place at Fazenda are of industry standard and sufficient to produce a resource model. Mine Geology QA/QC sample types and insertion rates are summarized in Table 11-2.

Table 11-2: Mine Geology QA/QC Sample Insertion Rate

Number of Assays	QA/QC Sample	Insertion Rate (%)	Number of QA/QC Samples
116,361	CRM	2.7	3,112
	Blank	3.8	4,441
	Preparation Duplicate (−2 mm)	3.2	3,769
	Check Pulps	3.6	4,173

11.2.1 Certified Reference Material

CRM samples are materials of known gold content used to check and quantify the analytical accuracy of laboratories. Seven types of gold CRMs are used at Fazenda, all of which were purchased from

Geostats Pty Ltd (Geostats), O'Connor, Western Australia, Australia. Each has a known, certified, gold content as determined by extensive round-robin assaying at accredited assay laboratories. The variation from the CRM's mean value in SD defines the QA/QC variance and is used to determine acceptability of the CRM sample assay. Results within ±2 SD are considered acceptable. The certified values, acceptable ranges for analyses, and other statistics for the CRMs are presented in Table 11-3. Approximately 50 g of sample material are submitted per CRM sample.

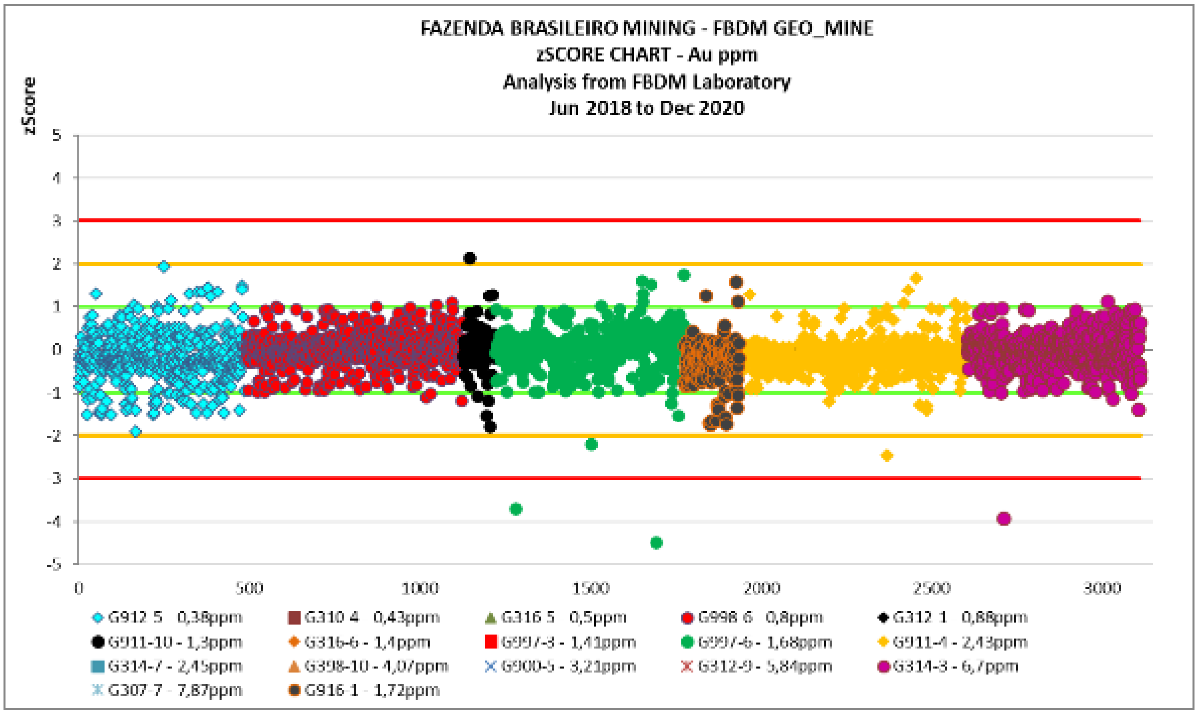
Table 11-3: Certified Reference Materials

CRM	Certified Au Content (ppm)	Standard Deviation (ppm)	Acceptable Range (g/t) ±2 SD		Provider
G912-5	0.38	0.02	0.34	0.42	Geostats
G998-6	0.80	0.06	0.68	0.92	Geostats
G911-10	1.30	0.05	1.20	1.40	Geostats
G997-6	1.68	0.08	1.52	1.84	Geostats
G916-1	1.72	0.06	1.60	1.84	Geostats
G911-4	2.43	0.09	2.25	2.61	Geostats
G314-3	6.70	0.21	6.28	7.12	Geostats

There is a good correlation between the CRMs used and the average economic metal concentration in the drill samples. Very small biases, both positive and negative, were observed for the CRMs submitted to Fazenda from June 2018 to December 2020. On average, less than 1% of samples were outside the precision limits, without systematic biases. The laboratory's precision and performance over time are given in Table 11-4 and Figure 11-1.

Table 11-4: Summary of June 2018 to December 2020 CRM Results

CRM	Expected Values (Au ppm)	Fazenda Laboratory (Au ppm)	Diff. (ppm)	Bias	No. Analyses	≥2SD // <3SD		≥3SD	
						Number	% Inside Precision Limits	Number	% Outside Precision Limits
G912-5	0.380	0.377	−0.003	−0.775	490	0	0.00	1	0.20
G998-6	0.800	0.808	0.008	1.031	638	0	0.00	2	0.31
G911-10	1.300	1.302	0.002	0.141	93	1	1.08	0	0.00
G997-6	1.680	1.682	0.002	0.128	554	1	0.18	3	0.54
G916-1	1.720	1.699	−0.021	−1.230	159	0	0.00	1	0.63
G911-4	2.430	2.415	−0.015	−0.629	670	1	0.15	1	0.15
G314-3	6.700	6.680	−0.020	−0.302	508	0	0.00	2	0.15
Total	-	-	–	**−0.13**	**3,112**	**3**	**0.10**	**10**	**0.32**



Notes: z-Score on the vertical axis is a normalization of the SD (1 SD = 1 z-Score unit), allowing results for different standards to be plotted on the same chart.

Figure 11-1: CRM Results Over Time for the Jun 2016–Dec 2020 Diamond Core Drill Program (Fazenda)

The QP is of the opinion that the results of the CRM samples from June 2018 to December 2020 support the use of samples assayed at the Fazenda laboratory during this period in Mineral Resource estimation.

11.2.2 Blanks

From June 2018 to December 2020, blanks or granulated quartz (Quartz 403/002P) were purchased from Química Brasileira/Brasilminas Ltda—Mina Gerais; the analysis certificate that was provided identified a high silica content (SiO_2, 98.70%) and other oxides (Fe, Al, Ca–0.99%), without traces of gold. The detection limit was 0.04 g/t Au at the Fazenda laboratory (a failure was defined as >0.08 g/t Au). In processing and analyzing blanks for gold, the laboratory performed very well. Of the 3,383 blanks analyzed, only six blank samples reported results above the tolerance range for gold (0.08 g/t), and the highest gold value reported was 0.612 g/t Au. Details of the performance of blanks are provided in Figure 11-2.

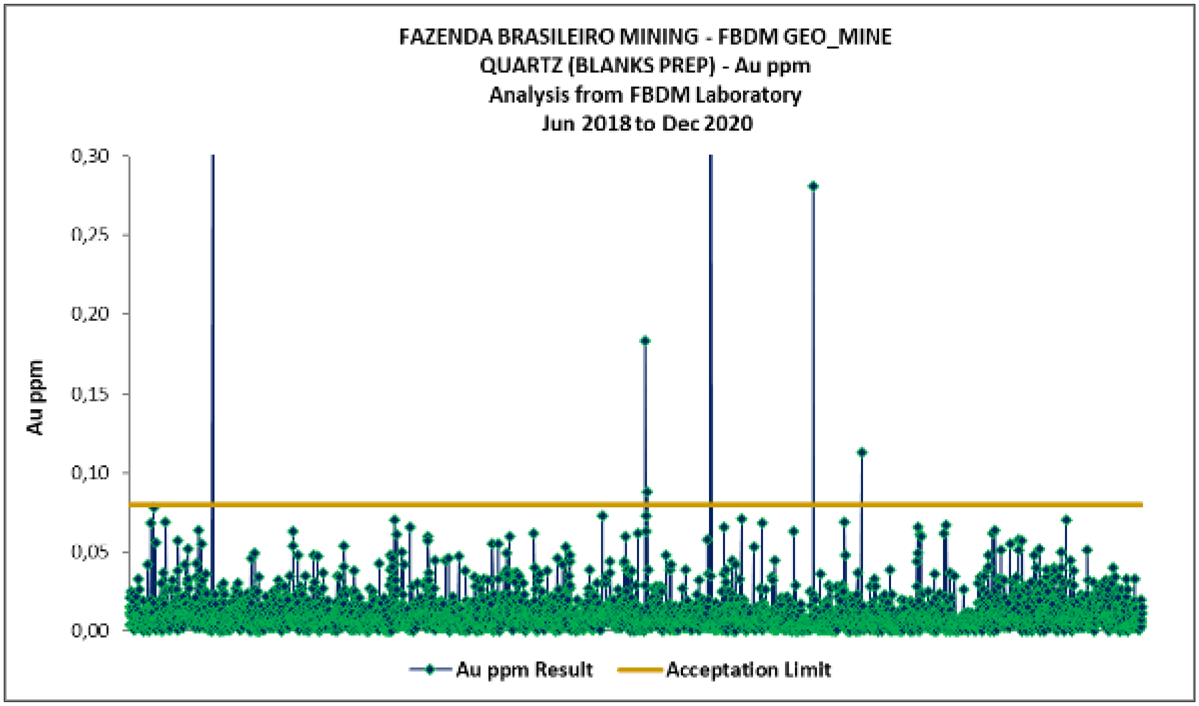


Figure 11-2: Coarse Blanks Submitted with Core Samples (Fazenda)

11.2.3 Duplicate Samples

Field duplicates are not applied to the Fazenda sampling routine due to the characteristics of the deposit, which has a nugget effect, and which consequently generates high variability between the ordered pairs (i.e., high dispersion). For this reason, sample preparation duplicate protocols were implemented.

Preparation duplicates is a control to monitor the degree of homogeneity and precision of the sample preparation process. Preparation duplicates were obtained by prior indication from the mine geology team, producing two pulps from the DDH samples after being crushed to less than 2 mm. After crushed, the preparation duplicates were pulverized to less than 150 mesh and sent for FA analysis. Comparing the results from the preparation duplicate pair gives an indication of the efficacy of the sample preparation procedure for producing a representative sample for analysis. The duplicate samples are compared by computing the absolute relative difference between the two analyses from each pair and by preparing scatter plots and histograms. Absolute relative difference is the absolute value of the difference in the two analyses, divided by the average of the two analyses, and expressed as a percent.

Results of preparation duplicates submitted from June 2018 to December 2020 were compiled by Fazenda site personal and reviewed by Equinox. In all, 3,758 preparation duplicates were submitted during this time and examined using scatter plots and Thompson–Howarth plots. Of this total, about 68.8% of the duplicates had an average content of less than 0.10 g/t Au, which is considered low. Low and moderate precision with high dispersion were observed in 1,640 pairs of samples, representing 43.6% of samples for the content ranges; because all are associated with the low-grade contents (<0.10 g/t), these are not good indicators of sample variability in the grade range of interest at

Fazenda. Samples with grades above 0.10 g/t Au displayed very good precision, with a Thompson–Howarth precision factor of Pc = ±7.82% to ±6.95%.

Equinox notes that, in general, there is better agreement between duplicate pairs when the variation in gold grades is raised to 20%. The QP is of the opinion that this result is consistent with the natural variability often seen in orogenic gold deposits. The results are provided graphically in Table 11-5, Figure 11-3 and Figure 11-4

Table 11-5: Preparation Duplicates (Fazenda)

Total Samples	Average Results (Au ppm)		Total Failures	% Failures	Relative Variance	Relative Standard Deviation (%)	Max. Orig. Au (ppm)	Max. Dupl. Au (ppm)
	Original	Duplicates						
3,758	0.639	0.629	1,640	43.64	0.274	52.32	119.59	101.65

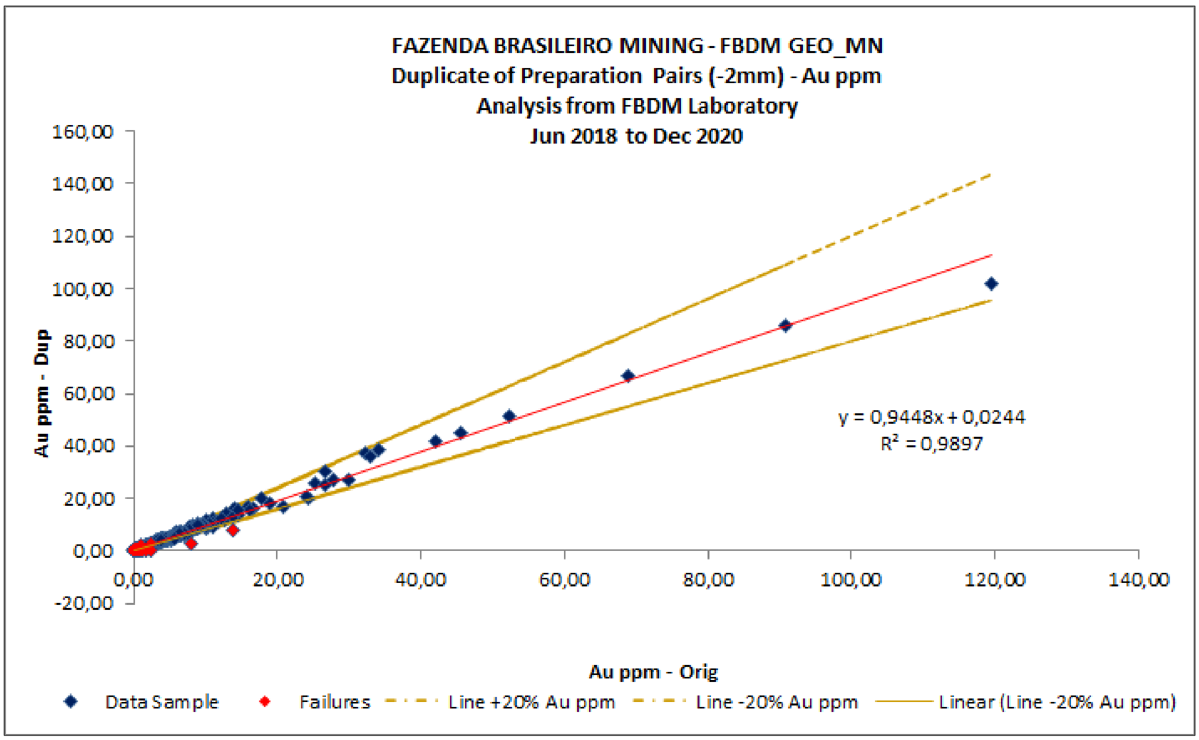


Figure 11-3: Preparation Duplicates (−2 mm) 2018–2020 Duplicate Au Assays

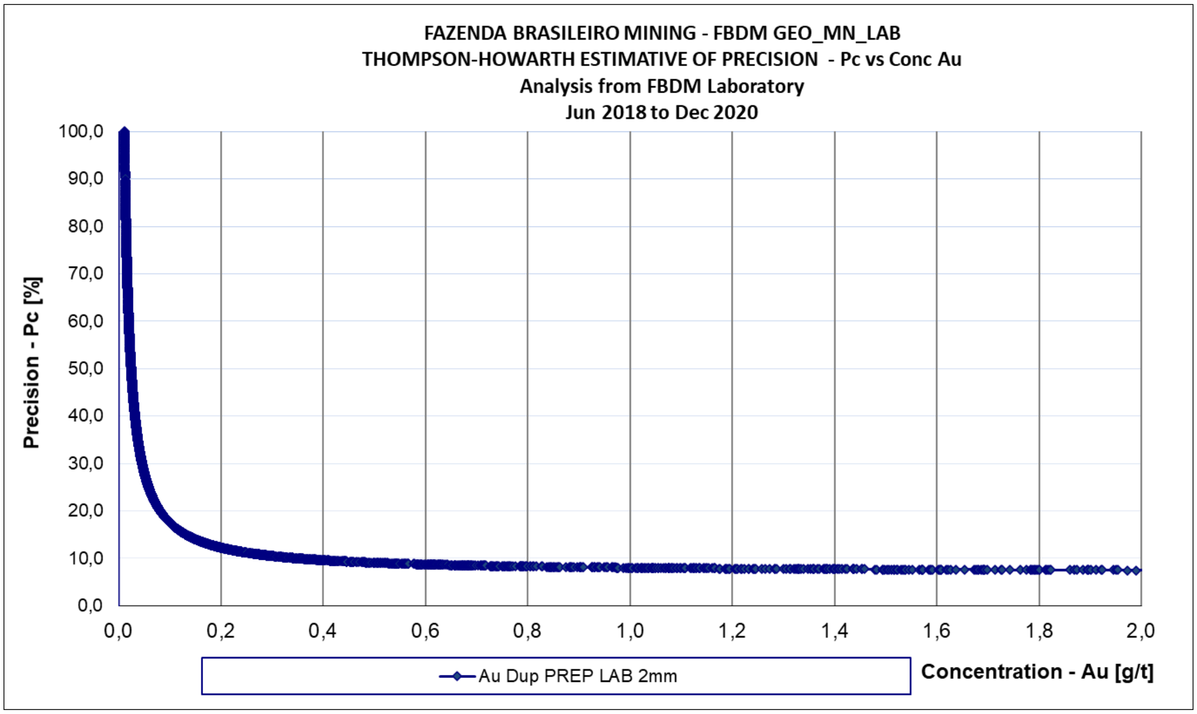


Figure 11-4: Thompson–Howarth Estimate of Precision

11.2.4 Check Assays

From February 2018 to December 2020, 4,173 pulp samples were submitted to SGS Geosol Laboratório Ltda. (SGS) and Fazenda to measure the accuracy of results from Fazenda's laboratory (Table 11-6). A high index of pairs was observed with an average content of less than 0.50 g/t Au (80.1%), which contributed to a greater degree of dispersion among some pairs, associated with the intrinsic characteristics of the ore, such as the presence of visible gold (VG_Au <10 nm) and double refractoriness (arsenopyrite sulphides and presence of carbonaceous material), the latter with a significant impact on the stoichiometry of chemical reactions in the FA process. However, Equinox's team reviewed the results and found high degrees of correlation, and relative bias within acceptance limits (Figure 11-5, Figure 11-6 and Figure 11-7).

Table 11-6: Check Assays

Total Samples	Average Results (Au ppm)		Total Failures	% Failures	Relative Variance	Relative Standard Deviation (%)	Max. Orig. Au (ppm)	Max. Dupl. Au (ppm)	Au <0.50	% <0.50
	Original	Duplicates								
4,173	0.8389	0.8497	2,718	65.13	0.2318	66.73	34.99	35.51	3,341	80.06

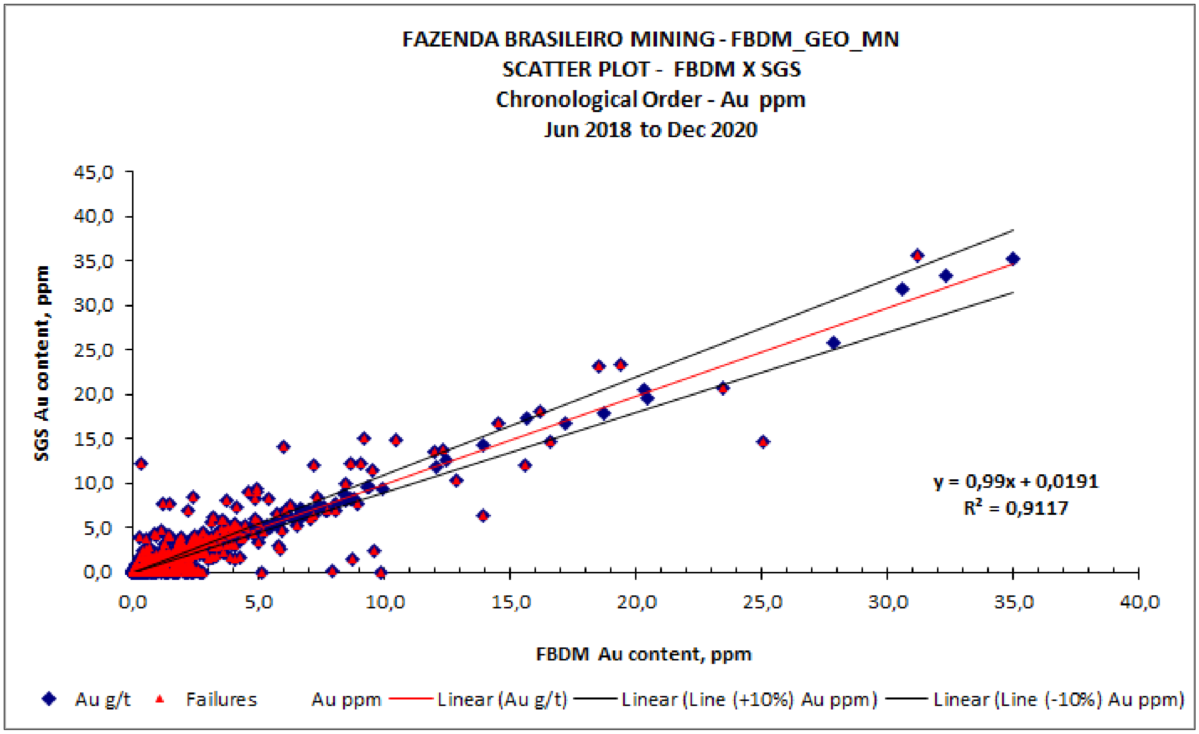


Figure 11-5: Scatter Plot–Check Assay Total Samples

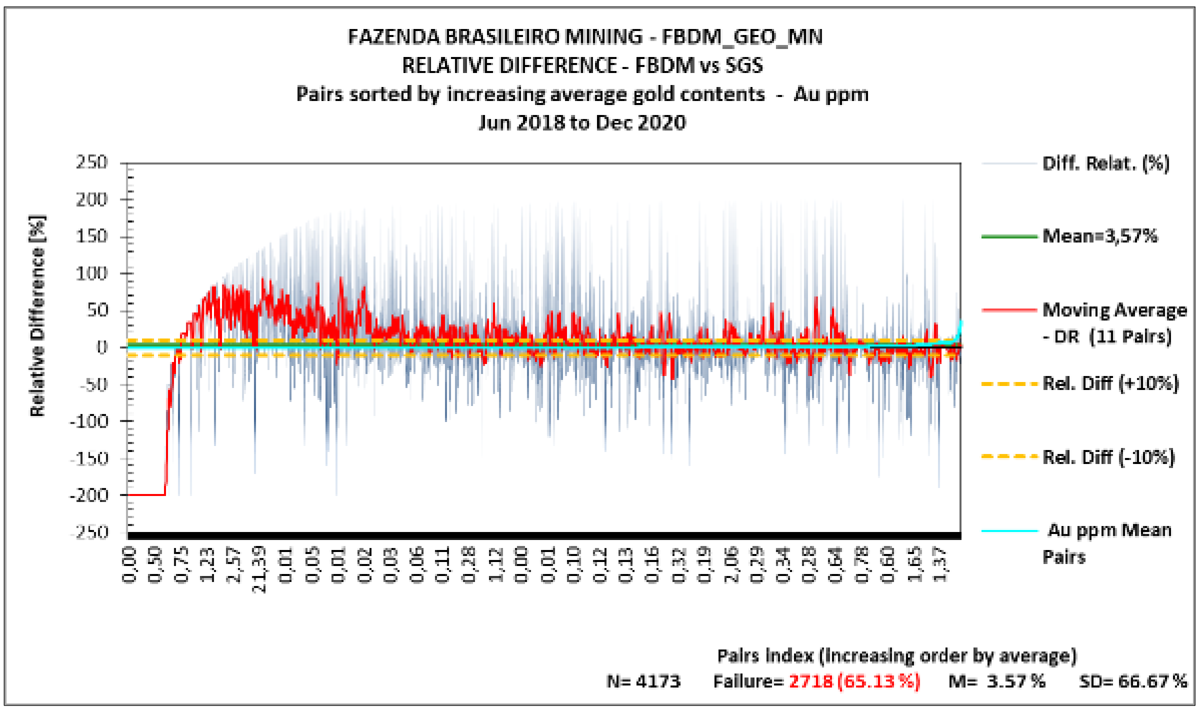


Figure 11-6: Relative Difference of Check Assays Analyzed from June 2018 to December 2020

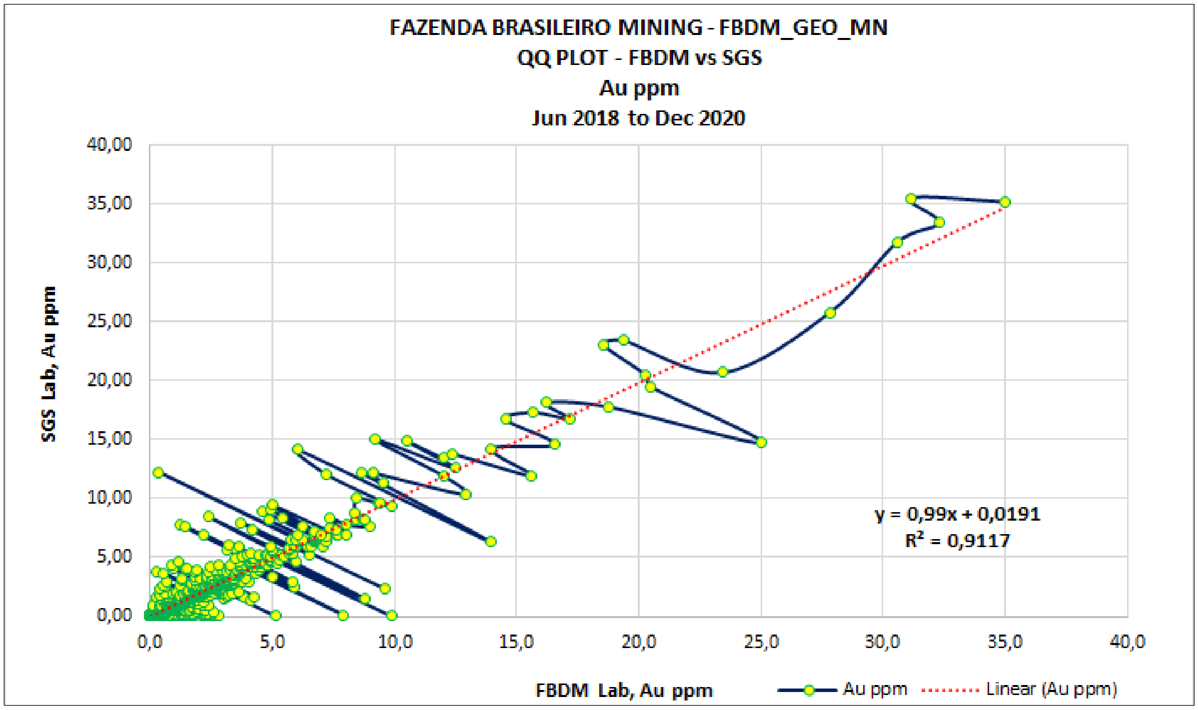


Figure 11-7: Q–Q Plot of Check Assays Analyzed from June 2018 to December 2020

11.2.5 Proficiency Test Program

The Fazenda laboratory annually participates in Proficiency Testing Programs in gold ores, with the objective of evaluating the technical competence and accuracy of the results provided according to validated methods. This type of program consists of an analytical round with several national and international laboratories. The results issued are submitted to rigorous statistical treatment to standardize and certify as a true value the gold results for a pair of samples analyzed by participating laboratories.

The providers are the ITAK and CTRS; both are ISO/IEC 17043:2011-accredited Brazilian providers. These institutions support developing and revising standard techniques with ISO standards, through the Associação Brasileira de Normas Técnicas (ABNT) (Brazilian Association of Technical Standards), the Committee for International Mining Standardization (CONIM), and the Brazilian Mining Institute (IBRAM).

Both Proficiency Testing Programs are part of the European Proficiency Testing Schemes as a provider of Interlaboratory Programs, which is supported by the European Co-operation for Accreditation and European Federation of National Associations of Measurement, Testing and Analytical Laboratories (EUROLAB).

The interpretation of results in relation to accuracy was based on two criteria. The first, for compatibility between the results of different laboratories (Youden ellipse); the second through a standardized tool recommended by ISO (z-Score), best applied because it is a statistical measure that indicates how many SDs the value found by the participating laboratory is above or below the certified value. A positive z-Score indicates data above the certified value, while a negative value indicates data below the certified value. The interpretation of the value of the z-Score index is described below:

$|z| \leq 1$ EXCELLENT result

1 <| z | ≤ 2 SATISFACTORY Result

2 <| z | <3 QUESTIONABLE Result

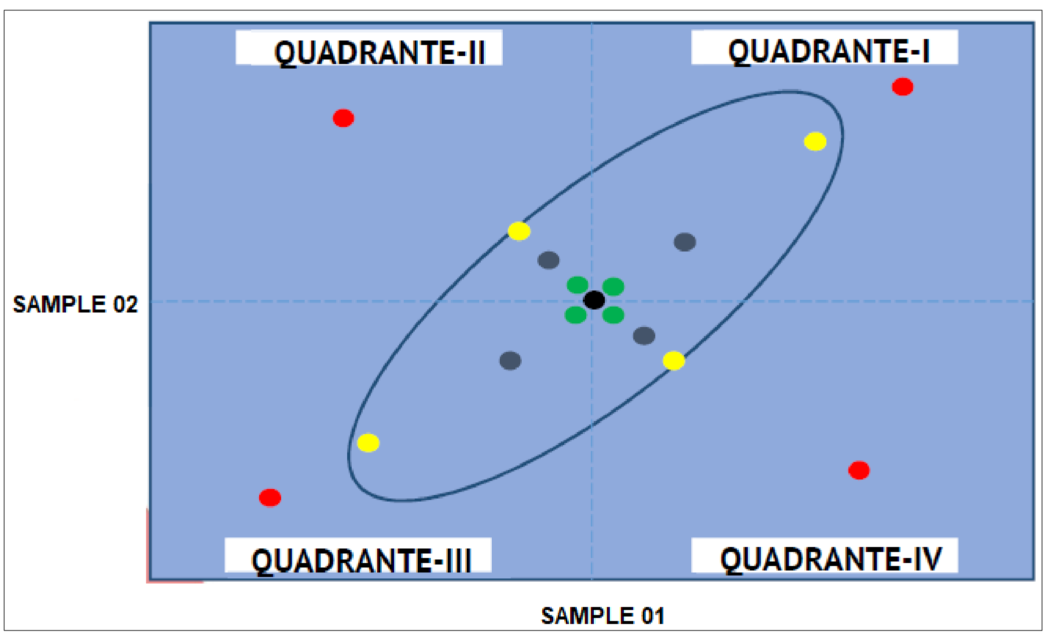
| z | ≥ 3 UNSATISFACTORY Result

The Youden ellipse is constructed for a pair of samples, and each laboratory is represented by a dot (Figure 11-8). Its structure is traced in such a way that any point has the same probability of being within the ellipse, with a 95% degree of confidence being established. Usually, the points are located inside the ellipse. The inclination of the ellipse and its shape depend on the dispersion of the pair of samples from the group of laboratories evaluated. The lines that pass through the certified values of the standard samples used in the Interlaboratory Program, in x (referring to one of the standard samples) and y (referring to the other standard sample), divide the Youden graph into quadrants. Points found in the upper right and lower left quadrants represent laboratories that may be incurring systematic errors. However, the presence of dots in the upper left and lower right quadrants is interpreted as the occurrence of random errors. Values outside the Youden ellipse are characterized as discrepancies and have a special cause of variation.

In general, the confidence ellipse obtained for gold analyzes showed dispersion considered normal, with SATISFACTORY performance for gold analysis (according to the Youden evaluation criterion), with the pairs of samples plotting in Quadrant II of the 95% confidence ellipse, as shown in Figure 11-9.

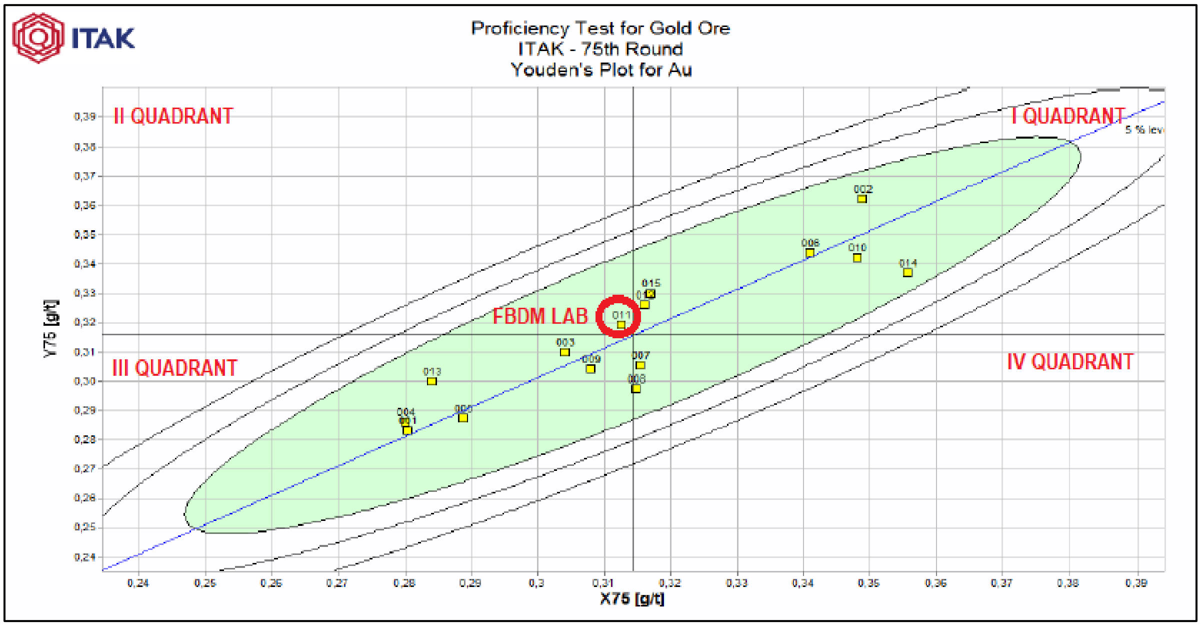
The z-Score criterion (Figure 11-10) and the accumulated data indicate that the Fazenda laboratory presented EXCELLENT and SATISFACTORY accuracy with consistent results around the certified values.

In the QP’s opinion, the Fazenda QA/QC program is adequate, and the assay results within the database are suitable to use for Mineral Resource estimation.



Source: ITAK, 2020.

Figure 11-8: Schematic Representation of a Hypothetical Confidence Ellipse, Youden



Source: ITAK, 2020.

Figure 11-9: Youden Confidence Ellipse for Samples X75 at 0,314 g/t Au and Y75 at 0.315 g/t Au

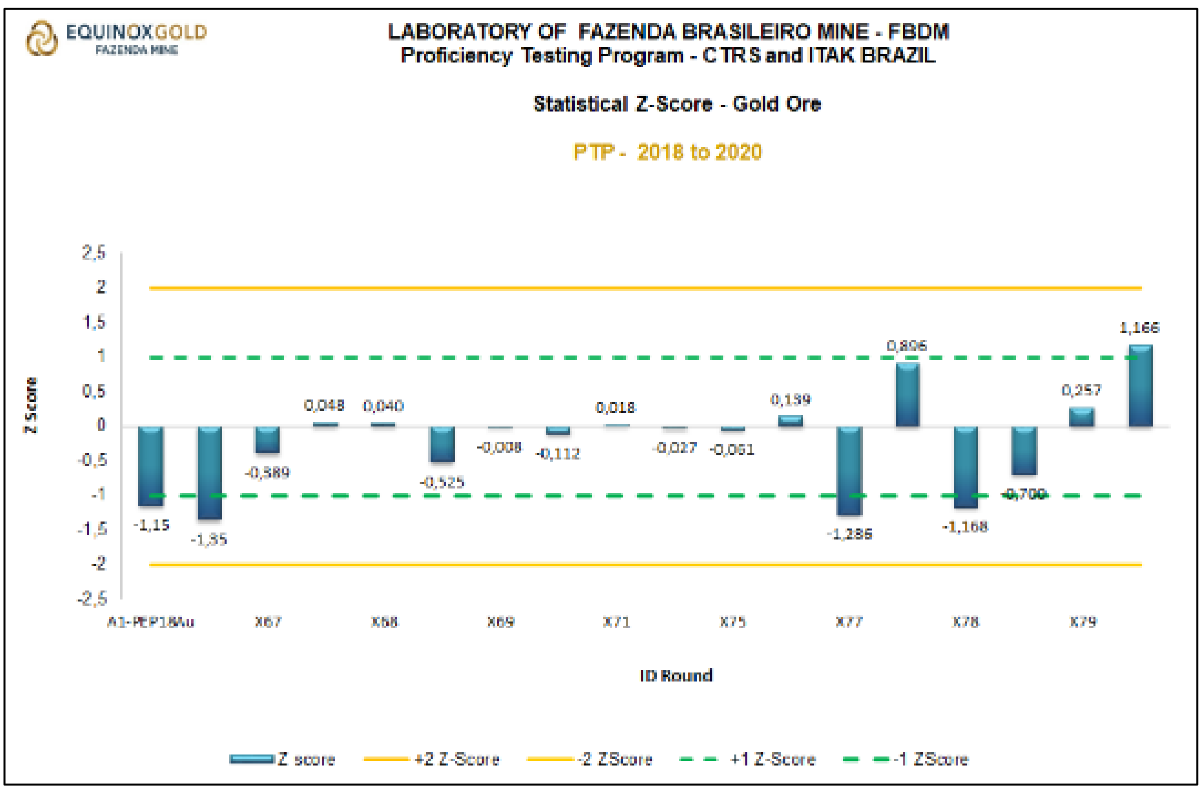


Figure 11-10: Graph of Accuracy Assessment According to the z-Score

11.3 Sample Security

The mine site is surrounded by a security fence, and there is controlled access at a gatehouse, staffed full time by security personnel.

At the drill site, samples are under the control of Fazenda employees and employees of the drilling company. Sample handling procedures at the drill rig are as described in Section 10. Drilling company personnel deliver samples daily to Fazenda personnel at the mine site sample processing facility. Only employees of Fazenda and of the drilling contractor are authorized to be at the drill sites and in the sample processing facility. Core is normally collected from the drill rig and taken directly to the core yard for sampling. Samples are then sent directly to the laboratory at the mine site, following industry standard sample security procedures. All analytical pulps and archival split core are stored within the secure mine compound.

Samples are currently collected by a trained sampler under the supervision of a technician or a geologist, with all QA/QC samples inserted within a sequentially numbered sequence and recorded.

The QP finds that the sampling methods, chain-of-custody procedures, and analytical techniques are appropriate and meet acceptable industry standards. In Equinox's opinion, the sample preparation, analysis, and security procedures at Fazenda are adequate to support the estimation of Mineral Resources.

12 DATA VERIFICATION

Equinox reviewed the methods and practices used to generate the resource database (including drilling, sampling, analysis, and data entry). The verification included a review of the QA/QC methods and results, standard database validation tests, and several site visits. The review of the QA/QC program and results are presented in Section 11.

Equinox selected a number of drill holes to verify the described methods and practices by performing the following digital queries:

- Reviewing the drill hole traces in three-dimensional (3-D), level plan, and vertical sections. No unreasonable geometries were found.
- Querying the database for missing or repeated data, unique headers, duplicate holes, and gaps or overlapping intervals. No issues were identified.
- Ensuring that the total depth recorded in each drill hole database table was consistent. No issues were identified.
- Visiting the core handling facility.
- Reviewing core logs for several drill holes during the site visit.

The global database was divided into seven separate databases, one for each deposit, as shown in Table 12-1. In all, 31,413 drill holes were used in the 2020 estimate, totalling 1,958 km. Data verification was performed for each deposit database separately.

No issues were found in the validation process, and the database was considered appropriate for the geology and style of mineralization. The practices and procedures adopted in the Fazenda database, and the data contained therein are acceptable to support Mineral Resource and Mineral Reserve estimation.

Table 12-1: Resource Database Summary

Fazenda Databases	Main UG	Edeep	F&G	Canto 2	PPQ	FW Oeste	Lagoa do Gato
Number of Drill holes	24,868	1,792	3,710	337	378	144	184
Drilled (m)	1,403,688	184,420	243,792	38,120	45,024	16,326	27,014
Samples	855,222	70,775	122,692	30,640	19,027	10,728	25,031
Lithological Data Points	892,528	70,775	134,790	31,936	19,027	10,728	25,481
Density Data Points	1,800	1,164	2,613	145	60	842	506

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Mineral Processing Overview

The plant feed average composition is 6% open pit and 94% underground; the underground is composed of the following ore bodies: 42% Canto sequence and 58% Fazenda Brasileiro (CLX formation). Each ore has its own specific characteristic as shown below:

- Canto Sequence formation (main orebody): grade = 2.25 g/t Au; hardness (Wi) = 21 kWh/t
- Fazenda Brasileiro (CLX formation): grade = 3.25 g/t Au
- Open pit: grade = 1.15 g/t Au and hardness (Bond ball mill work index [BWi]) = 14 kWh/t.

One of the main constraints on Fazenda's production is frequent outages on the COELBA power grid; this made it necessary to install diesel generator sets as synchronized backup power to operate critical and emergency equipment during a grid power outage.

After a series of process improvements implemented in 2019 and 2020, Fazenda operates at P_{80} 80 µm, a feed rate of 168 t/h, and a gold recovery of around 90%.

The process had been improved every year, to get more extraction and recovery efficiencies as the feed grade decreases because more carbonaceous matter (total organic carbon or TOC) and sulphides are being fed to the plant each year, the production historical data are summarized in Table 13-1.

Table 13-1: Production Historical Data

Year	Tonnes Mill (kt)	Au Grade (g/t)	Met. Recovery (%)	Produced Gold (koz)
2016	1,259	2.00	87.81	71
2017	1,284	1.64	90.19	61
2018	1,326	1.86	91.78	73
2019	1,335	1.90	89.94	73
2020	1,342	1.68	90.57	65
Total	**6,545**	**1.81**	**90.08**	**344**

To process more tonnage, milling capacity was increased from 1.26 to 1.34 Mt/a due to several improvements made by the process team, such as increasing the steel load in the mills, reducing the crushing P_{80}, and improving hydrocyclone performance.

13.2 Metallurgical Testing

13.2.1 Process Step Changes

Gold recovery has remained above 90%, except for periods when carbonaceous and high-sulphide ore were fed to the plant. Figure 13-1 shows the step changes made to improve gold recovery.

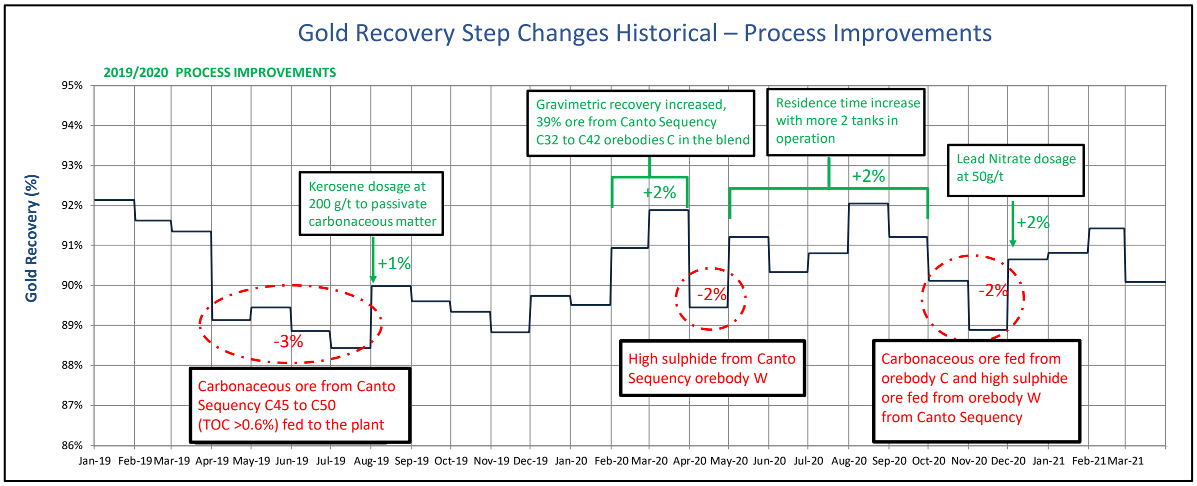


Figure 13-1: Gold Recovery 2019 to 2021

Figure 13-1 illustrates the following conclusions:

- To reduce gold recovery losses with more carbonaceous TOC ore in the blend, testwork was carried out using kerosene, resulting in a gold recovery increase of approximately 2%.
- To reduce gold recovery losses with higher sulphides in the blend composition, testwork was carried out using lead nitrate, which proved to be efficient at accelerating gold dissolution in leaching, evidenced by a cyanide consumption reduction of approximately 10% and gold recovery increase of approximately 2%.

13.2.2 Routine—Daily Geometallurgical Testwork

To improve production predictability and to foresee necessary process changes, since 2017 Fazenda has performed regular bench-scale testwork with plant feed samples, and with samples composed of ore forecast to be mined three months ahead.

After the mining plan is issued by the geology department, drilling samples representing selected ore blocks are collected and submitted to the process laboratory for testwork. The testwork procedures consist of bottle roll tests to simulate a leaching circuit with a residence time of 24 h, 25 g/L of activated carbon, 600 ppm of sodium cyanide, pH corrected to 10.2, and 200 g/t of kerosene also dosed in the bottles. Table 13-2 illustrates the results of the entire 2020–2021 campaign.

Table 13-2: Results of the Short-Term Geometallurgy Testwork 2020/2021

Mined Areas	Work Index (g/t)	Specific Gravity (g/cm³)	Grade (g/t)	TOC (%)	C_Total (%)	S (%)	Tailings (g/t)	Gold Recovery %	Tailings Kerosene 200 g/t (g/t)	Gold Recovery Kerosene 200 g/t (%)
D17W3	13.82	2.85	3.00	0.04	1.54	1.35	0.329	89.05	0.322	89.27
D17E3	14.48	2.84	2.46	0.27	1.80	0.68	0.196	92.06	0.188	92.38
W27E4	14.97	2.84	1.33	0.09	1.52	1.51	0.212	84.02	0.246	81.46
W47W2	15.26	-	2.27	0.05	1.11	2.44	0.263	88.39	0.271	88.04
W30W4	15.35	2.83	1.49	0.09	1.00	1.56	0.155	89.60	0.171	88.52

Mined Areas	Work Index (g/t)	Specific Gravity (g/cm³)	Grade (g/t)	TOC (%)	C_Total (%)	S (%)	Tailings (g/t)	Gold Recovery %	Tailings Kerosene 200 g/t (g/t)	Gold Recovery Kerosene 200 g/t (%)
E50E2W2AC2	16.57	2.98	2.48	0.05	1.33	0.91	0.190	92.36	0.195	92.15
C50E2	16.86	2.84	2.11	0.32	2.10	0.99	0.429	79.66	0.370	82.46
W27W2	17.05	2.78	2.42	0.09	1.11	1.88	0.247	84.66	0.226	85.97
E22W5E5	17.73	2.93	1.83	0.06	1.38	0.97	0.238	86.99	0.242	86.77
E32E4	18.27	2.82	0.96	0.10	2.06	0.35	0.108	88.77	0.104	89.18
W42W4	18.96	2.94	2.04	0.12	0.98	2.29	0.204	90.01	0.178	91.26
C46E1/C42W19	20.16	1.00	2.261	0.17	2.05	0.57	0.562	75.17	0.583	74.21
W255	20.17	2.81	1.96	0.10	1.24	1.15	0.381	80.51	0.320	83.63
E32W4	20.31	2.84	2.23	0.10	1.29	1.19	0.178	92.01	0.160	92.82
W41W2	20.37	2.96	0.49	0.13	0.84	1.29	0.158	68.02	0.186	62.45
E50W3	21.02	2.96	1.06	0.02	1.18	0.60	0.171	83.91	0.141	86.74
W46E1	21.92		0.81	0.07	1.22	1.32	0.144	82.20	0.136	83.19
W44E4W4	22.24	3.05	1.99	0.10	1.01	0.81	0.371	81.42	0.334	83.27
W45E3	26.35	2.87	1.71	0.21	1.01	1.62	0.424	75.20	0.451	73.63
W32E2W2AC2	30.72	2.80	1.34	0.16	0.72	1.60	0.121	90.94	0.093	93.07
E46W2	31.15	2.88	2.81	0.04	1.86	1.07	0.273	90.29	0.214	92.37
AGV	-	2.84	2.135	0.33	2.50	1.10	0.433	79.74	0.360	83.16
BARRAGEM	-	2.84	0.989	-	-	-	0.247	75.08	0.215	78.26
C12C14	-	2.84	1.977	-	-	-	0.181	90.84	0.147	92.56
C12W12-R1	-	2.84	1.252	0.37	2.40	1.10	0.268	78.63	0.230	81.63
C1RC-336	-	2.84	0.773	-	-	-	0.122	84.22	0.113	85.38
C1RC-347	-	2.84	1.251	-	-	-	0.174	86.13	0.166	86.77
C239-C17	-	2.84	1.315	0.05	2.69	0.57	0.141	89.28	0.109	91.75
C32GPE-C37	-	2.84	2.162	-	--		0.289	86.63	0.178	91.77
C35GPE	-	2.84	0.363	0.30	-	-	0.067	81.54	0.059	83.88
C37W3	-	2.84	1.852	-	-	-	0.091	95.09	0.068	96.36
E42W7	-	2.65	1.34	0.34	2.42	1.43	0.120	91.02	0.114	91.47
E22W1	-	2.72	1.63	0.11	1.70	1.66	0.128	92.17	0.109	93.30
C42E6E7	-	2.78	2.60	0.75	2.00	0.88	0.284	89.06	0.206	92.08
C42W6W7	-	2.79	3.19	0.23	1.88	0.60	0.146	95.43	0.128	96.00
E540	-	2.82	2.77	0.40	2.37	1.03	0.503	81.83	0.455	83.54
C26	-	2.89	7.78	0.09	1.49	1.40	0.583	92.51	0.659	91.53
W44W3	-	3.10	1.85	0.04	1.23	3.01	0.221	88.04	0.167	90.99
C08W2	-	-	2.37	0.26	2.23	0.31	0.158	93.37	0.190	92.02
C17W5	-	-	1.48	0.04	1.58	0.55	0.145	90.23	0.053	96.43
C22W3-C22W2	-	-	1.82	0.08	2.14	0.79	0.155	91.46	0.089	95.12
C239-R1	-	-	1.63	0.15	2.46	1.02	0.211	87.08	0.263	83.86
C40	-	-	2.40	0.30	2.22	0.68	0.163	93.19	0.163	93.19
C42E15	-	-	0.86	0.20	2.72	0.65	0.079	90.84	0.078	90.95
C42E9-E19-E20	-	-	1.78	0.30	2.06	0.90	0.157	91.22	0.128	92.82
CANTO 2 SUL	-	-	6.65	0.80	4.40	1.46	1.078	83.81	0.875	86.85
D20W3	-	-	1.65	0.23	2.10	0.59	0.098	94.10	0.124	92.53

Mined Areas	Work Index (g/t)	Specific Gravity (g/cm³)	Grade (g/t)	TOC (%)	C_Total (%)	S (%)	Tailings (g/t)	Gold Recovery %	Tailings Kerosene 200 g/t (g/t)	Gold Recovery Kerosene 200 g/t (%)
E31W1	-	-	0.75	0.03	1.32	0.50	0.063	91.68	0.051	93.21
E56W4	-	-	1.88	0.09	0.93	0.69	0.219	88.38	0.180	90.46
W20W2	-	-	1.98	0.13	1.21	1.19	0.163	91.79	0.145	92.70
W21W1	-	-	2.42	0.09	0.93	1.74	0.363	84.97	0.272	88.76
W240	-	-	2.40	0.05	1.43	1.10	0.207	91.38	0.250	89.56
W24W4	-	-	1.98	0.11	1.02	1.35	0.147	92.58	0.104	94.75
W25W2	-	-	1.65	0.10	1.16	0.97	0.165	90.04	0.162	90.19
W27E1	-	-	1.33	0.11	1.25	0.87	0.088	93.39	0.054	95.95
W32E3	-	-	2.42	0.09	1.10	1.92	0.291	87.97	0.250	89.65

13.2.3 Kerosene Addition to the Leaching Circuit

To reduce gold recovery losses in 2019, with more carbonaceous matter in the blend composition, testwork was carried out using kerosene, resulting in a gold recovery increase of approximately 2%. The process was modified in August 2019 and has been used in the leaching process since that time.

13.2.4 Lead Nitrate Addition to the Leaching Circuit

To reduce gold recovery losses in 2020 due to higher levels of sulphides in the feed blend, testwork was carried out using lead nitrate, which proved to be efficient at passivating the exposed sulphides surfaces with lead sulphide, thereby increasing gold recovery by approximately 2%.

13.2.5 Optimized Leaching Particle Size

In November 2020, plant recovery dropped significantly, from 91% to 89%. This was due to the combination of carbonaceous and high-sulphide ores fed to the plant from the Canto Sequence.

In addition, leaching recovery dropped to 50%. Particle-size leaching testwork was performed, varying the granulometry of the leaching feed without dosing kerosene and lead nitrate. Testwork revealed that the lowest limit to prevent gold losses is P_{80} 74 µm. Figure 13-2 illustrates the effect of the particle size in the gold recovery of the leaching circuit.

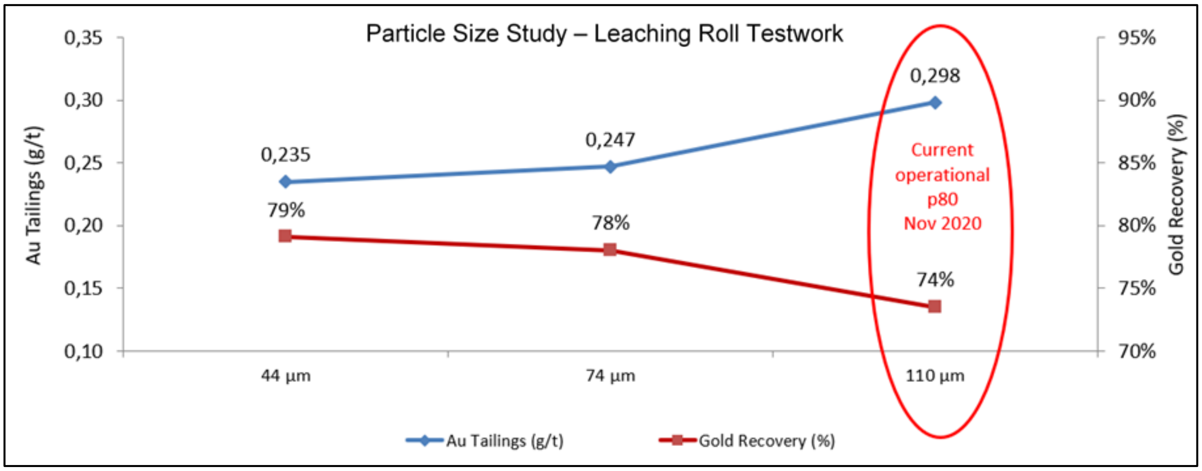


Figure 13-2: Influence of the Mill P_{80} in the Leaching Recovery

To reach P_{80} 74 µm, it was decided to make the following process modifications:

- Reduce the ball mills' F_{80} by changing the sieves of the tertiary screening from 8 to 5 mm
- Increase the steel load from 32% to 38%
- Reduce the hydrocyclone apexes from 110 to 100 mm.

With these modifications the plant is presently operating at P_{80} 80 µm.

13.2.6 pH Optimization

The pH target was previously set at 9.8. This was controlled by dosing lime at 1,100 g/t in the cyanide dosing tank. Then the pre-aeration tank was turned into a pre-lime tank at a dosage of pH 10.2. The changed improved pH control to a narrower range, making use of the buffering effect of lime and residence time, resulting in better effectiveness of lead nitrate, which results in a cyanide consumption reduction of approximately 10% and a gold recovery stabilisation and marginal improvement.

13.2.7 Heap Leaching Testwork

CVRD operated Fazenda between 1984 and 2002, producing gold by heap leaching. The main ores processed were open pit oxidized ore with an average grade of 2.13 g/t Au. The usual cut-off applied in that period was 0.70 g/t.

From 2018 to 2020 a testwork series was carried out with the remaining five CVRD waste dumps (low-grade stockpiles approximating 0.60 g/t Au), to assess the prospect of producing gold in a new heap leaching plant.

Currently those waste dumps have a reserve of 3 Mt of oxidized ore and an estimated average grade of 0.6 g/t Au.

Several testwork trials were carried out with gold recovery higher than 70%, with ores having a top size of 19 mm (first top-size testwork) and 9 mm (second top-size testwork). Table 13-3 summarizes the gold recovery results obtained thus far.

Table 13-3: Heap Leaching Test Results

Batch	Test	Leaching Days	Size (mm)	Cement (kg/t)	Lime (kg/t)	NaCN (mg/L)	Cyanide Consumption (g/t)	Feed Grade (g/t)	Tailings (g/t)	Recovery (%)
1st	T-1	34	25	0	0	700	544	0.680	0.261	54.0
	T-2	34	25	2	0	700	371	0.657	0.246	57.0
	T-3	34	25	0	5	700	119	0.614	0.226	58.0
	T-4	34	25	1	3	700	126	0.610	0.238	55.0
2nd	T-1	28	19	0	2.5	750	283	0.620	0.173	73.0
	T-2	28	19	0	5	750	295	0.630	0.131	77.0
3rd	T-1	28	9	0	2.5	750	277	0.600	0.107	83.0
	T-2	28	9	0	5	750	253	0.630	0.147	76.0
	T-3	28	9	0	5	200	160	0.968	0.210	77.7
	T-4	28	9	0	5	200	149	1.027	0.270	77.0

Based on the testwork results, an economic prefeasibility study was made to check the project feasibility. It presented the following financial indicators for three years operations:

- Crushing refurbishment:
  - Net present value (NPV) (5%): US$29.62 million (FX R$4.75:US$1.00)
  - Payback: 0.9 years
  - Internal rate of return (IRR): 335%
- Crushing rental:
  - NPV (5%):US$26.50 million (FX R$4.75:US$1.00)
  - Payback: 0.7 years
  - IRR: 565%.

The conclusion is that this initiative is attractive. Equinox is planning to undertake a conceptual and basic engineering study to be completed in 2021.

13.2.8 Ore Sorting Testwork

Aiming to avoid feeding the plant with unnecessary waste material, using Steinert's sensor-based sorting technology, exploratory testwork was carried out with several lithologies, assessing the separability, mass, and metallic concentration.

The first step has been already completed with seven different lithologies tested using five different sensors. The results show potential but more testwork is required. The next step is to test a lower-grade ore with 0.6 g/t Au. This testwork will be completed in the second quarter of 2022.

13.2.9 Oxygen System Optimization

Fazenda will investigate the increase of dissolved oxygen in the pre-aeration tanks to improve gold dissolution and increase gold recovery. The testwork campaign will be carried out by dosing hydrogen peroxide in the pre-aeration tanks at 200 g/t, aimed for completion in the fourth quarter of 2021.

13.2.10 Elution Recovery Optimization

The current first step of the elution process is desorption; the second step is acid washing, which removes base metals and scaling compounds such as calcium carbonate and sodium silicate from the carbon after elution. Current elution recovery is approximately 90%; however, testwork needs to be done on changing the order of the steps to check if recovery increases, and to avoid damaging the regeneration kiln.

13.2.11 Installation of Regeneration Kiln

The three decade-old regeneration kiln performance has deteriorated. A process study was carried out on the activity of regenerated carbon. The kiln's activity is 25% on average, which affects the performance of gold adsorption; therefore, it is no longer able to regenerate the total carbon in the circuit. It is also expensive to repair. Therefore, it will be necessary to install a new regeneration kiln with a capacity of 500 kg/h.

13.3 Necessary Structural Refurbishment

Several structural repairs in the metallurgical plant are necessary, such as refurbishing:

- Leaching tank support pillars
- Leaching area tanks and steel support channels
- Desorption building support beams
- Milling building columns and structural beams
- Leaching platforms.

13.4 Next Steps

An action plan is ongoing to keep stepping up the improvements of the processing plant; the main initiatives are as follows:

- Long-term geo-metallurgy database and integration with short term planning and operations
- Work index testwork
- Grinding mill automation improvements
- Sulphur and arsenic chemistry analyses in the routine from the leaching feed samples
- Analyses of the particle-size distribution of blasted ore.

14 MINERAL RESOURCE ESTIMATE

Fazenda is a mine with more than 40 years of exploration and production conducted by previous owners and Equinox. Several surface and underground working sites that were mined during that time have no available survey data or have not been translated to digital format. This has a direct impact on the reconciliation of depleted resources. To ensure that all reported Mineral Resources and Mineral Reserves are potentially mineable, a program was initiated in 2015 to survey these historical working sites and transfer those data to a digital database. This work began in 2016 and is ongoing at the time this Technical Report was being prepared.

Based on internal production records and discussions with the Fazenda mine team, Fazenda geologists noticed variable differences in grade and recovery percentages across the zone boundaries compared to their short-term mining block model. As a result, a program was initiated in 2020 to reinterpret the mineralized zones based on a better understanding of the geology, grade continuity, and structural controls in the area. The Mineral Resource estimate reported in this document is based on this reinterpretation.

Mineral Resources as of December 31, 2020 are summarized as Mineral Resources exclusive of Mineral Reserves in Table 14-1 and Mineral Resources inclusive of Mineral Reserves in Table 14-2. This Mineral Resource estimate conforms to the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) *CIM Definition Standards for Mineral Resources & Mineral Reserves*, dated May 10, 2014 (CIM Definition Standards, 2014).

The QP is not aware of any environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other relevant issues that would materially affect the Mineral Resource estimate.

Table 14-1: Mineral Resources Summary (Exclusive of Mineral Reserve)—December 31, 2020

Category	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Measured			
Underground	2,237	2.21	159
Open Pit	399	1.48	19
Total Measured	**2,636**	**2.10**	**178**
Indicated			
Underground	1,189	1.88	72
Open Pit	1,342	1.02	44
Total Indicated	**2,531**	**1.43**	**116**
Measured + Indicated			
Underground	3,426	2.10	231
Open Pit	1,741	1.13	63
Total Measured + Indicated	**5,167**	**1.77**	**294**
Inferred			
Inferred—Underground	1,720	1.90	105
Inferred—Open Pit	1,563	1.05	53
Total Inferred	**3,283**	**1.50**	**158**

Notes: **1.** CIM Definition Standards (2014) were followed for Mineral Resources.
2. Mineral Resources are reported at varying cut-off grade from 0.54 to 0.85g/t Au for open pit and 1.19 g/t Au for underground.
3. Mineral Resources are exclusive of Mineral Reserves.
4. Mineral Resources are estimated using a gold price of US$1,500/oz and an exchange rate of R$4.75:US$1.00.
5. A minimum mining width of 1.0 m was used for underground Mineral Resources.
6. Bulk density ranges from 2.64 to 3.01 t/m^3.
7. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
8. The Mineral Resources statement has been prepared by Felipe Machado de Araújo, MAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
9. Numbers may not add due to rounding.

Table 14-2: Mineral Resources Summary (Inclusive of Mineral Reserve)—December 31, 2020

Category	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Measured			
Underground	4,944	2.57	409
Open Pit	1,711	1.49	82
Total Measured	**6,655**	**2.29**	**491**
Indicated			
Underground	1,476	2.04	97
Open Pit	2,123	0.98	67
Stockpile	66	1.52	3
Total Indicated	**3,665**	**1.42**	**167**
Measured + Indicated			
Underground	6,420	2.45	506
Open Pit	3,834	1.21	149
Stockpile	66	1.52	3
Total Measured + Indicated	**10,320**	**1.98**	**658**
Inferred			
Inferred—Underground	1,733	1.92	107
Inferred—Open Pit	1,563	1.05	53
Total Inferred	**3,296**	**1.51**	**160**

Notes: **1.** CIM Definition Standards (2014) were followed for Mineral Resources.
2. Mineral Resources are reported at varying cut-off grade from 0.54 to 0.85 g/t Au for open pit and 1.19 g/t Au for underground.
3. Mineral Resources are exclusive of Mineral Reserves.
4. Mineral Resources are estimated using a gold price of US$1,500/oz and an exchange rate of R$4.75:US$1.00.
5. A minimum mining width of 1.0 m was used for underground Mineral Resources.
6. Bulk density ranges from 2.64 to 3.01 t/m^3.
7. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
8. The Mineral Resources statement has been prepared by Felipe Machado de Araújo, MAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
9. Numbers may not add due to rounding.

14.1 Resource Database

The resource model was prepared by mine staff as of December 31, 2020, and all relevant files were transferred to the QP for a peer review and audit. Equinox was supplied with the drill hole database in comma-delimited and Vulcan 3D (Version 2020.2) formats. The database included collar, downhole survey, assay, density, and lithology tables, and is complete as of January 07, 2021. Resources were divided into seven deposits, as shown in Table 14-3. The drill hole database used for the resource modelling included historical drilling by previous owners. The drilling was predominantly core drilling, with a limited number of RC holes.

Table 14-3 provides a summary of the drill hole database.

Table 14-3: Resource Database Summary

Fazenda Databases	Main UG	Edeep	F&G	Canto 2	PPQ	FW Oeste	Lagoa do Gato
Number of Drill Holes	24,868	1,792	3,710	337	378	144	184
Drilled (m)	1,403,688	184,420	243,792	38,120	45,024	16,326	27,014
Number of Samples	855,222	70,775	122,692	30,640	19,027	10,728	25,031
Lithological Data Points	892,528	70,775	134,790	31,936	19,027	10,728	25,481
Density Data Points	1,800	1,164	2,613	145	60	842	506

Equinox audited drill hole records to ensure that the grade, thickness, elevation, and mineralized domains used in preparing the current Mineral Resource estimate correspond to mineralization. Equinox's data verification procedures included checking for the following:

- Duplicate drill hole traces, etc.
- Collar locations for zero/extreme values
- Drill hole collar coordinates and drill hole deviations were entered in the database, displayed in plan views and sections, and visually compared to relative locations of the holes
- Gaps and overlapping assay intervals
- Non-numeric data in assay tables
- Maximum depth inconsistencies.

The QP considers the resource database to be sufficiently reliable for grade modelling and Mineral Resource estimation.

14.2 Geological Interpretation

Based on geology, lithology, structural behaviour, and grade continuity, 14 mineralized domains were defined at Fazenda (Table 14-4).

Table 14-4: Domain Assignments

Deposit	Domain
Main UG	CLX1
Main UG	CLX2
Main UG	Canto
Main UG	C-Quartz
EDeep	CLX1
F&G	G Target
F&G	F Target
Canto 2	Canto
PPQ	CLX
PPQ	Canto
FW Oeste	FW Main
FW Oeste	FW South
Lagoa do Gato	LGT East
Lagoa do Gato	LGT West

A program was initiated in August 2020 to reinterpret the mineralized domains in the Main UG deposit based on a better understanding of the geology, grade continuity, and structural controls in the area. Resource wireframes were modelled based on grade information, geological observations, and short-term modelling that considered the refined stratigraphy of the area, historical design shape, several years of mapping, and the continuity of grade along strike and between mine levels.

Mineralized domains were interpreted using Vulcan 3D and Leapfrog Geo (Version 6.0), using a cut-off grade of 0.50 g/t Au for UG domains and 0.30 g/t Au for open pit domains. The sectional outlines are snapped to drill holes (one metre assay intervals) and contain internal waste where appropriate to ensure plausible zone geometries and grade continuity.

The 14 structural and lithologically controlled domains comprise 32 wireframes (Table 14-5, Figure 14-1 and Figure 14-2).

Table 14-5: Wireframes by Domain Assignments

Deposit	Domain	Number of Wireframes
Main UG	CLX1	6
Main UG	CLX2	4
Main UG	Canto	8
Main UG	C-Quartz	2
EDeep	CLX1	1
F&G	G Target	2
F&G	F Target	2
Canto 2	Canto	1
PPQ	CLX	1

Deposit	Domain	Number of Wireframes
PPQ	Canto	1
FW Oeste	FW Main	1
FW Oeste	FW South	1
Lagoa do Gato	LGT East	1
Lagoa do Gato	LGT West	1
Total Wireframes		**32**

Equinox inspected the wireframe models and verified that they appear to honour geological interpretations, grade distributions and are consistent with field observations. The deposit boundaries appear to be constrained to a reasonable distance from the nearest drill holes.

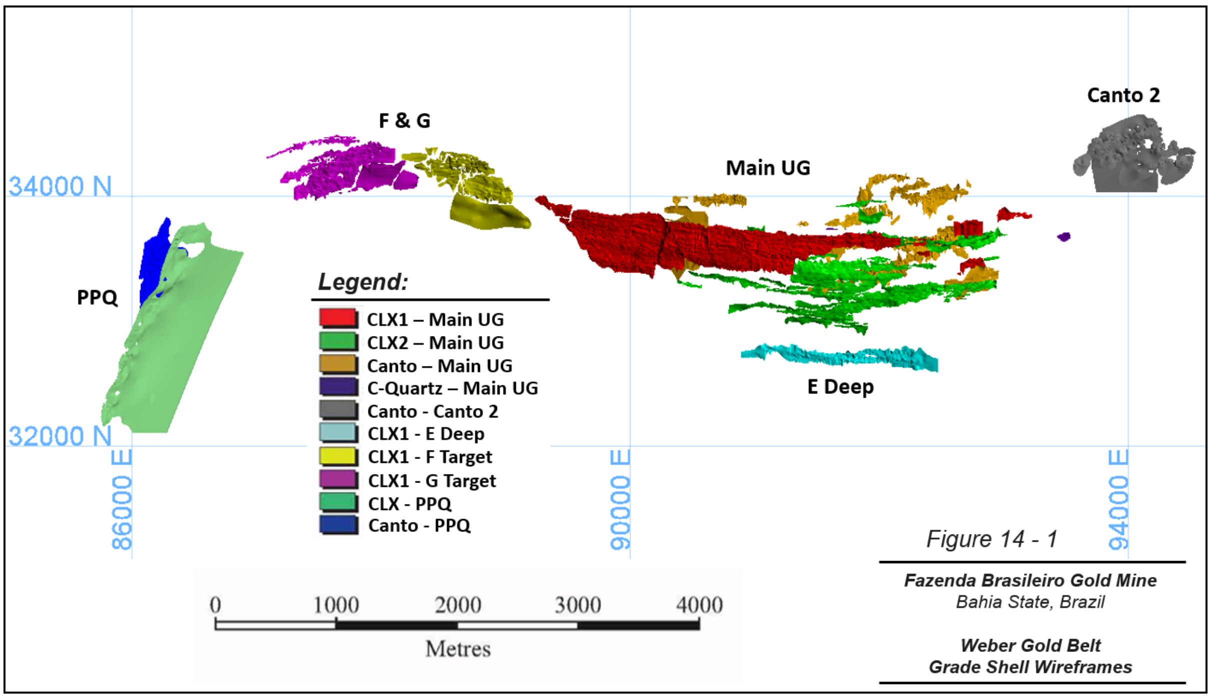


Figure 14-1: Weber Gold Belt Wireframes 2020

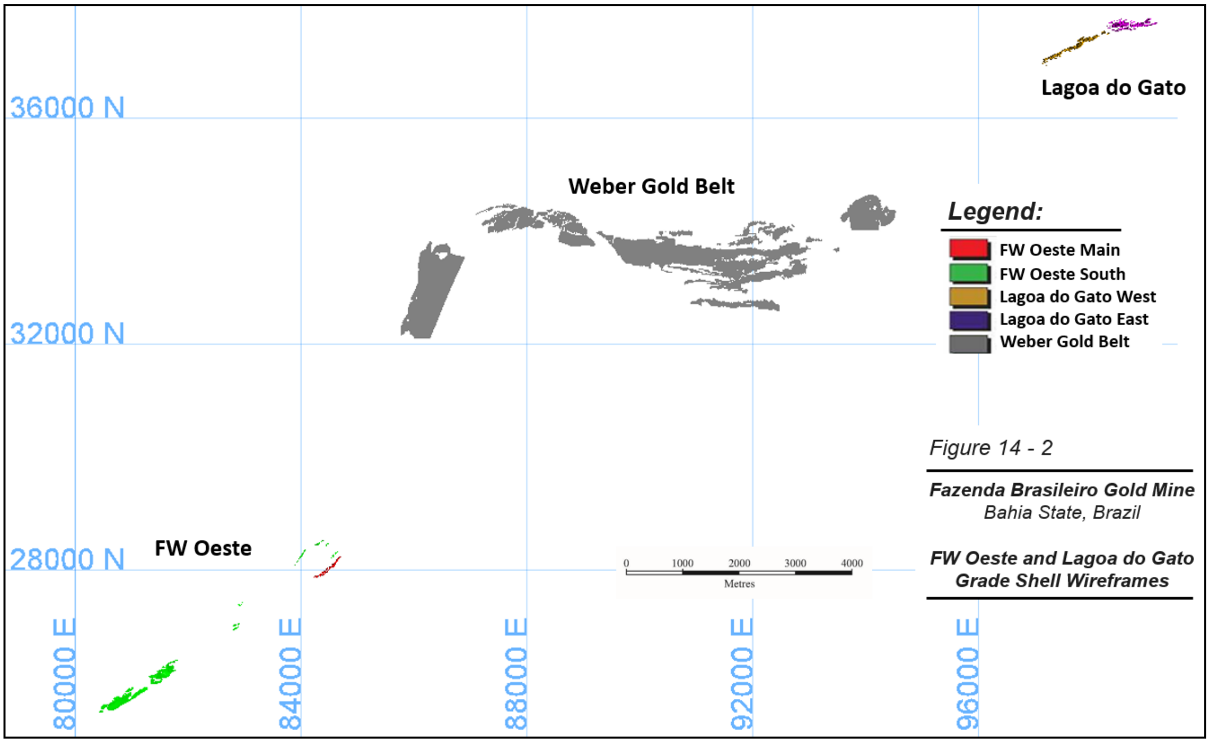


Figure 14-2: FW Oeste and Lagoa do Gato Wireframes 2020

14.3 Statistical Analysis

The modelled mineralized wireframes were used to flag statistical domains in the drill hole samples of the database. For each of the 14 mineralized domains, resource assays were counted, and descriptive statistics generated. Table 14-6 present the descriptive statistics for individual domains.

Table 14-6: Statistics of Resource Raw Assay Values by Domain

Deposit	Domain	Count	Min	Max	Mean	Variance	SD	CV
Main UG	CLX1	67,490	0.00	261.95	3.69	51.52	7.18	1.95
Main UG	CLX2	46,416	0.01	390.00	4.59	79.27	8.90	1.94
Main UG	Canto	23,934	0.00	605.35	2.76	101.81	10.09	3.66
Main UG	C-Quartz	487	0.04	152.25	7.57	281.60	16.78	2.22
E Deep	CLX1	8,715	0.00	126.63	2.72	29.75	5.45	2.00
F&G	G Target	31,047	0.00	156.92	1.65	12.33	3.51	2.13
F&G	F Target	15,116	0.00	80.63	1.81	9.13	3.02	1.67
Canto 2	Canto	4,958	0.00	198.88	1.95	34.97	5.91	3.03
PPQ	CLX	1,202	0.00	101.72	1.55	23.77	4.88	3.16
PPQ	Canto	1,073	0.00	25.77	1.14	3.02	1.74	1.53
FW Oeste	FW Main	1,337	0.00	40.80	2.61	20.61	4.54	1.74
FW Oeste	FW South	18	0.10	6.83	1.13	2.73	1.65	1.46
Lagoa do Gato	LGT East	3,174	0.00	62.06	0.91	4.33	2.08	2.30

Deposit	Domain	Count	Min	Max	Mean	Variance	SD	CV
Lagoa do Gato	LGT West	903	0.00	21.75	0.84	2.10	1.45	1.72

Note: SD = Standard Deviation; CV = coefficient of variation.

14.3.1 Treatment of Below-Detection-Limit Samples

Samples that assayed below the detection limit were treated as follows to better handle their influence in the subsequent compositing process: negative or zero gold grades (below detection) were generally assigned to the laboratory detection limit value.

14.3.2 Composites

The composite lengths for grade interpolation were chosen considering the predominant sample length, minimum mining width, mineralization style, domain widths, and grade continuity. Raw assay data contain samples that have irregular sample lengths. Given the length distribution, width of the mineralized domains, and mining method, the drill hole database was composited in a regular length of 1 m. Samples were broken at the stationary domain boundary, and residual intervals (<0.2 m) were merged to the last composited interval.

14.3.3 Capping High-Grade Assays

Where the assay distribution is skewed positively, or approaches log normal, erratic high-grade assay values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers to reduce their influence on the average grade is to cut or cap them at a specific grade level. Sample capping was evaluated for each of the 14 mineralized domains. Several methods were assessed to better define the top-cut value for each domain. Figure 14-3 shows some examples of these methods applied for the Canto domain of the Main UG deposit.

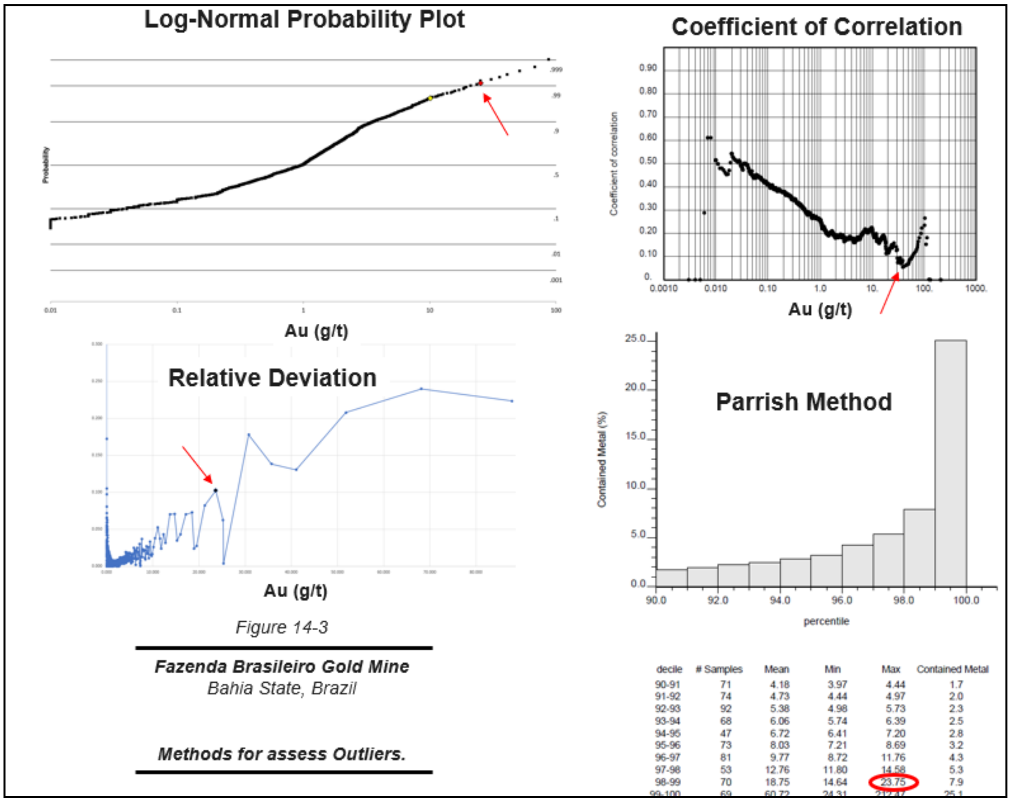


Figure 14-3: Methods for Assess Outliers—Main UG Canto Domain

The process for identifying outliers consists mainly of reviewing the grade distribution to detect sudden changes in the high-grade tail or evaluate the metal content in the higher data percentiles of that distribution. Six methodologies were adopted:

- Probability plot
- Probability plot with decluster applied
- Histograms with decluster applied
- Relative deviation with decluster applied
- Decile analysis similar to that described by Parrish (1997)
- Coefficient of correlation

The top-cut values were selected based on the methods described above for each of the stationary domains. The highest-grade samples in the distribution were considered outliers, which are capped. Additionally, a second method of outlier treatment was applied that consisted of restricting the search ellipse range of the samples with grades greater than a designated threshold level (High-Yield Restriction), which is commonly set to the first estimate pass range. The outlier's analysis summary is shown in Table 14-7.

Table 14-7: Capping Levels for Each Stationary Domain

Fazenda	Main UG CLX1	Main UG CLX2	Main UG Canto	Main UG C-Quartz	E Deep CLX1
Probability Plot	26.37	27.80	33.92	29.60	17.80
Probability Plot with Decluster	26.60	26.70	25.20	28.55	21.15
Histogram with Decluster	-	-	-	-	-
Relative Deviation with Decluster	26.60	27.40	23.50	29.60	18.28
Parrish Method	23.32	28.11	23.75	47.90	21.03
Coefficient Correlation Plot	-	-	40.00	-	-
Top-Cut Value	**26.00**	**26.00**	**25.00**	**47.90**	**18.30**
High Yield Restriction	**12.19**	**15.18**	**8.76**	**30.79**	**9.01**
CV—Composite Database	1.79	1.89	3.77	2.13	2.02
CV—Top Cut Applied	1.49	1.37	1.78	1.60	1.44
Samples Trimmed	450	731	270	10	130
Percent Trimmed	0.92%	1.88%	1.28%	2.49%	1.57%

Fazenda	Canto 2 Canto	F&G G Target	F&G F Target	PPQ CLX	PPQ Canto
Probability Plot	13.77	15.66	12.79	16.50	12.00
Probability Plot with Decluster	18.98	11.79	10.39	16.50	12.00
Histogram with Decluster	10.33	11.79	10.04	12.50	7.00
Relative Deviation with Decluster	10.33	11.79	10.04	9.50	8.50
Parrish Method	10.96	11.60	12.75	9.50	6.70
Coefficient Correlation Plot	-	-	-	10.00	9.00
Top-Cut Value	**10.00**	**11.00**	**10.00**	**16.00**	**12.00**
High Yield Restriction	**5.28**	**5.75**	**6.53**	**7.50**	**6.50**
CV—Composite Database	2.99	2.11	1.67	2.29	0.00
CV—Top Cut Applied	1.17	1.44	1.27	1.52	0.00
Samples Trimmed	63	384	264	7	3
Percent Trimmed	1.35%	1.42%	1.92%	0.61%	0.28%

Fazenda	FW Oeste Main	FW Oeste South	Lagoa do Gato
Probability Plot	21.00	-	14.50
Probability Plot with Decluster	18.50	-	9.00
Histogram with Decluster	10.50	-	-
Relative Deviation with Decluster	20.50	-	9.00
Parrish Method	19.30	2.50	6.68
Coefficient Correlation Plot	20.00	3.00	12.00
Top-Cut Value	19.50	3.00	9.00
High Yield Restriction	11.50	-	-
CV—Composite Database	1.65	1.48	1.98
CV—Top Cut Applied	1.61	1.04	1.29
Samples Trimmed	14	2	23

Fazenda	FW Oeste Main	FW Oeste South	Lagoa do Gato
Percent Trimmed	1.23%	8.00%	0.71%

Note: CV = coefficient of variation.

Table 14-8 shows the descriptive statistics of the capping strategy adopted. After compositing the sample values, the composite mean grades are still very similar to the raw data mean grades. A slight reduction of mean grade occurs when applying capping to the compositing samples. The CV shows significant reduction after the capping process.

14.3.4 Continuity Analysis

A spatial continuity analysis was conducted by generating downhole, directional, and omnidirectional variograms using Vulcan 3D to evaluate the grade variability with distance, as well as to quantify the nugget effect. In this Technical Report, the term variogram will be used to denote a generic spatial measure and will be used interchangeably for semivariogram and/or correlogram. The downhole variogram was used to establish the nugget variance prior to generating any directional variograms when it occurs. The major, semi-major, and minor axes of continuity were selected based on the interpreted domain geometry and its incorporated known geological controls. The principal direction and the associated dip are aligned with the strike direction and axes of the structures that control the mineralization. The second and third directions belong to the plane perpendicular to the principal direction. In this plane, the second and third directions are also perpendicular to each other. While the second direction is aligned with the domain dip, the third is aligned to the mineralization thickness.

The variograms evaluated to determine the optimum range and direction of mineral continuity were considered consistent with the structural orientation of the mineralized zones. The variograms generated in the continuity analysis are presented in Table 14-9.

Table 14-8: Summary Statistics of Uncapped vs. Capped Assays (g/t Au)

	Main UG—CLX1			Main UG—CLX2			Main UG—Canto			Main UG—C-Quartz			E Deep—CLX1		
	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp
Number of Samples	67,490	49,065	49,065	46,416	38,893	38,893	23,934	21,173	21,173	487	401	401	8,715	8,263	8,263
Min.	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00
Max.	261.95	26.00	235.27	390.00	26.00	308.00	605.35	25.00	605.35	152.25	47.90	152.06	126.63	18.30	126.63
Mean	**3.690**	**3.015**	**3.147**	**4.590**	**4.064**	**4.390**	**2.757**	**2.216**	**2.661**	**7.575**	**6.439**	**7.374**	**2.724**	**2.480**	**2.711**
Variance	51.52	20.25	31.79	79.27	30.78	68.68	101.81	15.60	100.73	281.60	106.25	246.87	29.75	12.73	29.88
SD	7.18	4.50	5.64	8.90	5.55	8.29	10.09	3.95	10.04	16.78	10.31	15.71	5.45	3.57	5.47
CV	1.95	1.49	1.79	1.94	1.37	1.89	3.66	1.78	3.77	2.22	1.60	2.13	2.00	1.43	2.02
Number of Caps	0	450	0	0	731	0	0	270	0	0	10	0	0	130	0

	Canto 2—Canto			F&G—F Target			F&G—G Target			PPQ—CLX			PPQ—Canto		
	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp
Number of Samples	4,958	4,660	4,660	15,116	13,722	13,722	31,047	27,118	27,118	1,202	1,146	1,146	1,073	1,084	1,084
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	198.88	10.00	188.00	80.63	10.00	80.63	156.92	11.00	156.92	101.72	16.00	77.29	25.77	12.00	23.92
Mean	**1.949**	**1.570**	**1.834**	**1.813**	**1.644**	**1.768**	**1.648**	**1.431**	**1.566**	**1.545**	**1.294**	**1.379**	**1.135**	**1.091**	**1.107**
Variance	34.97	3.37	30.03	9.13	4.32	8.68	12.33	4.27	10.96	23.77	3.89	10.01	3.02	2.00	2.51
SD	5.91	1.84	5.48	3.02	2.08	2.95	3.51	2.07	3.31	4.88	1.97	3.16	1.74	1.41	1.59
CV	3.03	1.17	2.99	1.67	1.27	1.67	2.13	1.44	2.11	3.16	1.52	2.29	1.53	1.30	1.43
Number of Caps	0	63	0	0	264	0	0	384	0	0	7	0	0	3	0

	FW Oeste—FW Main			FW Oeste—FW South			Lagoa do Gato—LGT West			Lagoa do Gato—LGT East		
	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp	Raw	Cap	Comp
Number of Samples	1,337	1,138	1,138	18	25	25	3,174	3,259	3,259	903	897	897
Min.	0.00	0.00	0.00	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.02	0.02
Max.	40.80	19.50	26.45	6.83	0.78	6.83	62.06	9.00	41.49	21.75	9.00	19.36
Mean	**2.605**	**2.377**	**2.409**	**1.134**	**0.779**	**0.947**	**0.907**	**0.834**	**0.889**	**0.840**	**0.797**	**0.828**
Variance	20.61	14.59	15.87	2.73	0.66	1.97	4.33	1.16	3.09	2.10	1.08	1.84
SD	4.54	3.82	3.98	1.65	0.81	1.40	2.08	1.08	1.76	1.45	1.04	1.36
CV	1.74	1.61	1.65	1.46	1.04	1.48	2.30	1.29	1.98	1.72	1.30	1.64
Number of Caps	0	14	0	0	2	0	0	19	0	0	4	0

Note: Raw = Raw Data; Cap = Composites Capped; Comp = Composites Uncapped; SD = Standard Deviation; CV = coefficient of variation.

Table 14-9: Summary Variographic Parameters

Deposit	Domain	Type	Azimuth (°)	Plunge (°)	Dip (°)	Nugget Effect	Structure 1					Structure 2				
							Type	Sill	X (m)	Y (m)	Z (m)	Type	Sill	X (m)	Y (m)	Z (m)
Main UG	CLX1	Semivariogram	90	0	−45	0.51	Spherical	0.21	30	10	5	Exponential	0.28	43	36	10
Main UG	CLX2	Correlogram	90	0	−39	0.56	Spherical	0.16	58	25	4	Exponential	0.28	110	90	13
Main UG	Canto	Correlogram	90	−10	−40	0.43	Spherical	0.30	22	10	2	Exponential	0.27	135	75	10
EDeep	CLX1	Semivariogram	90	−5	−40	0.45	Exponential	0.45	27	9	2	Exponential	0.10	55	35	11
F&G	G Target	Correlogram	90	0	−45	0.50	Exponential	0.35	4	4	4	Exponential	0.15	50	23	21
F&G	F Target	Correlogram	127	−20	−41	0.41	Spherical	0.38	6	5	5	Exponential	0.21	36	18	16
Canto 2	Canto	Semivariogram	68	5	−45	0.30	Exponential	0.53	12	10	8	Exponential	0.16	114	69	20
PPQ	CLX	Correlogram	30	0	−55	0.40	Spherical	0.43	32	5	5	Exponential	0.17	50	15	8
PPQ	Canto	Correlogram	15	0	−45	0.56	Exponential	0.22	18	22	9	Exponential	0.22	50	38	20
FW Oeste	FW Main	General Relative Semivariogram	30	0	55	0.55	Exponential	0.45	48	16	10	-	-	-	-	-
Lagoa do Gato	LGT East	Correlogram	71	−14	74	0.45	Spherical	0.43	8	7	6	Spherical	0.12	38	30	26
Lagoa do Gato	LGT West	Correlogram	68	0	68	0.40	Exponential	0.50	17	16	7	Exponential	0.09	68	34	18

14.4 Bulk Density

Bulk density measurements were performed per drill hole using 10 cm samples obtained from each mineralized domain corresponding to the one metre assay sampling interval. Measurements were determined by a water displacement method as follows:

- The sample is dried, coated in Vaseline, and then weighed.
- The sample is then placed in a graduated, water-filled cylinder.
- The amount of water displaced is measured.
- The bulk density is then calculated as the weight of the sample divided by the volume of water displaced.

The average bulk density measurements by domain range from 2.64 to 3.01 g/cm^3, with coefficient of variation (CV) lower than 0.1, which means that the dispersion around the mean is not significant. The average densities from each domain were assigned to the block model. The bulk density measurements statistical summary for each mineralized domain is presented in Table 14-10.

Table 14-10: Average Bulk Density Values

Deposit	Domain	No. of Samples	Density (g/cm^3)	SD (g/cm^3)	CV	Median (g/cm^3)	Upper Tail Cut (g/cm^3)	Lower Tail Cut (g/cm^3)
Main UG	CLX	528	2.92	0.14	0.05	2.950	3.20	2.65
Main UG	Canto	272	2.70	0.06	0.02	2.710	2.80	2.53
Main UG	C-Quartz	-	2.68	-	-	-	-	-
EDeep	CLX	119	3.01	0.14	0.05	3.030	3.30	2.55
EDeep	Barren	1,039	2.95	0.14	0.05	2.960	3.30	2.55
F&G	G Target	727	2.81	0.08	0.03	2.820	3.10	2.60
F&G	F Target	464	2.82	0.10	0.03	2.820	3.10	2.60
F&G	Barren	1,428	2.84	0.10	0.03	2.840	3.10	2.60
Canto 2	Canto	39	2.72	0.05	0.02	2.710	2.85	2.60
Canto 2	Barren	58	2.71	0.06	0.02	2.715	2.85	2.60
PPQ	CLX	8	2.76	0.10	0.04	2.75	2.93	2.61
PPQ	Canto	40	2.67	0.05	0.02	2.68	2.79	2.57
FW Oeste	FW Main	138	2.87	0.15	0.05	2.870	3.25	2.55
FW Oeste	Barren	698	2.82	0.12	0.04	2.820	3.20	2.40
Lagoa do Gato	LGT	230	2.64	0.07	0.03	2.646	2.81	2.44
Lagoa do Gato	Barren	166	2.64	0.05	0.02	2.649	2.77	2.54

Note: Density values for Main UG C-Quartz domain are based on historically average values.
COV= Coefficient of Variation; SD = Standard Deviation.

14.5 Block Model

Equinox created seven block models in Vulcan 3D to support the Mineral Resource estimate at the Mine: Main UG, E-Deep, F & G, Canto 2, PPQ, FW Oeste, and Lagoa do Gato (Figure 14-4). Equinox also generated estimated grades of the deposit using Vulcan 3D. For the open pit deposits, the block size was regularized in a re-blocking, post-processing consistent with the selective mining unit (SMU) size of 5 m by 5 m by 5 m for Lagoa do Gato and FW Oeste deposits, and size of 2 m by 2 m by 2 m for Canto 2 and PPQ deposits. In the underground deposits the sub-blocking was selected due to its more-accurate volume representation of the wireframes. Sub-blocks were set to a minimum size of 1.0 m x 1.0 m x 1.0 m (X, Y, and Z). The models are oriented with an azimuth of 90.0°, dip of 0.0°, and a plunge of 0.0°, except for the FW Oeste block model, which is rotated to an azimuth of 45°. The Fazenda model origin (lower-left corner at lowest elevation) is set at local reduced coordinates. A summary of the block model extents and properties for each of the Fazenda block models is provided in Table 14-11 and Table 14-12.

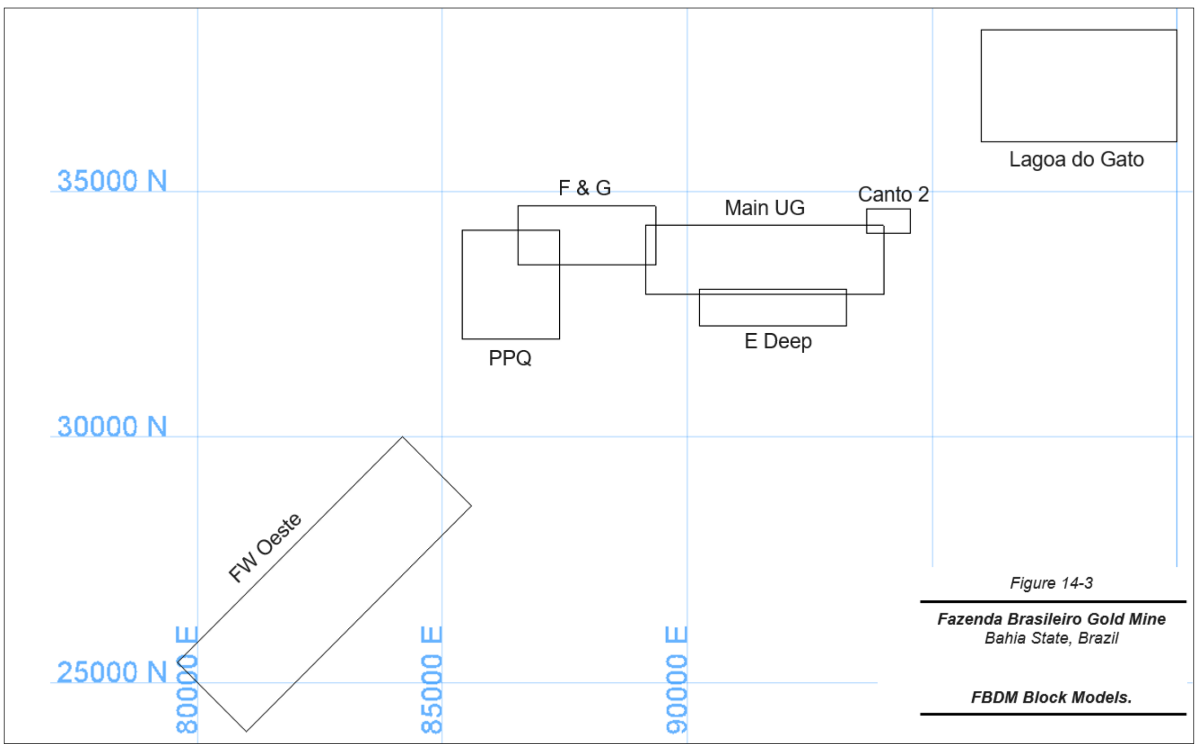


Figure 14-4: Fazenda Block Models

Table 14-11: Fazenda Block Model Definitions

Deposit	Block Model File Name	Origin Coordinates				Rotation in Vulcan 3D Software		
		Coordinate System	East (X)	North (Y)	Elevation (Z)	Bearing	Plunge	Dip
Main UG	2021_fbdm_mug_v05.bmf	Local Mine—Reduced	89,150	32,900	−500	90.0	0.0	0.0
E-Deep	2021_fbdm_edeep_v02.bmf	Local Mine—Reduced	90,250	32,250	−900	90.0	0.0	0.0
F&G	2021_fbdm_fg_v01.bmf	Local Mine—Reduced	86,550	33,500	−400	90.0	0.0	0.0
Canto 2	2021_fbdm_canto2_v01.bmf	Local Mine—Reduced	93,500	34,000	0	90.0	0.0	0.0
PPQ	2021_fbdm_ppq_v01.bmf	Local Mine—Reduced	87,400	32,000	0	0.0	0.0	0.0
FW Oeste	2021_fbdm_fwoeste_v01.bmf	Local Mine—Reduced	81,000	24,000	0	45.0	0.0	0.0
Lagoa do Gato	2021_fbdm_lg_v02.bmf	Local Mine—Reduced	96,000	36,000	−300	90.0	0.0	0.0

Table 14-12: Fazenda Block Model Sizes

Deposit	Block Size (m)			Sub-Block Size (m)			Offset (m)		
	X	Y	Z	X	Y	Z	X	Y	Z
Main UG	10.0	10.0	10.0	1.0	1.0	1.0	4,860	1,400	940
E-Deep	10.0	10.0	10.0	1.0	1.0	1.0	3,000	750	600
F&G	10.0	10.0	10.0	1.0	1.0	1.0	2,800	1,200	800
Canto 2	10.0	10.0	10.0	1.0	1.0	1.0	1,100	700	450
PPQ	10.0	10.0	10.0	1.0	1.0	1.0	2,200	2,000	340
FW Oeste	10.0	10.0	10.0	1.0	1.0	1.0	6,500	2,000	500
Lagoa do Gato	10.0	10.0	10.0	1.0	1.0	1.0	4,000	2,200	800

14.6 Interpolation Parameters

Block model representations were constructed of the deposit lithology and grade domains, along with grade estimations for gold. Grade estimation was controlled by the grade shell domains. Search ellipsoids for each block were calculated in Vulcan 3D using the Anisotropy model function that considers the hanging wall and footwall surfaces of the grade shell. The dynamic anisotropy search (locally varying anisotropy - LVA) ensures that the search ellipsoids are properly aligned along the geometric orientations of the wireframes (strike, dip, and plunge). Composites matching each domain were used for the estimation. Ordinary kriging (OK) estimation or inverse distance cubed (ID3) weighted interpolation methods were adopted to assign a gold grade to each block in Vulcan 3D. Nearest neighbour (NN) methodology was used in the gold grade estimation validation process. A buffer of 10 m for each grade-shell wireframe was created in Leapfrog Geo to estimate the barren domains, and better support the dilution calculations for the Mineral Reserves activities. Table 14-13 presents the grade estimation parameters for the Fazenda deposits.

Table 14-13: Fazenda Grade Estimate Parameters by Domain

Deposit	Domain	Estimate Pass	Samples Search Orientation (°)			Sample Search Range (m)			Samples									Estimate Type
			Bearing	Plunge	Dip	Major Axis	Semi-Major Axis	Minor Axis	Parent Block Size (m)	Discretization	Min Samples	Max Samples	Max per Octant	Min Octants	Max per Borehole	Min Borehole	High Yield Range	
Main UG	CLX1, CLX2 and Canto	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	3	6	2	3	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	3	6	2	3	2	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	2	8	3	-	3	-		
	C - Quartz	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	3	6	2	3	2	2	30 m x 15 m x 5 m	ID3
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	3	6	2	3	2	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	2	8	3	-	3	-		
	Barren	4th	55	5	0	120	60	30	10 x 10 x 10	5 x 5 x 5	2	8	6	-	3	-	-	ID3
F&G	F Target	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	4	6	2	4	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	4	8	2	4	2	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	2	8	3	2	3	2		
		4th	LVA			240	120	60	1 x 1 x 1	5 x 5 x 5	2	14	3	-	3	-		
	G Target	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	3	9	2	3	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	3	9	2	3	2	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	3	10	3	-	3	-		
		4th	LVA			240	120	60	1 x 1 x 1	5 x 5 x 5	2	12	3	-	3	-		
	Barren	4th	55	5	0	120	60	30	10 x 10 x 10	5 x 5 x 5	2	8	6	-	3	-	-	ID3
Canto 2	Canto	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	4	9	2	4	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	4	10	2	4	3	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	4	10	3	-	3	-		
		4th	LVA			240	120	60	1 x 1 x 1	5 x 5 x 5	2	14	3	-	3	-		
	Barren	4th	67.5	5	-45	240	120	60	10 x 10 x 10	5 x 5 x 5	2	14	6	-	3	-	-	ID3

Deposit	Domain	Estimate Pass	Samples Search Orientation (°)			Sample Search Range (m)			Samples									Estimate Type
			Bearing	Plunge	Dip	Major Axis	Semi-Major Axis	Minor Axis	Parent Block Size (m)	Discretization	Min Samples	Max Samples	Max per Octant	Min Octants	Max per Borehole	Min Borehole	High Yield Range	
PPQ	CLX	1st	LVA			30	15	5	3 x 1 x 1	3 x 2 x 2	3	6	2	3	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	5 x 3 x 3	5 x 3 x 3	3	6	2	3	2	2		
		3rd	LVA			120	60	30	10 x 10 x 10	5 x 5 x 5	2	8	3	-	3	-		
	Canto	1st	LVA			30	15	5	3 x 1 x 1	3 x 2 x 2	3	6	2	3	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	5 x 3 x 3	5 x 3 x 3	3	6	2	3	2	2		
		3rd	LVA			120	60	30	10 x 10 x 10	5 x 5 x 5	2	8	3	-	3	-		
	Barren	4th	45	−15	−40	120	60	30	10 x 10 x 10	5 x 5 x 5	2	8	4	-	3	-	-	ID3
FW Oeste	FW Main	1st	LVA			30	15	5	3 x 1 x 1	3 x 2 x 2	4	8	2	4	2	3	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	5 x 3 x 3	5 x 3 x 3	4	8	2	4	3	2		
		3rd	LVA			240	120	40	10 x 10 x 10	5 x 5 x 5	2	14	3	-	3	-		
	FW South	1st	LVA			-	-	-	-	-	-	-	-	-	-	-	-	ID3
		2nd	LVA			-	-	-	-	-	-	-	-	-	-	-		
		3rd	LVA			240	120	40	10 x 10 x 10	5 x 5 x 5	2	14	3	-	3	-		
	Barren	4th	45	−15	−40	240	220	40		5 x 5 x 5	2	8	6	-	-	-	-	ID3
Lagoa do Gato	LGT West	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	3	9	2	3	2	2	30 m x 15 m x 5 m	OK
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	3	9	2	3	3	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	2	12	3	-	3	-		
		4th	LVA			240	120	60	1 x 1 x 1	5 x 5 x 5	2	12	3	-	3	-		
	LGT East	1st	LVA			30	15	5	1 x 1 x 1	3 x 2 x 2	3	9	2	3	2	2	30 m x 15 m x 5 m	ID3
		2nd	LVA			60	30	10	1 x 1 x 1	5 x 3 x 3	3	9	2	3	3	2		
		3rd	LVA			120	60	30	1 x 1 x 1	5 x 5 x 5	2	12	3	-	3	-		

Deposit	Domain	Estimate Pass	Samples Search Orientation (°)			Sample Search Range (m)			Samples									Estimate Type
			Bearing	Plunge	Dip	Major Axis	Semi-Major Axis	Minor Axis	Parent Block Size (m)	Discretization	Min Samples	Max Samples	Max per Octant	Min Octants	Max per Borehole	Min Borehole	High Yield Range	
		4th	LVA			240	120	60	1 x 1 x 1	5 x 5 x 5	2	12	3	-	3	-		
	Barren	4th	67	0	70	240	120	60	10 x 10 x 10	5 x 5 x 5	2	12	3	-	3	-	-	ID3

Note: OK = Ordinary Kriging Interpolation
ID3 = Inverse Distance Interpolation

14.7 Block Model Validation

Equinox validated the block model using the following methods:

- Visual inspection of block versus composite grades on plan, vertical cross-section, and long section
- Swath plots of block OK, ID3, and NN grades in the X, Y, and Z directions
- Volumetric comparison of blocks versus wireframes
- Statistical comparison of block OK, ID3, and NN grades.

14.7.1 Visual Comparison

The block model was visually validated by comparing drill hole composite grades with estimated block grades on sections and plans. Equinox verified that the grade continuity honours the geological structures and confirmed that the block grades were reasonably consistent with local drill hole composite grades. Figure 14-5 and Figure 14-6 show examples of cross-sections demonstrating the consistency.

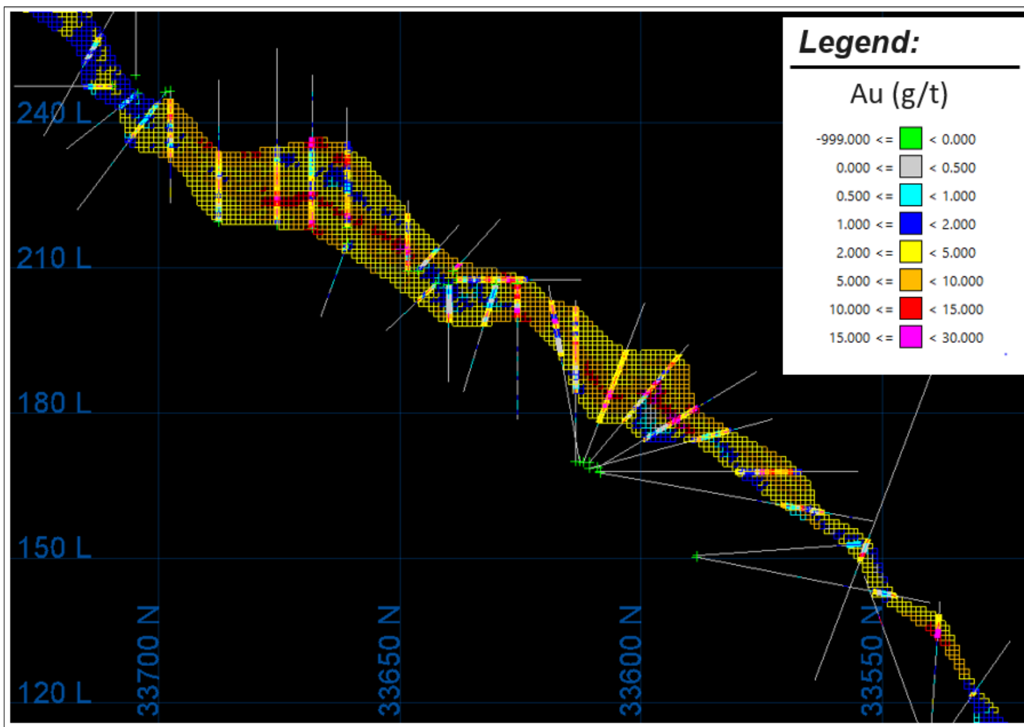


Figure 14-5

Fazenda Brasileiro Gold Mine
Bahia State, Brazil

Main UG Block Model
Vertical Cross Section 90425 E

Figure 14-5: Block Model Main UG Vertical Cross-Section E90425

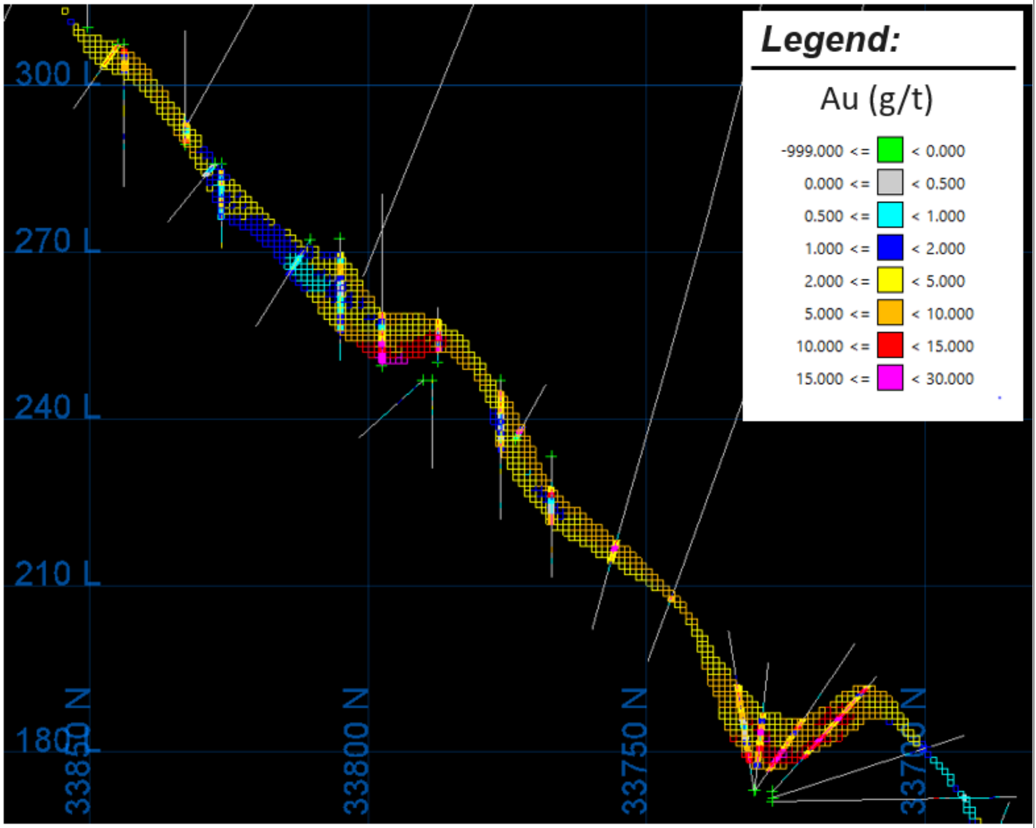


Figure 14-6

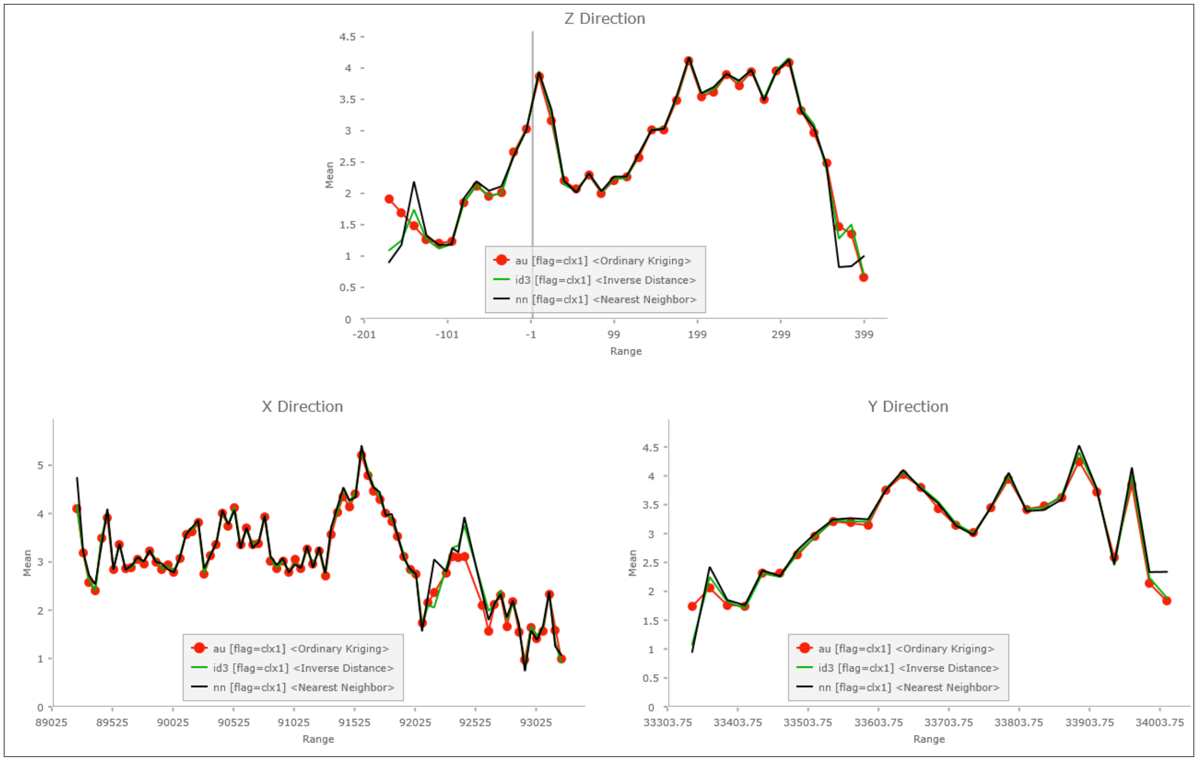
Fazenda Brasileiro Gold Mine
Bahia State, Brazil

Main UG Block Model
Vertical Cross Section 90125 E

Figure 14-6: Block Model Main UG Vertical Cross-Section E90125 E

14.7.2 Swath Plots

The gold estimation grade was also evaluated on a sectional basis using swath plots, as shown in an example in Figure 14-7. The swath plots cut the block model in regular-sized windows to compare the average grade between different estimation methods in each direction. The OK gold-estimated blocks were compared to the ID3 and NN gold-grade estimations. The NN estimate can be considered as an unbiased grade check, representing the declustered distribution of grades that would be expected globally in the block model. The OK estimate, being a moving average estimate, will tend to smooth the grade distribution. Some local variability between the NN and OK grades would be expected.



Note: OK = Red scatter lines; ID3 = Green lines; NN = Black lines

Figure 14-7: Main UG CLX1 Swath Plot

14.7.3 Volume Comparison

Wireframe volumes were compared to block volumes for each domain. This comparison is summarized in Table 14-14 and shows that there is good adherence between the wireframe volumes and block model volumes, with differences <1%.

Table 14-14: Volume Comparison

Deposit	Wireframe	Wireframe Volume (m^3)	Block Model Volume (m^3)	%Δ Volume
Main UG	B04_050320RMT_RLT.00t	50,707	50,733	0.05
	BDOWN_210320RFT.00t	66,388	66,270	−0.18
	C_CANTO_CANTO_100221RFT.00t	129,224	129,259	0.03
	C_CLX2_260320rft.00t	42,678	42,719	0.10
	C08EW6C09W2_160919RLT.00t	9,844	9,844	0.00
	C12_260919RIT.00t	7,262	7,259	−0.05
	C12_C14_220219RLT.00t	97,346	97,392	0.05
	c22w2_260819rmt.00t	17,447	17,444	−0.02
	C239_270919RFT.00t	6,305	6,267	−0.61
	C36_260919RMT.00t	3,370	3,368	−0.06
	C36W6_090617RLT.00t	52,896	52,908	0.02
	c560_220121rmt_rit.00t	135,388	135,056	−0.24
	Canto_UG_110221.00t	1,590,051	1,590,425	0.02
	Canto1Sul_rmt_rft_120121.00t	524,019	522,831	−0.23
	CLX1_100221.00t	5,989,882	5,986,909	−0.05
	CLX2_110221.00t	3,809,528	3,808,100	−0.04
	CQ1_300118rlt.00t	48,320	48,374	0.11
	EW_100221RFT.00t	1,180,153	1,178,665	−0.13
	PATIOLAVRAS_171019RMT_RIT.00t	168,478	168,403	−0.04
	W56_041120RMT.00t	28,026	28,052	0.09
E Deep	EDEEP_040221RMT_RLT.00t	849,219	849,238	0.00
F & G	CorpoG_Ugmine_140421.00t	2,637,964	2,638,159	0.01
	CorpoG_opt_260221.00t	94,193	94,096	−0.10
	CorpoF_010521	1,037,580	1,037,497	−0.01
	F_deep_Inferido_010521	341,097	340,985	−0.03
Canto 2	Canto2_Grade_Shell_20210323	3,370,800	3,370,593	−0.01
PPQ	PPQ_Canto_Grade_Shell_20210403.00t	850,118	848,456	−0.20
	PPQ_CLX_Grade_Shell_Cut_Volume_Check_20210403.00t	2,463,086	2,462,214	−0.04
FW Oeste	FWOESTE_100720RMT_v01.00t	339,808	339,956	0.04
	FWOESTE_130920rmt_rit.00t	911,256	912,387	0.12
Lagoa do Gato	LG_OESTE.00t	2,645,851	2,645,661	−0.01
	LG_LESTE.00t	3,696,376	3,696,354	0.00
Total		**33,194,658**	**33,185,874**	**−0.03**

14.7.4 Statistical Comparison

A statistical comparison of the estimated block grades with the NN grades is shown in Table 14-15. The OK block results compare well with the NN blocks in each estimate pass, indicating a reasonable overall representation of the gold grades in the block model.

Table 14-15: Statistics Comparison

Domain	1st Estimate Pass			2nd Estimate Pass			3rd Estimate Pass		
	NN (g/t Au)	OK (g/t Au)	Difference (%)	NN (g/t Au)	OK (g/t Au)	Difference (%)	NN (g/t Au)	OK (g/t Au)	Difference (%)
Main UG—CLX1	3.38	3.37	−0.3	3.30	3.05	−7.7	2.28	2.18	−4.6
Main UG—CLX2	4.43	4.42	−0.3	3.96	3.71	−6.5	2.05	2.21	7.5
Main UG—Canto	2.35	2.35	−0.1	1.60	1.47	−8.5	1.15	1.07	−7.6
EDeep—CLX1	2.62	2.63	0.2	2.27	2.07	−8.9	2.38	2.06	−13.4
F Target	1.75	1.75	−0.1	1.56	1.53	−2.3	2.04	1.89	−7.2
G Target	1.47	1.47	0.4	1.44	1.42	−1.3	1.12	1.10	−1.9
Canto 2	1.80	1.79	−0.4	1.39	1.30	−6.0	1.05	1.04	−1.1
PPQ—CLX	1.36	1.35	−1.0	1.02	1.00	−2.	1.15	1.17	2.3
PPQ—Canto	1.09	1.10	0.4	0.79	0.80	0.8	0.58	0.69	18.7
Lagoa do Gato—Oeste	0.82	0.82	0.2	0.76	0.76	−0.4	0.72	0.77	5.8
FW Oeste	2.12	2.17	2.5	2.15	2.05	−4.5	0.83	0.95	15.0

Domain	1st Estimate Pass			2nd Estimate Pass			3rd Estimate Pass		
	NN (g/t Au)	ID3 (g/t Au)	Difference (%)	NN (g/t Au)	ID3 (g/t Au)	Difference (%)	NN (g/t Au)	ID3 (g/t Au)	Difference (%)
Main UG—CQuartz	7.81	7.79	−0.2	5.94	6.08	2.4	17.16	16.32	−4.9
Lagoa do Gato—Leste	1.08	1.04	−3.9	0.99	0.97	−1.8	0.71	0.67	−5.5

Notes: OK = Ordinary Kriging Interpolation; NN = Nearest Neighbour Interpolation; ID3 = Inverse Distance Interpolation

14.8 Cut-Off Grade

CIM Definition Standards (2014) specify that to satisfy the definition of Mineral Resources, there must be "reasonable prospects for eventual economic extraction." This means that a cut-off grade should be applied to the resource model that reflects some generally acceptable assumptions concerning metal prices, metallurgical recoveries, costs, and other operational constraints.

The price assumptions for gold are different for Mineral Resource and Mineral Reserve pit shells. For the Fazenda domains, a conceptual open pit optimization using US$1,500/oz Au was used to constrain the Mineral Resources close to the surface, at an open pit cut-off grade that varied from 0.55 to 0.80 g/t Au for reporting Mineral Resources, depending on the metallurgical gold recovery and closure costs. The underground Mineral Resource cut-off grade was calculated as 1.19 g/t Au. The Mineral Resource optimization inputs are shown in Table 14-16.

Table 14-16: Underground and Open Pit Cut-Off Grade Optimization Factors—December 31, 2020

Parameter	Unit	Underground	Open Pit
Au Price	US$/oz	1,500	1,500
Au Recovery	%	91.5	75.0 to 91.5
Dilution	%	15.0	10.0
Mining Royalty	%	0.00	0.00 to 0.75
Refining Cost	US$/oz	14.55	15.73
Operating Cost			
Exchange Rate	*R$:US$*	*4.75:1.00*	*4.75:1.00*
Mine	US$/t	18.50	1.84
Process	US$/t	11.79	11.79
General and Administrative	US$/t	2.17	0.38
Ore Haulage Difference	US$/t	0.00	1.63–1.87
Re-Handle	US$/t	0.11	0.00
Sustaining Cost	US$/t	7.15	0.00
Closure	US$/t	0.00	3.48–7.54
Total	**US$/t**	**39.72**	**19.29–23.57**
Cut-Off Grade	g/t	1.19	0.55–0.80

Metal prices used for Mineral Reserves are based on consensus, long-term forecasts from banks, financial institutions, and other sources. For Mineral Resources, metal prices used are higher than those for Mineral Reserves. The foreign exchange rate used in this analysis has changed significantly to the present exchange rate of R$4.75:US$1.00, and it represents an economic benefit to the mine.

14.9 Classification

Mineral Resources have been classified as Measured, Indicated, or Inferred. The block model confidence was classified by a combination of composite distance and minimum number of samples used in the estimation of an individual block, which are functions of drill hole spacing and relative drill hole configuration. The classification strategy was as follows:

- Measured: maximum distance of 25 m, minimum three composites
- Indicated: maximum distance of 50 m, minimum three composites
- Inferred: maximum distance of 100 m.

A post-processing smoothing was applied to ensure that the final classification does not have isolated blocks from different classes, also known as “spotted dogs.” The smoothing process used is based on the distance function of Leapfrog Geo that was used to generate wireframes for each class inside each mineralized domain. Figure 14-8 illustrates the results of the classification methodology.

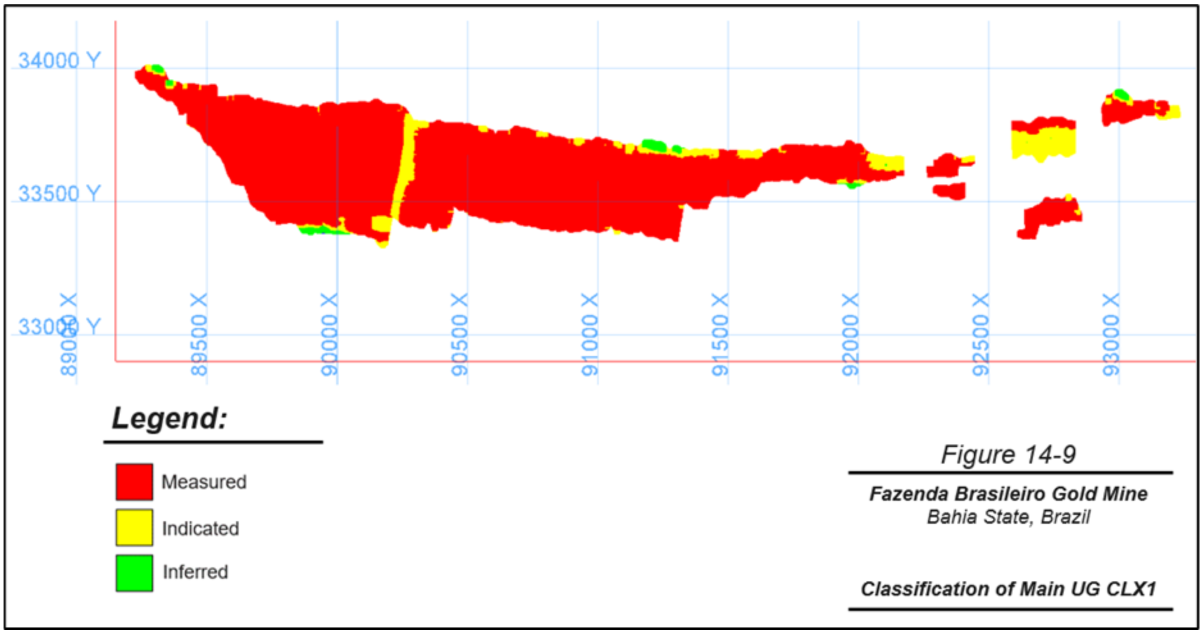


Figure 14-8: Classification of Main UG CLX1

14.10 Mineral Resource Reporting

After completing all final modelling routines (classification), estimations, data, and geostatistical analysis, Fazenda geologists depleted the wireframes from all known mined areas by flagging blocks in those areas as "mined." These blocks were excluded from the final Mineral Resource estimate.

The CIM Definition Standards (2014) state that Mineral Resources are "a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction." To demonstrate reasonable prospects for eventual economic underground extraction, the models were then passed to the Reserves Team to evaluate the underground Mineral Resources using a cut-off grade of 1.19 g/t Au (Figure 14-9 and Figure 14-10), with the Stope Optimizer (SO) of Deswik (Version 2019.2) and the Open Pit resources with NPV Scheduler (Version 4.30.55).

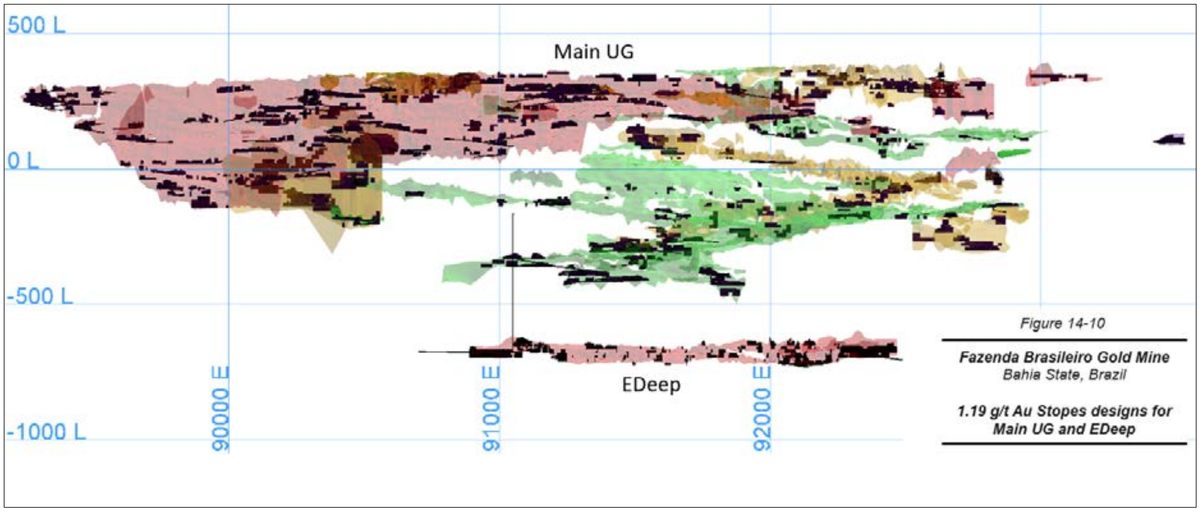


Figure 14-9: 1.19 g/t Au Stope Designs for Main UG and EDeep

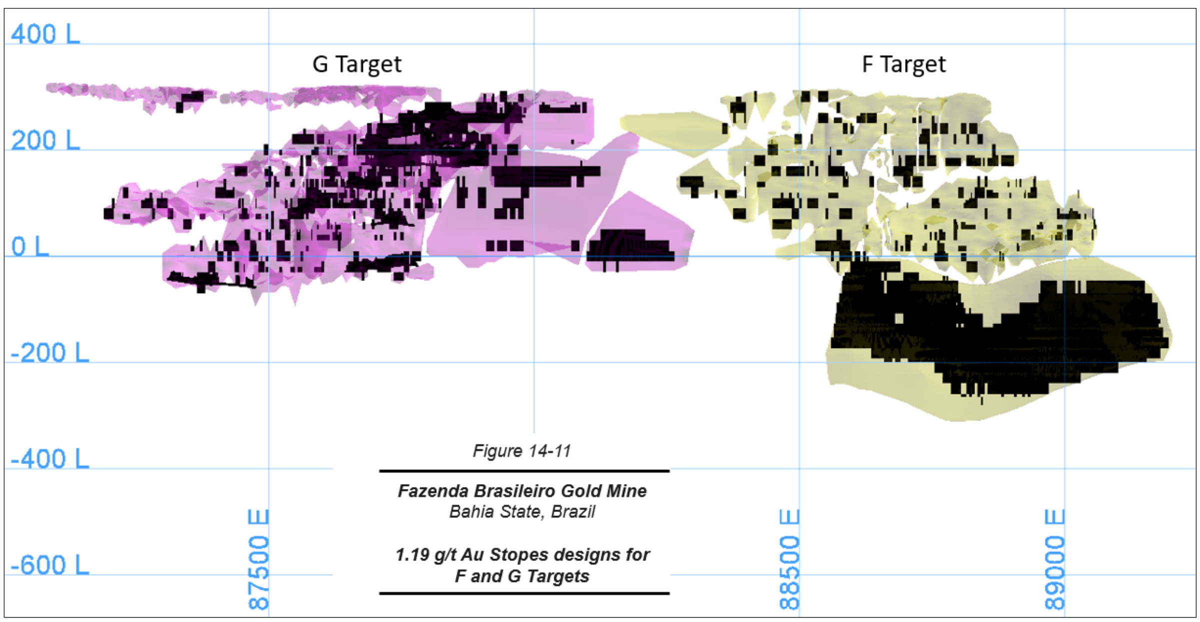


Figure 14-10: 1.19 g/t Au Stope Design for F and G Targets

Equinox verified reported reconciliation records supplied by Fazenda (Table 14-17) based on the comparison of the Updated Mineral Resources model vs. Mine Production, and Plant Received from January through December 2020. The reconciliation between Updated Resources Model and Mine Production shows that the overall total ounces vary less than 15%; and a comparison between Mine Production and Plant Received varies less than 6%. These numbers reflect good reconciliation with the block model.

A summary of the Mineral Resource estimate exclusive of Reserves by zone as of December 31, 2020, is provided in Table 14-18.

Table 14-17: Reconciliation for January 2020 through December 2020

Reconciliation	Tonnage (Mt)	Gold Grade (g/t)	Gold (koz)
Dec 2020 Updated Mineral Resources	0.91	2.22	64.9
Mine Production	1.29	1.77	73.1
Plant Received	1.34	1.60	68.8
Difference: Resources vs. Mine Production	41.48%	−20.27%	12.55%
Difference: Mine Production vs. Plant Received	4.31%	−9.60%	−5.80%

Note: Numbers may not add due to rounding.

Table 14-18: Mineral Resource Summary (Exclusive of Mineral Reserves) by Domain—December 31, 2020

Orebody	Cut-off Grade (g/t)	Measured			Indicated			Inferred		
		Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Underground										
Main UG—CLX1	1.19	377	2.96	36	58	3.03	6	31	2.16	2
Main UG—CLX2	1.19	186	3.24	19	18	2.26	1	8	1.76	0
Main UG—Canto	1.19	377	2.44	30	361	2.01	23	316	1.89	19
Main UG—C-Quartz	1.19	6	3.72	1	0	0.00	0	0	0.00	0
EDeep—CLX1	1.19	114	2.26	8	104	2.34	8	58	2.68	5
F Target	1.19	252	1.81	15	24	1.84	1	364	2.00	23
G Target	1.19	798	1.63	42	42	1.58	2	163	1.50	8
Canto 2	1.19	14	1.96	1	214	1.71	12	330	1.85	20
PPQ	1.19	2	1.71	0	318	1.68	17	358	2.00	23
Lagoa do Gato	1.19	0	0.00	0	49	1.49	2	92	1.65	5
FW Oeste	1.19	111	2.05	7	1	1.92	0	0	0.00	0
Total Underground	-	**2,237**	**2.21**	**159**	**1,189**	**1.88**	**72**	**1,720**	**1.90**	**105**
Open Pit										
Canto 2—AGV	0.54	204	1.31	9	27	1.00	1	99	1.17	4
Canto 2—Remain	0.60	54	1.00	2	11	0.93	0	53	1.00	2
Lagoa do Gato	0.57	0	0.00	0	1,010	0.92	30	1,254	1.00	40
PPQ	0.85	114	1.64	6	290	1.37	13	147	1.41	7
FW Oeste	0.57	27	1.85	2	4	0.80	0	10	1.23	0
Total Open Pit	-	**399**	**1.48**	**19**	**1,342**	**1.02**	**44**	**1,563**	**1.05**	**53**
Total UG + OP	-	**2,636**	**2.10**	**178**	**2,531**	**1.43**	**116**	**3,283**	**1.50**	**158**

Notes: **1.** CIM Definition Standards (2014) were followed for Mineral Resources.

2. Mineral Resources are reported at varying cut-off grade from 0.54 to 0.85 g/t Au for open pit and 1.19 g/t Au for underground.

3. Mineral Resources are exclusive of Mineral Reserves.

4. Mineral Resources are estimated using a gold price of US$1,500/oz and a foreign exchange rate of R$4.75:US$1.00.

5. A minimum mining width of 1.0 m was used for underground Mineral Resources.

6. Bulk density ranges from 2.64 to 3.01 t/m^3.

7. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

8. The Mineral Resources statement has been prepared by Felipe Machado de Araújo, MAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
9. Numbers may not add due to rounding.

15 MINERAL RESERVE ESTIMATE

Equinox carried out a number of checks to verify the procedures and numerical calculations used in the preparation of the Fazenda Mineral Reserve estimate. The Mineral Reserves were estimated using a cut-off grade of 1.32 g/t Au for underground operations and 0.60 to 0.89 g/t Au for open pit operations. Table 15-1 summarizes the Mineral Reserve estimates as of December 31, 2020.

The QP is of the opinion that the Measured and Indicated Mineral Resources within the final pit and stope designs for Fazenda can be classified as Proven and Probable Mineral Reserves and is not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

Table 15-1: Mineral Reserve Summary—December 31, 2020

Category	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Proven			
Underground	3,858	1.67	207
Open Pit	1,461	1.32	62
Subtotal Proven	**5,319**	**1.57**	**269**
Probable			
Underground	434	1.49	21
Open Pit	835	0.84	23
Stockpile	66	1.52	3
Subtotal Probable	**1,335**	**1.09**	**47**
Total Proven & Probable	**6,653**	**1.47**	**315**

Notes: **1.** CIM Definition Standards (2014) were followed for Mineral Reserves.
2. Mineral Reserves are reported at a cut-off grade of 1.32 g/t Au for underground and between 0.60 and 0.89 g/t Au for open pits.
3. Mineral Reserves are estimated using an average long-term gold price of US$1,350/oz and an exchange rate of R$4.75:US$1.00.
4. A minimum mining width of 2.0 m was used for underground Mineral Reserves.
5. Bulk density ranges from 2.64 to 3.01 t/m^3.
6. The Mineral Reserve statement has been prepared under the supervision of Hugo Ribeiro Andrade Filho, FAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
7. Numbers may not add due to rounding.

Table 15-2 summarizes the Mineral Reserve estimates by Mine Unit as of December 31, 2020.

Table 15-2: Mineral Reserve Summary by Mine Unit—December 31, 2020

Category	Mine Unit	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Proven				
Underground	B	244	2.11	17
	C	809	1.89	49
	D	280	1.73	16
	E	944	1.8	55
	EW	868	1.59	44
	EDEEP	58	1.43	3
	G	656	1.15	24
Total Proven Underground		**3,858**	**1.67**	**207**
Open Pit	Canto 2	443	1.17	17
	Canto 2 Cabonaceos	927	1.38	41
	Total Canto 2	**1,370**	**1.32**	**58**
	Pau a Pique CLX	8	2.09	1
	Pau a Pique Cabonaceos	83	1.38	4
	Total Pau a Pique	**91**	**1.45**	**4**
	Lagoa do Gato	0	0	0
Total Proven Open Pit		**1,461**	**1.32**	**62**
Total Proven		**5,319**	**1.57**	**269**
Probable				
Underground	B	23	1.84	1
	C	35	1.47	2
	D	24	1.49	1
	E	64	1.69	3
	EW	8	1.22	1
	EDEEP	278	1.44	13
	G	2	1.07	1
Total Underground Probable		**434**	**1.49**	**21**
Open Pit	Canto 2	96	0.99	3
	Canto 2 Carbonaceos	88	0.90	3
	Total Canto 2	**184**	**0.95**	**6**
	Pau a Pique CLX	33	1.07	1
	Pau a Pique Carbonaceos	3	1.01	0
	Total Pau a Pique	**36**	**1.07**	**1**
	Lagoa do Gato	615	0.79	16
Total Open Pit Probable		**835**	**0.84**	**23**
Total Stockpile Probable		**66**	**1.52**	**3**
Total Probable		**1,335**	**1.09**	**47**

Category	Mine Unit	Tonnage (kt)	Gold Grade (g/t)	Contained Gold (koz)
Total				
Proven		5,319	1.57	269
Probable		1,335	1.09	47
Total Proven & Probable		**6,653**	**1.47**	**315**

Notes: **1.** CIM Definition Standards (2014) were followed for Mineral Reserves.
2. Mineral Reserves are reported at a cut-off grade of 1.32 g/t Au for underground and between 0.60 and 0.89 g/t Au for open pits.
3. Mineral Reserves are estimated using an average long-term gold price of US$1,350/oz and an exchange rate of R$4.75:US$1.00.
4. A minimum mining width of 2.0 m was used for underground Mineral Reserves.
5. Bulk density ranges from 2.64 to 3.01 t/m^3.
6. The Mineral Reserve statement has been prepared under the supervision of Hugo Ribeiro Andrade Filho, FAusIMM (CP), a full-time Equinox employee, who is QP as defined by NI 43-101.
7. Numbers may not add due to rounding cut-off grade.

15.1 Dilution and Extraction

The process of calculating the dilution modifying factor analysis is based on the comparison between the estimated and actual tonnage and grades produced. This information is provided by Equinox and presented in a series of spreadsheets on a monthly basis to determine the dilution and recovery factors.

For the open pits, dilution is calculated by comparing actual excavation volumes with those predicted from the shapes released by the grade control.

For the underground mine, dilution is calculated using the ratio of over-break volume and stope ore volume. Reconciliation of planned stope tonnes to actual mined is based on measurements taken in the mining stopes using a cavity monitoring system (CMS) and production records.

Based on local experience, the quantity of underground dilution is related to the geomechanical properties of the stope, expressed as the hydraulic radius. This information is used in economic analysis to optimize the stope dimensions. The stope design criteria seek to establish the highest recovery with the least possible dilution, with the main objective of ensuring the stability of underground workings and minimizing unplanned dilution (Figure 15-1). Mathews et al.'s (1981) and Potvin's (1988) methodologies have been efficiently applied for estimating and controlling the dilution (Figure 15-2).

The under-break is an effective estimate of ore loss or ore recovery, and over-break is an effective measure of ore dilution. Typical mining recovery and dilution parameters that were applied to the Mineral Resources in the stope design process are shown in Table 15-3.

Table 15-3: Recovery and External Dilution Factors by Resource Area (Underground)

Orebody Name	Underbreak (%)	Mine Recovery (%)	Overbreak (%)	Dilution (%)
B	10	90	15	15
C	10	90	15	15
D	10	90	15	15
E	10	90	15	15
EW	10	90	20	20
EDEEP	10	90	20	20

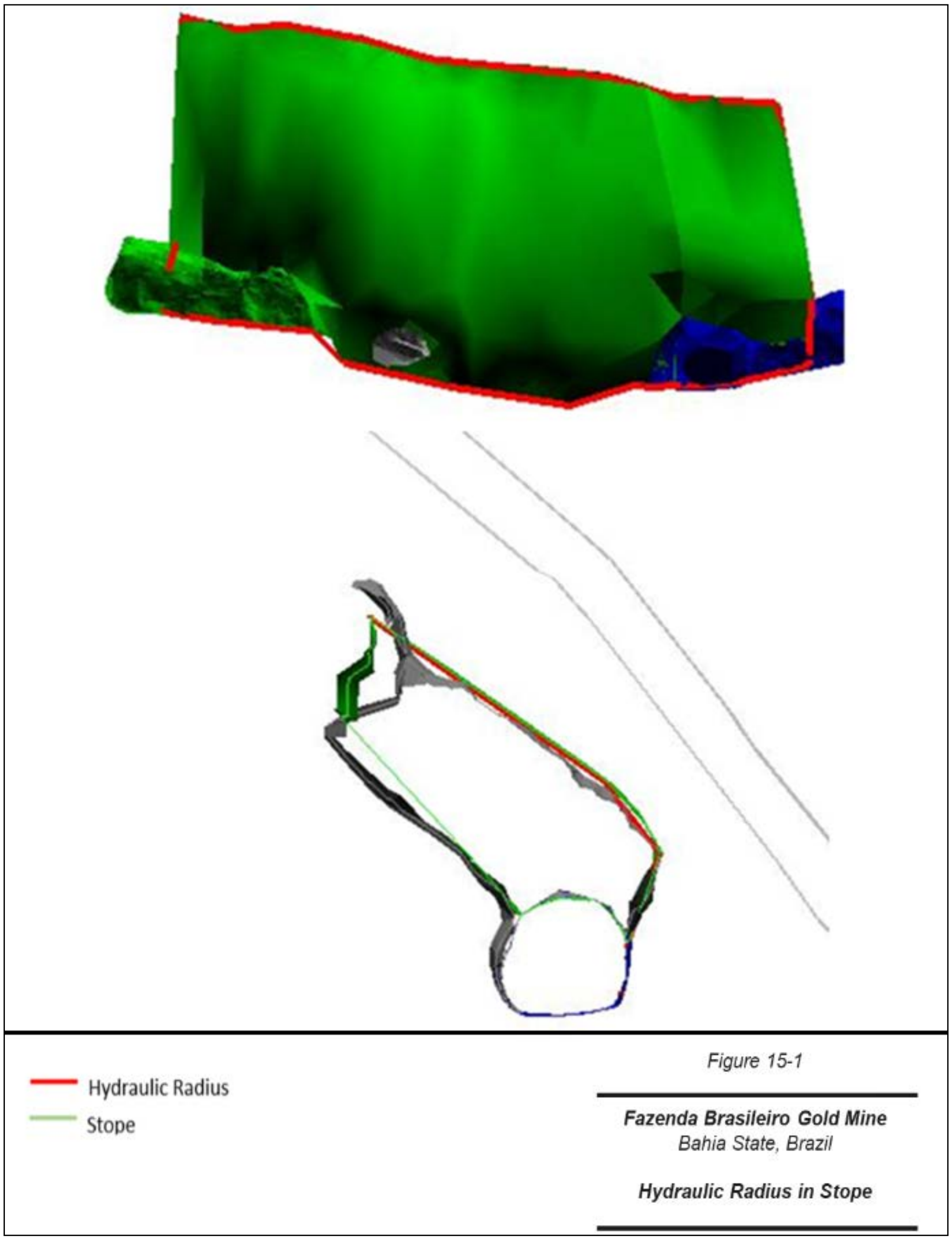


Figure 15-1: Hydraulic Radius in Stope

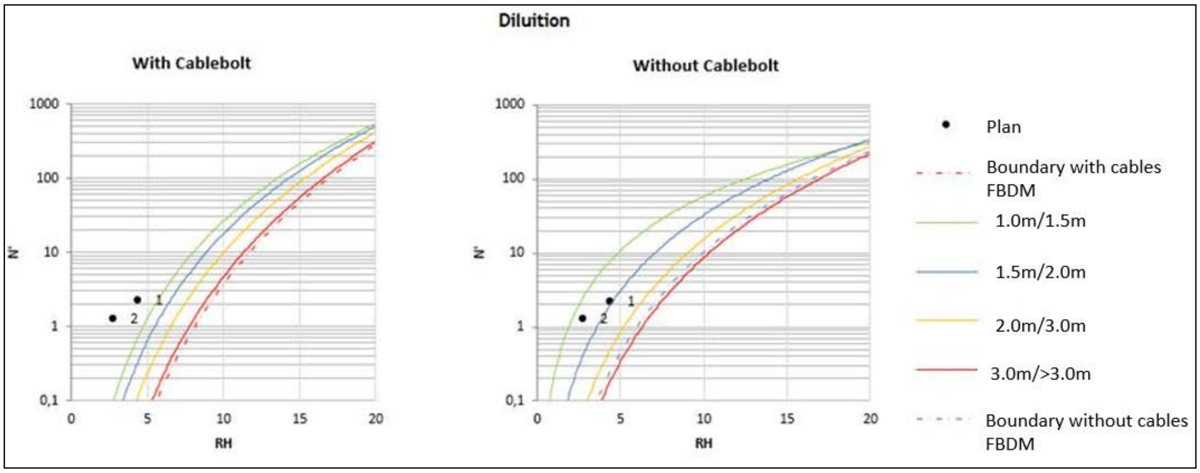


Figure 15-2: Stability Chart of the Mathews et al.'s Method

15.1.1 Model Reconciliation

On an ongoing basis, mine staff evaluate the estimated gold content from three different phases of mine design and planning. The first, the Mine Model (MM), compares the estimated contained gold in the long-term (LT) model with the short-term (ST) model (oz Au LT/oz Au ST). This is intended to evaluate the quality of the two models. The second, Mine Planning (MP), compares the estimated contained gold in the ST model with the detailed mine planning model (oz Au Planned/oz Au ST). This is intended to evaluate the quality of the mine plan and the planned mine recovery. The third, Mine Operation (MO), compares the estimated gold contained in the detailed mine planning model with the process plant (oz Au Planned/oz Au Executed). This is intended to evaluate mining quality control. The three comparisons are then multiplied together to generate a Mine Call Factor (MCF), which compares actual mill feed gold content to the LT model. Monthly results for 2020 are shown in Table 15-4.

Table 15-4: Monthly Reconciliation—2020

Month	Mine Model (%)	Mine Planning (%)	Mine Operation (%)	Mine Call Factor (%)
January	150	95	110	156
February	143	95	104	142
March	102	96	104	102
April	105	95	97	87
May	112	96	103	111
June	111	97	96	103
July	105	95	101	106
August	116	94	98	108
September	104	94	99	97
October	118	88	104	108
November	110	93	95	97
December	110	84	84	94
Total	**105**	**94**	**99**	**97**

The average MCF for 2021 is 97%, with the greatest variation from the MO comparison. There are wide monthly fluctuations in the MM comparison, and consistent underestimation of gold content in the MP comparison. The mine team will continue to evaluate the reasons for the variations in all of the models so that appropriate changes can be identified, with the goal of improving the model's predictive capability and accuracy.

15.2 Cut-Off Grade

Fazenda estimates the cut-off grade based upon projected budget costs and metal prices as set by Equinox. Metal prices used by Equinox in estimating the Mineral Reserves are based on consensus, long-term forecasts from banks, financial institutions, and other sources.

Cut-off grades are estimated on a fully costed basis for the underground and an incremental basis for open pits. The cut-off grade calculations are shown in Table 15-5 and Table 15-6, for underground and open pit mining, respectively. A gold price of US$1,350/oz in its cut-off grade calculation.

The underground cut-off grade calculation includes all relevant operating costs (underground mining, processing of the underground ore, and full site G&A) as well as sustaining development costs.

Table 15-5: Underground Cut-Off Grade Calculations

Parameter	Unit	Reserve
Au Price	US$/oz	1,350
Au Recovery	%	91.09
Dilution	%	15
Mining Royalty	%	
Refining Costs	US$/oz	14.55
Operating Cost		
Exchange Rate	*R$:US$*	*4.75:1.00*
Mine	US$/t	18.5
Process	US$/t	11.8
G&A	US$/t	10.3
Total	**US$/t**	**40.6**
Cut-off Grade LOM	**g/t Au**	**1.32**

Table 15-6: Open Pit Cut-off Grade Estimation

Parameter	Unit	Canto 2 Carb	Canto 2	Pau a Pique Carb	Pau a Pique CLX	Lagoa do Gato
MCF	%	90	90	90	90	90
Au Price	$/oz	1,350	1,350	1,350	1,350	1,350
Au Recovery	%	75	83	75	91	91.5
Dilution	%	10	10	10	10	10
Mining Royalty	%	0	0	0	0	0.75
Refining Costs	US$/oz	15.73	15.73	15.73	15.73	15.73
Operating Cost						
Exchange Rate	*R$:US$*	*4.75:1.00*	*4.75:1.00*	*4.75:1.00*	*4.75:1.00*	*4.75:1.00*
Mining Cost (without administration)	$/t	2.24	2.24	2.24	2.24	2.21
Mine fixed cost (Administration)	$/t	1.84	1.84	1.84	1.84	1.84
Total Processing Costs	**$/t**	**11.79**	**11.79**	**11.79**	**11.79**	**11.79**
G&A	$/t	0.38	0.38	0.38	0.38	0.38
Cost For long Haulage	$/t	1.63	1.63	1.63	1.63	1.81
New Mine Closure cost incurred	$/t	1.48	1.48	7.54	7.54	3.48
Total Cost(1)	**$/t**	**17.11**	**17.11**	**23.17**	**23.17**	**19.29**
Cut-off Grade	g/t Au	0.66	0.60	0.89	0.74	0.61

Note: (1) Excluding mining cost.

The open pit cut-off grade calculation includes incremental open pit mining, processing, closure cost, and G&A costs. The consideration of incremental mining costs, only, is a common practice in open pit mining, as all material must be excavated and hauled from the pit. The cut-off grade shown in Table 15-6 applies to the Canto 2, Pau a Pique, and Lagoa do Gato deposits only. The Canto 2 deposit and Pau a Pique contain a higher percentage of carbonaceous material resulting in a lower processing recovery (75%–76% instead of 90%).

15.3 Pit Shell Selection

The open pit optimization for the Mineral Reserves was generated using NPV Scheduler (Version 4.30.55). The open pit optimization parameters are discussed in Section 16.1.1. The selected pit shells for the final pits design were based on US$1,269/oz Au for Canto 2 at a revenue factor (RF) of 0.94 (Table 15-7), US$ 1,296/oz for Lagoa do Gato at an RF of 0.96 (Table 15-8), and US$1,269/oz Au for Pau a Pique at an RF of 0.94 (Table 15-9). The selected pits recovered most of the ore contained in the RF = 1 pit, with a reduced stripping requirement. This strategy also prepares for the inevitable addition of waste material to the pit once road designs are added.

Table 15-7: Pit Optimization Results—Canto 2

Revenue Factor (RF)	Gold Price (x RF) (US$/oz)	Total Rock Mined (kt)	Waste Mined (kt)	Ore Mined		Stripping Ratio (w:o)	Undiscounted Cash Flow Excluding Project CAPEX 5% (US$ M)	Discounted Cash Flow Excluding Project CAPEX 5% (US$ M)
				(kt)	(g/t)			
50.0%	675	734	734	271	1.85	2.71	9.5	9.3
60.0%	810	1,474	1,474	436	1.70	3.38	12.7	12.4
70.0%	945	2,254	2,254	564	1.65	4.00	14.7	14.3
80.0%	1,080	8,925	7,459	1,466	1.50	5.09	24.1	22.1
90.0%	1,215	9,593	8,026	1,567	1.47	5.12	24.5	22.5
94.0%	**1,269**	**10,007**	**8,393**	**1,613**	**1.47**	**5.20**	**24.7**	**22.6**
100.0%	1,350	10,565	8,879	1,685	1.45	5.27	24.7	22.7
110.0%	1,485	11,613	9,835	1,778	1.45	5.53	24.6	22.6
120.0%	1,620	12,106	1,0281	1,825	1.44	5.63	24.4	22.4
130.0%	1,755	12,350	10,499	1,851	1.43	5.67	24.2	22.3
140.0%	1,890	13,706	11,756	1,950	1.42	6.03	23.1	21.4
150.0%	2,025	14,250	12,260	1,990	1.41	6.16	22.6	21.0

Table 15-8: Pit Optimization Results—Lagoa do Gato

Revenue Factor (RF)	Gold Price (x RF) (US$/oz)	Total Rock Mined (kt)	Waste Mined (kt)	Ore Mined		Stripping Ratio (w:o)	Undiscounted Cash Flow Excluding Project CAPEX 5% (US$ M)	Discounted Cash Flow Excluding Project CAPEX 5% (US$ M)
				(kt)	(g/t)			
50.0%	675	119	45	74	1.32	0.60	2.1	2.1
60.0%	810	176	69	107	1.20	0.65	2.6	2.6
70.0%	945	368	149	219	1.00	0.68	3.7	3.7
80.0%	1,080	1,090	577	513	0.86	1.13	5.5	5.3
90.0%	1,215	1,536	873	663	0.82	1.32	6.1	5.8
96.0%	**1,296**	**2,823**	**1,904**	**919**	**0.82**	**2.07**	**6.7**	**6.3**
100.0%	1,350	2,889	1,956	933	0.81	2.10	6.7	6.3
110.0%	1,485	3,526	2,489	1,037	0.81	2.40	6.6	6.1
120.0%	1,620	3,933	2,821	1,112	0.80	2.54	5.3	5.1
130.0%	1,755	9,338	7,703	1,635	0.79	4.71	3.2	3.6
140.0%	1,890	19,218	16,670	2,547	0.81	6.54	-5.1	-2.7
150.0%	2,025	19,502	16,920	2,582	0.81	6.55	-5.7	-3.1

Note: CAPEX = capital cost.

Table 15-9: Pit Optimization Results—Pau a Pique

Revenue Factor (RF)	Gold Price (x RF) (US$/oz)	Total Rock Mined Tonnes (kt)	Waste Mined Tonnes (kt)	Ore Mined		Stripping Ratio (w:o)	Undiscounted Cash Flow Excluding Project CAPEX 5% (US$ M)	Discounted Cash Flow Excluding Project CAPEX 5% (US$ M)
				(kt)	(g/t)			
50.0%	675	35	22	13	2.03	1.74	0.5	0.5
60.0%	810	343	273	70	1.64	3.94	1.7	1.6
70.0%	945	639	501	138	1.44	3.63	2.5	2.5
80.0%	1,080	908	722	186	1.37	3.88	2.9	2.9
90.0%	1,215	1,135.	914	221	1.34	4.14	3.1	3.0
94.0%	**1,269**	**1,585**	**1,311**	**273**	**1.32**	**4.80**	**3.2**	**3.1**
100.0%	1,350	1,675	1,390	285	1.31	4.87	3.2	3.1
110.0%	1,485	2,501	2,117	384	1.24	5.51	3.0	2.9
120.0%	1,620	3,050	2,628	421	1.25	6.24	2.8	2.7
130.0%	1,755	3,335	2,892	444	1.25	6.52	2.6	2.6
140.0%	1,890	3,815	3,316	498	1.21	6.65	2.1	2.2
150.0%	2,025	4,379	3,857	523	1.22	7.38	1.6	1.7

Note: CAPEX = capital cost.

15.4 Underground Reserves Estimate

The underground Mineral Reserves are being estimated in an appropriate manner using current mining software, Deswik (Version 2019.2), and procedures consistent with reasonable practice. For underground reserves, Equinox followed a three-step process:

1. Design a reserve envelope based on Indicated Mineral Resources, using a cut-off grade of 1.32 g/t Au using Deswik. The reserve envelopes are composed of stopes respecting such modifying factors as planned dilution, hydraulic radius, and slot raise 45°.
1. Prepare a development and stope design for each of the areas being evaluated (declines, access drifts, ventilation raises, etc.).
2. An economic evaluation of each stope is prepared. If the cash flow is positive, the stopes are added to the Mineral Reserve.

The mineable stope optimization parameters are discussed in Section 16.2.1.

16 MINING METHODS

The mining methods used at Fazenda include conventional truck and shovel for the open pit mining and mechanized sublevel stoping method for the underground mining. Both methods are widely used in the mining industry and have been in continuous use at Fazenda Brasileiro since mining operations were initiated in 1984. Most of the mill feed is generated from underground mining.

16.1 Open Pit Mine

Over the course of the operation's history, several shallow open pits have been excavated to extract near-surface deposits. Currently, several small open pits are in operation and being mined by contractors.

These small pits are 25 to 80 m deep and are being developed using air-track drills for grade control drilling, backhoe excavators for mining, and highway-type trucks for haulage to the mill. Pit depths are dependent on the economics of stripping overlying waste. Mineralization exceeding pit depths is considered for underground mining.

16.1.1 Open Pit Optimization

Open pit optimization was conducted on the potentially mineable Mineral Resources to determine the potential pit limits, using US$1,350/oz Au. NPV Scheduler (Version 4.30.55) was used for the Mineral Reserve Pit optimization process. Only blocks classified as Measured and Indicated Mineral Resources were included in the Mineral Reserve pit optimization for Canto 2, Lagoa do Gato, and Pau a Pique.

From the completed evaluations it was determined that Canto 2, Lagoa do Gato, and Pau a Pique can be classified as Mineral Reserves.

The open pit optimization parameters used for the open pit Mineral Reserves estimate are listed in Table 16-1. These parameters were used to generate NPV Scheduler pit shells for Mineral Reserves.

Table 16-1: Open Pits Optimization Parameters

Pit Optimization Parameter	Unit	Fazenda Brasileiro Values
Canto 2 Deswik Scheduler Block Size	m	10 x 10 x 10
Canto 2 NPV Scheduler Block Size	m	10 x 10 x 10
Lagoa do Gato Deswik Sched Block Size	m	10 x 10 x 10
Lagoa do Gato NPV Scheduler Block Size	m	10 x 10 x 10
Pau a Pique Deswik.Sched Block Size	m	10 x 10 x 10
Pau a Pique NPV Scheduler Block Size	m	10 x 10 x 10
Lagoa do Gato and Pau a Pique East Zone Pit Slope	°	50
Lagoa do Gato and Pau a Pique West Zone Pit Slope	°	40
Lagoa do Gato and Pau a Pique Excavated (Fill Materials) Pit Slope	°	20–30

Pit Optimization Parameter	Unit	Fazenda Brasileiro Values
Canto 2 North Zone Pit Slope	°	33
Canto 2 South Zone Pit Slope	°	66
Gold Price	US$/oz	1,350
Payable Gold	%	100
Canto 2 and Pau a Pique Gold Selling Cost	US$/oz	36.0
Lagoa do Gato Gold Selling Cost	US$/oz	46.1
Canto 2 Gold Recovery Lower Carbonaceous	%	83.0
Canto 2 Gold Recovery Lower Carbonaceous	%	75.0
Lagoa do Gato Gold Recovery CLX	%	91.5
Pau a Pique Gold Recovery CLX	%	91.0
Pau a Pique Gold Recovery Carbonaceous	%	75.0
Mining Dilution	%	10
Mine Call Factor	%	90
Canto 2 Closure Cost	US$/t	1.48
Lagoa do Gato Closure Cost	US$/t	3.48
Pau a Pique Closure Costs	US$/t	7.54
Royalty (Gross Revenue)	%	1.5
Costs		
Canto 2 and Pau a Pique Mining Cost	US$/t	2.24
Lagoa do Gato Ore Mining Cost	US$/t	2.21
Canto 2 and Pau a Pique Excavated Material Cost	US$/t	1.45
Lagoa do Gato Excavated Material Cost	US$/t	1.06
Process + G&A Cost for all pits	US$/t	12.16
Canto 2 Long Haulage Cost	US$/t	1.57
Lagoa do Gato Long Haulage Cost	US$/t	1.81
Pau a Pique Long Haulage Cost	US$/t	1.63

16.1.2 Open Pit Design

Figure 16-1 to Figure 16-6 show the optimized pit layouts and typical cross-sections for the Canto 2, Lagoa do Gato and Pau a Pique deposits, including the selected mathematical pit shells, the optimized pit designs and grade shells solids.

Table 16-2 summarizes the pit design parameters used.

Table 16-2: Optimized Open Pit Design Parameters

Pit Dimensions	Unit	Canto 2	Lagoa do Gato	Pau a Pique
Pit Length	m	566	810	114
Pit Width	m	215	105	85
Surface Area	m^2	120,204	58,024	39,954
Maximum Pit Depth	m	169	71	68
Pit Bottom Elevation	masl	255	275	250
Pit Exit Elevation	masl	356	342	314
Average Ramp Grade	%	12	12	12
Ramp Width Single Lane	m	10	10	10
Overall Footwall Slope	°	30	42	42
Overall Hanging Wall Slope	°	64	45	52
Mining Bench Height	m	10	10	10

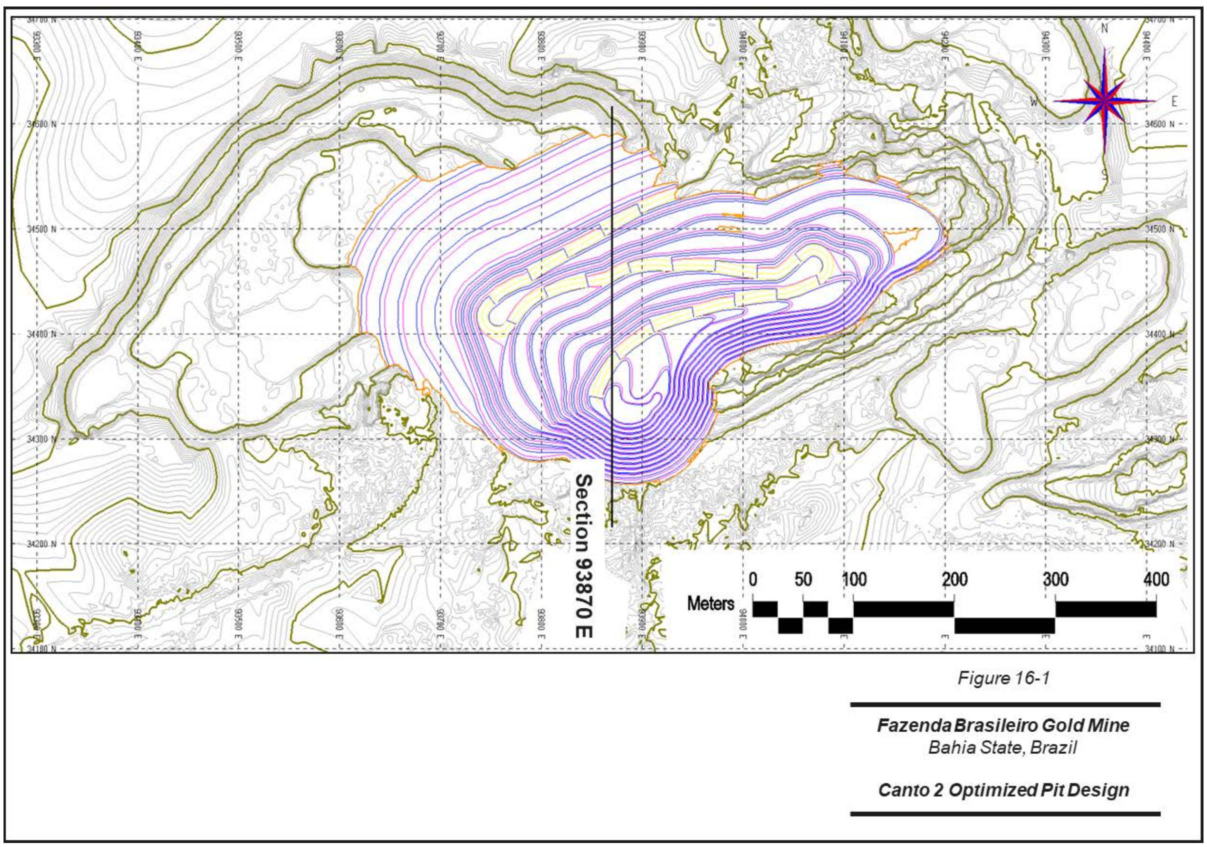


Figure 16-1: Canto 2 Optimized Pit Design

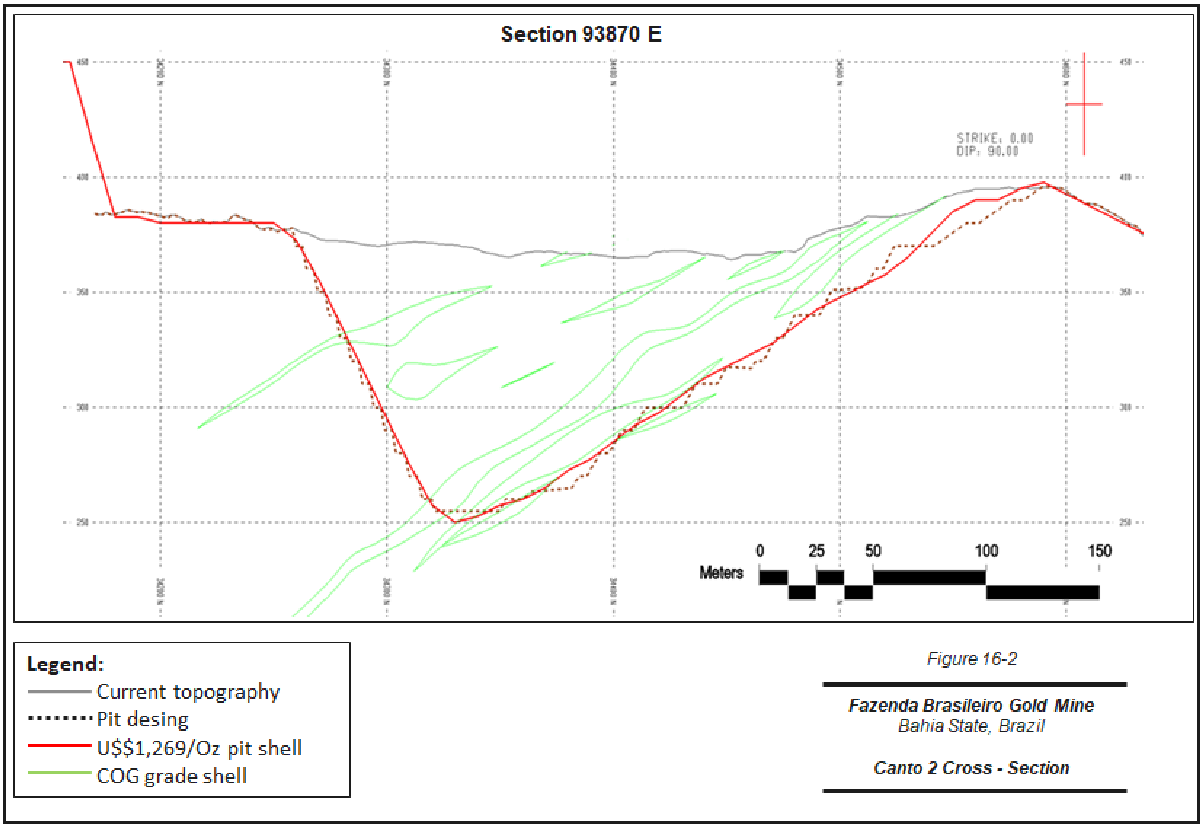


Figure 16-2: Canto 2 Cross-Section

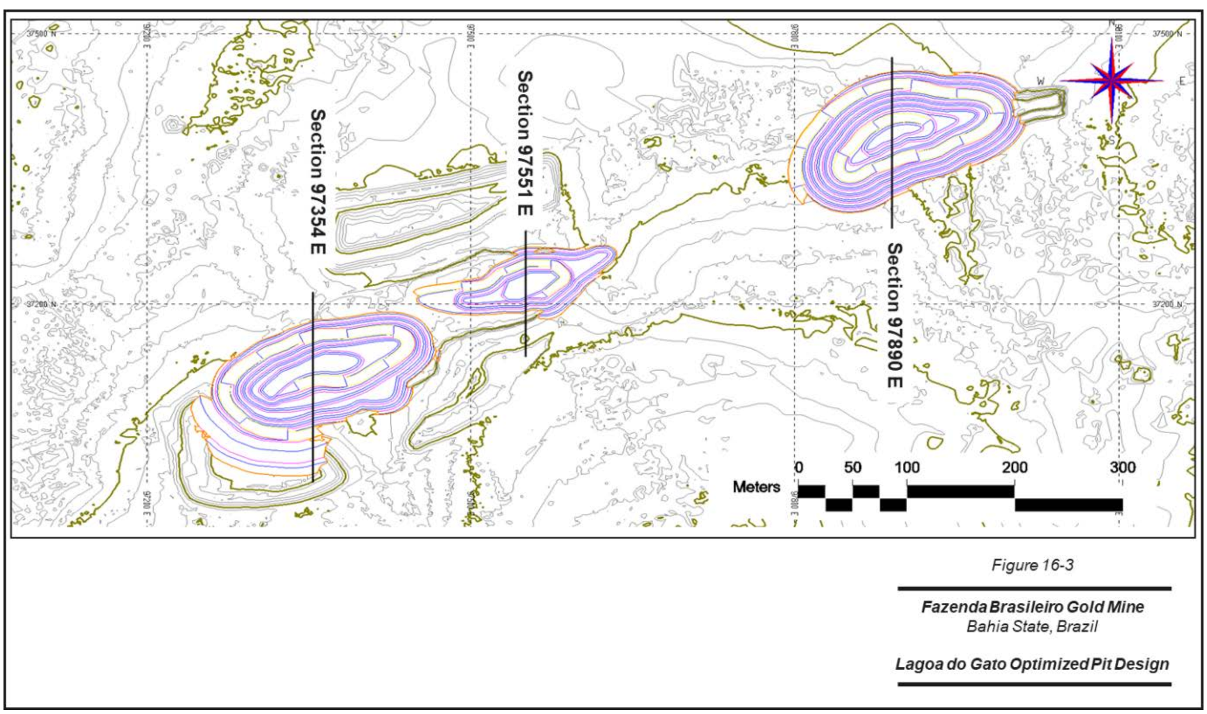


Figure 16-3: Lagoa do Gato Optimized Pit Designs

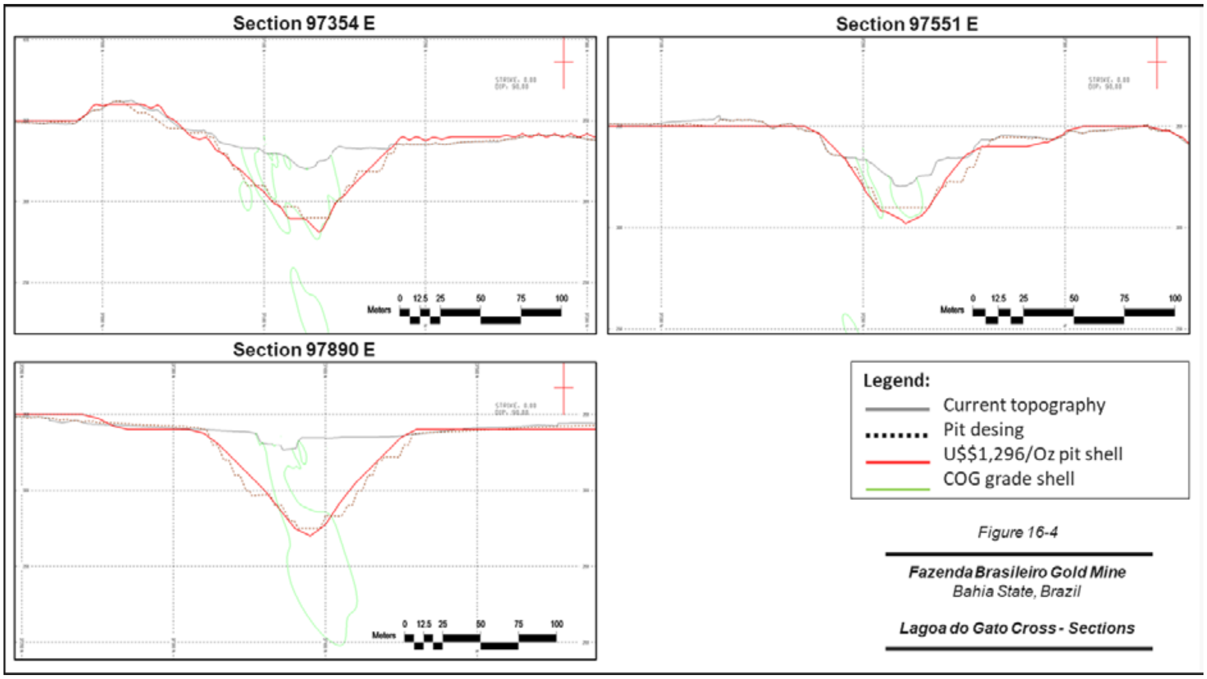


Figure 16-4: Lagoa do Gato Cross-Sections

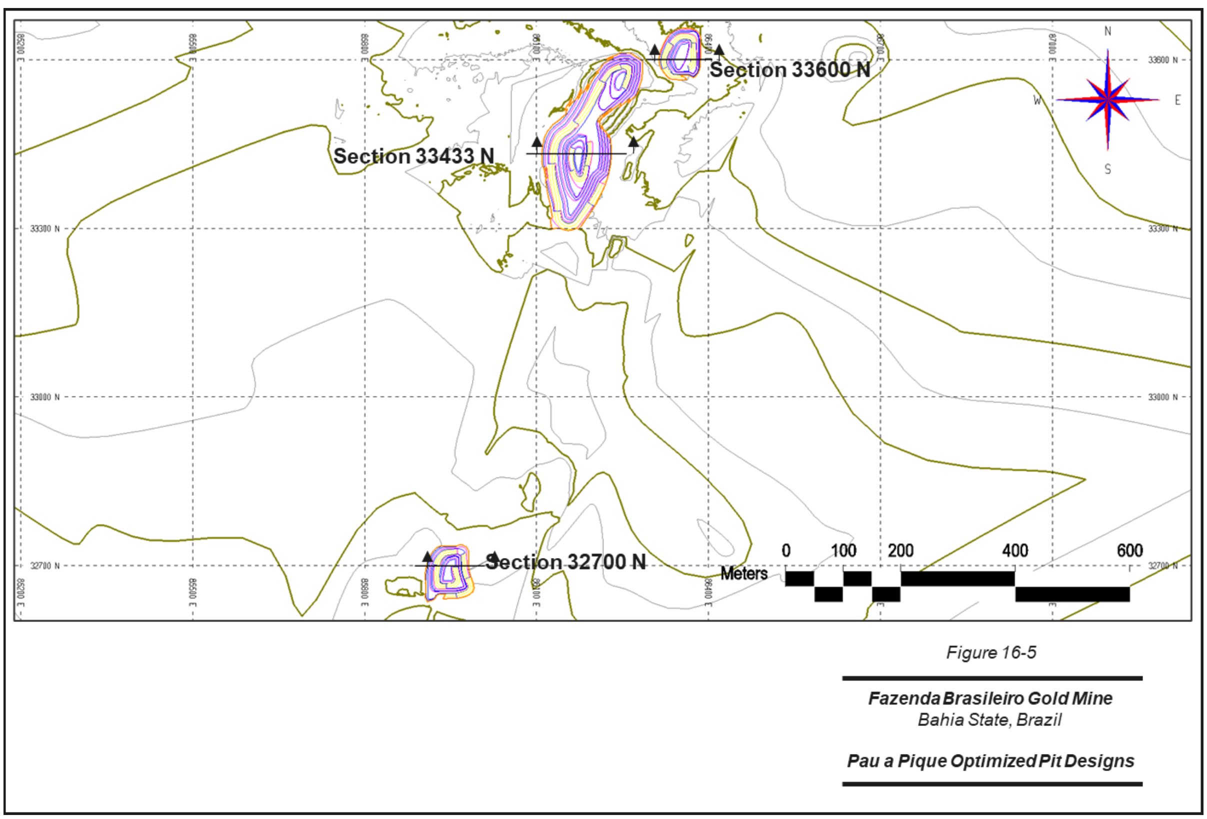


Figure 16-5: Pau a Pique Optimized Pit Designs

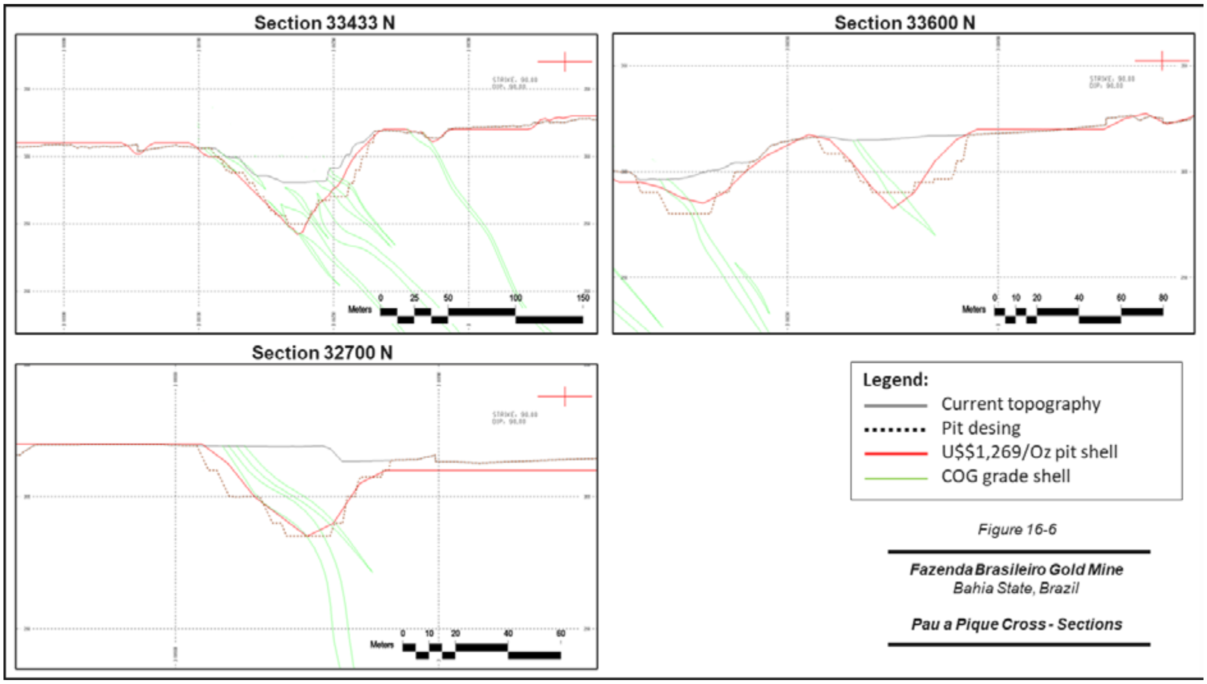


Figure 16-6: Pau a Pique Cross-Sections

16.1.3 Waste Dump Design

The rock waste dumps were designed based on the material that will be excavated over the LOM. The parameters that were used for the rock waste dump designs are summarized in Table 16-3.

Table 16-3: Waste Dump Design Parameters

Waste Dump Design	Unit	Canto 2	Lagoa do Gato	Pau a Pique
Road Grade	%	10	10	10
Minimum Road Width	m	30	30	30
Catch Bench Width	m	10	10	10
Loose Density	t/m^3	2.10	2.10	2.10
Overall Slope	°	22	22	22
Lift Slope	°	32	32	32
Lift Height	m	10	10	10
Capacity	$m^3 \times 10^3$	4,185	1,103	615

The design is considered adequate for the waste dumps to ensure long-term stability based on Zingano's (2021a, 2021b) overall slope analysis.

16.1.4 Mine Equipment

Equipment is provided by a mining contractor. An explosives contractor will provide all the blasting equipment, including all bulk-agent loading trucks. Table 16-4 presents the type and size of equipment that is being used by the mining contractor.

Table 16-4: Mining Contractor Equipment Type and Size

Type	Item
Operations	
Excavator for Waste	2.5 m^3 bucket size
Excavator for Ore	1.9 m^3 bucket size
Haul Truck	32 t capacity
Drilling	PWH 5300C (or equivalent) with blast hole drill 3.5" for pre-split and production
Support	
Front-End Loader	VOLVO L90F (or equivalent)
Grader	NEW HOLLAND RG170B (or equivalent)
Bulldozer	D6 (or equivalent)
Water Truck	20 m^3 capacity

16.1.5 Labour Force

Mining operations for the open pit mines will be 24 d/m, operating on a basis of three 8 h shifts per day, from Monday to Saturday. The mine plan requires 133 employees. Table 16-5 shows the Fazenda and mining contractor personnel labour requirements summary for mining operations.

Table 16-5: Estimated Fazenda Brasileiro and Mining Contractor Labour Force—Open Pit

Labour Force	Technical Services	Mine Operation	Fazenda Brasileiro Personnel Subtotal	Mining Contractor	Total
Geology & Mine Planning	4	-	4	-	4
Survey	-	-	-	2	2
Engineers	-	1	1	-	1
Technicians	-	1	1	-	1
Administration	-	-	-	13	13
Operators	-	-	-	94	94
Maintenance	-	-	-	17	17
Management	-	-	-	1	1
Total	**4**	**2**	**6**	**127**	**133**

16.2 Underground Mining

Underground mining employs blasthole stoping from sublevels developed in the mineralization footwall. The stoping areas are accessed initially from 5 m wide by 5.5 m high main haulage ramps developed at a 15% road grade in the footwall, which leads to primary development crosscuts with the same dimensions of the main ramps, and secondary development drifts and crosscuts of 4.5 m wide by 4.9 m high. Sublevels are spaced at 20 m vertical intervals. In general, mined-out stopes are not backfilled.

At Fazenda, active stoping areas are called bodies, with the following names: B, C, D, E, EW, EDEEP, and F. All bodies have an average operational dilution of 15%, except for the EDEEP and EW, which have dilutions of 20%. Planned mining recovery is estimated to be 90%.

From the sublevels, access drifts are developed into the stoping areas, and fan drilling of blastholes into the mineralization is used to further define the boundaries of the mineralization and design the ultimate blast patterns. After blasting, remote-controlled, 10 tonne-capacity load-haul-dump (LHD) machines are used to load and haul the ore from the stoping areas, and 30 tonne-capacity haulage trucks are used at loading points in the sublevels.

The plunge of the orebody is approximately 45° dip and the maximum stopes heights are 20 m. Future operations in the deeper areas of E Ramp will have higher haulage costs that will be partially offset by the shorter underground haulage in the F and G Ramps. To date, most of the waste rock has been hauled to surface. As noted by Michaud, Moore, and Hampton (2015), the disposal of waste rock in abandoned underground workings should be investigated, which would reduce costs.

16.2.1 Mining Design

The Deswik SO software package was used for mine planning and scheduling. The following basic mining criteria were used as SO inputs:

- Minimum distance between lenses: 5 m
- Development with a 15% maximum inclination
- Main ramp in the footwall at a minimum distance of 15 m from deposit
- Cut-off grade: 1.32 g/t
- Most stopes designed with 6.25 m (X) by 2 m (Y) by 20 m (Z)
- Minimum stope width: 2 m
- Overall average planned stope dilution: 20%–30%
- Mining recovery for sublevel stoping method: 90%.

Figure 16-7 shows the SO-generated optimized mineable stopes. Figure 16-8 is a diagram of the development and sublevel stoping mining method.

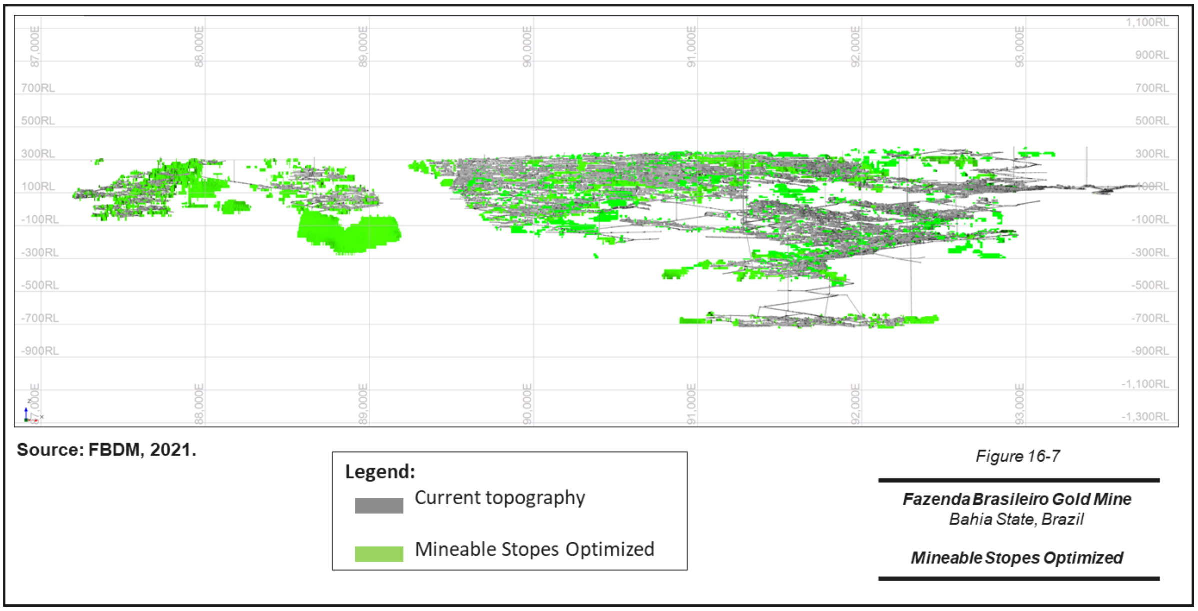


Figure 16-7: Mineable Stopes Optimized

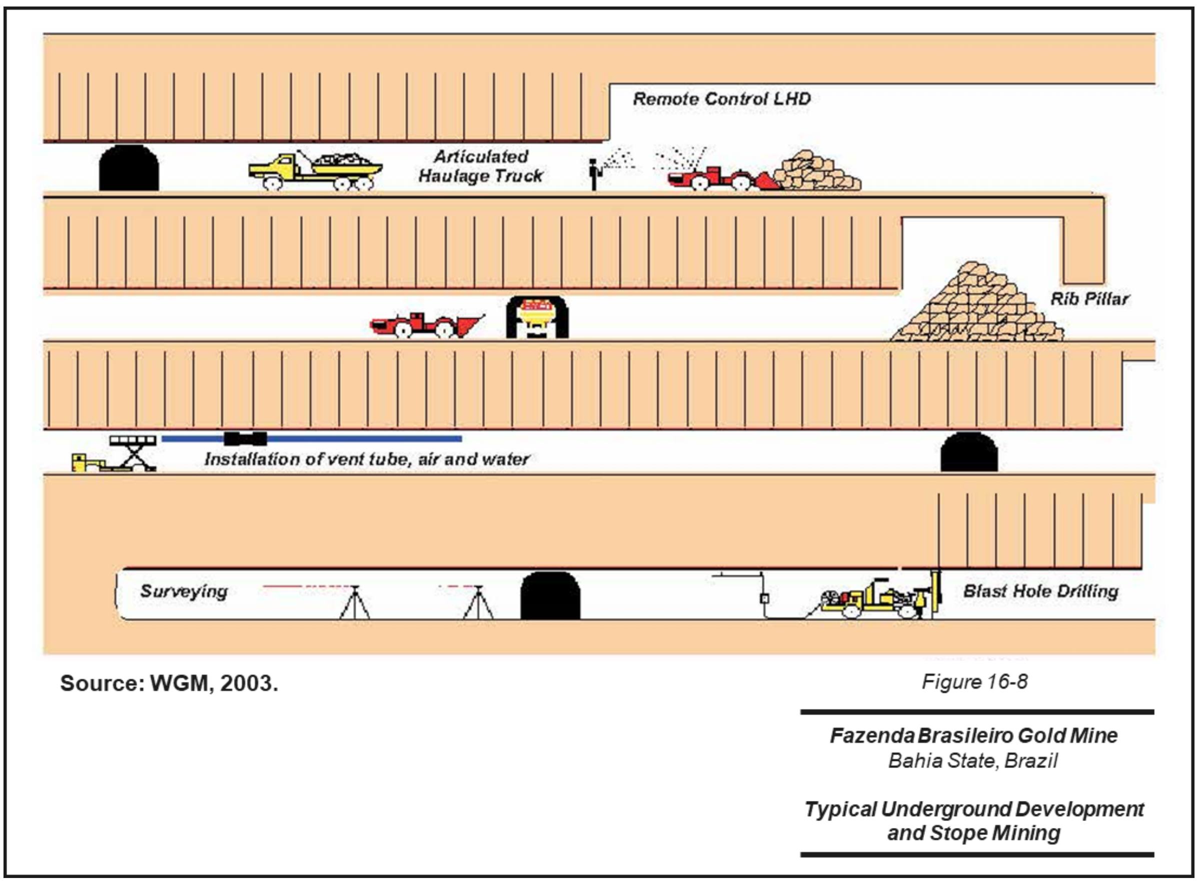
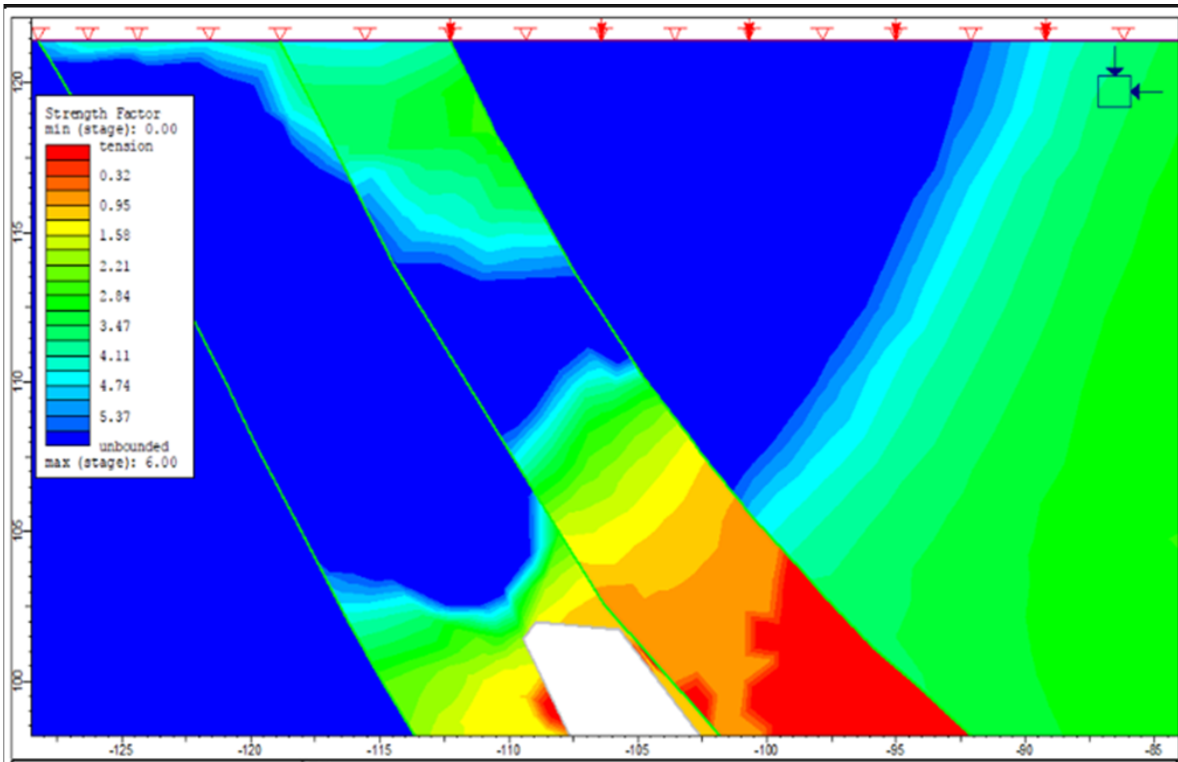


Figure 16-8: Typical Underground Development and Stope Mining

In the EW body, a small part of the reserves are in the Inco fault zone, called WRI block. Geotechnical conditions in this zone were analyzed by an internal team and the result indicates lower stability of the stopes walls, as shown in Figure 16-9. Due to this condition, in the WRI block the Modified Avoca Method will be used. This method is used in orebodies with rocks that are susceptible to premature wall collapse; only a relatively short stope is extracted, and the void is immediately tight-filled with waste rock. The next increment is extracted by choke blasting against the fill, which compacts and provides only a small amount of dilution. Modified Avoca has one end access in each sublevel with the production taking place between two subsequent sublevels, one used for drilling and/or material extraction and the other for waste rock backfill or paste filling. Figure 16-10 is a diagram of development using the Modified Avoca Method.

For stopes that will be mined using the Modified Avoca Method, higher dilution and lower productivity have been planned in the current production schedule.



Source: FBDM, 2018.

Figure 16-9

Fazenda Brasileiro Gold Mine
Bahia State, Brazil

WRI Geotechnical Study

Figure 16-9: Geotechnical Study WRI Block

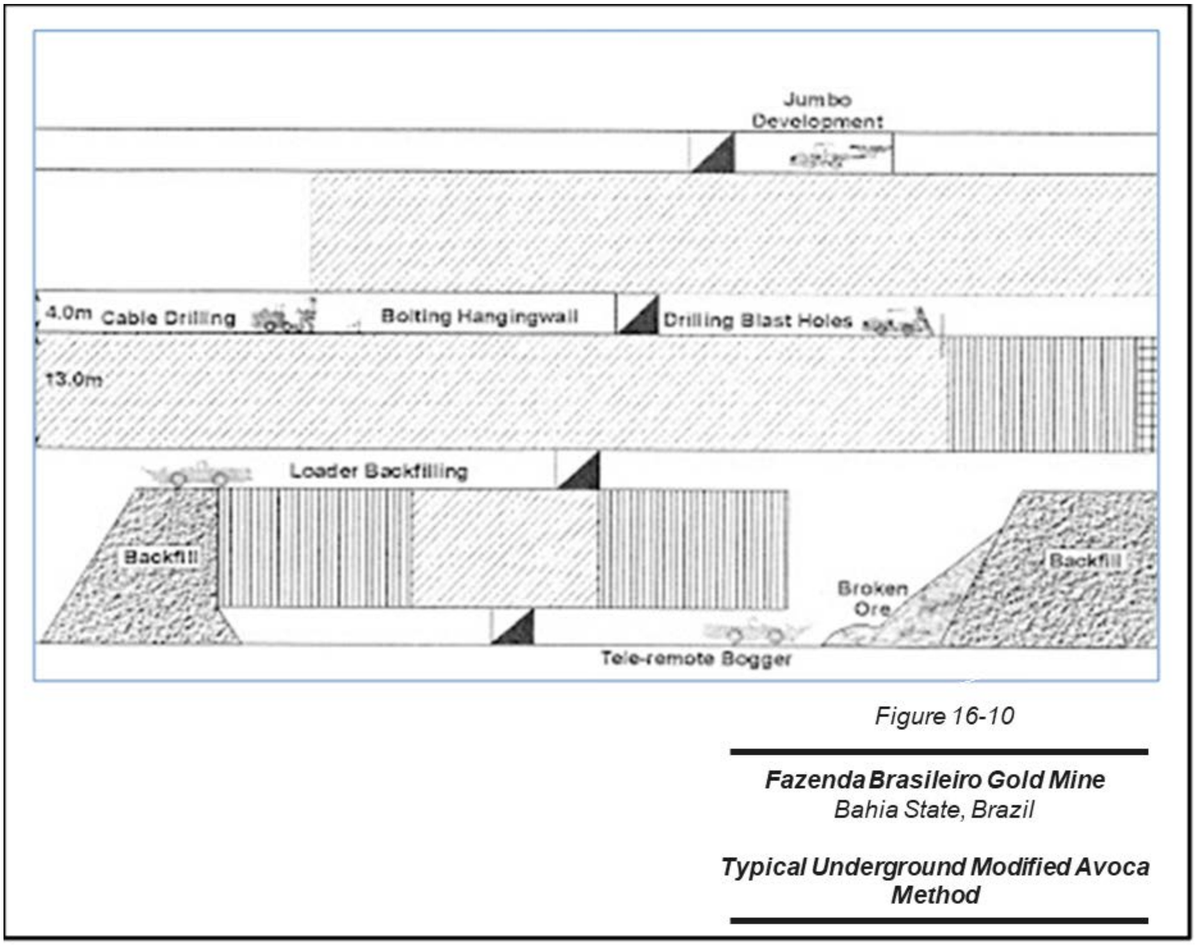


Figure 16-10: Typical Underground Modified Avoca Method

16.2.2 Underground Access

The main access to the underground operation is through a series of declines. To date, eight main declines have been developed along the strike of the mineralization—B, C, D, E, F, G, EW, and EDEEP. The B, C, D, E, and G declines have surface portals, and the F decline was developed from an underground split from the G decline. The EW and EDEEP declines were developed from an underground split from the E decline. A 470 m deep main central shaft exists; however, it is no longer used for hoisting, as the portion of the deposit located within economic distance of the shaft has been mined out. The shaft is now used only as a part of the escapeway and ventilation circuit.

16.2.3 Underground Mine Equipment

Decline and sublevel development is carried out using two-boom electric hydraulic jumbos, and stope drilling is performed with a fandrill. Stope mucking is carried out with remote-control 10-tonne LHD units. 30-tonne trucks are used for ramp haulage of both ore and waste. The mine employs an equipment monitoring and control system located on surface that tracks and dispatches the mobile equipment to the various workplaces as required. The mine dispatch operates with daily plans, as well as ongoing progress and availability of equipment to optimize the allocation. Table 16-6 lists the mobile mining underground production equipment.

Table 16-6: Underground Mining Equipment

Type	Manufacturer	Model	Units
BOBCAT	Caterpillar	242B3	1
Bulldozer	Caterpillar	D6T	1
Fandrill	Atlas Copco	H1253	2
Fandrill	Sandvik	DL421	2
Jumbo	Sandvik	DD320	1
Jumbo	Sandvik	DD321	4
LHD	Caterpillar	R1700G	6
Loader	Caterpillar	950h	3
Manipulador	Dieci	Apollo 25.6	1
Manipulador	Manitou	MTLX 732	1
Motor Grader	Caterpillar	12k	1
Plataforma	Atlas Copco	PT100	1
Plataforma	Getman	A64	4
Plataforma	Normet	Charmec 500	1
Plataforma	Normet	Charmec 400	1
Rhino	Sandvik	100MH	1
Robolt	Sandvik	DS311	1
Scaler	Doosan	DX53W	3
Scaler	Doosan	DX55W	3
Scaler	Getman	S3120	2
Scaler	Volvo	EW60C	2
Truck	Scania	P420 6x4	4
Truck	Volvo	FMX 640	14

16.2.4 Mine Ventilation

The mine is primarily ventilated by a series of raises that exhaust air to surface, and the declines and shaft, which provide fresh-air intake. The raises are connected to the main ramp in the active mining areas, and secondary ventilation fans and tubing are used to carry fresh air into individual stoping areas. The air quality is reasonable for an underground operation using diesel-powered mining equipment.

16.2.5 Hydrogeology

The Mine produces a small amount of water, and most of the pumping requirements are the direct result of mining activities.

Mine dewatering is carried out by a series of pump stations in the main ramps extending to the bottom of the central ventilation raise. Water is then pumped to surface through two additional pump stations. Current mine dewatering capacity is 120 m^3/h; this capacity will be increased to 240 m^3/h in 2021 due to new demands on the E deep region.

16.2.6 Ground Support

The underground openings have good ground conditions that do not require any special support to ensure stability. Development headings are typically scaled and bolted, using a combination of hand and a single-boom scaler with rock bolts installed by single-boom bolters. Cable bolts are also used to secure the hanging wall in the rib pillar area at the entrance to the stoping areas from the sublevels. In the WRI block, concrete is used where it crosses the Riacho do Incó fault.

16.3 Production Schedule

The LOM plan was prepared by the mine planning department which expects that annual development and definition diamond drilling programswill be successful in converting enough Mineral Resources to Mineral Reserves to replace the Mineral Reserves extracted and processed during any given year.

Annual production for the previous six years (2015 through 2020) is presented in Table 16-7.

Table 16-7: Historical Production

Year	Mill Feed Tonnes (kt)	Gold Grade (g/t)	Gold Contained (koz)	Gold Recovery (%)	Gold Recovered (koz)
2015	1,172	1.87	71	86.3	61
2016	1,259	2.00	81	87.8	71
2017	1,284	1.64	68	89.9	61
2018	1,326	1.83	77	91.7	72
2019	1,335	1.89	81	89.9	73
2020	1,341	1.68	72	90.6	66
Total	**7,717**	**1.81**	**450**	**89.4**	**403**

The mineralization classification used for the open pit production schedule is summarized in Table 16-8.

Table 16-8: Summary of Open Pit and Underground Mineral Reserve by Classification

Mineral Reserve by Classification	Tonnes (kt)	Gold Grade (g/t)	Contained Gold (koz)
Open Pit			
Canto 2			
Proven	1,370	1.31	58
Probable	184	0.95	6
Waste	8,788	-	-
Stripping Ratio	5.7	-	-
Lagoa do Gato			
Proven	-	-	-
Probable	615	0.79	16
Waste	2,317	-	-
Stripping Ratio	3.8	-	-
Pau a Pique			
Proven	91	1.45	4
Probable	36	1.07	1
Waste	1,291	-	-
Stripping Ratio	10.2	-	-
Subtotal Open Pit			
Proven Open Pit	1,461	1.32	62
Probable Open Pit	835	0.84	23
Subtotal Open Pit	**2,296**	**1.14**	**84**
Total Waste	**12,396**	**-**	**-**
Overall Stripping Ratio	5.40	-	-
Underground			
Proven Underground	3,858	1.67	207
Probable Underground	434	1.49	21
Subtotal Underground	4,292	1.65	228
Stockpile			
Probable Stockpile	66	1.52	3
Total			
Proven	5,319	1.57	269
Probable	1,335	1.09	47
Total Proven & Probable	**6,653**	**1.47**	**315**

The current LOM plan is estimated at five years (2021 to end of 2025). The LOM production schedule is presented in Table 16-9. The plan is considered to be reasonable and achievable based on actual historical and recent performance, as shown in Table 16-7.

Table 16-9: Fazenda LOM Production Schedule

	Unit	Total	Years					
			0	1	2	3	4	5
Mined								
Underground	kt	4,292	-	834	1,077	942	994	445
	Au g/t	1.65	-	1.65	1.65	1.53	1.67	1.87
	Au koz	228	-	44	57	46	53	2
Open Pit	kt	2,296	-	524	407	360	434	571
	Au g/t	1.14	-	0.99	1.09	1.21	0.97	1.42
	Au koz	85	-	17	14	14	14	26
Total Ore Mined	**kt**	**6,588**	**-**	**1,357**	**1,484**	**1,302**	**1,428**	**1,016**
	Au g/t	**1.47**	**-**	**1.39**	**1.50**	**1.44**	**1.46**	**1.62**
	Au koz	**312**	**-**	**61**	**71**	**60**	**67**	**53**
Stockpile Balance								
Initial Stockpile	kt	66	-	66	73	207	159	237
	Au g/t	1.52	-	1.52	1.38	1.34	1.01	1.07
Final Stockpile	kt	0	66	73	207	159	237	0
	Au g/t	0.00	1.52	1.38	1.34	1.01	1.07	0.00
Processed								
Total Ore Processed	**kt**	**6,653**	**-**	**1,350**	**1,350**	**1,350**	**1,350**	**1,253**
	Au g/t	**1.47**	**-**	**1.40**	**1.52**	**1.48**	**1.47**	**1.52**
Recovery	**%**	**88**	**-**	**91**	**91**	**87**	**89**	**82**
Recovered Gold	**Au koz**	**277**	**-**	**55**	**60**	**56**	**57**	**50**

Note: Totals may not add due to rounding.

17 RECOVERY METHODS

17.1 Process Description

Production at Fazenda began in 1984 using heap leaching. A conventional cyanide leaching and CIP plant ('Circuit 1') was added in 1988 to treat the underground ore at a rate of 34 t/h. In 1991, the plant was expanded by adding a second 95 t/h circuit ('Circuit 2') to give a total capacity of 120 t/h, or approximately 960 kt/a (2,630 t/d). Currently, the two leaching circuits operate with pre-aeration and CIL. With improvements made over time, the plant is capable of processing 175 t/h, and approximately 1.35 Mt/a (3,300 t/d). The heap leach operation was discontinued sometime between 2003 and 2007. The process flowsheet for the plant is presented in Figure 17-1, and the plant layout is shown in Figure 17-2.

The overall process flowsheet consists of:

- Three-stage crushing
- Ball mill grinding consisting of two mills in parallel, closed with hydrocyclones
- Gravity concentration using centrifugal concentrators; treating the underflow of one hydrocyclone in each of the grinding hydrocyclone clusters
- Thickening to produce a leach feed of 50% solids
- Cyanide leaching in two parallel circuits, Circuits 1 and 2
- CIL in two parallel circuits, Circuits 1 and 2
- Zadra pressure stripping of the carbon
- Intensive cyanidation of the centrifugal concentrator concentrates
- Electrowinning of the carbon eluent and gravity concentrate leach solution
- Casting of gold bars in an induction furnace.

17.1.1 Ore Delivery from the Mine

Ore is delivered from the underground mine using articulated 25-tonne Volvo and Scania haul trucks. The ore is dumped directly into the primary crusher feed hopper which is equipped with a static grizzly with 800 mm openings. A hydraulic impact hammer is used to break the large rocks that are retained by the grizzly.

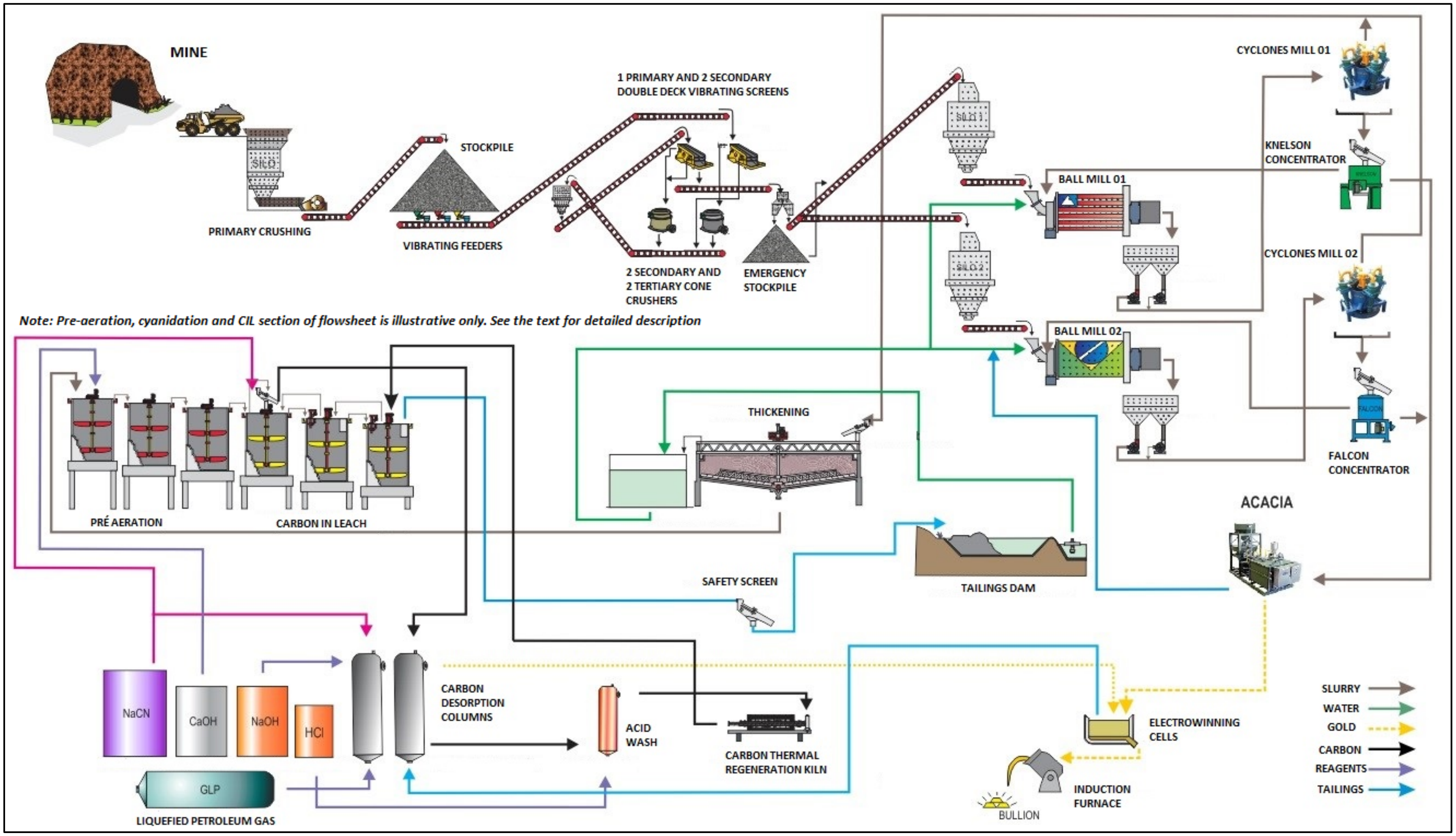


Figure 17-1: Process Flowsheet

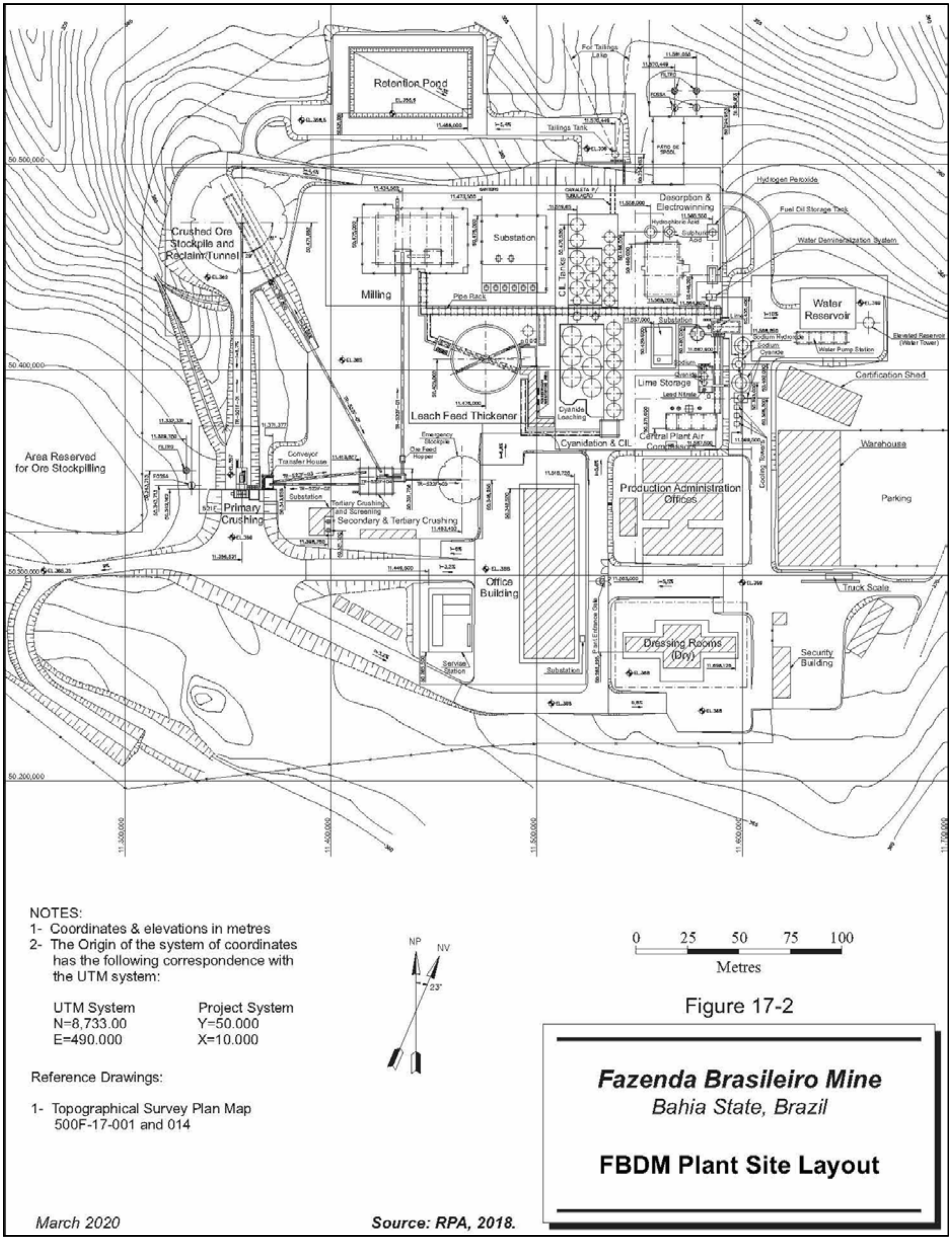


Figure 17-2: Fazenda Plant Site Layout

17.1.2 Crushing

The ore flows from the feed hopper to a Metso C125 primary jaw crusher with a closed side setting of 75 mm. The discharge from the primary crusher is conveyed to a crushed ore stockpile with a nominal capacity of 19,000 tonnes.

The crushed ore is drawn from the stockpile by three vibrating feeders installed in a tunnel under the stockpile and conveyed to the secondary/tertiary crusher area. The ore is conveyed to the primary double-deck, vibrating screen. The upper deck has 40 mm openings, and the bottom deck has 10 mm openings. The oversized material from the upper deck feeds a Metso HP300 secondary cone crusher with a closed side setting of 17 mm and the oversized material from the bottom deck feeds a Metso HP200 secondary cone crusher with a closed side setting of 8 mm.

The secondary crusher product is conveyed to the secondary screen feed bin, then to two secondary double-deck vibrating screens operating in parallel. The upper decks of the secondary screens have 16 mm opening and secondary screens lower decks have 5 mm openings. The oversized material from the secondary screens feeds two tertiary Metso HP200 cone crushers operating in parallel, with closed side settings of 7 mm. The tertiary crushers operate in closed circuit with the secondary screens; therefore, the tertiary crusher's discharge is conveyed to the secondary screen feed bin and to the secondary vibrating screen closing the circuit. The use of the secondary HP200 enabled an increase in the nominal rate of secondary crushing from 200 to 220 t/h.

The <10 mm undersized material from the primary screen joins the undersize material from the secondary screen and is conveyed through a flow divider to the grinding mill feed silos, where a reversible conveyor distributes the ore between the two silos. There are separate feed bins for each of the two parallel mills. The flow divider allows for bypassing material from secondary/tertiary crushing to an emergency stockpile with a capacity of 6,000 tonnes. The emergency stockpile provides feed for the mills during interruptions in crusher operation, typically for maintenance.

17.1.3 Grinding

Belt feeders draw the crushed ore from the mill feed bins into the two overflow ball mills operating in parallel. The MO-01 ball mill is 3.0 m diameter by 5.2 m long with a 635 kW drive and a capacity of 55 t/h with 42 % steel load. The second ball mill MO-02 is 3.8 m diameter by 7.3 m long with a 1500 kW drive and a capacity of 120 t/h with 41% steel load. The discharges of the ball mills are fitted with trommel screens to remove ball chips.

The ball mills operate at a slurry density of approximately 75% solids. The slurry discharges into separate hydrocyclone feed sumps. Each mill operates with a separate set of hydrocyclones for classification. The hydrocyclone clusters include two dedicated hydrocyclones that feed a portion of the hydrocyclone underflow slurry to the gravity concentration circuit. The hydrocyclone feed slurry density is controlled at approximately 55% solids, resulting in a hydrocyclone overflow density of 30% solids and a particle size distribution of P_{80} 74 µm. The hydrocyclone underflow slurry will have a density of approximately 75% solids.

The ball mill work indexes of the underground and open pit ores are 16.7 and 10.5 kWh/t, respectively, and the ball consumption is in the range of 680 g/t.

The hydrocyclone underflow flows to the ball mill feed chute, closing the circuit. The overflow slurry from all hydrocyclones flows to the thickener.

17.1.4 Gravity Concentration

The product of the 3.0 m diameter ball mill feeds a bank of four hydrocyclones, with two hydrocyclones operating and two in reserve. The hydrocyclone overflow flows to the thickener. A portion of the hydrocyclone underflow is diluted to 40% solids and feeds a centrifugal concentrator from Knelson supplier. The 3.8 m diameter mill product feeds a bank of seven hydrocyclones, with five operating and two in reserve. A portion of the hydrocyclone underflow is diluted to 40% solids and feeds a secondary centrifugal concentrator from the Falcon supplier.

The concentrate from the centrifugal concentrators is pumped to the Acacia reactor for intensive cyanidation. The tailings return to the respective ball mill's chute and sump box.

17.1.5 Intensive Leaching—Acacia

The Acacia reactor is an automated system that leaches the free gold concentrates from the gravity concentration. Recovering the gold takes 12 h of leaching at 54°C in a solution containing 2.5% sodium cyanide and 1.5% sodium hydroxide. The pregnant Acacia leached solution is then pumped to a storage tank in the refinery area to be treated further on the electrowinning cells.

17.1.6 Thickening

The hydrocyclone overflow is pumped to a horizontal vibrating screen to remove trash and other impurities. The high-frequency Derrick trash screen produces an underflow of 168 t/h that feeds a 32 m diameter Metso High Rate Thickener at 20% solids (SG = 1.15 t/m^3). The dosage of 12 g/t of flocculant is added into the thickener feed well. The thickener underflow slurry density is controlled to approximately 50% solids (SG = 1.48 t/m^3) using a density measurement gauge and variable speed underflow pumps. The underflow slurry is then pumped to the cyanide leaching tanks. The thickener overflow (water) flows to the process water tank for distribution to the processing facilities, including the grinding circuit, to be used as dilution water.

17.1.7 Carbon-in-Leaching

The thickener underflow slurry is pumped to two parallel lines of CIL tanks. Line 1 consists of three 350 m^3 pre-aeration tanks in series, followed by three 350 m^3 and six 110 m^3 CIL tanks in series. Pre-aeration tanks are necessary to oxidize the sulphides to reduce cyanide consumption. Lime is added to increase the pH to 10.2. Air is sparged into the tanks during pre-aeration from three compressors at 3 bar that provide 4 mg/L of dissolved oxygen.

Line 2 consists of four 700 m^3 leach tanks in series followed by seven 200 m^3 CIL tanks. Like Line 1, Line 2 has pre-aeration tanks; cyanide is added in Tank 3 to begin the leaching process, and carbon is transferred from Tanks 3 to 12 to operate as CIL tanks.

Each circuit was designed for a total retention time of 35 h. The leaching configuration is intended to address two issues: sulphide minerals, especially pyrrhotite, and organic carbon in the ore. The pre-aeration tanks will oxidize weakly bound sulphur that would combine with cyanide during leaching to form thiocyanate and cyanicides, increasing cyanide consumption and preg-borrowing the dissolved gold. A process improvement was made by the Process team, adding 60 g/t of lead nitrate to avoid this effect, concomitant with the increase of pH from 9.8 to 10.2.

The organic carbon adsorbs the gold, causing preg-robbing during cyanidation, which in turn causes gold to be lost in the tailings. To mitigate this effect the TOC is passivated by adding kerosene to the leaching tanks at 200 g/t.

The activated carbon has a grain size of 6 x 12# and is added to the last downstream tank in the CIL circuits at a proportion of 4 t/month of virgin carbon, to replace carbon consumed during the adsorption, elution, and regeneration processes. It is transferred from tank to tank countercurrent to the slurry flow. The activated carbon concentration in the circuit is 10 g/L and is loaded to approximately 500 g/t Au. Loaded carbon is pumped from the first CIL tank to the loaded-carbon wash screens. The carbon is retained over the screen and collected in portable carbon-transfer bins. The carbon is transferred to a Zadra circuit for desorption and further regeneration, while the screen underflow slurry returns to the first CIL tank.

Process controls in the leaching circuit include continuous online analyzers for both pH and cyanide concentration, with feedback loops to control addition.

17.1.8 Elution

Gold is eluted from the carbon using the pressure Zadra process. Each elution cycle treats 4 tonnes of loaded carbon in a 10 h cycle at a flow rate of two bed volumes per hour, which delivers two elutions per day.

Currently, the first step of the process is the desorption (elution). Loaded carbon is transferred to two columns (each column at a time) and is stripped by a solution containing 0.2% sodium cyanide and 2.0% sodium hydroxide at 140°C and 360 kPa, flowing upward from the bottom. After 10 hours, the pregnant solution passes through a heat exchanger, where the solution is cooled to 80°C, then stored in the pregnant eluant tank. The solution is then pumped through electrowinning cells operating at a current density of 500 A/m^2, and the gold is plated out on steel wool cathodes. The barren solution is then pumped to the barren solution tank, where the cyanide and soda concentrations are adjusted. The barren solution is then pumped through a heat exchanger to raise the temperature to 140°C, and recirculates through the elution column, completing the cycle (the barren solution can be used in up to five batches).

The second step is acid washing, which removes base metals and scaling compounds such as calcium carbonate and sodium silicate from the carbon. The carbon is added to a 4-tonne capacity acid wash column. The column is then filled with a 3% hydrochloric acid solution and allowed to soak for 4 h. Fresh water is then added to displace the acid solution, wash it, and neutralize the carbon prior to being discharged from the column, over a carbon dewatering screen, and into the barren-carbon storage tank ahead of the carbon regeneration kiln. The barren solution is then pumped to the head of the CIL circuit.

Currently, elution recovery is 90%; however, further testwork needs to be undertaken to change the order of the steps to discover if recovery is increased.

17.1.9 Carbon Regeneration

Half of the barren carbon is reactivated in a horizontal electric rotary kiln operating at 700°C; the other 50% returns to the leach without regeneration. The hot carbon exiting the kiln is cooled in a quench tank, and screened to remove carbon fines, which report to the tailings. Regenerated carbon is then transferred to the CIL circuit to be reused. The kiln capacity is 166 kg/h.

A new regeneration kiln will be installed in the circuit to improve capacity and carbon activity.

17.1.10 Electrowinning and Dore Smelting

The pregnant gold solutions from the Acacia (3 batches/day) and elution (2 batches/day) are separately processed by electrowinning. The solutions are circulated through the electrowinning cells, and the gold in solution is plated out onto steel wool cathodes. Once the cathodes are loaded, they are removed from the cells and the steel wool is added with fluxes into an electric induction furnace at 1,200°C where it is melted to produce gold doré bars for sale.

17.1.11 Tailings

There are four geomembrane-lined tailings impoundments (dams) at Fazenda. Dams 1, 2, and 3 are full; Dam 4 is in use. The CIL tailings slurry is pumped to Dam 4. The slurry is discharged, via spigotting, to form beaches, and the clear solution percolates to a low-point collection area, from which it is pumped back to the process-water tank in the process plant. The water balance is managed, to maintain water freeboard levels as low as possible.

17.2 Production Historical Data

Table 17-1 presents the key operating parameters and the performance indicators for Fazenda's processing facility for the years 2019 and 2020.

Table 17-1: Processing Operating Parameters (2019 and 2020)

Operating Parameter Description	Unit	2019	2020
Total Ore Mined	t/a	1,357,168	1,308,021
Ore Mined from Open Pit	t/a	78,088	38,989
Ore Mined from Underground	t/a	1,279,080	1,269,032
Mill Production	t/a	1,335,429	1,341,833
Production Rate	t/h	163.5	162.3
Grinding Availability	%	94.2	94.7
Grinding Utilization	%	97.6	99.2
Grinding Product P_{80}	µm	74	73
Gold Head Grade	g/t	1.90	1.68
Overall Recovery	%	89.9	90.6
NaCN Consumption	g/t	670	610
Grinding Media Consumption	g/t	720	660

Operating Parameter Description	Unit	2019	2020
Lime Consumption	g/t	1,130	1,190
Power	kWh/t	31.2	31.2
Carbonaceous Ore in the Blend	% Max	10	10
Plant Unitary Operating Costs	US$/t	12.68	10.56
Lead Nitrate	g/t	-	30
Kerosene	g/t	-	200
Dissolved Oxygen	mg/L	6.5	5.9
% Solids Leaching Feed	%	52	53
Carbon Concetration	g/L	25	25
Ore Wi	kWh/t	16.7	16.7

The capacity of the process plant is limited by the grinding circuit, which, when available, can consistently process mine ore at a rate of 173 t/h. At an availability of 91% this results in an annual production of 1.340 Mt. The production rate in 2019 was 165.5 t/h and availability of 94.2%, producing 1.335 Mt. The mill produced similar numbers in 2020: an average rate of 162.3 t/h at 94.7% availability, producing 1.342 Mt. Production is primarily affected by the ore blend, mine supply rate, and plant availability. Figure 17-3 shows the budgeted grinding production compared to actual production in 2020.

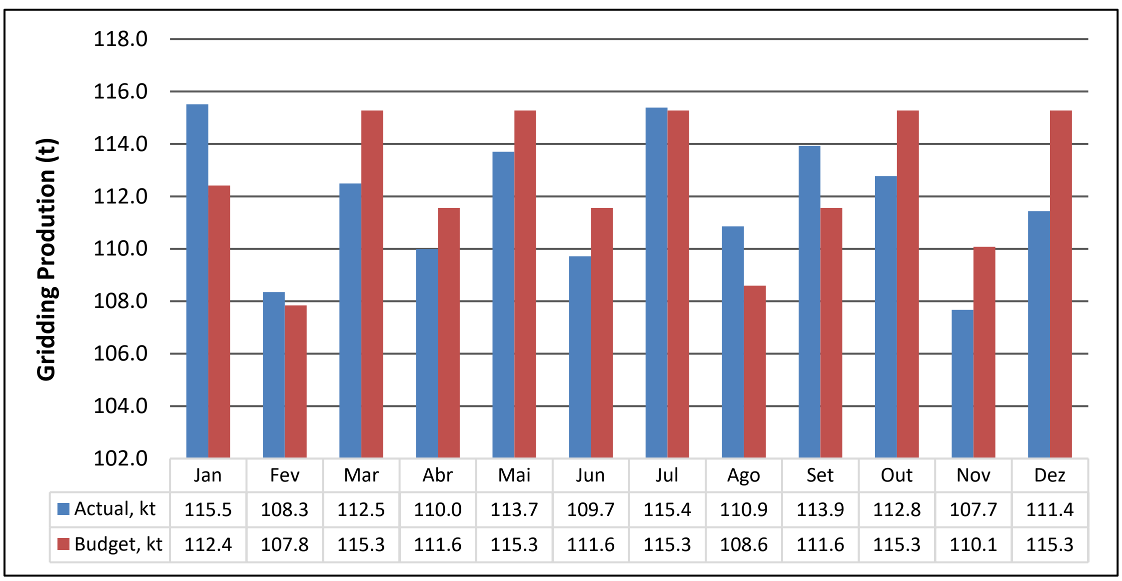
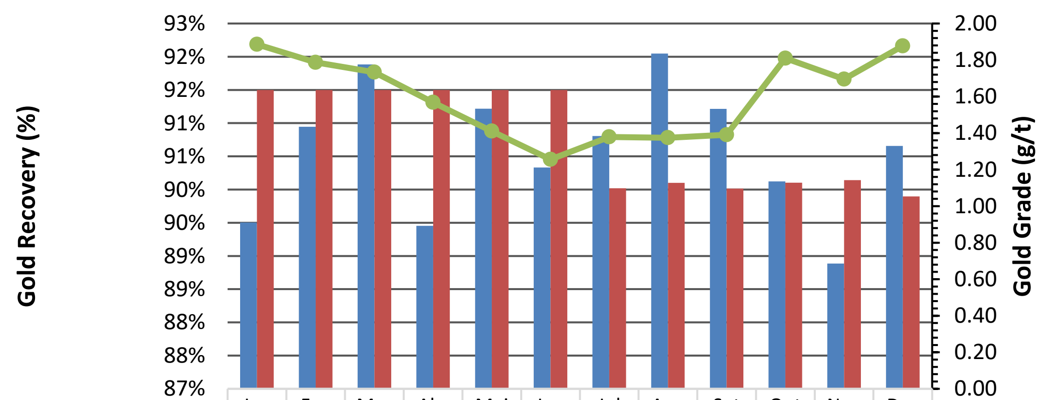


Figure 17-3: 2020 Fazenda Mill Production, Budgeted vs. Actual

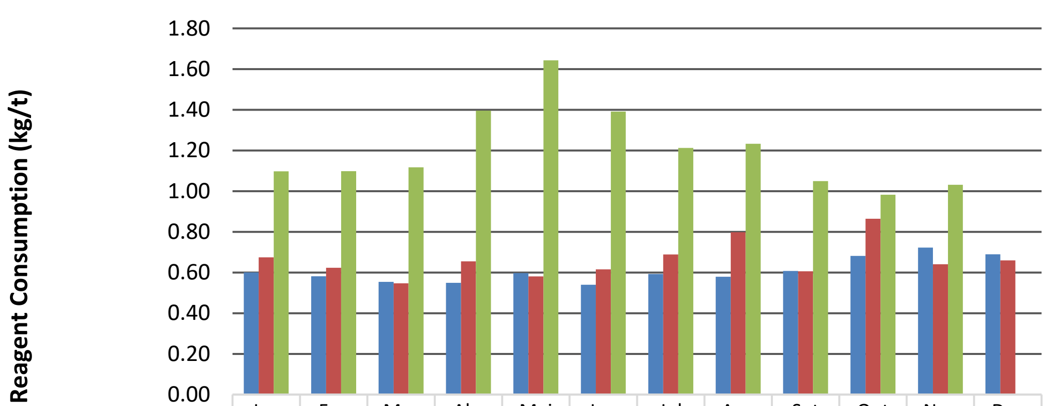
Figure 17-4 illustrates the 2020 budgeted and actual gold recovery compared to the head grade. The total gold recovery in the year was 90.6%. Recovery variance is primarily affected by the concentration of TOC and sulphides blended to the plant feed from the Canto Sequence and CLX zones. Blending of ore to the process facility is important to stabilize and effectively minimize the detrimental effects of TOC and high concentrations of soluble sulphides.



	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
Actual, %	90%	91%	92%	89%	91%	90%	91%	92%	91%	90%	89%	91%
Budget, %	92%	92%	92%	92%	92%	92%	90%	90%	90%	90%	90%	90%
Gold Grade, g/t	1.89	1.79	1.73	1.57	1.41	1.26	1.38	1.37	1.39	1.81	1.70	1.88

Figure 17-4: Gold Recovery and Gold Grade in 2020

The Figure 17-5 shows the 2020 reagent consumption. Cyanide consumption was consistent throughout the period, with an average usage of 610 g/t in 2020. Grinding media consumption was also consistent, with an average of 660 g/t, and lime consumption ranged from 980 to 1,640 g/t during the period, with an average of 1,190 g/t in 2020.



	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
NaCN, kg/t	0.60	0.58	0.55	0.55	0.60	0.54	0.59	0.58	0.61	0.68	0.72	0.69
Grinding Media, kg/t	0.67	0.62	0.55	0.65	0.58	0.62	0.69	0.80	0.61	0.86	0.64	0.66
Lime, kg/t	1.10	1.10	1.12	1.40	1.64	1.39	1.21	1.23	1.05	0.98	1.03	

Figure 17-5: Reagent Consumptions in 2020

Figure 17-6 presents the plant power consumption in 2020. Power usage ranged from 29.3 to 35.7 kWh/t and averaged 31.2 kWh/t in 2020.

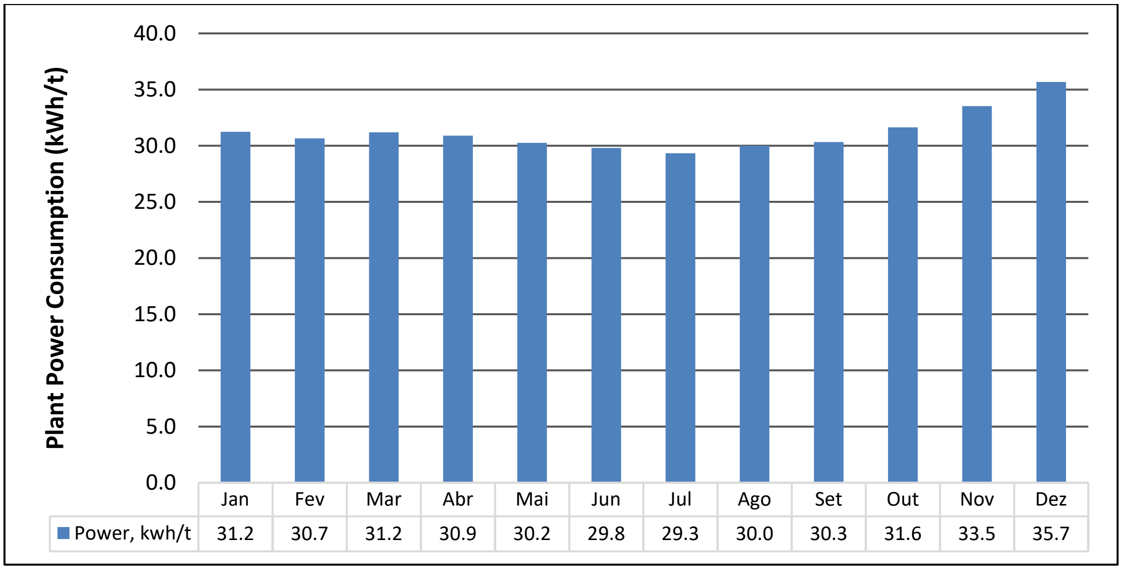


Figure 17-6: Plant Power Consumption in 2020

Figure 17-7 presents the plant unitary operation costs in 2020. The average was US$10.56/t in 2020.

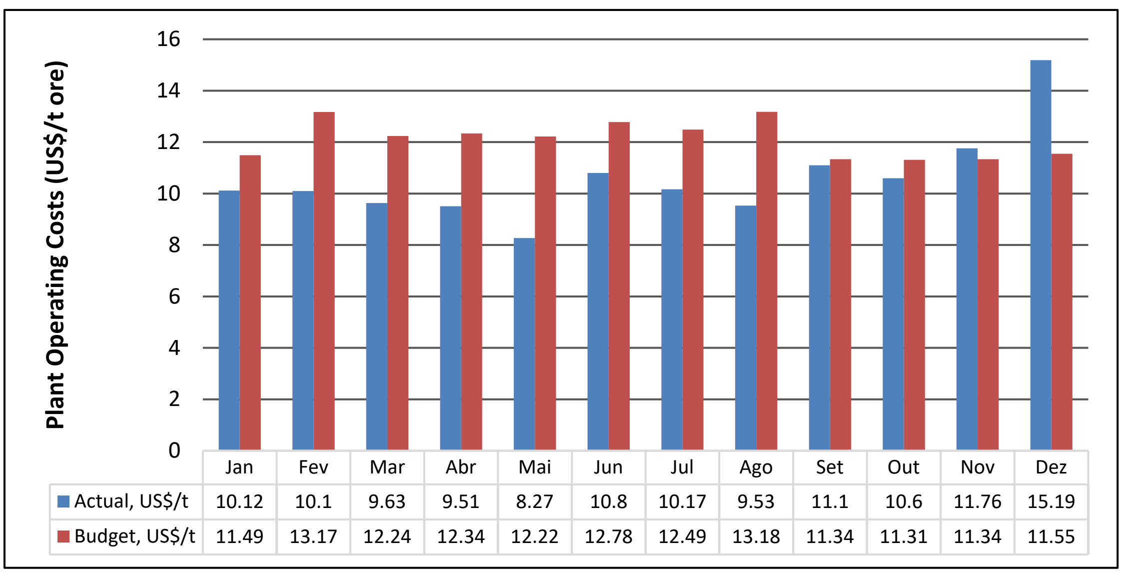


Figure 17-7: Plant Unit Operating Costs in 2020

18 PROJECT INFRASTRUCTURE

18.1 Infrastructure

Fazenda has operated for 37 years and has all the necessary roads, power lines, access, medical facilities, and surrounding communities that provide workers and services, that one would expect to find in one of Bahia State's major employers.

Teofilândia is a full-service town, and along with the Mine has access to electricity from the national power grid. There is a freight-only rail line that passes through the area in a northwest–southeast direction close to the mine. It is not used by the mine.

18.1.1 Access Roads

The Mine is in the municipality of Barrocas in northeastern Bahia State. The Mine can be accessed from Salvador (population approximately 2.9 million) by way of approximately 180 km of paved road to Teofilândia (population approximately 22,555), and locally by a 12 km unpaved road.

18.1.2 Tailings Dam

There are four geomembrane-lined tailings lakes at Fazenda. Lakes 1, 2, and 3 are full; Lake 4 is in use. The tailings slurry is pumped to Lake 4 and discharged around the periphery of the Lake 4 tailings impoundment for better distribution. The tailings form beaches, and the clear solution percolates to a low-point collection area from which it is pumped back to the process-water tank in the process plant. The water balance is managed to maintain water freeboard levels as low as possible.

18.1.3 Electrical Power Supply

The power requirement for the mine and site facilities is approximately 9.95 MW, which is supplied by the local grid. Figure 18-1 presents the unit power consumption per tonnage treated for January to December 2020. Power usage ranged from 51.9 to 64.2 kWh/t, and averaged 54.95 kWh/t.

18.1.4 Water Supply

Water is supplied by a series of well fields with a total production capacity of 310 m^3/h. The water is supplied through a 10-inch diameter (25 cm), 36.3 km long pipeline and supplies local municipalities, communities, and Fazenda. The aquifer is reported to be very large, therefore water supply appears to be secure.

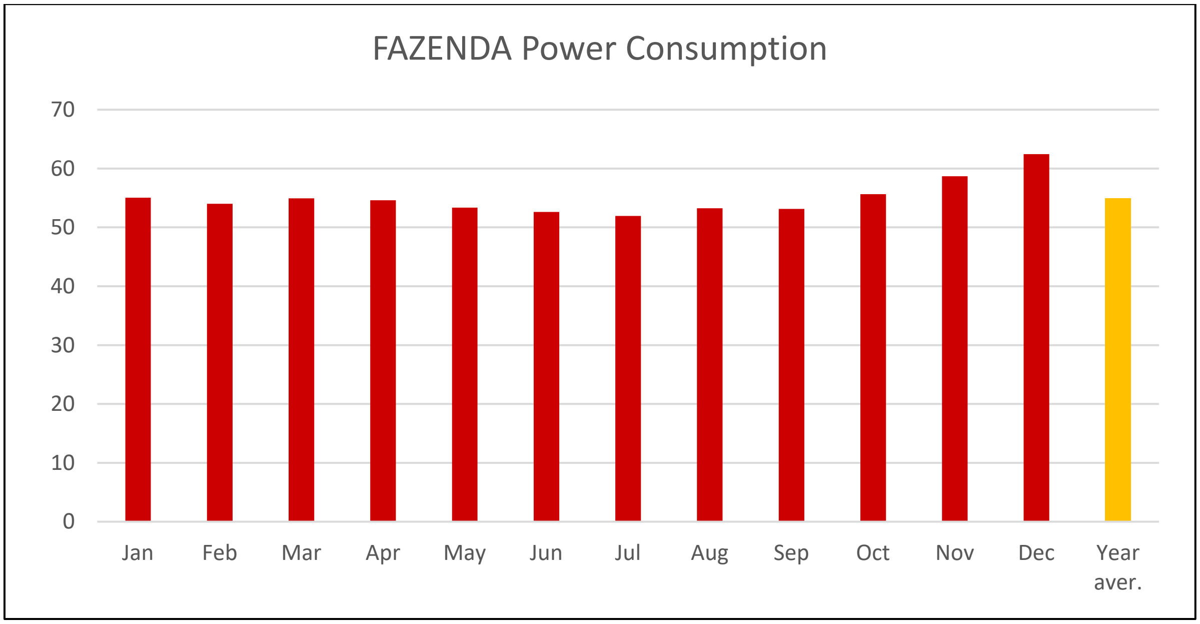


Figure 18-1: Unit Power Consumption per Tonnage Treated (kWh/t) from January to December 2020

18.1.5 Site Facilities

Mine, administration, and process facilities are well established and include:

- 470 m vertical shaft
- Series of underground ramps
- CIL milling and processing facility
- Lined heap leach pads and associated process equipment
- Geomembrane-lined tailings disposal ponds
- Warehouse
- Maintenance shops
- Drill core logging, splitting, and storage facilities
- Assay laboratory
- Cafeteria
- Helipad for emergency use and shipment of gold bullion
- Office complexes
- Water system consisting of a well field east of Teofilândia, and a buried pipeline and water pumping system to provide potable and processing water to Teofilândia and the mine
- Fuel station
- Explosives magazine.

18.2 Workforce Accommodation

The town of Teofilândia serves as the main community for mine workers, although there is a smaller village between Teofilândia and the mine. The local population base is approximately 22,000 and the vast majority of live in Teofilândia. The general area of the exploration properties is inhabited largely by subsistence farmers and *garimpeiros*.

18.3 Security

The entire area of the mine, process plant, gold room, and explosives magazine is enclosed by security fences and under 24/7 h surveillance and is patrolled by security personnel.

19 MARKET STUDIES AND CONTRACTS

19.1 Markets

The principal commodity at Fazenda is gold, which is freely traded at widely known prices thus, prospects for sale of any production are virtually assured. A gold price of US$1,350/oz was used for the Mineral Reserves estimate.

19.2 Contracts

Fazenda has 170 contracts in place, which is about average for a typical mining operation in Brazil. The terms of the various contracts are within Brazilian law. The large number of contracts is largely due to the use of numerous small local companies. Fazenda prioritizes sourcing goods and services through local suppliers and thereby contributing to the sustainable economic development of local communities.

The primary service contracts are summarized in Table 19-1. Monthly spending is the actual average value for 2020, and these costs are reasonable in the QP's opinion.

Table 19-1: Monthly Primary Service Contract Expenditures (2020)

Contracts	Monthly Spend (US$ 000s)
Operational Contractors	527
Energy	307
Maintenance Contractors	103
Operational Services	27
Refining/Transport/Insurance	52
Maintenance Services	47
2020 Exchange Rate (R$:US$)	*5.2*

Fazenda has contracts for various mine consumables and the average monthly expenditures for the primary items for 2020 are listed in Table 19-2. In the QP's opinion, these costs are also reasonable.

Table 19-2: Monthly Consumable Expenditures (2020)

Description	Monthly Spend (US$ 000s)
Mobile Equipment Spare Parts	396
Diesel	124
Explosives	118
Cyanide	132
Other Equipment Spare Parts	237
Tires	67

Description	Monthly Spend (US$ 000s)
Steel Grinding Balls	73
2020 Exchange Rate (R$:US$)	5.2

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

Fazenda has a comprehensive environmental policy, partially inherited from the Yamana and CVRD operations. This policy has been developed in line with the Mine Closure Plan (MCP), as outlined by ANM. In 2018, Mineral Engenharia e Meio Ambiente, an external consulting firm, prepared the MCP. The environmental authorities in Brazil use the MCP as the Company's commitment to complete the rehabilitation required for mine closure.

The MCP guidelines are, in essence, revegetating with native species, covering the pits or converting them to water storage, demolishing and removing all structures and facilities that will not be used in the future, and stabilizing and rehabilitating waste dumps and tailings dams. A summary of the items developed in the MCP is presented below.

20.1 Environmental Licensing

The Brazilian Environmental Policy was created in 1981 (Law 6938/1981). Based on this policy, the Resolution CONAMA 01/1986 defined the nature of the studies required for permitting different types of activities that have the potential to cause environmental impacts. Fazenda currently has several environmental licenses and water permits. These permits were issued by the Institute of Environment and Water Resources (INEMA) through processes in the Environmental State Board.

All required environmental licences and permits to conduct the proposed work in the property are in good standing or are in process of obtainment. The permits currently effective are summarized in Table 20-1.

- The new integrated operating permit for mining, mineral processing, waste rock storage, and tailings management facilities was issued in 2020.
- Operating permit for wastewater treatment plant for company housing in Teofilândia.
- Grant for use of groundwater at Biritinga.

Fazenda has been operating for over 37 years and all relevant permits have been in place for this period. There are no identified environmental liabilities associated with the tenements.

Table 20-1: Environmental Permit Status

Document	Description	Certificate No.	Process No.	Granting Date	Expiry Date	Status
Licence to Operate Wastewater Treatment for Housing in Teofilândia	Dwellings and wastewater treatment for mine workforce	INEMA 8.143/2014	2013.001.000486/ INEMA/LIC-000486	16/08/2014	17/08/2022	Active
Water Withdrawal Permit	Grant for use of resource water—Biritinga	INEMA 616.761/2018	2017.001.005339/ INEMA/LIC-05339	25/08/2018	25/08/2022	Active
Operating Permit	Mine operating permit for Mine, mineral processing facilities, waste rock storage and tailings dam	INEMA 2.184/2020	2018.001.002047/ INEMA/LIC-002047	06/03/2020	06/03/2025	Active
Operating Permit	Operating permit for open pit mine—FW Oeste	INEMA 21.773/2020	2020.001.004552/ INEMA/LIC-04552	10/11/2020	10/11/2024	Active
Alteration Licence	Alteration licence for raising Lake IV—elevation 345 m	INEMA 21.027/2020	2019.001.167949/ INEMA/REQ	15/07/2020	06/03/2025	Active
Operation Permit	Operating permit for open pit mine—LG III	INEMA 19.061/2019	2017.001.001967/ INEMA/LIC-01967	06/09/2019	06/09/2020	In Renewal

20.1.1 Land Use

The site currently occupies 1,240 ha which belongs to Fazenda. If it is required to use a third-party area, a contract is formalized for land use, with royalty payments according to the production in that area. The contract also specifies that the company has the responsibility for reclaiming that area.

Figure 20-1 shows the legal reserve areas near the current infrastructure. These are protected areas that are not allowed to be disturbed by mining activities.

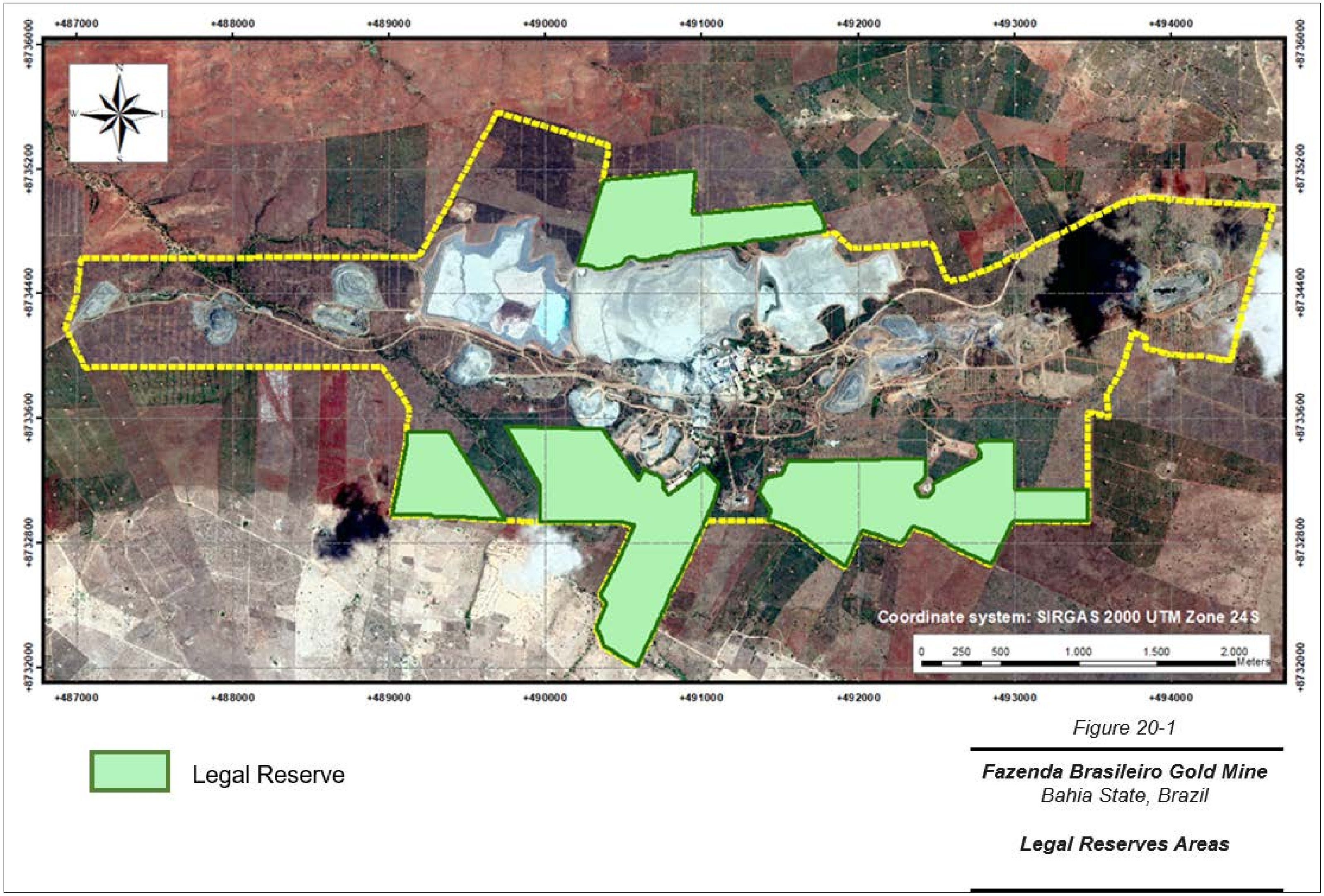


Figure 20-1: Legal Reserve Areas

20.1.2 Environmental Impacts and Mitigation Actions

The Fazenda mining license currently has an environmental control plan in place according to Brazil Legislation. Any impacts generated are monitored and addressed as required, including the submission of monitoring reports. The impacts most be mitigated during the closure phase of the project in accordance with MCP update, prepared by Mineral Engenharia e Meio Ambiente.

The programs contemplated in the environmental control plan are:

- Environmental Management System
- Environmental Education Program
- Erosive Processes Prevention and Control Program
- Liquid Effluents Control Program
- Fauna and Flora Control Program
- Degraded Areas Rehabilitation Program
- Solid Residues Management Program
- Surface Waters Quality Monitoring Program
- Atmospheric Emissions and Air Quality Monitoring Program
- Noise and Vibration Monitoring and Control Program.

20.2 Socioeconomics

The Environmental Impact Assessment (EIA) identified the main impacts that will be generated by the Fazenda closure in the socioeconomic area, such as unemployment, decreased tax revenues, end of demand for local regional suppliers, reduction in personal income, and the end of projects with the local communities. A summary of these impacts is presented in Table 20-2.

Table 20-2: Socioeconomic Impacts Associated with Mine Closure

Impact	Frequency	Severity	Coverage	Nature	Mitigation Possibility
Unemployment	Probable	High	Regional	Negative	Mitigable
Termination of tax collection	Probable	High	Regional	Negative	Non mitigable
End of the demand for suppliers	Probable	High	National	Negative	Mitigable
Income decrease	Probable	High	Regional	Negative	Mitigable
End of the projects with the community	Probable	Medium	Regional	Negative	Non mitigable

Unemployment could potentially be mitigated by relocating individual workers to other Equinox operations. The nearest Equinox site is in the municipality of Santa Luz, about 70 km of distance. Relocation to other mining projects and other mining companies within the state is also a possibility.

The loss of tax revenue income is irreversible in the short and medium terms because there are no prospective new enterprises scheduled or planned within the Fazenda area of influence. Services and materials suppliers will have to look for new clients such as the Santa Luz Mine. The reduction of personal income can be partially offset with the implementation and support of sustainable projects within the communities, and educational training of the people before project closure.

The end of projects involving the community partnership program can be mitigated by intensifying the investments in projects during the pre-closure phase. This investment support has the objective of developing the autonomy and the sustainability of these projects, mainly in the generation of employment and income.

20.3 Mine Closure Requirements

The estimated closure costs for Fazenda are presented in Table 20-3. The total closure costs are estimated at R$ 90.0 million or approximately US$18.95 million at an exchange rate of R$4.75:US$1.00.

Table 20-3: Estimated Mine Closure Costs

Closure	Total (R$ 000s)
Closure Study	2,519
Canto II Open Pit and Waste Piles Reclamation	7,207
Closure of Open Pit Corpo EW	14
Closure of the Open Pit "Cava da Barragem"	109
Tailings Facility Reclamation	32,047
Sealing and Closure of Portal G	972
Sealing and Closure of Portal FW Oeste	1,987
Closure of the Open Pit Cava Corpo F	7,806
Closure of the Open Pit Cava Canto 1 Sul	11,861
Closure of the Open Pit Cava Canto 2 Sul	863
Closure of the Open Pit Cava Pau-a-Pique PPQ03	4,492
Closure of the Open Pit Cava Pau-a-Pique PPQ14	684
Closure of the Open Pit Cava Lagoa do Gato—LG3	1,692
Topographic Contouring of Waste Dumps	2,596
General Revegetation	4,768
CIL Plant, Heap Leach Pads, and Shop Decommissioning	8,223
Revegetation Maintenance	1,016
UG Mine Stabilization and Closure	532
Soil and Water Monitoring 5 years After Closure	637
Total (Closure)	**90,027**

Note. Numbers may not add due to rounding.

20.4 Acid Rock Drainage Evaluation

A detailed acid rock drainage (ARD) evaluation of the tailings was carried out in 2012. A total of 57 samples of tailings were collected from the three existing tailings facilities, and analytical results showed that almost 100% of samples presented a neutralization potential two times higher than the acid-generating potential. Figure 20-2 shows the acid–base accounting of these samples.

These results showed that although sulphides such as arsenopyrite, pyrite, and pyrrhotite are present in the mineralogy of the site, the presence of carbonates is proportionately well in excess of the amount of these sulphides. From these results it is possible to conclude that ARD generation will not be a significant risk for the mine during operation and after closure. In addition, the three tailings' facilities have geosynthetic liners to prevent seepage from the impoundments.

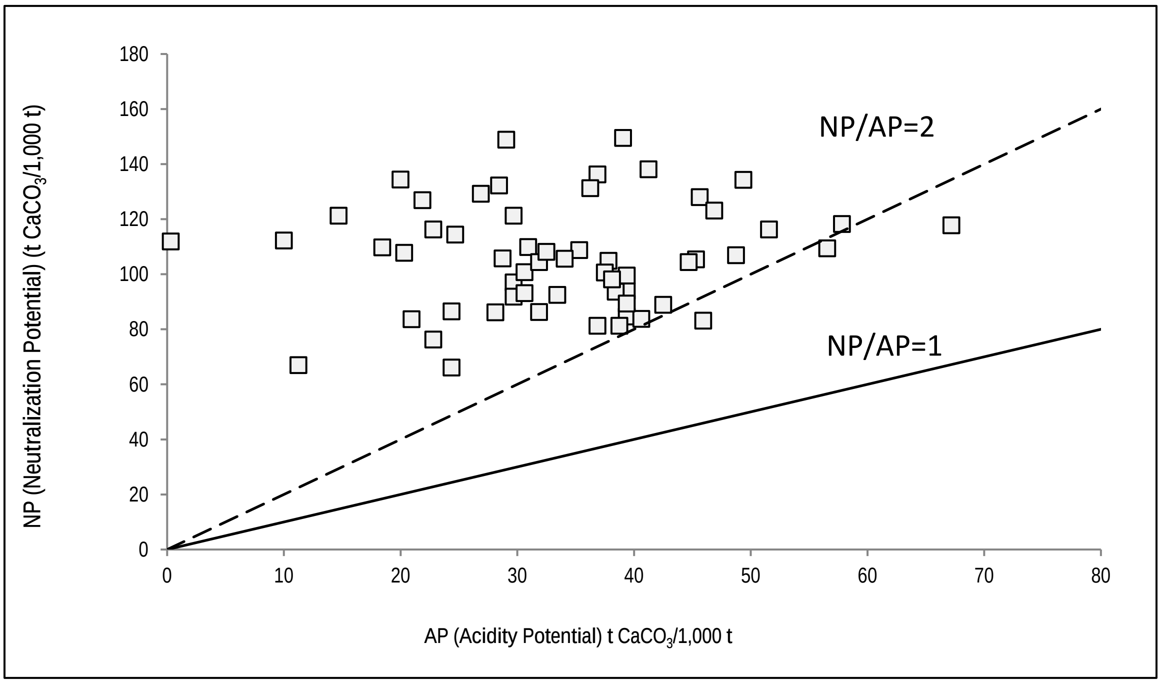


Figure 20-2: Acid–Base Accounting Characterization

Although the risks of ARD generation are controlled by the natural presence of carbonates in the mineralogy of the waste rocks, it is still possible to find some elevated arsenic concentrations in the water from the tailings dam ponds. As such, consultants have recommended that arsenic mobility should be controlled after the closure stage to avoid potential contamination of the surrounding areas.

To address the mitigation methods for potential ARD issue, Equinox is working with consultants to develop a field procedure to test different types of tailings covers that could effectively prevent surface water and precipitation from coming in contact with the tailings. The most successful of the procedures is shown in a cutaway view of a field lysimeter implemented, as shown in Figure 20-3.

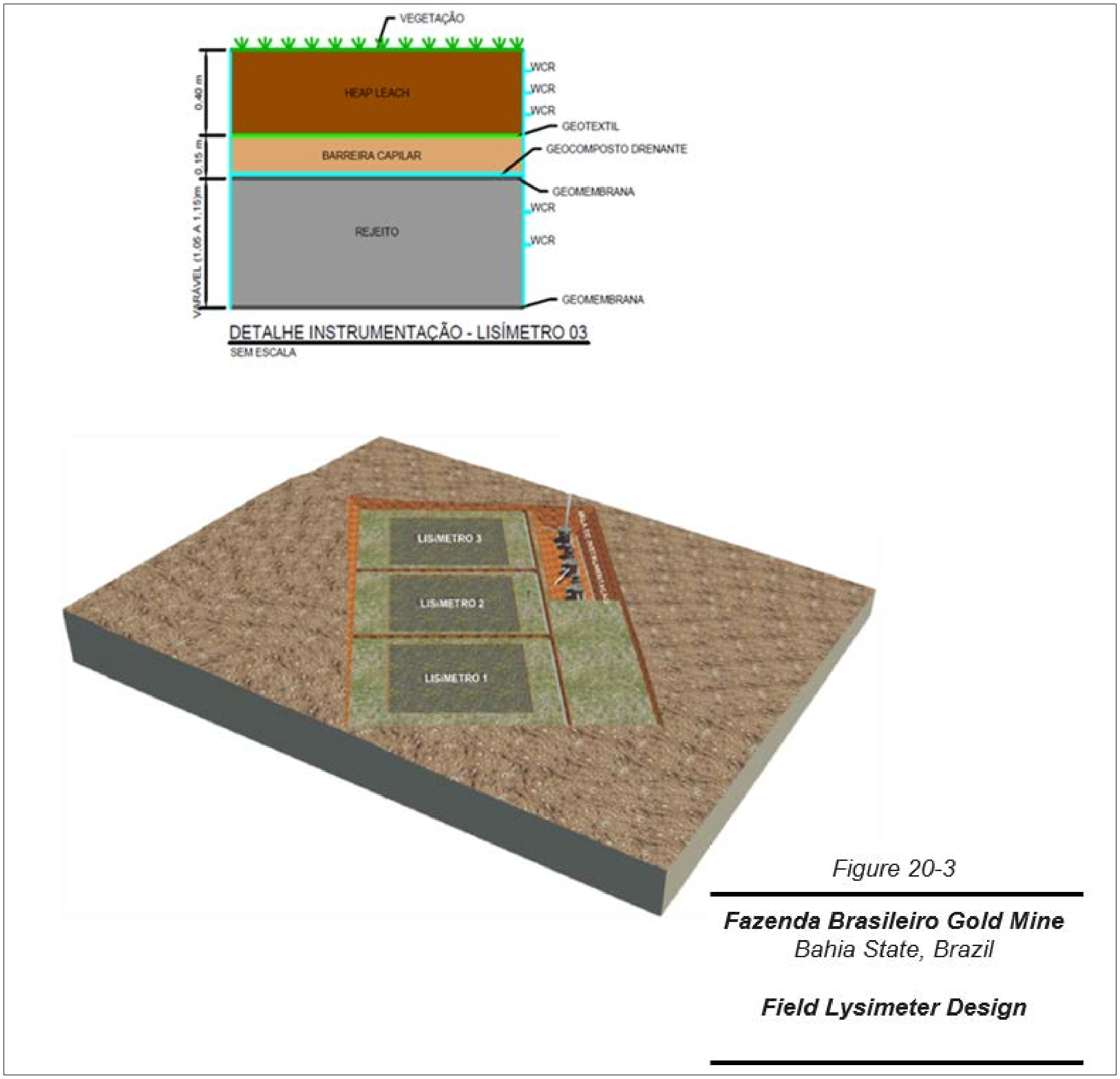


Figure 20-3: Field Lysimeter Design

Since 2013, ongoing tests of these barriers have been performed. The results from these tests have consistently showed that a cover layer with 30 cm of oxide material from an exhausted heap leach pad, combined with a capillary break layer of 15 cm, is sufficient to prevent the infiltration of water through the cover and into the tailings. It was also possible to identify that the grass grew in the top layers of the soil barrier cover without any problems.

Implementing a cover layer with this configuration should gradually decrease the arsenic concentrations in the dam's toe-drain discharge water, since the amount of water in contact with the tailings will decrease significantly after the cover implementation.

21 CAPITAL AND OPERATING COSTS

21.1 Capital Costs

The 2018, 2019, and 2020 actual sustaining capital costs for Fazenda are presented in Table 21-1. The exchange rate for all this section is also given in the same table.

Table 21-2 provides a breakdown of the projected US$134.2 million LOM sustaining capital cost, non-sustaining capital cost, and closure and reclamation cost estimates.

Table 21-1: Actual Sustaining Capital Costs—2018 to 2020

Description	2018 (US$ M)	2019 (US$ M)	2020 (US$ M)	Total (US$ M)
Buildings & Infrastructure	0.6	0.4	0.8	1.7
Machinery & Equipment	7.2	2.6	1.3	11.1
UG Mine Development	1.9	2.7	3.7	8.2
Mineral Properties	0.0	0.0	0.0	0.0
Technical Studies	0.5	0.0	0.0	0.5
Tailings Dam Maintenance	0.0	2.2	1.0	3.2
Total	**10.1**	**7.8**	**6.9**	**24.8**

Notes: Totals may not add due to rounding.

Table 21-2: Projected Capital Costs

Description	2021 (US$ M)	2022 (US$ M)	2023 (US$ M)	2024 (US$ M)	2025 and Beyond (US$ M)	Total (US$ M)
Sustaining Capital						
Buildings & Infrastructure	0.5	0.8	0.5	0.0	0.0	1.8
Machinery & Equipment	1.2	0.7	0.3	0.0	0.0	2.3
Capitalized UG + OP	6.3	10.2	7.8	0.5	2.1	26.9
UG Mine Development	6.0	9.2	7.7	0.5	2.1	25.5
OP Mine Development	0.3	1.0	0.1	0.0	0.0	1.4
Technical Studies	0.8	0.0	0.0	0.0	0.0	0.8
Tailings Dam Expansion	1.5	1.7	3.4	1.7	0.0	8.2
Subtotal Sustaining	**10.3**	**13.4**	**12.0**	**2.2**	**2.1**	**40.0**
Non-Sustaining						
Machinery & Equipment	0.0	0.0	0.0	0.0	0.0	0.0
UG Mine Development	4.2	0.0	0.0	0.0	0.0	4.2
Exploration	0.0	0.0	0.0	0.0	0.0	0.0

Description	2021 (US$ M)	2022 (US$ M)	2023 (US$ M)	2024 (US$ M)	2025 and Beyond (US$ M)	Total (US$ M)
Subtotal Non-Sustaining	**4.2**	**0.0**	**0.0**	**0.0**	**0.0**	**4.2**
Closure & Reclamation	0.3	3.8	0.0	11.0	74.9	90.0
Total	**14.9**	**17.2**	**12.0**	**13.2**	**77.0**	**134.2**

Notes: Totals may not add due to rounding.

21.2 Operating Costs

Actual operating costs for 2018, 2019, and 2020 are presented in Table 21-3 and Table 21-5 indicates the average unit operating costs for 2018–2020 of US$37.78/t milled, including mining, milling, and general and administration costs.

Table 21-3: Actual Operating Costs—2018 to 2020

Activity	2018 (US$ M)	2019 (US$ M)	2020 (US$ M)	Total (US$ M)
Open Pit Mining	4.9	1.3	0.8	7.1
Underground Mining	28.9	27.1	22.1	78.0
Milling	16.6	16.9	14.2	47.7
G&A	5.7	7.2	5.5	18.4
Total	**56.1**	**52.5**	**42.6**	**151.2**

Notes: Totals may not add due to rounding.

Table 21-4: Actual Unit Operating Costs—2018 to 2020

Activity	2018 (US$/t milled)	2019 (US$/t milled)	2020 (US$/t milled)	Average (US$/t milled)
Open Pit Mining	3.71	1.00	0.60	1.76
Underground Mining	21.77	20.26	16.47	19.49
Milling	12.54	12.68	10.56	11.92
G&A	4.33	5.37	4.10	4.60
Total	**42.36**	**39.31**	**31.73**	**37.78**

Notes: Totals may not add due to rounding.

As shown previously in Table 16-9, the Fazenda operation is scheduled to extract 6.59 Mt of ore from its open pits and underground operation during the 2021 to 2025 LOM plan, processing a total of 6.65 Mt in the mill during that time. Total tonnes of waste moved (12.4 Mt) was given in Table 16-8.

Total operating costs for the Fazenda LOM plan (2021 to 2025) of US$269.2 millions are detailed by year in Table 21-5, and the exchange rate (R$:US$) used was 4.75:1.00.

Table 21-5: Projected Total Operating Costs

Activity	2021 (US$ M)	2022 (US$ M)	2023 (US$ M)	2024 (US$ M)	2025 (US$ M)	Total (US$ M)
Open Pit Mining	5.5	7.6	5.5	6.1	3.5	28.0
Underground Mining	33.4	32.9	31.8	15.2	13.8	127.0
Milling	16.6	17.0	16.7	15.1	14.9	80.3
G&A	7.6	7.8	8.0	5.5	5.0	33.9
Total	63.1	65.1	62.0	41.9	37.1	269.2

Notes: Totals may not add due to rounding.

Projected unit operating costs for this mill feed are shown in Table 21-6. The LOM plan estimated unit operating cost averages at US$40.6/t milled. Operating costs are based on planned operating metrics and recent actual results.

Table 21-6: Projected Unit Operating Costs

Activity	2021 (US$/t milled)	2022 (US$/t milled)	2023 (US$/t milled)	2024 (US$/t milled)	2025 (US$/t milled)	Average (US$/t milled)
Open Pit Mining	4.04	5.60	4.08	4.49	2.80	4.23
Underground Mining	24.75	24.35	23.56	11.24	11.14	19.14
Milling	12.32	12.57	12.35	11.99	13.71	12.10
G&A	5.62	5.74	5.93	4.56	4.85	5.11
Total	**46.73**	**48.26**	**45.92**	**32.28**	**32.50**	**40.58**

Notes: Totals may not add due to rounding.

21.3 Workforce

In 2020, the workforce at Fazenda totalled 658 direct employees and 237 employees from contractors.

22 ECONOMIC ANALYSIS

Under NI 43-101 rules, "producing issuers" may exclude the information required for Section 22: Economic Analysis on properties currently in production, unless the Technical Report includes a material expansion of current production. Equinox is a producing issuer and Fazenda is presently in production, and a material expansion is not planned at this time. Equinox has performed an economic analysis using the estimates presented in this Technical Report and confirms that the outcome is a positive cash flow that supports the statement of Mineral Reserves.

23 ADJACENT PROPERTIES

There are no adjacent properties relevant to the Fazenda Mine properties.

24 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is necessary to make this Technical Report understandable and not misleading.

25 INTERPRETATION AND CONCLUSIONS

Based on the review of documentation and discussions with mine personnel, the QPs make the following conclusions.

25.1 Geology and Mineral Resources

- The QP has reviewed the Fazenda Mineral Resources estimate and is of the opinion that the parameters, assumptions, and methodology used are appropriate for the style of mineralization.
- Mineral Resources were prepared in accordance with CIM Definition Standards (2014).
- The geological model is reasonably well understood and is well supported by field observations in outcrops, mine facing, and drill intersections.
- Interpretations of the geology and the three-dimensional (3-D) wireframes of the estimation domains derived from these interpretations are reasonable.
- Sampling and assaying have been carried out using industry-standard QA/QC practices. These practices include but are not limited to sampling, assaying, sample chain of custody, sample storage, use of third-party laboratories for interlaboratory checks, standards, blanks, and duplicates.
- Interpretations of the geology and the 3-D wireframes of the estimation domains derived from these interpretations appear reasonable.
- The resource model has been prepared using appropriate methodology and assumptions, including:
  - Treatment of high-grade assays
  - Compositing length
  - Search parameters
  - Bulk density
  - Grade estimate validation
  - Cut-off grade
  - Classification.
- The block model has been validated using a reasonable level of rigour consistent with standard industry practice.
- Mineral Resources for Fazenda comply with all disclosure requirements for Mineral Resources as set out in NI 43-101.
- Exploration potential exists laterally along strike to the north and south and at depth below the existing mine operations. The area has seen 40 years of extensive geologic exploration along the mineral trend and has successfully identified numerous additional underground and open pit targets that are in various stages of exploration. This exploration success is anticipated to continue.

25.2 Mining and Mineral Reserves

- The mining methods used at Fazenda include both conventional open pit mining and underground mechanized sub-level stoping. These methods are appropriate for the deposit.
- The Modified Avoca mining method has been planned to mine orebodies with rocks that are susceptible to premature wall collapse. Higher dilution and lower productivity have been planned and included in the LOM production schedule for these orebodies.
- Proven and Probable Mineral Reserves for the Mine as of December 31, 2020, total 6.7 Mt grading 1.47 g/t Au for 315 koz of contained gold.
- The bulk of the mill feed is being sourced from underground. Small open pits are used to supplement the underground production. Total mining capacity is approximately 3,660 t/d.
- Five separate declines originate on surface and access the various orebodies over a strike length of several kilometres. The deepest level for underground workings is the −750 RL.
- The underground workings have good ground conditions that do not require any special support to ensure stable openings.
- The LOM mining and processing schedules are based on Mineral Reserves only.
- The Mineral Reserve estimates have been prepared using appropriate methodology and assumptions, including:
    - Dilution
    - Mining extraction
    - Ground conditions
    - Access development
    - Stope design
    - Extraction sequence
    - Productivities
    - Operating costs
    - Sustaining capital costs
    - Mine closure costs (only for open pits).
- Through annual development and definition diamond drilling programs, Fazenda has been successful in converting enough Mineral Resources to Mineral Reserves to replace those extracted and processed during the year. This conversion of Mineral Resources to Mineral Reserves has been repeated annually for more than a decade.
- Mineral Reserves are being estimated appropriately using current mining software and procedures consistent with reasonable practice.

25.3 Mineral Processing and Metallurgical Testing

- One of the main production constraints at Fazenda has been frequent power outages from the grid supplier COELBA, making it necessary to install diesel generator sets to keep the agitators operating to avoid settlings inside the leaching tanks.

- Fazenda operates at a P_{80} 80 µm, a feed rate of 168 t/h, recovering around 90% on average, after a series of process improvements implemented in 2019/2020. Every year, the process had been improved to extract and recover more as the feed grade drops due to more carbonaceous matter and sulphides being fed to the plant every year.
- To mitigate gold losses, the following actions took place:
  - With more carbonaceous ore in the blend, testwork was carried out using kerosene, which increased gold recovery by approximately 2%.
  - With higher sulphides in the blend composition, testwork used lead nitrate, which proved to be efficient at accelerating gold dissolution in the leaching, evidenced by a cyanide consumption reduction of approximately 10% and an increase in gold recovery of approximately 2%.
  - The pH was adjusted to 10.2 to increase the effectiveness of lead nitrate, which reduced cyanide consumption by approximately 10% and increased gold recovery by approximately 2%.
- Fazenda's regeneration kiln is deteriorating, and therefore not able to regenerate the total carbon in the circuit. A process study investigated the activity of regenerated carbon, which is 25% on average; this affects the performance of gold adsorption. So, it is necessary to install a new regeneration kiln with a capacity of 500 kg/h in 2021.
- The old CVRD heap leaching waste dumps show potential for mining in the future, with 3 Mt of oxidized ore at an estimated average grade of Au 0.6 g/t. Several testwork were carried out, which resulted in gold recoveries higher than 70%.
- The plant facility requires refurbishments as well as routine maintenance. The structural steel in the grinding, leaching, and acid wash circuits are showing significant deterioration due to corrosion. Maintenance work includes replacing the structural steel periodically and over several years during ongoing operations.

25.4 Infrastructure

- Fazenda has been operational for 37 years and has all the necessary roads, power lines, access, medical facilities, and surrounding communities that provide workers and services that one would expect to find in one of Bahia State's major employers.
- A series of wellfields supply water with a total production capacity of 310 m^3/h.
- The power requirement for the mine and site facilities is approximately 9.95 MW, supplied by the local grid.

25.5 Environmental, Social, and Permitting Considerations

- Fazenda has a comprehensive environmental policy, partially inherited from the Yamana and CVRD operations. This policy has been developed according to the MCP as outlined by the relevant authority. In 2018, The MCP was prepared for Fazenda by Mineral Engenharia e Meio Ambiente, an external consulting firm. The environmental authorities in Brazil use the MCP as a commitment to complete the rehabilitation required for mine closure.

- Fazenda is an established gold mine with over 37 years of history and an established record of accomplishment with the Brazilian and Bahia State government regulatory agencies. All required environmental licences and permits to conduct the work on the property are in good standing or currently being obtained.
- A detailed ARD evaluation of tailings was carried out in 2012. A total of 57 samples of tailings was collected from the three existing tailings facilities, and analytical results showed that almost 100% of samples presented a neutralization potential two times higher than the acid-generating potential.
- The arsenopyrite and pyrrhotite in the tailing's facilities have low potential to become future ARD generators, as the proportion of carbonates is well in excess of the amount of the sulphides. These results make it possible to conclude that ARD generation will not be a significant risk for the Fazenda operation and closure.
- Fazenda personnel working with consultants developed a field procedure to test different tailings covers that could effectively prevent surface water and precipitation from having contact with the tailings. Since 2013, ongoing tests of these barriers have been performed. The results from these tests have consistently shown that a cover layer with 30 cm of oxide material from an exhausted heap leach pad combined with a capillary break layer of 15 cm is sufficient to prevent the infiltration of water through the cover and into the tailings.
- Fazenda has developed an exemplary and creditable program for social and community involvement in the area of the Fazenda's operations, which should be maintained for the LOM.
- The main socioeconomic impacts that the mine closure will generate include unemployment, decreased tax revenues, the end of demand for local, regional suppliers, reduction in personal income, and the end of projects with the local communities. Fazenda has developed mitigation measures for some of these impacts.

25.6 Capital and Operating Costs

- The LOM plan capital cost estimate includes sustaining capital expenditures, followed by closure and reclamation. The capital cost of these activities is estimated to total US$134.2 million and is based on an R$:US$ exchange rate of 4.75:1.00.
- LOM plan operating costs are estimated to total US$269.2 million, which averages US$40.58/t milled.

26 RECOMMENDATIONS

The QPs make the following recommendations.

26.1 Mineral Resource Estimate

- Geologic Model (Leapfrog):
  - Implement the implicit modelling for all the wireframe solids.
  - Model the weathering boundaries focusing on the open pit deposits.
  - Update the lithological and hydrothermal alteration modelling to support the separation between the C-Quartz structure with the CLX and Canto stationary domains.
- Bulk Density:
  - In the Canto Sequence evaluate the average bulk density measurements by lithological domains.
  - Execute the measurements of bulk density in the drill core of the C-Quartz domains.
- Mineral Resources:
  - Complete an underground survey program on the unsurveyed mine workings in the Main UG deposit.

26.2 Mining and Mineral Reserves

- Evaluate the suitability of different mining methods to better recover orebodies with low dipping angle (for instance, room-and-pillar, cut-and-fill).
- Continue to evaluate the suitability of applying Modified Avoca mining methods at the WRI area, reviewing dilution and detailing the cycle for a better productivity rate estimate.
- Evaluate the suitability of applying paste backfill with cement to recover the pillars in high-grade zones.

26.3 Mineral Processing and Metallurgical Testing

- Long-term geometallurgy study to develop a process route to mitigate the impact of high TOC and high sulphide ores in the plant recovery.
- Work index testwork to propose necessary changes in the grinding circuit to absorb losses in the P_{80}.
- Sulphur and arsenic chemistry analyses in the routine from the leaching feed samples to better predict the necessary process changes.
- Analyses of the particle size distribution of the blasted ore to improve the F_{80} of the comminution circuit.
- Equinox should go forward in the conceptual and basic engineering for the processing of old CVRD heap leaching waste dumps.
- Maintenance work at the plant should continue, including refurbishing equipment and structures.

26.4 Infrastructure

- Implement diesel power gensets in the plant to de-risk COLEBA power failures.

26.5 Environmental, Social, and Permitting Considerations

- Complete the implementation of the integrated environmental license management system and its requirements.
- Complete studies for the mischaracterization of Lakes I, II, and III to meet the ANM requirements.
- Update the MCP, incorporating the studies on Lakes I, II, and III, as well as the acid drainage studies in accordance with the new LOM.

26.6 Capital and Operating Costs

- Analyze multi-mine scenarios between open pit and underground to understand the best proportion to improve free cash flow generation.

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28 DATE AND SIGNATURE PAGE

This report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil,* dated October 22, 2021, with an effective date of December 31, 2020, was prepared and signed by the following authors:

Original Signed and Sealed

Dated at Belo Horizonte, Minas Gerais
October 22, 2021

Felipe M. Araújo, MAusIMM (CP)
Principal Geologist—Brazil
Equinox Gold Corp.

Original Signed and Sealed

Dated at Belo Horizonte, Minas Gerais
October 22, 2021

Hugo R. A. Filho, FAusIMM (CP)
Geology and Mine Planning Manager—FBDM
Equinox Gold Corp.

Original Signed and Sealed

Dated at Belo Horizonte, Minas Gerais
October 22, 2021

Gunter C. Lipper, M.Sc., FAusIMM
Principal Metallurgist—Brazil
Equinox Gold Corp.

Original Signed and Sealed

Dated at Belo Horizonte, Minas Gerais
October 22, 2021

César A. Torresini, FAusIMM
VP Public Affairs and Permitting—Brazil
Equinox Gold Corp.

Original Signed and Sealed

Dated at Belo Horizonte, Minas Gerais
October 22, 2021

Tiãozito V. Cardoso, MBA, FAusIMM
Technical Services Director—Brazil
Equinox Gold Corp.

29 CERTIFICATE OF QUALIFIED PERSON

29.1 Felipe M. Araújo, MAusIMM (CP)

I, Felipe M. Araújo, MAusIMM (CP), as an author of this report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil*, with an effective date of December 31, 2020, prepared for Equinox Gold Corp. (the Issuer) on October 22, 2021, do hereby certify that:

- I am Principal Geologist—Brazil of the Issuer, with an office at Rua Antônio de Albuquerque 300, 13º andar, Funcionários, Belo Horizonte, Minas Gerais.
- I am a graduate of the Federal University of Bahia State, Brazil, in 2005, with a B.Sc. degree in Geology.
- I am registered as a Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy, Registered Member #318862. I have worked as a geologist for a total of 16 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Mineral Resource estimation and preparation of NI 43-101 Technical Reports
  - Mineral Resource and Reserve estimation, due diligence, corporate review and audit on exploration projects and mining operations worldwide
  - Mineral Resources Manager, with Yamana Gold Inc., Lundin Mining Corp., and Equinox Gold Corp., responsible for mineral resource evaluation and reporting for gold, copper, and silver projects in Brazil, Argentina, and Chile.
- I have read the definition of QP set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
- I have visited Fazenda Brasileiro mine several times, most recently from June 12 to 16, 2021.
- I am responsible for Sections 4 to 12 and 14 of the Technical Report and the related disclosure in Sections 1, 25, 26, and 27 of the Technical Report.
- I am not independent of the Issuer. I am a full-time employee of the Issuer.
- I have had no prior involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information required to be disclosed to make the Technical Report not misleading.

Dated this 22nd day of October 2021.

Original Signed and Sealed

Felipe M. Araújo, MAusIMM (CP)
Principal Geologist—Brazil

29.2 Hugo R. A. Filho, FAusIMM (CP)

I, Hugo R. A. Filho, FAusIMM (CP), as an author of this report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil*, with an effective date of December 31, 2020, prepared for Equinox Gold Corp. on October 22, 2021, do hereby certify that:

- I am Geology and Mine Planning Manager—FBDM of the Issuer, with an office at the mine, Fazenda Brasileiro s/nº, Zona Rural, Barrocas, Bahia.
- I am a graduate of the Federal University of Bahia, with a B.Sc. degree in Mining Engineering in 1997.
- I am registered as a Fellow of the Australasian Institute of Mining and Metallurgy, accredited as a Chartered Professional, Registered Member #323096. I have worked as a mining engineer for a total of 24 years since my graduation. My relevant experience for the purpose of the Technical Report is:
    - Geology and Mine Planning Manager—Equinox Gold Corp., FBDM, in Brazil
    - Geology and Mine Planning Manager—Equinox Gold Corp., SLDM, in Brazil
    - Exploration, Geology, and Mine Planning Manager—Leagold Mining Corporation, in Brazil
    - Exploration, Geology, and Mine Planning Manager—Brio Gold Inc., in Brazil
    - Geology and Mine Planning Manager—Bahia Mineração
    - Geology and Mining Planning Coordinator—Mineração Caraíba, in Brazil
    - Geology and Mining Planning Coordinator—Yamana Gold Inc., FBDM, in Brazil
    - Mining Planning Engineer—Mineração Caraiba, in Brazil.
- I have read the definition of QP set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
- I am currently the Geology and Mine Planning Manager of Fazenda Brasileiro, responsible for open pit and underground mines.
- I am responsible for Sections 15 and 16 of the Technical Report and the related disclosure in Sections 1, 25, 26, and 27 of the Technical Report.
- I am not independent of the Issuer. I am a full-time employee of the Issuer.
- I have had no prior involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information required to be disclosed to make the Technical Report not misleading.

Dated this 22nd day of October 2021.

Original Signed and Sealed

Hugo R. A. Filho, FAusIMM (CP)
Geology and Mine Planning manager—FBDM

29.3 Gunter C. Lipper, M.Sc., FAusIMM

I, Gunter C. Lipper, M.Sc., FAusIMM, as an author of this report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil*, with an effective date of December 31, 2020, prepared for Equinox Gold Corp. on October 22, 2021, do hereby certify that:

- I am Principal Metallurgist—Brazil of the Issuer, with an office at Rua Antônio de Albuquerque 300, 13º andar, Funcionários, Belo Horizonte, Minas Gerais.
- I am a graduate of the Federal University of Ouro Preto, with a B.Sc. degree in Mining Engineering in 2000, and the Federal University of Minas Gerais, with a M.Sc. degree in Metallurgical Engineering in 2013.
- I am registered as a Fellow of the Australasian Institute of Mining and Metallurgy, Registered Member #3000172. I have worked as a metallurgist for a total of 21 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Principal Metallurgist—Equinox Gold Corp., in Brazil
  - Technology Manager—Mineração Rio do Norte, in Brazil
  - Process Coordinator—Yamana Gold Inc., in Brazil
  - Plant Manager—Gerdau, in Brazil
  - Master Metallurgist Engineer—Vale, in Brazil
  - Business Development Manager—Consultant on numerous development and production mining projects—Outotec, in the United States of America.
- I have read the definition of QP set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
- I have visited Fazenda Brasileiro mine several times, most recently from June 7 to 11, 2021.
- I am responsible for Sections 13, 17, and 21 of the Technical Report and the related disclosure in Sections 1, 25, 26, and 27 of the Technical Report.
- I am not independent of the Issuer. I am a full-time employee of the Issuer.
- I have had no prior involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information required to be disclosed to make the Technical Report not misleading.

Dated this 22nd day of October 2021.

Original Signed and Sealed

Gunter C. Lipper, M.Sc., FAusIMM
Principal Metallurgist—Brazil

29.4 César A. Torresini, FAusIMM

I, César A. Torresini, FAusIMM, as an author of this report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil*, with an effective date of December 31, 2020, prepared for Equinox Gold Corp. on October 22, 2021, do hereby certify that:

- I am VP Public Affairs and Permitting—Brazil of the Issuer, with an office at Rua Antônio de Albuquerque 300, 13º andar, Funcionários, Belo Horizonte, Minas Gerais.
- I am a graduate of the University of Vale do Rio dos Sinos—Rio Grande do Sul, Brazil, with a B.Sc. degree in Geology in 1984.
- I am registered as a Fellow of the Australasian Institute of Mining and Metallurgy, Registered Member #3003552. I have worked in the mining industry for a total of 35 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Strong regulatory and community relations skills with a good record of accomplishment in obtaining permits
  - Aurizona Gold Mine—Equinox Gold Corp., Brazil
  - El Gigante Gold Proyect—AUX, Colombia
  - Tucano Mine—Beadell Resources, Brazil
  - Amapari Gold Mine—Goldcorp, Brazil.
- I have read the definition of QP set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
- I have visited Fazenda Brasileiro mine several times, most recently on June 23, 2021.
- I am responsible for Sections 20 and 21 of the Technical Report and the related disclosure in Sections 1, 25, 26, and 27 of the Technical Report.
- I am not independent of the Issuer. I am a full-time employee of the Issuer.
- I have had no prior involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information required to be disclosed to make the Technical Report not misleading.

Dated this 22nd day of October 2021.

Original Signed and Sealed

César A. Torresini, FAusIMM
VP Public Affairs and Permitting—Brazil

29.5 Tiãozito V. Cardoso, MBA, FAusIMM

I, Tiãozito V. Cardoso, MBA, FAusIMM, as an author of this report titled *NI 43-101 Technical Report on the Fazenda Brasileiro Gold Mine, Bahia State, Brazil*, with an effective date of December 31, 2020, prepared for Equinox Gold Corp. on October 22, 2021, do hereby certify that:

- I am Technical Services Director—Brazil of the Issuer, with an office at Rua Antônio de Albuquerque 300, 13º andar, Funcionários, Belo Horizonte, Minas Gerais.
- I am a graduate of the Federal University of Minas Gerais, with a B.Sc. degree in Mining Engineering in 2003, and Instituto de Educação Tecnológica, with an MBA in Project and Business Management in 2010.
- I am registered as a Fellow of the Australasian Institute of Mining and Metallurgy, Registered Member #324858. I have worked as a mining engineer for a total of 18 years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Technical Services Director—Equinox Gold Corp., in Brazil
  - Technical Services Manager—Nexa Resources, zinc and lead, in Brazil
  - Corporate Senior Mine Planning Engineer—Vale, phosphate and potash, in Brazil and Perú
  - Geology and Mine Planning Manager—MMX, iron, in Brazil
  - Mine Planning Coordinator—Intercement, limestone, in Brazil
  - Mining Consultant—Gemcom, several commodities, in Brazil
  - Mining Consultant—Maptek, several commodities, in Brazil, Chile, and Colombia
  - Mine Operations Engineer—Vale, copper, in Brazil.
- I have read the definition of QP set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
- I have visited Fazenda Brasileiro mine several times, most recently from April 27 to 29, 2021.
- I am responsible for Sections 2, 3, 18, 19, 21, 22, 23, and 24 of the Technical Report and the related disclosure in Sections 1, 25, 26, and 27 of the Technical Report.
- I am not independent of the Issuer. I am a full-time employee of the Issuer.
- I have had no prior involvement with the property that is the subject of the Technical Report.
- I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the sections for which I am responsible in the Technical Report contain all scientific and technical information required to be disclosed to make the Technical Report not misleading.

Dated this 22nd day of October 2021.

Original Signed and Sealed

Tiãozito V. Cardoso, MBA, FAusIMM
Technical Services Director—Brazil