CONTINENTAL GOLD

NI 43-101 Buriticá Mineral Resource 2019-01

Antioquia, Colombia

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Ivor Jones Pty Ltd prepared this National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for Continental Gold Inc. The quality of information, conclusions and estimates contained herein is based on: (i) information available at the time of preparation; (ii) data supplied by outside sources, and (iii) the assumptions, conditions, and qualifications set forth in this report.

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This report contains “forward-looking information” as defined in applicable securities laws. Forward looking information includes, but is not limited to, statements with respect to gold price and exchange rate assumptions, cash flow forecasts, projected capital and operating costs, metal or mineral recoveries, mine life and production rates, potential plans and operating performance, the estimation of the tonnage, grades and content of deposits, the extent of mineral resource and mineral reserves estimates, potential production from and viability of the properties, the timing and receipt of necessary permits and project approvals for future operations, access to project funding, and exploration results, and is based on current expectations that involve a number of business risks and uncertainties. Often, but not always, forward-looking information can be identified by the use of words such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “continues”, “forecasts”, “projects”, “predicts”, “intends”, “anticipates” or “believes”, or variations of, or the negatives of, such words and phrases, or statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved. Forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any of the future results, performance or achievements expressed or implied by the forward-looking information. These risks, uncertainties and other factors include, but are not limited to, the assumptions underlying the mineral resource and mineral reserve estimates not being realized, decrease of future gold prices, cost of labour, supplies, fuel and equipment rising, the availability of financing on attractive terms, actual results of current exploration, changes in project parameters, exchange rate fluctuations, delays and costs inherent to consulting and accommodating rights of local communities, title risks, regulatory risks and uncertainties with respect to obtaining necessary permits or delays in obtaining same, and other risks involved in the gold production, development and exploration industry, as well as those risk factors discussed in CGI’s latest Annual Information Form and its other SEDAR filings from time to time. Forward-looking information is based on a number of assumptions which may prove to be incorrect, including, but not limited to, the availability of financing for CGI’s production, development and exploration activities; the timelines for CGI’s exploration and development activities on the property; the availability of certain consumables and services; assumptions made in mineral resource and mineral reserve estimates, including geological interpretation grade, recovery rates, price assumption, and operational costs; and general business and economic conditions. All forward-looking information herein is qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking information. CGI and the authors of this technical report undertake no obligation to update publicly or otherwise revise any forward-looking information whether as a result of new information or future events or otherwise, except as may be required by applicable law.

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This report summarizes the results of the January 2019 Mineral Resource and its estimation by Ivor Jones Pty Ltd (JonesPL) as commissioned by Continental Gold Inc. (CGI) for the Buriticá Project.

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report summarizes the results of the January 2019 Mineral Resource and its estimation by Ivor Jones Pty Ltd (JonesPL) as commissioned by Continental Gold Inc. (CGI) for the Buriticá Project.

The work in 2019 has comprised the compilation of data up to and including December 2018, the revision of the geological interpretations in line with the new information that had been collected, and the preparation of a new resource estimate under the supervision of JonesPL, and the reporting of the January 2019 Mineral Resource.

In 2016, JDS Energy & Mining Inc. (JDS) compiled a Feasibility Study for CGI, which used as its' base the 2015 Mineral Resource.

The 2016 Mineral Reserve and Feasibility Study have not, at this stage, been updated for the 2019 Mineral Resource. However, where an update could be provided such as in environmental items, these have been provided in the relevant sections.

This report summarizes the results of the January 2019 Mineral Resource, provides an update of the available information as inputs to the Feasibility Study, and was prepared in accordance with the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1.

Buriticá is a precious metals resource project located in Antioquia, Colombia. Pursuant to the Feasibility Study, the Project will exploit two mineralized vein systems (Yaraguá and Veta Sur) over a 14-year production period by way of a multiple ramp access underground mine, whole ore cyanide leach processing facility capable of processing 3,000 tonnes per (t/p), dry-stacked filtered Tailing Storage Facility and related infrastructure.

1.2 LOCATION, ACCESS AND OWNERSHIP

The Buriticá Project is located approximately 91 kilometres (km) northwest of Medellín in the Antioquia Department of north-western Colombia. Road access to site from the city is via a two-hour drive on paved Highway 62. The terrain in the Buriticá Project area is mountainous characterized by steep-sided valleys and subdued peaks with elevations ranging from around 600 metres (m), to the east in the Cauca River valley, to a maximum of 2,200 m above mean sea level (mamsl). The mean average temperatures are relatively constant throughout the year ranging from 17°C to 26°C, depending on elevation, with a mean annual rainfall of 1.69 m with dry periods in January and February.

CGI has all necessary surface rights to conduct proposed mining operations described in this technical report. To the extent known by JonesPL, there is an option agreement on non-metallic minerals in favour of Bullet Holdings Corp., which does not affect the property and there are no joint venture terms in place for the property, nor obligations on land covered by claims comprising the property.

1.3 HISTORY, EXPLORATION AND DRILLING

Gold was mined in the Buriticá area since before the arrival of Spanish colonialists in the 17th century. The Spanish continued mining, principally from placer and colluvial deposits; however, high-grade veins were worked in shallow underground artisanal operations that continue to the present day. Notwithstanding the long mining history, there is no known historical resource or reserve estimates for the Buriticá Project area.

Grupo de Bullet S.A. (Bullet) held the main concessions over Buriticá prior to CGI's purchase in 2007 and over the last 20 years undertook development of the Yaraguá prospect. CGI currently operates a 35 t/d mine and processing facility at Yaraguá which has been in operation since the early 1990s. As part of the mine development and ongoing exploration, CGI has also developed three commercial-scale mine access-ways; the Higabra Tunnel, and the Veta Sur and Yaraguá ramps which are part of the proposed mine plan.

Exploration activities in the Buriticá Project conducted prior to and during 2012 consisted of topographic and geological mapping, aerial magnetic and radiometric surveys, geochemical soil surveys and other surface sampling, underground mapping and channel sampling, and drilling at both Yaraguá and Veta Sur.

From 2012 to 2019, CGI has continued a program of systematic channel sampling of the underground openings, results of which indicate that the high gold grades are continuous along strike and within the vertical range sampled for several of the

Yaraguá vein sets. The channel samples are considered representative and have been incorporated into the data set for estimation of the Mineral Resource.

Drilling in 2014 and 2015 focused on converting Inferred resource into the Measured and Indicated categories, as well as growing the overall mineral resource. Drilling from 2015 to 2018 has focussed on infill drilling thereby improving confidence in the resource estimate, as well as some expansion of knowledge of the mineralized systems.

Table 1.1 Verified Buriticá Database as of December 19, 2018

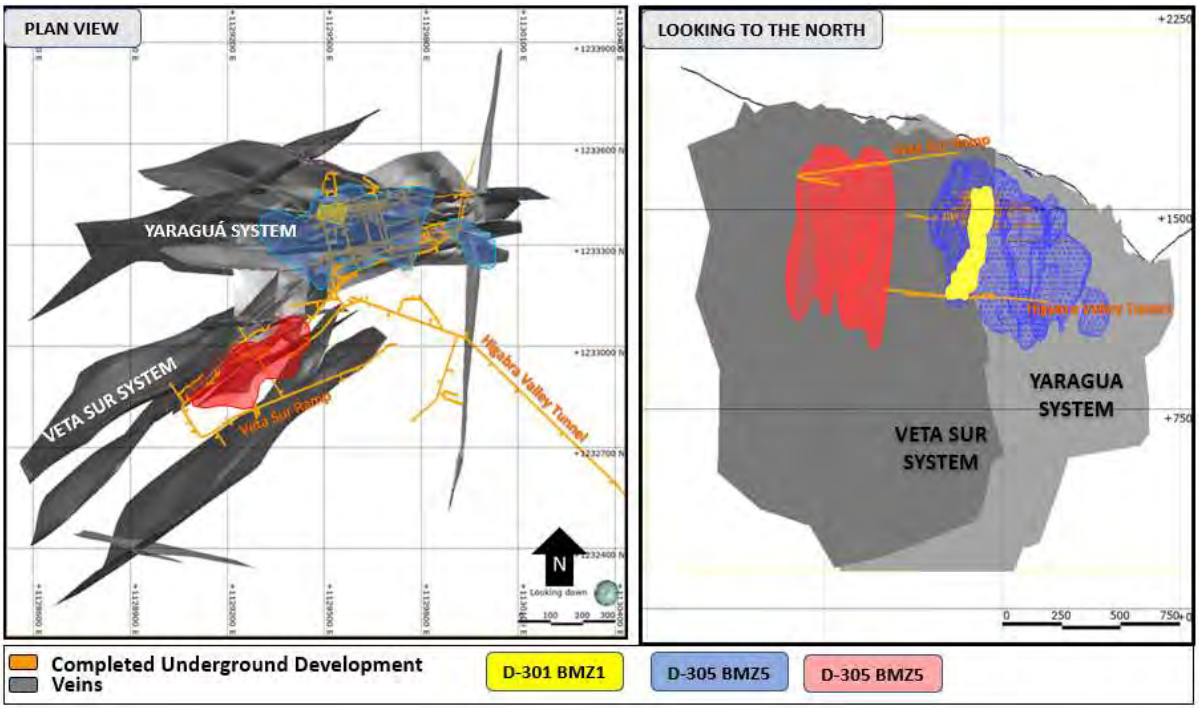
Sampling Type	Area	Drill Holes/ Channels	Number Samples	Metres Sampled
Surface Exploration Drill holes	Yaraguá, Veta Sur and Laurel	435	171,085	183,470
Underground Exploration Drill holes	Yaraguá and Veta Sur	519	179,517	150,886
Underground Definition Drill holes	Yaraguá and Veta Sur	129	20,611	10,730
Channel samples, surface samples	Yaraguá and Veta Sur	5,374	15,915	9,281
Total		6,457	387,128	354,368

1.4 GEOLOGY & MINERALIZATION

Buriticá is a porphyry related vein system. Gold is the primary economic metal. Mineralization occurs in narrow sheet-like structural envelopes that are called "veins" in this report, with mineralization also occurring in the hanging wall and footwall. These veins are principally oriented with a northeast strike in the Veta Sur system and an east-northeast strike in Yaraguá deposits (see Figure 1.1). In addition to the vein systems, recent work has identified the presence of Broader Mineralized Zones (BMZs) where the brittle interference between structures has resulted in mineralization with a wider footprint than the normal veins.

The Buriticá Project area is transected (and geologically partitioned) by a set of regionally extensive north-south to north-northwest trending faults. To the east of the mineralized systems, the steeply-dipping Tonusco Fault system cuts off the intrusion complex and related hydrothermal alteration envelopes. A set of east-dipping faults to the west of and possibly related to the Tonusco Fault cut across the mineralization but appear to exhibit relatively small displacements.

Figure 1.1 Plan view of the Veins and Broader Mineralized Zones at Yaraguá and Veta sur



Source: CGI, 2019

1.5 2019 Mineral Resource

The January 2019 Mineral Resource as summarized in Table 1.2 to Table 1.5 is a complete revision of the exploration data at Buriticá which has included new drilling information, mapping from a further two years of underground development and relogging of existing core. The cut-off date for information used in the 2019 Mineral Resource is 19 December 2018.

*Table 1.2 Mineral Resource for the Buriticá Gold Project, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	1.40	13.70	57.24	0.62	2.58
Indicated Resource	14.62	10.00	39.18	4.70	18.42
Measured + Indicated	16.02	10.32	40.76	5.32	21.00
Inferred Resource^	21.87	8.56	37.28	6.02	26.22

Note: Cut-off grade of 3.0 g/t Au. Contained metal and tonnes figures in totals may differ due to rounding.

*** Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues. The Mineral Resources in this Technical Report were estimated using CIM (2014) Standards on Mineral Resources and Reserves, Definitions and Guidelines.*

^ The quantity and grade of reported the Inferred Resources in this estimation are uncertain in nature and there has been insufficient exploration to define this Inferred Resource as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in upgrading the Inferred Resource to an Indicated or Measured Mineral Resource category.

*Table 1.3 Mineral Resource for the Veta Sur Vein System, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.27	16.37	103.40	0.14	0.90
Indicated Resource	5.70	11.68	41.77	2.14	7.65
Measured + Indicated	5.97	11.89	44.58	2.28	8.55
Inferred Resource^	10.90	10.15	33.94	3.56	11.90

Notes to Table 1.2 apply

*Table 1.4 Mineral Resource for the Yaraguá Vein System, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	1.01	14.00	49.89	0.45	1.62
Indicated Resource	8.47	9.17	38.93	2.50	10.60
Measured + Indicated	9.48	9.68	40.10	2.95	12.22
Inferred Resource^	9.46	7.40	45.58	2.25	13.87

Notes to Table 1.2 apply

*Table 1.5 Mineral Resource for the Broader Mineralized Zones, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.12	5.15	14.67	0.02	0.06
Indicated Resource	0.46	4.50	11.62	0.07	0.17
Measured + Indicated	0.58	4.64	12.25	0.09	0.23
Inferred Resource^	1.51	4.41	9.37	0.21	0.45

Notes to Table 1.2 apply

1.5.1 2015 Mineral Resource

The 2015 Mineral Resource (Table 1.6), whilst not current, is reported here as it forms the basis of the 2016 Mineral Reserve.

*Table 1.6 Mineral Resource for the Buriticá Gold Project, May 11, 2015***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.9	19.0	55	0.54	1.58
Indicated Resource	12.0	10.2	32	3.94	12.4
Measured + Indicated	**12.9**	**10.8**	**34**	**4.48**	**13.98**
Inferred Resource^	15.6	9.0	29	4.5	14.7

Notes to Table 1.2 apply

1.5.2 Consolidated reporting of BMZ1

The BMZs reported above report the BMZs exclusive of the veins that have been reported. But to get a proper picture of the potential of the BMZs, it is appropriate to consider the BMZs inclusive of the intersecting veins. This report of the mineral resource within BMZ1 was derived from a recompilation of the block models used to calculate the global mineral resource estimate for the Buriticá project announced on January 30, 2019 and is inclusive of veins. Of note:

- BMZ1 is a high-grade, steeply plunging, pipe-like shoot of mineralization related to the intersection of two vein systems and includes discreet veins as well as disseminated and vein stockwork materials (see Figure 1.2);
- BMZ1 has a vertical extent of 400 m and ranges from 25 m to 40 m in width by 80 m to 120 m of lateral extent; and
- BMZ1 remains open at depth for expansion. Up to 10,000 m of drilling specifically targeting BMZ1 is planned in 2019

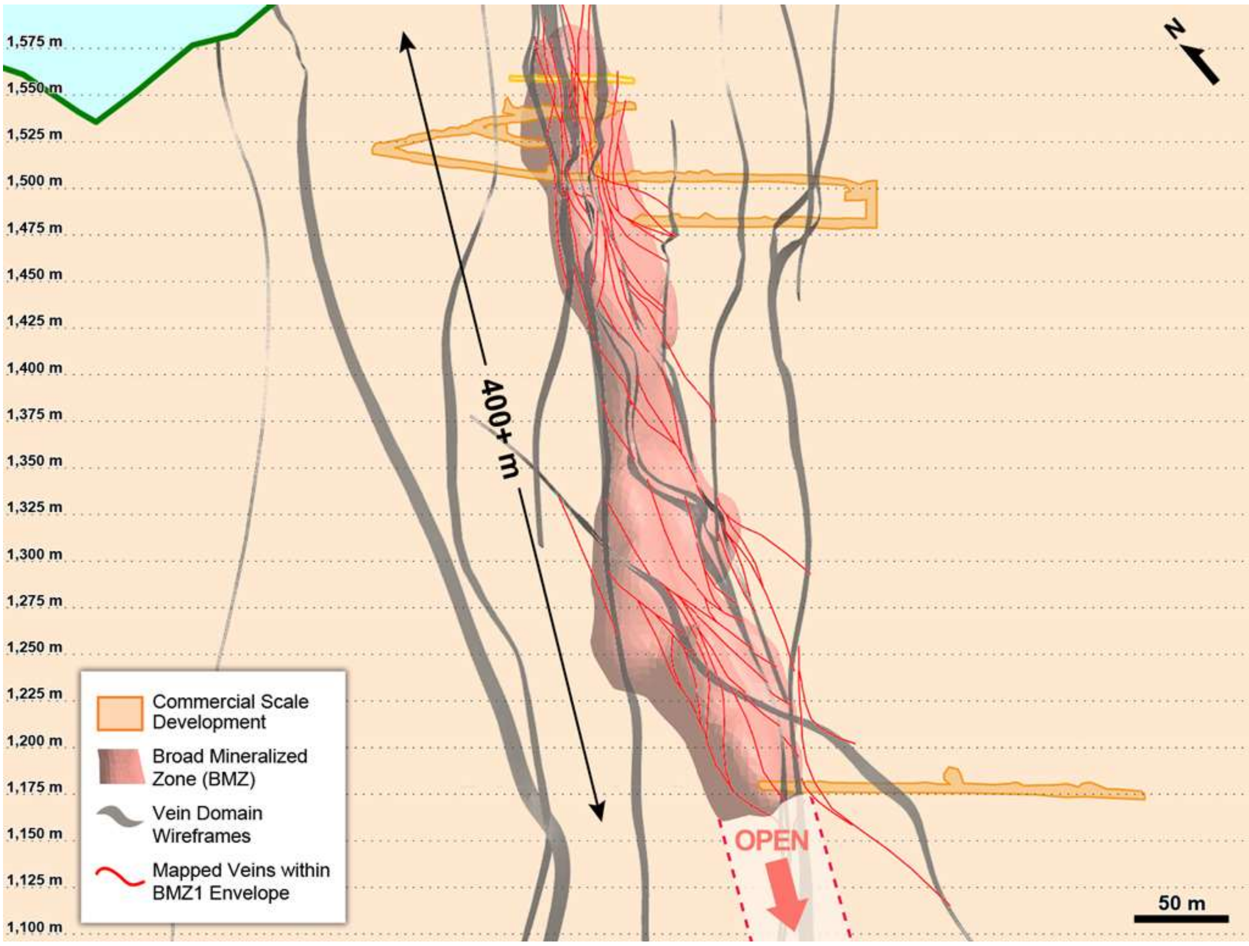
A total of 141 drill holes totaling 6,410 metres and 1,084 metres of underground channel sampling along development drifts were used in the estimate.

Table 1.7 BMZ Mineral Resource Estimate

BMZ1 Mineral Resource Statement at a 3 g/t Cut-off Effective January 26, 2019					
Resource		Grades		Metal	
Category	Tonnes	Gold (g/t)	Silver (g/t)	Gold (Oz)	Silver (Oz)
Measured	206,980	24.29	37.3	161,600	248,300
Indicated	621,880	10.77	18.2	215,300	363,000
M&I	828,870	14.15	22.9	377,000	611,000
Inferred	141,150	5.37	12.1	24,400	55,000

Notes to Table 14.20 apply

Figure 1.2 Section Combining Modelled and Mapped Veins within BMZ1



Source: CGI, 2019

1.6 2016 Mineral Reserve

The information contained in this report referring to the mineral reserves was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective date February 24, 2016 and dated March 29, 2016.

The Mineral Reserve has not been updated in light of the 2019 Mineral Resource for Buriticá. However, work to-date indicates that the 2019 resource estimate does not significantly affect the 2015 Mineral Resource that formed the basis of the mineral reserve as reported in the 2016 Mineral Reserve. The basis for the Mineral Reserve is the 2015 resource estimate as reported on May 11, 2015. The primary differences between the 2015 mineral resource model and the 2019 mineral resource model is the additional information from mapping of the underground workings to increase confidence in the interpretation of the geological framework used in modelling, an increase in the number of boreholes used, inclusion of new and relevant underground channel samples, and the refinement of modelling to focus on the dominant veins and BMZs. The Company is in the process of updating the mineral reserves using the 2019 mineral resource and will report the results of this work at a later date.

This section is copied, without edit, from JDS (2016).

The effective date for the mineral reserve estimate contained in this report is July 31, 2015. Mineral Reserves are included in Total Mineral Resources except for the dilution component of Mineral Reserves that was not reported in Mineral Resources. Mineral Resources included vein domains only, while Mineral Reserves included metal contained in dilution tonnes comprised of "halo" resource blocks classified as an indicated resource outside of the vein domains.

The Qualified Person (QP) had not identified any risk including legal, political, or environmental that would materially affect potential Mineral Reserves development except for the following: 1) Continued unauthorized mining activities; and, 2) successfully securing from the Colombian government the required permits for Project development and operation. The QP was not aware of unique characteristics related to this Project that would prevent the granting of such permits.

Table 1.8 Yaraguá Mineral Reserve Estimate

Category	M tonnes	Au g/t	Ag g/t	Au Moz	Ag Moz
Proven	0.45	20.5	47.6	0.3	0.69
Probable	8.38	7	20.8	1.89	5.61
Total P&P	**8.83**	**7.7**	**22.2**	**2.19**	**6.3**

Notes: Based on a 3.8 g/t cut-off grade, $950 per ounce gold price, and COP:$ exchange rate of 2,850. Rounding of some figures may lead to minor discrepancies in totals.

Source: CGI, 2015

Table 1.9 Veta Sur Mineral Reserve Estimate

Category	M tonnes	Au g/t	Ag g/t	Au Moz	Ag Moz
Proven	0.23	22.2	84.7	0.16	0.62
Probable	4.66	9.1	25.4	1.36	3.8
Total P&P	**4.89**	**9.7**	**28.1**	**1.52**	**4.42**

Notes: Based on a 4.0 g/t cut-off grade, $950 per ounce gold price, and COP:$ exchange rate of 2,850. Rounding of some figures may lead to minor discrepancies in totals.

Source: CGI, 2015

Table 1.10 Total Mineral Reserve Estimate

Category	M tonnes	Au g/t	Ag g/t	Au Moz	Ag Moz
Proven	0.68	21.1	60	0.46	1.31
Probable	13.04	7.8	22.5	3.25	9.41
Total	**13.72**	**8.4**	**24.3**	**3.71**	**10.72**

Notes: Based on cut-off grades of 3.8 g/t for Yaraguá and 4.0 g/t for Veta Sur, $950 per ounce gold price, and COP:$ exchange rate of 2,850. Rounding of some figures may lead to minor discrepancies in totals.

Source: CGI, 2015

1.7 MINING

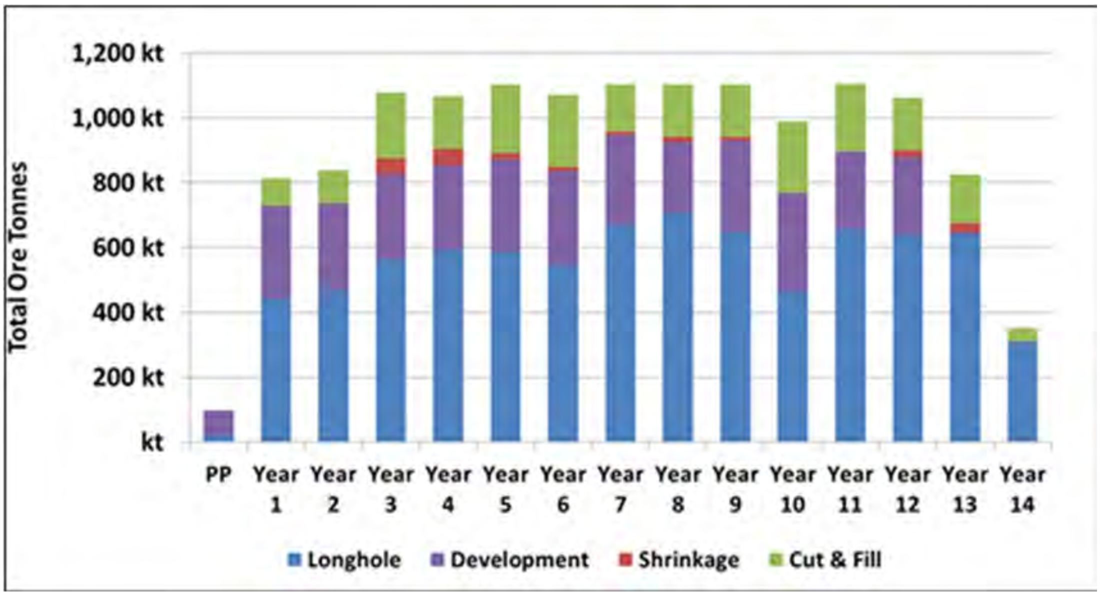
The information contained in this report referring to mining methods was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

The methodology for Mining Methods have not been updated in light of the January 2019 Mineral Resource for Buriticá. The Company is in the process of updating the Mineral Reserve and as a part of that the Mining Methods will be reviewed and the results of this work reported at a later date.

This section is copied, without edit, from JDS (2016).

The FS mine plan is based on a multiple ramp access underground mining operation initially producing 2,100 ore t/d, ramping up to 3,000 t/d by year three.

Figure 1.3 Breakdown of Mining Methods at Buriticá

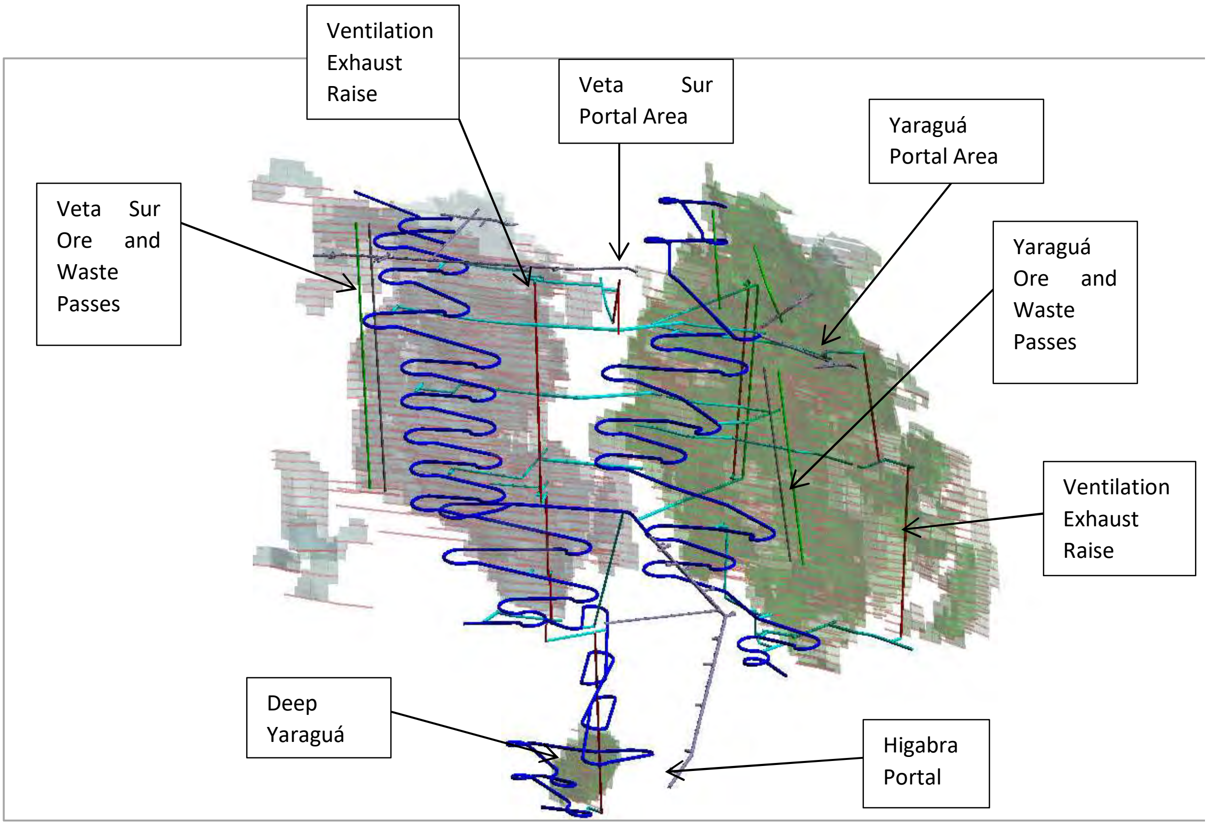


Source: JDS, 2016

The mine is designed to initially develop two high-grade zones to minimize pre-production development capital and maximize early revenues. Mining methods selected for the Buriticá Project were chosen to maintain mining flexibility and selectivity for the various ground conditions anticipated. The majority of Mineral Reserves will be mined by longhole open stoping (58% stoping, plus 25% stope development) on 15 m sublevels, and overhand cut and fill (15%). Some shrinkage stope extraction will be used for narrower, isolated veins. Average diluted stope width is 2.4 m; however, widths can exceed 10 m where veins have been combined. Minimum mining width is 1.0 m. Paste backfill made from a mixture of tailing and cement will be the primary backfill material, with unconsolidated waste rock being used in the cut and fill stopes. An internal ore-pass system will direct ore and waste to the Higabra tunnel (already constructed by CGI), the main haulage level which will daylight adjacent to the process plant.

The majority of the Mineral Reserves in the Yaraguá and Veta Sur vein systems are located above the elevation of the Higabra tunnel, providing an advantageous gravity scenario for ore and waste movement and dewatering.

Figure 1.4 Underground Development at Buriticá



Source: JDS, 2016

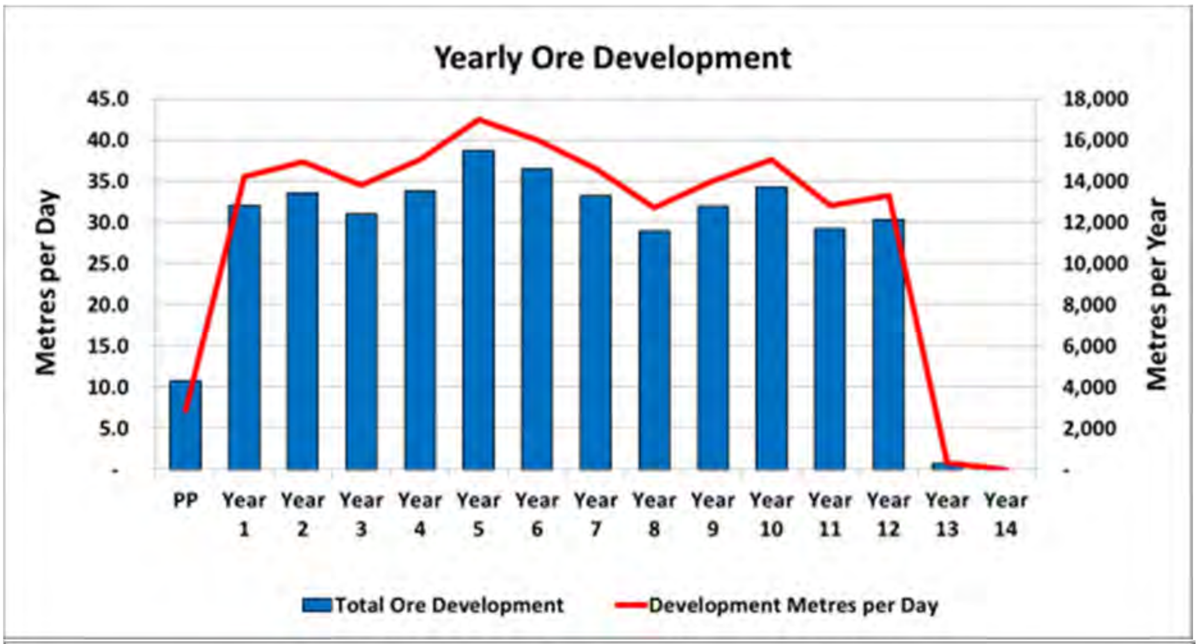
A comprehensive geomechanical characterization program was completed by SRK in 2015 to bring the overall characterization of the Project to FS level (SRK, 2016). The selection of mining methods is driven primarily by geotechnical considerations, interpreted geometry of the veins and distribution of estimated precious metal values within those veins.

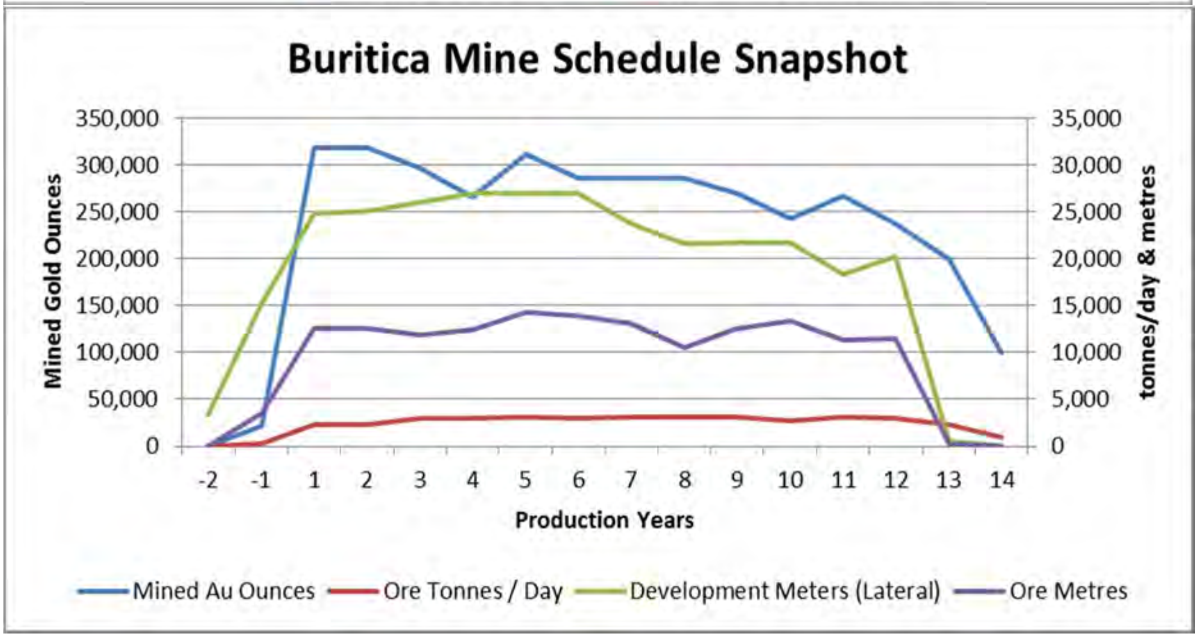
The permanent ventilation network will include a main exhaust fan, installed underground in a dedicated gallery, capable of delivering 19,200 cubic metres per minute (m^3/m). Fresh air is drawn in from the three portals and directed via the main ramps to active mining levels with the use of regulators. A series of 4.0 m and 5.0 m diameter exhaust raises will collect and direct exhaust air to the main fans and out of the mine.

Dewatering of all levels above the Higabra access will occur by gravity to the greatest extent possible. Dewatering of levels below Higabra will be enabled by the establishment of drainage galleries and collection sumps along and proximal to the main decline. Dewatering is a critical activity for development below the Higabra level and the mine development schedule is designed to allow time for dewatering.

The principal method of backfilling for Buriticá will be with paste backfill comprised of filtered tailing, water, and cement in varying proportions. The use of cemented backfill enables secondary stopes along strike to be mined directly adjacent to the primary backfilled stopes without a rib pillar, and prevents sterilization of adjacent veins. Loose rock fill (LRF), and lesser amounts of Cemented Rock Fill (CRF), will be used.

Figure 1.5 Annual Ore Development and Mine Schedule





Source: JDS, 2016

1.8 Metallurgical Testing and Mineral Processing

The information contained in this report referring to Metallurgical Testing and Mineral Processing was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

No new metallurgical testing or mineral processing design work has been completed since the 2016 Feasibility Study. The 2019 mineral resource estimate is based on the same deposits that were the focus of the 2016 Feasibility Study and the majority of additional drilling information incorporated into the 2019 resource estimate was infill drilling in the same general areas included for mining in the Feasibility Study.

This section is copied, without edit, from JDS (2016).

A considerable amount of testing has been undertaken on the Buriticá Project prior to the Feasibility Study as previously summarized in the 2014 PEA (M3, NI 43-101 Technical Report Preliminary Economic Assessment, Antioquia, Colombia, November 17, 2014). The 2015 metallurgical test program included mineralogy, comminution, gravity separation, flotation, cyanidation, cyanide destruction and solid/liquid separation studies. Historical and Feasibility Study test work results indicate that the mineralization responded well to flotation and to cyanide leaching for precious metal extraction.

For the feasibility program, samples from 100 drill composites from 83 drill holes were used to create 45 variability composites representative of the feasibility mine plan. The "Year 1 to 5" optimization composite was prepared from 23 of the variability composites and included intercepts from 46 holes.

Grindability test work indicated that the hardest 80th Percentile Bond Work Index was 17.6 kilowatt hours per tonne (kWh/t) and the SMC A*b was 28, which places the ore in the hard to very hard classification for comminution.

Given test work results for gravity concentration and leaching of gravity tailing from the variability test work program, the equations below were created to calculate the recoveries of materials to be processed throughout the life of the mine.

1.9 RECOVERY EQUATIONS

The information contained in this report referring to Recovery Equations was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

No new metallurgical testing work has been completed since the 2016 Feasibility Study, thus the recovery equations developed from results of metallurgical testing as part of the Feasibility Study is unchanged.

This section is copied, without edit, from JDS (2016).

For Veta Sur, the recovery relationships proposed for gold grades between 3.0 and 24.0 grams per tonne (g/t) gold (Au) and silver grades between 5.0 and 105.0 g/t silver (Ag), based on the feasibility data would be:

- Gold Recovery (%) = 95.627 – 0.006861 x Arsenic parts per million (ppm); and
- Silver Recovery (%) = 64.408 – 0.4317 x Silver Grade (g/t).

For Yaraguá the recovery relationships proposed for gold grades tested between 1.0 and 93.0 g/t Au and silver grades between 3.0 and 190.0 g/t Ag, based on the feasibility data would be:

- Gold Recovery (%) = 102.4 – 1.0672 x Fe (%); and
- Silver Recovery (%) = 72.864 – 0.2787 x Silver Grade (g/t).

1.10 RECOVERY METHODS

The information contained in this report referring to Recovery Methods was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

No new metallurgical testing work has been completed since the 2016 Feasibility Study, thus the process plant design developed from results of metallurgical testing and mine production schedule from the Feasibility Study is unchanged.

This section is copied, without edit, from JDS (2016).

The process plant utilizes conventional technology and equipment, which are standard to the industry. The process plant is designed to process 3,000 t/d, or 1,095,000 tonnes per year (t/a) at 91% availability, operating for 365 days per year.

The process design follows these steps: Crushing > Grinding > Gravity Concentration > Cyanide Leach > Counter-Current Decantation (CCD) > Merrill Crowe > On-site refining to doré bars. Treated tailing will be dewatered by filtering prior to disposal and process water will be recycled to minimize environmental impact.

The process mass balance was developed for the Buriticá process using MetSim. The process simulation assumed the recoveries and grades based on completed test work as shown in Table 1.11.

Table 1.11 Metal Production Schedule

Parameter	Unit	Au	Ag
Mine Head Grades	g/t	8.5	24.2
Gravity Recovery	%	40 to 90	9
Leach Extraction	%	90	56
CCD Wash Efficiency	%	99	99
Merrill Crowe Extraction	%	99	99
Overall Extraction	%	96	60
Soluble Loss	%	0.5	0.5
Overall Plant Recovery	%	95	59
Metal Production	kg/d	24	43
Metal Production	Troy oz/y	284,000	503,000

Source: M3, 2016

The ore will be processed by a jaw crusher followed by a semi-autogenous (SAG) mill in closed circuit with a pebble crusher and a ball mill to a target grind size of 80% passing (P80) 74 microns (µm). Combined SAG and ball mill discharge will feed the gravity circuit. Gravity concentrate will feed the cleaner table to produce a gravity concentrate that can be refined directly.

All gravity tailing will be classified by a hydro-cyclone system with overflow feeding the trash screen to leaching circuit. Leaching will be performed with cyanide and oxygen on agitated tanks with pH control by milk of lime. The slurry from the leaching circuit will flow through a CCD system of four high rate thickeners of 17 m diameter each. The solution from CCD will follow to Merrill Crowe system for gold recovery and slurry will be treated for cyanide destruction prior to thickening and filtration in preparation for proper disposal. Allowances for future modifications in various areas have been made.

1.11 INFRASTRUCTURE

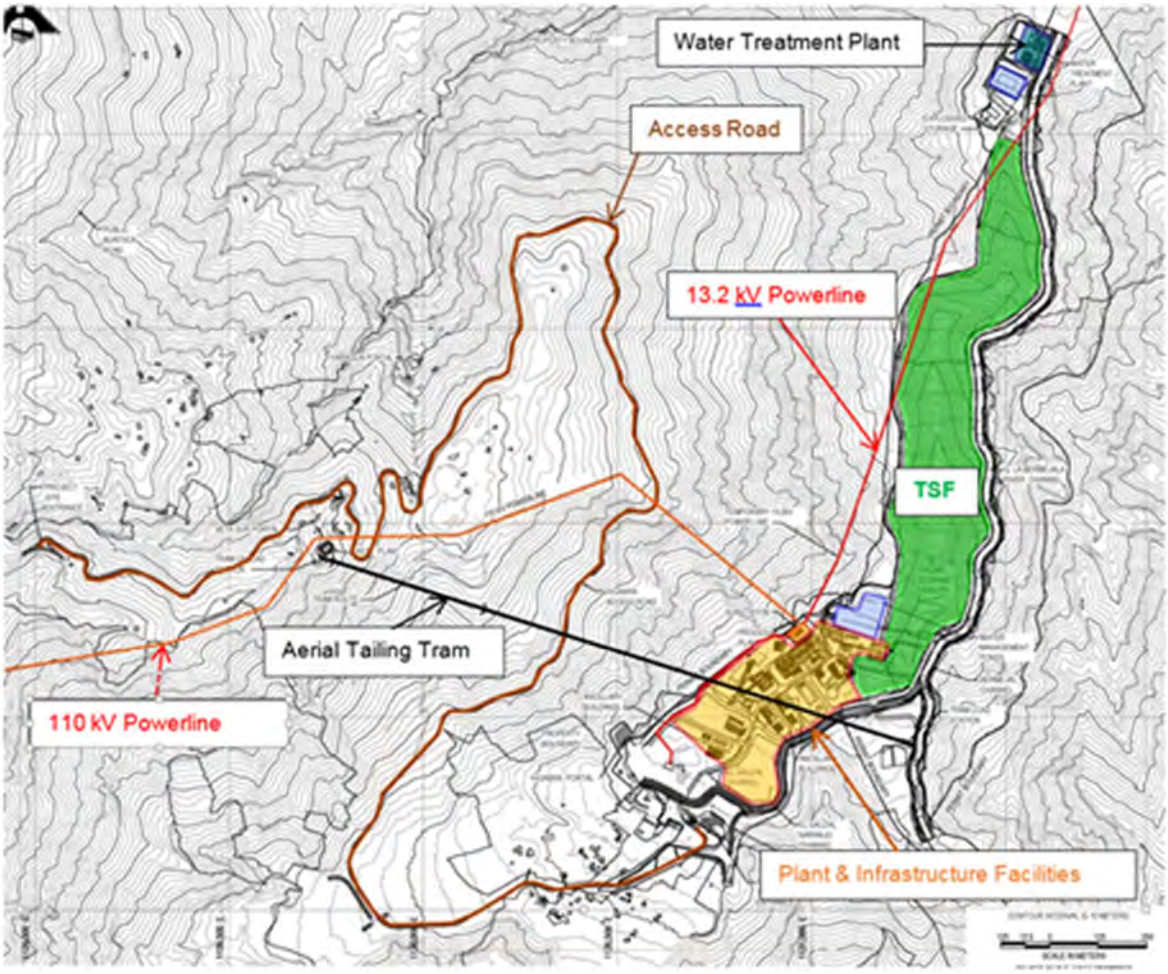
The information contained in this report referring to Infrastructure was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

This section is copied, without edit, from JDS (2016).

The key support infrastructure includes the following (see Figure 1.5):

- A 5.9 km access road between the existing property entrance and the Higabra Valley, originating at the paved road leading to Buriticá;
- Process plant with security, administration, and personnel facilities;
- Paste backfill plant for providing cemented paste to the underground workings;
- Aerial Tram for transporting tailing from the process plant to the paste backfill plant;
- Mine support facilities including mobile equipment maintenance, mine personnel facilities, and shotcrete mixing plant;
- Explosive storage facility;
- Utility infrastructure for the site: water, sewer, fire protection, & communications;
- 13.2 kilovolt (kV) grid power supply for the pre-production phase;
- 110 kV power transmission line connected to the EPM national electricity grid;
- Mine water sediment settling ponds and water treatment plant;
- Surface water handling infrastructure to manage local streams and runoff from the facilities; and
- Tailing Storage Facility (TSF) for filtered tailing and waste rock in a lined area.

Figure 1.6 General site Layout



Source: JDS, 2016

1.12 Environment and Permitting

CGI currently operates the Yaraguá underground mine, which is located in the same area as the proposed Buriticá Project. Yaraguá was, at the time of the JDS (2016) technical report operating under a global environmental license granted by the regional environmental authority of the department of Antioquia, Corantioquia.

In 2016, CGI received environmental licensing from the National Environmental Licensing Agency, ANLA to operate as per the Feasibility Study.

Illegal mining has ceased almost completely, and there are five small scale mining groups operating under a formalization agreement. The areas selected for small scale mining are jointly agreed with CGI, and do not impede CGI's current operational plans. CGI's plan for formalized mines and compliance is reviewed every three months.

1.13 Capital Costs

The project is currently in the midst of capital development thus some feasibility cost estimates can be replaced by actual costs and the remainder forecast. These forecast costs are not estimated at the same level of engineering as those used for the feasibility study, therefore caution must be exercised on using forecast numbers instead of engineering estimates. Completed tasks and those which resulted from a change in scope are certainly relevant however and are considered actual costs. Significant variances in the pre-production capital phase are noted in their respective sections below, however the total sustaining capital for the project has not been adjusted and will be updated using the proper level of engineering to support these adjustments.

This section is copied, without edit, from JDS (2016), with comments in *italics* where necessary to identify cost updates.

Project capital costs total $662 million (M), consisting of the following:

Initial Capital Costs – includes all costs to develop the property to a sustainable production of 2,100 t/d. Initial capital costs total $389M and are expended over a 35-month pre-production construction and commissioning period; and

Sustaining Capital Costs – includes all costs related to expansion of production to 3,000 t/d and the acquisition, replacement, or major overhaul of assets required to sustain operations. Sustaining capital costs total $273M and are expended in operating years 1 through 13.

Table 1.12 Level 1 Capital Estimate Detail

WBS	Description	Initial Capital Feasibility Estimate ($ M)	*Initial Capital Current Forecast ($ M)*	Sustaining Capital Feasibility Estimate ($ M)	*Total Capital Current Forecast ($ M)*
1000	Site Development	10.9	20.9	-	20.9
2000	Underground Mining	86.5	114.3	178.3	292.6
3000	Processing Facilities	97.6	101.1	11.6	112.7
4000	Tailing & Waste Rock Management	7.7	14.0	16.1	30.1
5000	Off-Site Infrastructure	10.0	22.6	12.7	35.3
6000	On-Site Infrastructure	45.3	84.2	18.7	102.9
7000	Project Indirect Costs	28.5	29.7	9.1	38.8
8000	Engineering & EPCM	27.8	36.4	0.6	37.0
9000	Owners Costs	21.8	59.0	4.3	63.3
9800	Taxes	17.7	18.6	14.0	32.6
9900	Contingency	35.4	10.8	7.0	17.8
	Grand Total	389.2	511.6	272.3	784.0

Note: Subtotals/totals may not match due to rounding

Source: JDS, 2019

1.14 Reclamation & Closure

This section is copied, without edit, from JDS (2016).

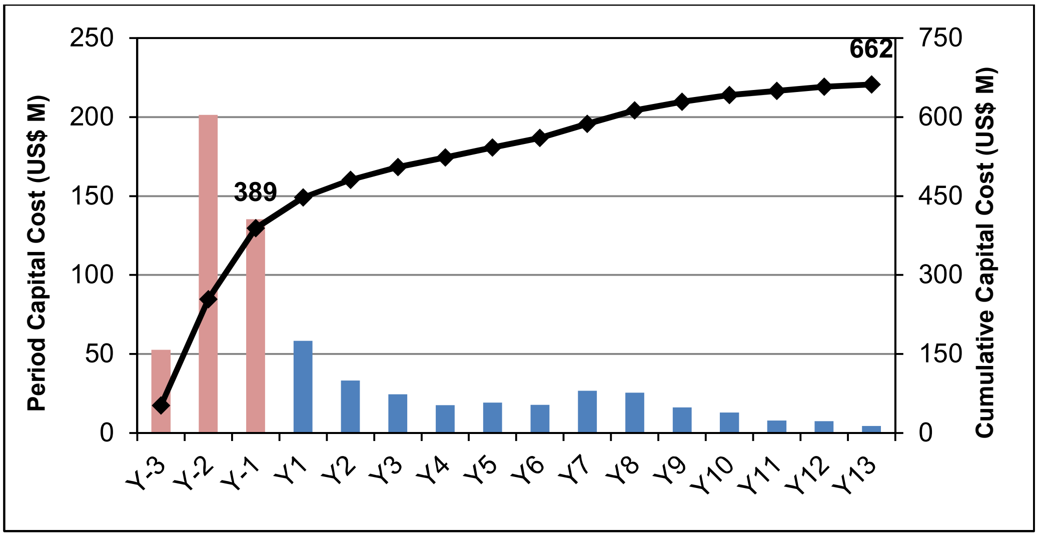
Progressive closure costs (the TSF soil cover) are incurred between Years 5 and 14. Demolition and final closure activities are incurred at the end of Year 14 and through Year 20 with the exception of ongoing water treatment, which has been assumed to continue in perpetuity.

Table 1.13 Reclamation & Closure Cost Summary

Category	Total Cost ($ M)	%
Progressive Closure (activities occurring during operations)	0.8	5
Demolition & Closure	8.6	49
Ongoing Monitoring & Maintenance	8.0	46
Total	17.5	100

Source: JDS, 2016

Figure 1.7 Life of Mine Capital Cost Profile



Source: JDS, 2016

1.15 Operating Costs

The updated mineral resource is not expected to directly affect operating costs which were estimated in the Feasibility Study. Mining methods, extraction and ore processing methods, G&A and Corporate fees are not affected by the new resource. Work on an updated mine plan, ore development redesign, stope scheduling and mine sustaining capital and operating cost estimates is currently in progress and is expected to result in an updated mineral reserves statement once the work has been completed.

This section is copied, without edit, from JDS (2016).

Life of mine (LOM) operating costs for the Project average $100.50/t processed. The operating costs exclude off-site costs (such as shipping and refining costs), taxes, and government royalties. These cost elements are used to determine the net smelter return (NSR) in the economic model, and are discussed elsewhere.

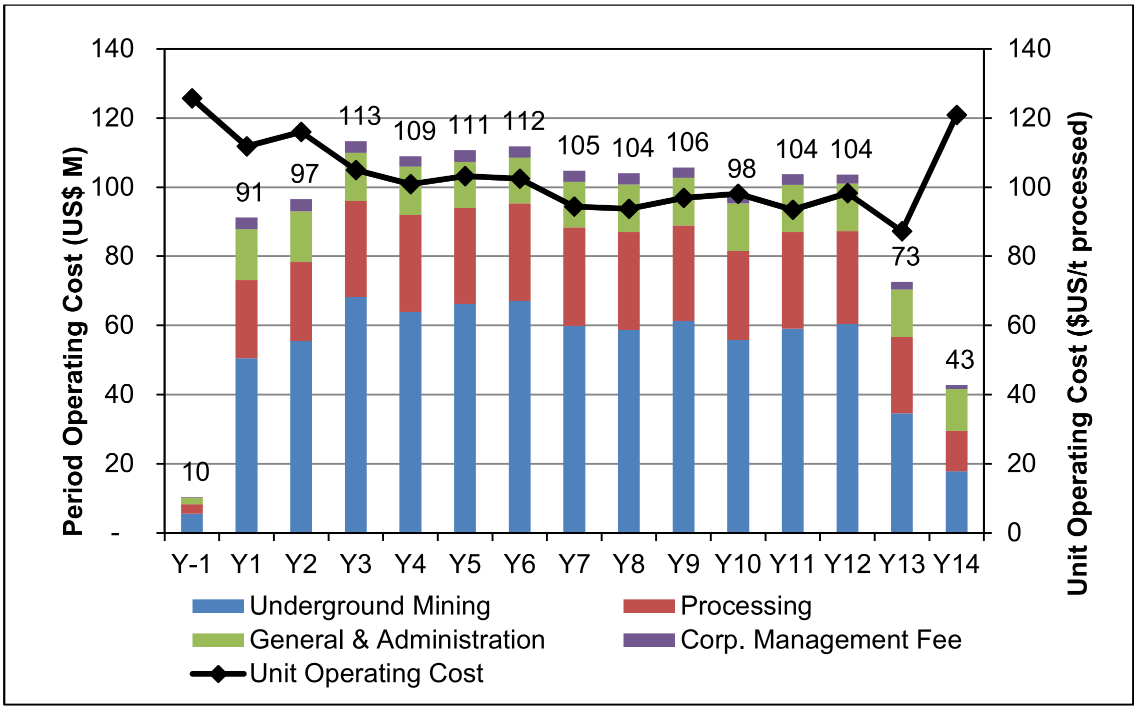
Table 1.14 Operating Cost Summary

Sector	Average $ M/year	Life of Mine $ M	$/t processed
Underground Mining	56.3	784.7	57.21
Processing	25.8	358.8	26.16
General & Administration	13.9	193.8	14.13
Corporate Management Fee	3.0	41.3	3.01
Total Mine Operating Costs	99.0	1,378.6	100.50

Source: JDS, 2016

All operating costs are included in the economic cash flow model according to the production schedule.

Figure 1.8 Life of Mine Operating Cost Profile



Source: JDS, 2016

1.16 ECONOMIC ANALYSIS

Changes to the resource are not expected to significantly affect the project development plan and thus, the original FS study economic model remains valid as a tool to estimate project performance. Updates to project inputs have been evaluated by sensitivity analysis, since projected changes fall within the sensitivity envelope of the project as modelled. Using this methodology, Project NPV5 using current projections of increased project pre-production capex are mostly offset by increases to metal prices and exchange rate. However, the IRR would show a larger percentage decrease since capital changes are only projected for the pre-production period. High level sensitivity analysis using graphs in Figure 1.10 *and* Figure 1.11 *shows a current project after tax NPV5 of 855MM, and IRR of 27% using gross percentage changes in capex along with increased metal prices.*

Any significant changes to the mining and project development plan, driven by the 2019 mineral resource will necessitate updated cost estimates at the appropriate level of engineering, at which time the financial model can be updated to a level of confidence comparable to that contained in the existing feasibility study. The original feasibility text is included below to represent the existing base case development plan and economic performance.

The updated mineral resource is not expected to directly affect operating costs which were estimated in the Feasibility Study. Mining methods, extraction and ore processing methods, G&A and Corporate fees are not affected by the new resource. Work on an updated mine plan, ore development redesign, stope scheduling and mine sustaining capital and operating cost estimates is currently in progress and is expected to result in an updated mineral reserves statement.

This section is copied, without edit, from JDS (2016).

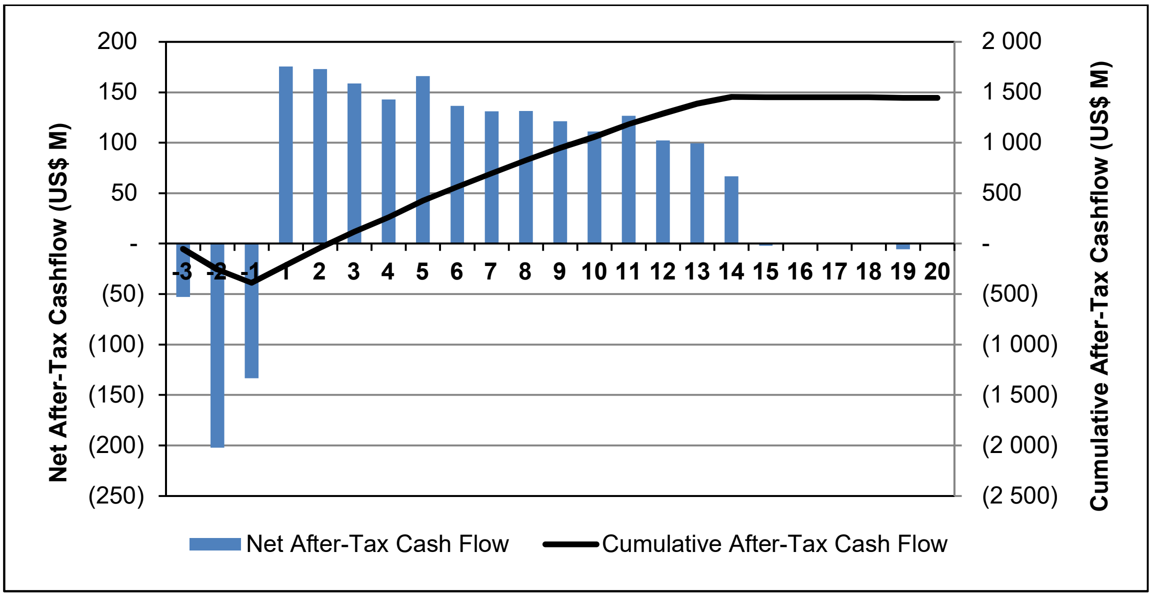
Based on the FS findings, it was concluded that the Project is economically viable at estimated metal prices with an after-tax IRR of 31.2% and an NPV of $860M at a 5% discount rate.

Table 1.15 Summary of Economic Results

Parameter	Unit	Value
Gold Price	$/ounce	1,200
Silver Price	$/ounce	15.00
Exchange Rate	COP:US	2,850
Pre-Tax NPV5%	$ M	1,263.3
Pre-Tax IRR	%	38.0
Pre-Tax Payback	years	1.9
Total Taxes	$ M	636.2
Effective Tax Rate	%	33
After-Tax NPV5%	$ M	860.2
After-Tax IRR	%	31.2
After-Tax Payback	years	2.3
Break-Even After-Tax Gold Price	$/ounce	634

Payback was calculated on annual cash flows without considering discount rates or inflation.
Source: JDS, 2016

Figure 1.9 Annual and Cumulative After-Tax Cash Flows



Source: JDS, 2016

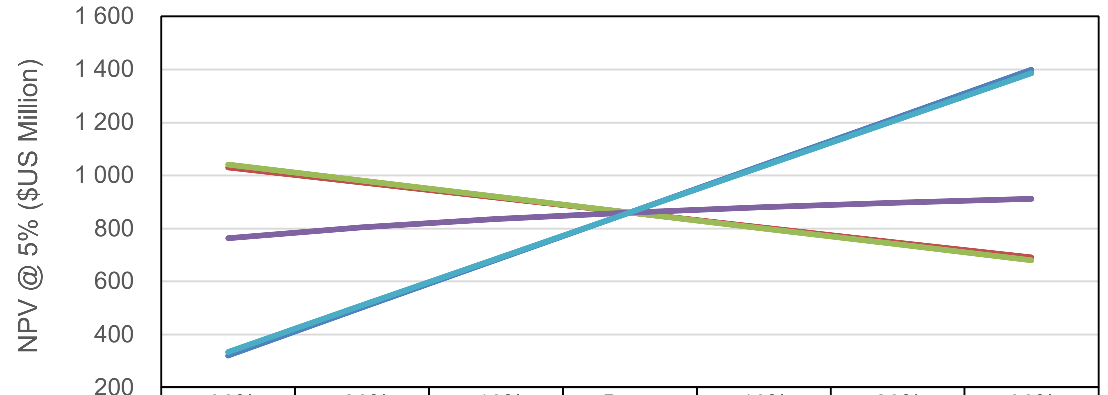
Table 1.16 Cash Cost Summary

Item	Parameter	LOM Cost ($M)	Unit Cost ($/Payable Au Oz)
A	Pre-Production Capital Costs	389.2	112
B	Life of Mine Sustaining Capital Costs	272.5	78
C	Closure Cost (net of Salvage Value)	10.0	3
D	Operating Costs	1,378.6	395
E	Refining and Transportation	14.9	4
F	Royalties	137.2	39
G	Silver Credits	(96.1)	(28)
	Total Cash Cost, net Ag Credits (D+E+F+G)	1,434.6	411
	All-in Sustaining Cost, net Ag Credits (B+C+D+E+F+G)	1,717.1	492
	All-in Sustaining & Construction Costs, net Ag Credits (A+B+C+D+E+F+G)	2,106.3	604

Source: JDS, 2016

To determine Project value drivers, a sensitivity analysis was performed on the Net Present Value (NPV) and Internal Rate of Return (IRR). The Project proved to be most sensitive to changes in the metal pricing and gold grades, and least sensitive to changes in exchange rate.

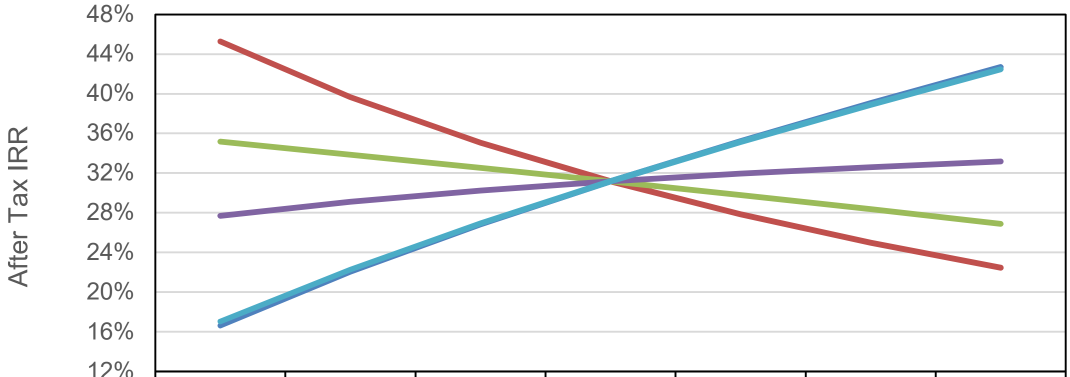
Figure 1.10 After-Tax NPV5% Sensitivities



	-30%	-20%	-10%	Base	10%	20%	30%
Price	320	501	681	860	1 040	1 219	1 398
CAPEX	1 030	974	917	860	804	747	690
OPEX	1 041	981	920	860	800	740	680
FX	764	804	835	860	881	898	912
Au Grade	333	510	685	860	1 035	1 211	1 386

Source: JDS, 2016

Figure 1.11 After-Tax IRR Sensitivities



	-30%	-20%	-10%	Base	10%	20%	30%
Price	16,6%	22,0%	26,8%	31,2%	35,2%	39,1%	42,7%
CAPEX	45,3%	39,7%	35,0%	31,2%	27,8%	25,0%	22,4%
OPEX	35,2%	33,9%	32,5%	31,2%	29,8%	28,3%	26,9%
FX	27,7%	29,1%	30,2%	31,2%	31,9%	32,6%	33,2%
Au Grade	17,0%	22,3%	26,9%	31,2%	35,1%	38,9%	42,5%

Source: JDS, 2016

1.17 Conclusions

Changes to the resource are not expected to significantly affect the project development plan and thus, the original FS study economic model remains valid as a tool to estimate project performance. Updates to project inputs can be evaluated by sensitivity analysis, since projected changes fall within the sensitivity envelope of the project as modelled. Using this methodology, Project NPV5 using current projections of increased project pre-production capex are mostly offset by increases to metal prices and exchange rate. However, the IRR would show a larger percentage decrease since capital changes are only projected for the pre-production period. High level sensitivity analysis shows a current project after tax NPV5 of 855MM, and IRR of 27% using gross percentage changes in capex along with increased metal prices.

Any significant changes to the mining and project development plan, driven by the 2019 resource estimate will necessitate updated cost estimates at the appropriate level of engineering, at which time the financial model can be updated to a level of confidence comparable to that contained in the existing feasibility study.

This section is copied and partly modified from JDS (2016).

Results of this Feasibility Study demonstrated that the Buriticá Project warrants development due to its positive, robust economics.

It is the conclusion of the QPs that the FS, as summarized in JDS (2016) and repeated with updates where available in this technical report, contains adequate detail and information to support a Feasibility level analysis. Standard industry practices, equipment and design methods were used in this Feasibility Study and except for those outlined in this section, the report authors are unaware of any unusual or significant risks, or uncertainties that would affect Project reliability or confidence based on the data and information made available.

For these reasons, the path going forward must continue on advancing key activities that will reduce project execution time.

Risk is present in any mineral development project. Feasibility engineering formulates design and engineering solutions to reduce that risk common to every project such as resource uncertainty, mining recovery and dilution control, metallurgical recoveries, political risks, schedule and cost overruns, and labour sourcing.

Potential risks associated with the Buriticá Project include:

- **Reserve** - A potential unknown identified by the QP is the extent of former unauthorized and illegal mining activities in the Yaraguá and Veta Sur areas. Unauthorized mining activities have been discovered, on occasion, adjacent to Continental's underground workings in the Yaraguá and Veta Sur deposits. In late July 2015, CGI surveyed the extent of unauthorized mine workings in areas that were accessible. These areas are excluded from the Mineral Reserves; however, the extent of impact in the upper areas of the reserve may not be fully quantified;

- **Groundwater** - Groundwater inflows below the Higabra level have been modelled and the mine development plan addresses estimated flows as well as potential variations. Increases in the actual amount of groundwater encountered would impact development costs. Drilling for drainage, and operational definition drilling included in the mine plan will help to identify specific water bearing zones with higher than expected flows to establish control and/or management procedures. As well, initiating certain development earlier in the mine life to allow more time for dewatering may prove cost effective;
- **Stability of natural slopes** –The steep topography, high rainfall, and seismic hazard level in the Higabra Valley suggests the potential for mass movements and remnants of past events are evident. The access road, power lines, and facilities located in the valley bottom would be at risk. CGI has undertaken slope deposit mapping (based partly on ultra-high resolution Light Detection and Ranging (LiDAR), topography and surface morphologies) and geotechnical studies throughout all areas of current planned infrastructure in the Buriticá Project and has concluded that risks from major mass movements are acceptable;
- **Comminution** – The wall rock is much harder than the vein material and it appears that increased waste rock in the metallurgical samples increases the comminution parameters. Grade control and proper mining execution when implemented will maintain minimal unplanned dilution, which would minimize potential impacts on grade, throughput, and operating costs. Continued test stoping at Yaraguá mine will help to verify dilution estimates;
- **Plant Feed Blend** - Determination of the amount of plant feed that contains increased levels of arsenic needs to be refined, particularly from Veta Sur where it indicates a decrease in the gold recovery. It is recommended that additional study applying the variability data to date and geometallurgical models be used to optimize mine production scheduling and blending techniques to more fully understand and possibly improve gold recovery;
- **Geomechanical Conditions** – Comprehensive studies were done to accurately estimate anticipated ground conditions. There is a risk that a larger percentage of the ore must be extracted using cut and fill (C&F) rather than the longhole method resulting in higher costs. If this situation were to occur, the sensitivity analyses show that Buriticá project economics continue to justify mine and mill development;

The FS has highlighted several opportunities to increase mine profitability and project economics, and reduce identified risks.

- **Inferred Resources** – Inferred resources are not included in the production schedule; however, a plan to infill drill specific areas could add significant value to the Mine Plan and improve Project economics. Operational definition drilling will test inferred resources as part of the production sequence. Identification of additional resources would have a compounding positive effect in that the development per ore tonne as well as vertical mining advance rate would be decreased. Additionally, mine plans for specific areas, such as those below the Higabra level would change dramatically with the addition of resource, by allowing more methodical development below the Higabra and allocating development and water handling costs over a larger reserve base.
- **Mine Grade Strategy** – Cut-off grade trade-off evaluations indicated that a COG higher than the 2016 Feasibility Study values of 3.8 g/t for Yaraguá and 4.0 g/t for Veta Sur could provide equal or better project economics. Comprehensive mine design and scheduling would be required to validate any potential benefits, and to determine if an alternative plan with higher early year cut-off grades (COG) would provide increase upfront cash flow and decrease risk without diminishing the mineable resource. The mining strategy is flexible and depending on market conditions at the time of commissioning, opportunity exists to adjust the mine plan.
- **Alternative TSF construction material** – Stability considerations require that a binder be used to increase TSF stability due to a limited supply of development waste rock. Alternative material for buttress and cover could be sourced from an optimized TSF foundation excavation design. Engineering to determine the best excavated material balance compared to binder addition may result in significant cost savings.

1.18 RECOMMENDATIONS

The Project exhibits robust economics with the assumed 2016 Feasibility Study gold price, COP exchange rate, and consumables pricing. Project construction is estimated to be approximately 50% complete and many potential risks identified in the Feasibility Study were dealt with during early construction activities.

During initial project construction many of the Feasibility Study recommendations were implemented including infill drilling and early mine development. These efforts provided additional information to include in updated geologic modelling, geologic interpretation and revised resource estimation parameters. The resultant resource block models formed the basis of mineral resources as reported on January 30, 2019.

The 2019 resource block models are currently being used to update mine planning and ore reserve development design.

Recommendations are as follows:

- Inferred Resources are not included in the production schedule. A plan should be developed to infill drill specific areas that could potentially provide significant value to the operation.
- Complete the updated life of mine plan, ore reserve development design, stoping schedule, and estimate of project capital and operating costs in order to issue an updated reserves statement.
- Blend ore sources in the mine plan to minimize negative effects on metal recovery and process operating costs from elements such as copper contained in ore sources.
- Examine mine plan trade off study results for economic opportunities such as cut-off grade strategy and material handling.
- Update the financial model and project economic analysis using results from the updated mine plan and revised capital and operating cost estimates.
- Issue an updated NI 43-101 Buriticá Mineral Reserve report that restates the economic feasibility of completing and operating the Buriticá project.

2 INTRODUCTION

2.1 The 2019 Programme

This report summarizes the results of the January 2019 Mineral Resource and its estimation by Ivor Jones Pty Ltd (JonesPL) as commissioned by Continental Gold Inc. (CGI) for the Buriticá Project.

The work in 2019 comprised the compilation of data up to and including December 19, 2018, the revision of the geological interpretations in line with the new information that had been collected, and the preparation of a new resource estimate under the supervision of Ivor Jones of JonesPL, and the reporting of the January 2019 Mineral Resource.

In 2016, JDS Energy & Mining Inc. (JDS) compiled a Feasibility Study for CGI, which used as its' base the 2015 Mineral Resource.

The 2016 Mineral Reserve and Feasibility Study have not, at this stage, been updated for the 2019 Mineral Resource. However, where an update could be provided such as in environmental items, these have been provided in the relevant sections.

This report summarizes the results of the January 2019 Mineral Resource, provides an update of the available information as inputs to the Feasibility Study (FS), and was prepared in accordance with the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1.

2.2 Scope of Work

This report summarizes the work carried out by each company that is listed below, and combined, makes up the total Project scope.

Ivor Jones Pty Ltd (JonesPL)

- Compilation of the report, including data and information provided by JDS and other consulting companies.
- Update and prepare all sections other than those that relate to the engineering and feasibility study; Mineral Resource Estimate.

JDS Energy & Mining Inc. scope of work included:

- Review and update of sections that relate to:
    - Mine planning;
    - Metallurgical testwork program;
    - Environmental permitting application preparation;
    - Capital expenditure (CAPEX) and Operating expenditure (OPEX) estimation;
    - Economic evaluation; and
    - Interpretation of results and recommendations to improve value and reduce risks.

M3 Engineering & Technology Corp. (M3) scope of work included:

- Review and update of sections that relate to recovery methods.

2.3 Qualified PERSON Responsibilities and Site Inspections

The Qualified Persons (QPs) preparing this report are specialists in the fields of geology, exploration, Mineral Resource and Mineral Reserve estimation and classification, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

None of the QPs or any associates employed in the preparation of this report has any beneficial interest in CGI and neither are they insiders, associates, or affiliates. The results of this report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between CGI and the QPs. The QPs are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions. The QPs are responsible for specific sections as follows:

Table 2.1 QP Responsibilities

QP Name	Company	QP Responsibility/Role	Report Section(s)
Ivor Jones, FAusIMM (CPgeo), P.Geo	Ivor Jones Pty Ltd.	Executive Summary, Introduction, Reliance on Other Experts, Property Description, Accessibility and Physiography, History, Geologic Setting and Mineralization, Deposit Types, Exploration and Drilling, Sample Preparation, Analysis and Security, Data Verification, Mineral Resource Estimate, References, Units of Measurement and Abbreviations	1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 14; 24; 28; 29
Wayne Corso, P.E.	JDS Energy & Mining Inc.	Infrastructure, Market Studies, Capital and Operating Cost Estimates, Economic Analysis, Adjacent Properties, Other Relevant Data and Information, Interpretations and Conclusions, Recommendations,	18;19, 21; 22; 23
Greg Blaylock, P.Eng.	JDS Energy & Mining Inc.	Mineral Reserve Estimate, Mining Methods, Infrastructure, Mining Capital and Operating Cost Estimate	15; 16; 21.3; 22.3; 25; 26; 27
Kelly McLeod, P.Eng.	JDS Energy & Mining Inc.	Mineral Processing and Metallurgical Testing	13
Mike Creek, P.E.	JDS Energy & Mining Inc.	Environmental Studies and Permitting	20
Jack Caldwell, P.E.	Robertson Geoconsultants Ltd.	Tailing Management Facility	18.6
Mike Levy, P.E.	JDS Energy & Mining Inc.	Mine Geotechnical	16.3
David Stone	MineFill Services Inc.	Backfill Plant	Portions of Sections 16 and 18
Laurie Tahija, MMSA	M3 Engineering and Technology Corp.	Recovery Methods	17

QP visits to the Buriticá property were conducted as follows:

- Ivor Jones visited the site December 12-13, 2018;
- Wayne Corso visited the site April 8-9, 2015, and November 8-10, 2017;
- Greg Blaylock visited site April, May & October 2015, October 9-11, 2018 and February 11-12, 2019
- Mike Creek visited site October 1-2, 2015;
- Jack Caldwell visited site in July, 2015;
- David stone visited the site on June 10, 2016;
- Michael Levy visited the site in April 8-9 and October 23–24, 2015;
- Laurie Tahija visited the site on February 13, 2012;
- Kelly McLeod did not visit the site.

2.4 SOURCES of Information

The sources of information include data and reports supplied by CGI personnel as well as documents cited throughout the report and referenced in Section 28. In particular, background Project information and the basis of many of the sections were also sourced with permission from the most recent technical report published by JDS in March 2016.

2.5 Units, CURRENCY and Rounding

Unless otherwise specified or noted, the units used in this technical report are metric. Every effort has been made to clearly display the appropriate units being used throughout this technical report. Currency is in US dollars (US$ or $).

This report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs do not consider them to be material

3 RELIANCE ON OTHER EXPERTS

The QP's opinions contained herein are based on information provided by CGI and others throughout the course of the study. This includes matters referring to legal, political, environmental and tax matters relevant to this report. The QPs have taken reasonable measures to verify information provided by others and take responsibility for the information.

Non-QP specialists relied upon for specific advice are:

Michael Rosko, P.Geo. Montgomery & Associates Consultants Ltd.;

Report titled "HYDROGEOLOGIC CHARACTERIZATION OF THE BURITICÁ MINE, ANTIOQUIA DEPARTMENT, COLOMBIA; February 29, 2016".

Extent of reliance:

Groundwater quality and flows.

Regional and local water balance.

Projected mine water discharge volumes.

Numerical groundwater model flow projections.

TR portions to which this disclosure applies:

Technical Report Chapters 20, 21, 22.

Martin Williams BSc. PhD, Schlumberger Water Services; and

Tobias Roetting BSc. PhD, Schlumberger Water Services.

Report Titled: "BURITICA PROJECT: HYDROLOGICAL AND GEOCHEMICAL MODELLING OF THE DRY STACK TAILING STORAGE FACILITY", February 24th, 2016; and "BURITICA PROJECT STATIC GEOCHEMISTRY TESTWORK, October 22, 2015".

Extent of reliance:

Dry stack tailing contact water discharge quality including constituents of concern, Mine discharge water quality.

TR portions to which this disclosure applies:

Technical Report Chapters 20, 21, 22.

Guillermo R. Salgado, Vicepresidente Ambiental, Continental Gold Inc.

Numerous emails, meetings, and phone conversations.

Extent of reliance:

Environmental permitting requirements & status updates, Social and Community relations aspects; September 2015 to March 2016, February – March 2019.

TR portions to which this disclosure applies:

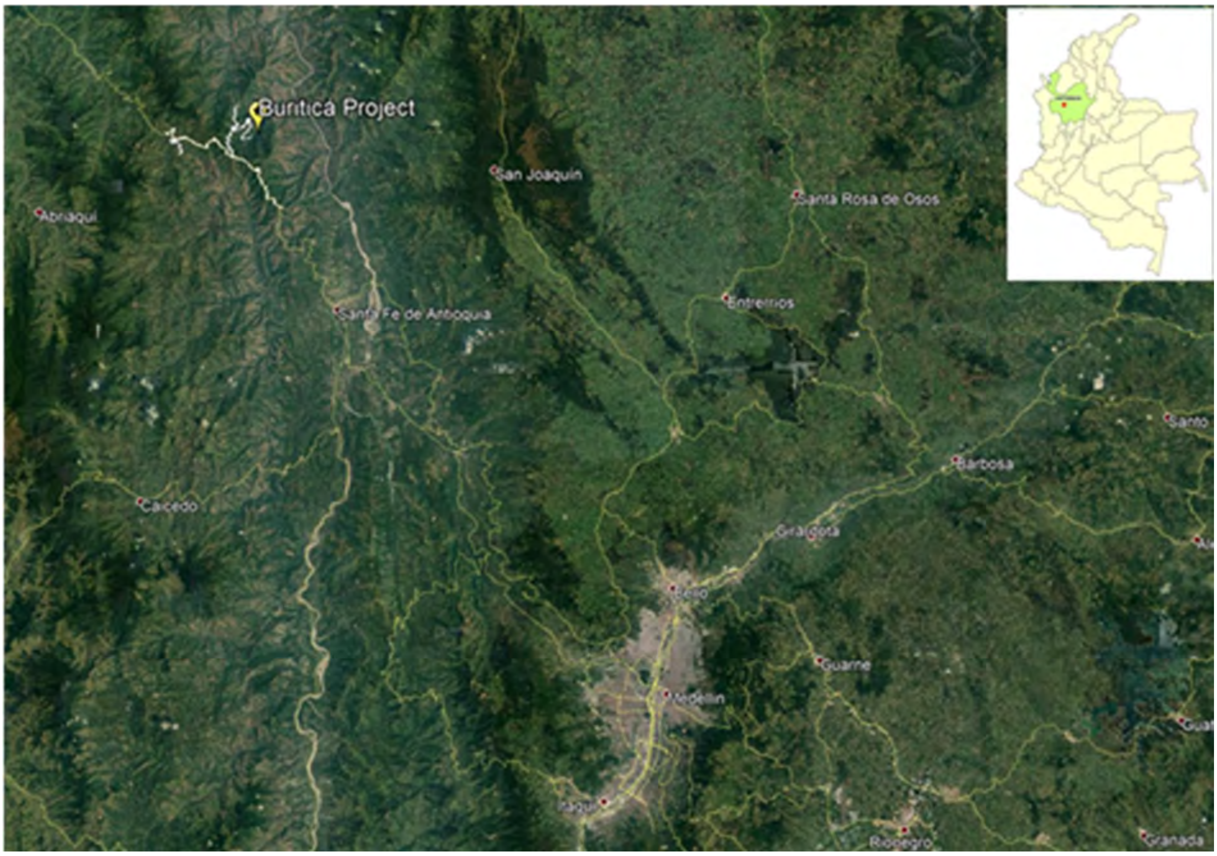
Technical Report Chapter 20.

Other than with respect to matters in the above sources related to legal, political, environmental and tax matters relevant to this report, the authors of this report do not disclaim any responsibility.

4 PROPERTY DESCRIPTION AND LOCATION

The Buriticá Project (centred on 401800 E, 741515 N, Zone 18 N, and at elevations from 600 metres (m) to 2,200 m) is located approximately 91 kilometres (km) northwest of the major city of Medellín in the Antioquia Department of north-western Colombia. The Buriticá Project is located approximately 4 km south of the town of Buriticá (Figure 4.1). The area is accessible by a paved road from Medellín.

Figure 4.1 Project Location and Local Access



Source: CGI, 2015

4.1 ISSUER'S INTEREST

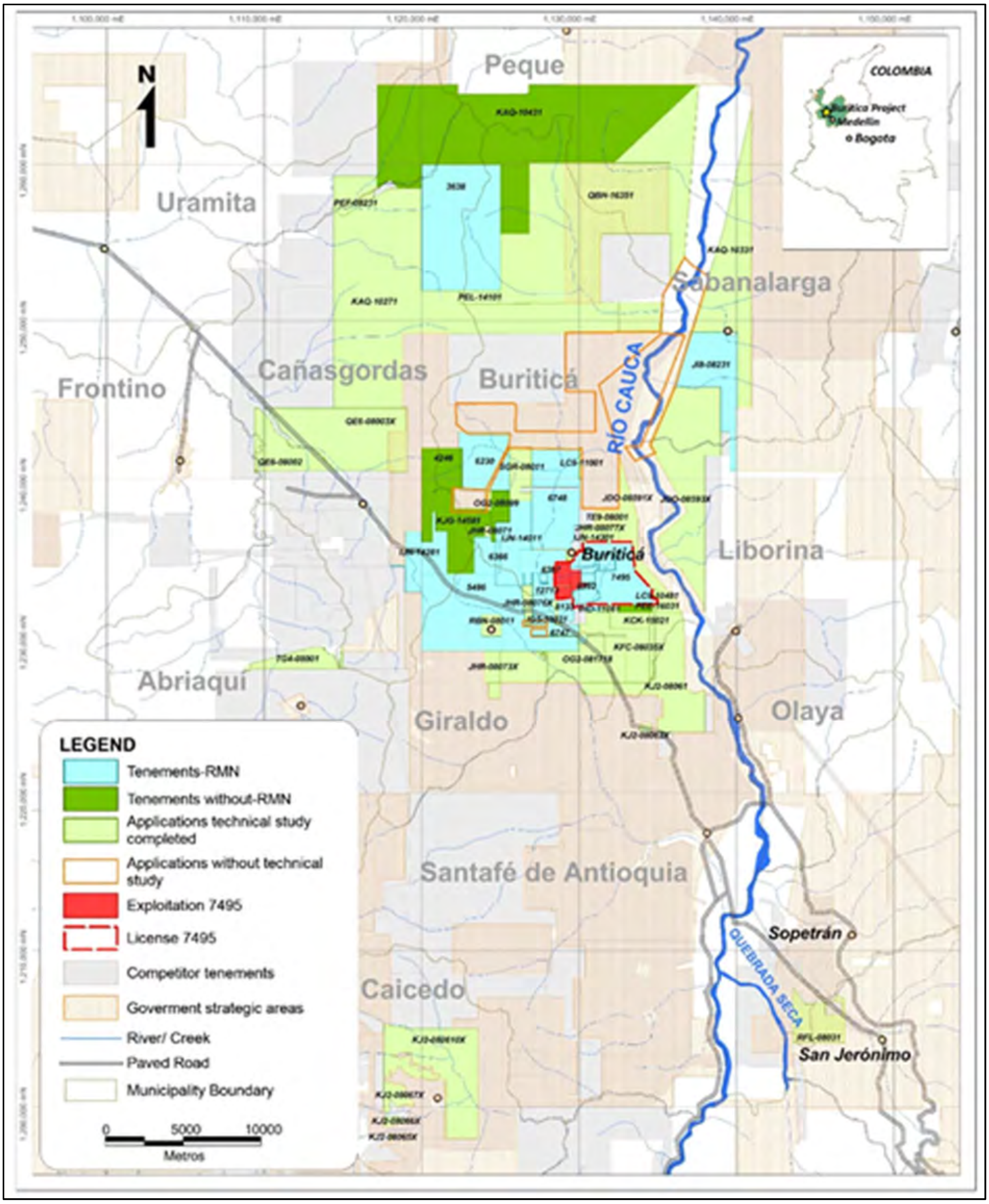
The Buriticá Project comprises 80 tenements and applications covering an area of approximately 75,583 hectares (ha). CGI has 100% ownership (directly or by means of assignment agreements) over the tenements and applications. Granting of these applications is pending and subject to approval from the mining authority.

Both the Yaraguá and Veta Sur mineral systems lie within the tenement known as License 7495. License 7495 is directly owned by CGI and has commodity rights to precious metals, aggregate and construction materials.

Figure 4.1 shows the location of the Buriticá Project tenements and applications, License 7495 and competitor tenements and government strategic areas. The Buriticá Project includes the Yaraguá mine that had previously been operated as a small-scale mine by predecessors of CGI. It is now utilized for underground exploration development and a bulk sample testing operation. None of the competitor tenements or the government strategic areas have negative impact on CGI´s tenements and applications.

Continental Gold Inc.'s Buriticá Project is held by Continental Gold Limited Sucursal Colombia and CGL Gran Buritica S.A.S., and Costa S.O.M., which are wholly owned subsidiaries of CGI through companies in Bermuda. Other mineral tenements comprising the Buriticá Project are beneficially owned by CGI through third parties, who have the obligation to transfer said tenements to CGI once legally feasible.

Figure 4.2 Project Tenements



Source: CGI, 2018

Table 4.1 Summary of CGI Tenements Details and Status

#	Code	Type of Tenement	Dated Granted	Expiration Date	Company	Area (ha)	% Owned by CGI	Minerals Covered
1	3638	Exploration-RMN -Decree 2655, 1988	21-12-07	06/04/2013 Note 3	La Peña SOM	4 000,00	100%	Au, Ag, & other permissible minerals, in vein and alluvium
2	4246	Exploration - Decree 2655, 1988	03-03-15	Note 1	Colombian Development Corporation SAS	904,30	100%	Au, Ag, & other permissible minerals, in vein and alluvium
3	5486	Exploration-RMN- Decree 2655, 1988	06-12-11	30-06-19	CGL Gran Buritica SAS	3 250,80	100%	Au,Ag, Cb & other minerals
4	6366	Concession contract-RMN - Law 685, 2001	25-05-06	13-07-39	Continental Gold Limited Sucursal Colombia	60,57	100%	Precious Metals & Cu
5	6367	Concession contract-RMN - Law 685, 2001	25-05-06	12-06-36	Continental Gold Limited Sucursal Colombia	17,95	100%	Precious Metals & Cu
6	6747	Concession contract-RMN - Law 685, 2001	05-06-08	28-10-38	Continental Gold Limited Sucursal Colombia	243,24	100%	Au, Ag, Cu, Pb, Zn & other minerals
7	6748	Concession contract-RMN - Law 685, 2001	22-05-08	13-07-38	CGL Gran Buritica SAS	1 862,66	100%	Au, Ag, Cu, Zn & other minerals
8	6992	Concession contract-RMN - Law 685, 2001	28-12-07	21-09-41	Continental Gold Limited Sucursal Colombia	15,75	100%	Au, Ag & other minerals
9	7495	Concession contract Construction and Assembly and Exploitation-RMN - Law 685, 2001	05-02-13	19-3-43	Continental Gold Limited Sucursal Colombia	1 893,90	100%	Precious Metals, Sand & gravel, natural & siliceous, Construction materials
10	8133	Concession contract-RMN - Law 685, 2001	10-02-15	30-09-45	Continental Gold Limited Sucursal Colombia	150,09	100%	Precious Metals & concentrates
11	12713	Exploitation-RMN - Decree 2655, 1988	29-12-95	07/11/2014 Note 2	CGL Gran Buritica SAS	90,00	100%	Precious Metals in vein and alluvium.
12	5486B	Exploration-RMN - Decree 2655, 1988	27-08-13	21/05/2016 Note 4	CGL Gran Buritica SAS	27,11	100%	Au,Ag, Cb & concentrates
13	AH5-15431X	Exploration-RMN - Decree 2655, 1988	17-02-15	13/05/2017 Note 4	CGL Gran Buritica SAS	414,76	100%	Au, Ag & other minerals
14	ALN-09371X	Exploration - Decree 2655, 1988	19-06-15	Note 1	Colombian Development Corporation SAS	260,59	100%	Au & concentrates
15	IG5-10031	Concession contract-RMN - Law 685, 2001	16-05-12	5-7-42	CGL Gran Buritica SAS	325,73	100%	Au & concentrates
16	IHD-11081	Concession contract-RMN - Law 685, 2001	19-12-11	20-3-42	CGL Gran Buritica SAS	45,98	100%	Precious Metals , Zn, Pb, Cu, Mo, & concentrates
17	IJN-14011	Concession contract-RMN - Law 685, 2001	09-12-09	11-7-43	CGL Gran Buritica SAS	1 214,76	100%	Precious Metals , Cu, Zn, Pb, Mo & concentrates
18	IJN-14281	Concession contract-RMN - Law 685, 2001	10-12-09	9-5-41	Continental Gold Limited Sucursal Colombia	840,26	100%	Precious Metals , Cu, Zn, Pb, Mo & concentrates
19	JDO-08592X	Concession contract - Law 685, 2001	30-08-11	Note 1	Antioquia SOM	107,50	100%	Precious Metals & concentrates, natural & siliceous sand & gravel & clays
20	JI8-08231	Concession contract-RMN - Law 685, 2001	06-08-12	18-10-42	CGL Gran Buritica SAS	1 622,10	100%	Au, Pt & concentrates
21	KAQ-10431	Concession contract - Law 685, 2001	19-12-11	Note 1	Encenillos SOM	9 821,39	100%	Au, Pt & concentrates
22	KJG-14581	Concession contract - Law 685, 2001	19-12-11	Note 1	Frontera SOM	1 144,53	100%	Au, Pt & concentrates

Note 1: Concession contracts has been signed by both Beneficiary and Mining Authority and is in the process of being registered with the Mining Registry or Registro Minero Nacional.
Note 2: Exploitation license expired. Request for conversion into concession contract in process.
Note 3: Exploration license expired.
Note 4: Exploration license expired. With PTO filed and request for conversion into concession contract in process.
Note 5: Tenements and applications under third parties different from CGI, or related companies, are under CGI´s ownership based on assignment agreements pending approval and/or registry from the mining authority.
Source: CGI, 2018

Table 4.2 Summary of CGI Free Area Technical Studies Completed

#	Code	Status	Company	Area (ha)	% Owned By CGI	Minerals Covered
1	IJN-14301	Free area technical study completed	Anglogold Ashanti Colombia S.A	99,09	100%	Au, Ag, Cu, Zn, Pt, Mo & Pb
2	IJN-14302X	Free area technical study completed	Anglogold Ashanti Colombia S.A	32,58	100%	Au, Ag, Cu, Zn, Pt, Mo & Pb
3	JDO-08591X	Free area technical study completed	Antioquia SOM	817,69	100%	Precious Metals & concentrates, natural & siliceous sand & gravel & clays
4	JDO-08593X	Free area technical study completed	Antioquia SOM	3 456,36	100%	Precious Metals & concentrates, natural & siliceous sand & gravel & clays
5	JHM-11221	Free area technical study completed	Continental Gold Limited Sucursal Colombia	6,00	100%	Au, Pt & concentrates & other minerals concessions
6	JHR-08071	Free area technical study completed	Costa SOM	31,30	100%	Au, Pt & concentrates
7	JHR-08073X	Free area technical study completed	Costa SOM	203,25	100%	Au, Pt & concentrates
8	JHR-08074X	Free area technical study completed	Costa SOM	268,72	100%	Au, Pt & concentrates
9	JHR-08075X	Free area technical study completed	Costa SOM	24,34	100%	Au, Pt & concentrates
10	JHR-08076X	Free area technical study completed	Costa SOM	143,45	100%	Au, Pt & concentrates
11	JHR-08077X	Free area technical study completed	Costa SOM	137,17	100%	Au, Pt & concentrates
12	JJO-08041	Free area technical study completed	Continental Gold Limited Sucursal Colombia	32,10	100%	Au, Pt & concentrates
13	KAQ-10271	Free area technical study completed	Encenillos SOM	9 891,35	100%	Au, Pt & concentrates & other minerals concessions
14	KAQ-10331	Free area technical study completed	Encenillos SOM	5 531,44	100%	Au, Pt & concentrates
15	KCK-15021	Free area technical study completed	Continental Gold Limited Sucursal Colombia	52,47	100%	Au, Pt & concentrates & other minerals concessions
16	KFC-08031	Free area technical study completed	Escorpion SOM	671,31	100%	Au, Pt & concentrates
17	KFC-08035X	Free area technical study completed	Escorpion SOM	819,86	100%	Au, Pt & concentrates
18	KJ2-08061	Free area technical study completed	Frontera SOM	2 064,58	100%	Au, Pt & concentrates
19	KJ2-08062X	Free area technical study completed	Frontera SOM	40,29	100%	Au, Pt & concentrates
20	KJ2-08065X	Free area technical study completed	Frontera SOM	4,38	100%	Au, Pt & concentrates
21	KJ2-08066X	Free area technical study completed	Frontera SOM	65,43	100%	Au, Pt & concentrates
22	KJ2-08067X	Free area technical study completed	Frontera SOM	221,16	100%	Au, Pt & concentrates
23	KJ2-080610X	Free area technical study completed	Frontera SOM	2 591,69	100%	Au, Pt & concentrates
24	LC9-10481	Free area technical study completed	Continental Gold Limited Sucursal Colombia	3,57	100%	Au, Pt & concentrates
25	LC9-11001	Free area technical study completed	Continental Gold Limited Sucursal Colombia	38,83	100%	Au, Pt & concentrates & other minerals concessions
26	LCP-08025	Free area technical study completed	Continental Gold Limited Sucursal Colombia	15,70	100%	Au, Pt & concentrates
27	OG2-080911X	Free area technical study completed	Continental Gold Limited Sucursal Colombia	97,37	100%	Precious Metals & concentrates
28	OG2-08099	Free area technical study completed	Continental Gold Limited Sucursal Colombia	51,09	100%	Precious Metals & concentrates
29	OG2-081718	Free area technical study completed	Continental Gold Limited Sucursal Colombia	1 456,41	100%	Precious Metals & concentrates
30	PEE-16031	Free area technical study completed	Continental Gold Limited Sucursal Colombia	4,40	100%	Precious Metals & concentrates
31	PEF-08231	Free area technical study completed	Continental Gold Limited Sucursal Colombia	120,11	100%	Au, Pt & concentrates
32	PEL-08021	Free area technical study completed	Continental Gold Limited Sucursal Colombia	0,00	100%	Precious Metals & concentrates
33	PEL-14101	Free area technical study completed	Continental Gold Limited Sucursal Colombia	210,28	100%	Precious Metals & concentrates
34	QBH-16351	Free area technical study completed	Continental Gold Limited Sucursal Colombia	6 851,61	100%	Au, Pt & concentrates
35	QE6-08002	Free area technical study completed	Continental Gold Limited Sucursal Colombia	966,73	100%	Au, Pt & concentrates
36	QE6-08003X	Free area technical study completed	Continental Gold Limited Sucursal Colombia	2 827,51	100%	Au, Pt & concentrates
37	RB8-08041	Free area technical study completed	Continental Gold Limited Sucursal Colombia	0,02	100%	Precious Metals ores & concentrates
38	RBN-08011	Free area technical study completed	Continental Gold Limited Sucursal Colombia	170,72	100%	Precious Metals ores & concentrates
39	RFL-08031	Free area technical study completed	Continental Gold Limited Sucursal Colombia	806,09	100%	Non-ferrous metal ores & concentrates, NCP

#	Code	Status	Company	Area (ha)	% Owned By CGI	Minerals Covered
40	RKL-09591	Free area technical study completed	CGL Gran Buritica SAS	150,15	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels, construction materials
41	RLF-08191	Free area technical study completed	CGL Gran Buritica SAS	21,67	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
42	RLF-081910X	Free area technical study completed	CGL Gran Buritica SAS	1,48	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
43	RLF-081911X	Free area technical study completed	CGL Gran Buritica SAS	58,08	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
44	RLF-081912X	Free area technical study completed	CGL Gran Buritica SAS	135,01	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
45	RLF-08192X	Free area technical study completed	CGL Gran Buritica SAS	42,16	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
46	RLF-08193X	Free area technical study completed	CGL Gran Buritica SAS	8,49	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
47	RLF-08194X	Free area technical study completed	CGL Gran Buritica SAS	284,86	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
48	RLF-08195X	Free area technical study completed	CGL Gran Buritica SAS	17,89	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
49	RLF-08197X	Free area technical study completed	CGL Gran Buritica SAS	36,49	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
50	RLF-08198X	Free area technical study completed	CGL Gran Buritica SAS	12,05	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels.
51	RLF-08199X	Free area technical study completed	CGL Gran Buritica SAS	56,14	100%	Non-ferrous metal ores & concentrates, NCP, Rocks, limestones, limestone carving or construction NCP, Natural & siliceous sands & gravels
52	SGR-08011	Free area technical study completed	CGL Gran Buritica SAS	347,19	100%	Precious Metals ores & concentrates
53	SKA-08001	Free area technical study completed	CGL Gran Buritica SAS	1 048,07	100%	Precious Metals ores & concentrates
54	TE9-08001	Free area technical study completed	CGL Gran Buritica SAS	166,61	100%	Precious Metals ores & concentrates
55	TG4-08001	Free area technical study completed	CGL Gran Buritica SAS	534,21	100%	Precious Metals ores & concentrates

Note 1: Free Area Technical Study: No fees apply for initial reconnaissance exploration prior to formal exploration. There is no certainty that the area will be granted.
Note 2: Tenements and applications under third parties different from CGI, or related companies, are under CGI´s ownership based on assignment agreements pending approval and/or registry from the mining authority.
Source: CGI, 2018

Table 4.3 Summary of CGI Applications

#	Code	Status	Company	Area (ha)	% Owned by CGI	Minerals Covered
1	TCL-08001	Application without free area study	CGL Gran Buritica SAS	3 512,00	100%	Precious Metals ores & concentrates
2	TD4-08051	Application without free area study	Continental Gold Limited Sucursal Colombia	5,00	100%	Precious Metals ores & concentrates
3	TFD-11391	Application without free area study	Minerales Suramérica S.A.S.	5,00	100%	Precious Metals ores & concentrates

Source: CGI, 2019

Tenement information has been supplied by CGI. JonesPL has not undertaken any title search or due diligence on the tenement titles or tenement conditions and the tenement's status has not been independently verified by JonesPL.

4.1.1 Property Ownership, Rights and Obligations

All CGI's tenements and applications have rights to gold. Other minerals are not covered by the licenses unless the mineral is linked, associated, obtained as a sub-product of the exploitation of gold, or in the event the Company files for an addition of minerals, (as occurred in License 7495) has commodity rights to precious metals, aggregate and construction materials. Thus, if a mineral is linked, associated, obtained as a sub-product of gold, or is granted per an addition request, CGI also has rights to that mineral.

Colombian mining law considers minerals to be considered a sub-product of exploitation when they are extracted together with the mineral of the contract, but their quality and amount would not be economically exploitable in a separate form and can only be separated by physical or chemical beneficiation processes. The law recognizes that associated minerals form an integral part of the mineralized body, which is the object of the concession contract.

4.1.2 General

Exploration and mining in Colombia are governed by Mining Law 685 of 2001 and its regulatory Decrees (the "2001 Code"). Colombia has several authorities and entities which enforce exploration and mining law:

- Ministry of Mines and Energy (Ministerio de Minas y Energía, MME);
- The Agencia Nacional de Minería (the National Mining Agency) is responsible for the administration of mineral resources except where the responsibility is delegated to a different authority, as it occurs in the Antioquia Department which has a Mining Delegation;
- The Antioquia Department Mining Delegation administers mining concessions in Antioquia, which is a Department with significant mining activity;
- Mining Energy Planning Unit (Unidad de Planeación Minero Energética), which provides support to the MME and maintains the System of Colombian Mining Information (Sistema de Información Minero Colombiano) as well as information regarding government royalties; and
- Servicio Geológico Colombiano, a technical government entity in charge of scientific investigation of non-renewable natural resources.

All mineral resources are the property of the state and under the 2001 Code, there is only one type of concession that allows exploration, construction and exploitation. This type of concession is valid for 30 years and can be extended for an additional 30 years. The 2001 Code allows for the continued existence of mining titles acquired under previous legislation. These licenses and permits have been grandfathered in and are still governed by the terms and conditions of the previous legislation.

The location of a concession is given by a reference point with distances and bearing, or by map coordinates.

A surface tax (canon superficial) is due annually upon contract registration with the Mining Registry during the exploration and construction phases of the concession. It is calculated per hectare as multiples of the minimum daily wage (MDW), which is adjusted annually (for 2019, COP27,604 or approximately $9.2).

For mining concession contracts executed and registered before the enactment of the National Development Plan Law 1753, 2015 (Plan Nacional de Desarrollo (PND)), the tax is equivalent to the MDW per hectare per year for areas up to 2,000 ha, two times the MDW per hectare per year for areas of 2,000 ha to 5,000 ha, and three times the MDW per hectare per year for areas of 5,000 ha to 10,000 ha., under the Mining Law 685 of 2001.

However, the Mining Law 685 of 2001 was modified by Mining Law 1382 of 9 February 2010 which was in force until 11 May 2013. For mining concession contracts executed and registered under the Mining Law 1382 of 9 February 2010 the surface tax is defined as 1 MDW per hectare per year for years 1 to 5, 1.25 MDW per hectare per year for years 6 and 7, and 1.5 MDW per hectare per year for year 8.

For mining concession contracts executed and registered after the enactment of the National Development Plan, the tax is paid as shown in Table 4.4.

Table 4.4 Tax Payment Scheme for Concession Contracts Registered after the PND

Number of Hectares	0 to 5 years MDW/ha	More than 5 years to 8 years MDW/ha	More than 8 years to 11 years MDW/ha
0-150	0.5	0.75	1
151-5.000	0.75	1.25	2
5,001-10,000	1	1.75	3

Source: CGI from Law 1753/2015

These values are compatible with the royalties and constitute a consideration that will be charged by the contracting authority without regard to who owns the land where the contract is located.

For the construction and assembly or additional exploration stages, if this is done, the value equivalent to the last fee paid during the exploration stage will be payable.

The concession contract has three phases and commences upon its inscription in the National Mining Registry. The three phases are described in Table 4.3.

In special cases, some of the tenements are governed by regulations prior to the enactment of the 2001 Code. Under Decree 2655, 1988, tenements were issued in the form of exploration licenses, exploitation licenses, concession agreements and public entity granting agreements. Under said Decree, CGI´s tenements are in the exploration or exploitation phase.

Under an exploration license, the title holder can explore the area for determining the existence of mineral reserves for a term of one to five years, depending on the area to be explored. Upon expiry of the exploration license, the title holder has a right to file for an exploitation license if is a small-scale mining project or a concession contract as appropriate. In the case of precious minerals, exploitation licenses and/or concession contracts were granted for the following open pit mining operations: small-scale (not exceeding 250,000 cubic metres (m^3)), medium-scale (between 250,000 m^3 to 1,500,000 m^3), and large-scale (over 1,500,000 m^3) of extraction per year per mining title. Exploitation licenses and/or concession contracts were also granted for the following underground mining operations: small-scale (not exceeding 8,000 tonnes (t)), medium-scale (between 8,000 t to 200,000 t) and large-scale (over 200,000 t) of extraction per year per title.

Under an exploitation license, a title holder can exploit minerals for an initial term of ten years, which can be converted into a concession agreement under the 2001 Code.

The primary obligations to be complied with to maintain a tenement in good standing are outlined in Table 4.3.

In 2014, CGI executed formalization agreements with small-scale miners in several areas of CGI's integrated License 7495 (see section Formalization Agreements with Small-Scale Miners). CGI advises that none of these areas will impede its current and future operations.

Surface rights are not considered a part of the mining titles or rights and are not governed by mining laws even though the mining regime provides for expropriation of real property and the imposition of easements and rights-of-way. Surface rights must be acquired directly from the owners of such rights, but it is possible to request that judicial authorities facilitate expropriation and/or grant easements or rights-of-way necessary for a mining operation.

Table 4.5 Phases of Concession Contracts

Phase	Valid	Surface Tax?	Plan of Work Required?	Environmental Requirements	Environmental Mining Insurance Policy?	Royalty	Reports and other filings
Exploration	3 + (4 x 2) years	Yes	Yes	Environmental Management Plan and renewable resources permits if needed (i.e. Superficial Water Concession)	Yes. 5% of planned annual expenditure	No	Basic Mining Formats (FBM)
Construction	3 + 1 years	Yes	Yes	Requires Environmental License (issued upon approval of Environmental Impact Assessment)	Yes. 5% of planned investment as per Plan de Trabajo y Obras ("PTO").	No, unless anticipated exploitation occurs	Basic Mining Formats (FBM) Royalty Declaration (in case of anticipated exploitation)
Exploitation	30 years subtracting the years under exploration and construction + 30 years	No (Exception made on areas kept by the concessionaire to undertake exploration activities during a 2-year period).	Yes	Yes. Requires Environmental License (issued upon approval of Environmental Impact Assessment)	Yes. 10 % of the result of multiplying the estimated annual production of the mineral of the concession for the price at the mine mouth for the referred mineral as annually determined by the Government	Yes Based on regulations at time of commencement	Basic Mining Formats (FBM) Royalty Declaration

Source: CGI, 2016

4.2 ROYALTIES, BACK-IN RIGHTS, PAYMENTS, AGREEMENTS, ENCUMBRANCES

Once the concession entered the exploitation phase, the concession fees were replaced by a royalty. If the concessionaire keeps an area under exploration after entering into the exploitation phase, concession fees and royalties must be paid simultaneously by the concessionaire. It is possible to initiate anticipated exploitation during the construction phase, in which case, surface tax and royalties will be payable.

JonesPL understands that royalties are payable to the state (Royalties National Fund) at 4% of the gross value at the mine gate for gold (Au) and silver (Ag), and 5% for copper (Cu). Gold and silver royalties are based on 80% of the London Metal Exchange afternoon fixed price for the previous month.

In accordance with the Credit Agreement subscribed between CGI and RK Mine Finance Bermuda 1 Limited on January 10th, 2017 as a condition precedent to make subsequent loans, CGI committed to execute pledges over the mining titles and applications that comprise the Buriticá Project to RK Mine Finance Bermuda 1 Limited. Those pledges were signed and registered before the Securities Warranties Registry (Registro de Garantías Mobiliarias) in January 2017 for License 7495, with signature for the surrounding tenements and applications in May 2018.

To the extent known by JonesPL, there are no option agreements or joint venture terms in place for the property and no known obligations on land covered by claims comprising the property.

4.2.1 Formalization Agreements with Small-Scale Miners

In December 2014, sub-contracts between CGI and eight small-scale mining associations were registered on the Registro Minero Nacional, paving the way for the implementation of legal and responsible small-scale mining operations at the Buriticá Project. These sub-contracts were the first to be executed under Law 1658 of July 15, 2013 and places certain legal responsibilities on the individual small-scale mining associations (i.e. environmental and technical compliance).

In July 2017, formalization sub-contracts between CGI and a further three small-scale mining associations and were registered on the Registro Minero Nacional. Another was registered in April 2018.

In 2015, the formalization of the small-scale mine operations directly benefited approximately 400 families. This in turn benefited the local community’s economy and the government’s tax base. At the time of this report, approximately 200 families benefit directly from the formalization agreements. None of the areas jointly selected by the Company and the small-scale mining associations will impede CGI’s current operational plans. CGI‘s plan for formalized mines and compliance is reviewed every three months.

Of the formalized associations, five continued in operation at the end of 2018. These are Sociedad Minera San Roman S.A.S., Sociedad Minera Higabra S.A.S., Sociedad Comercial Minera Sakae S.A.S., Naranjo Gold Mine S.A.S. and Nomos.

4.3 ENVIRONMENTAL LIABILITIES

At the time of this report, JonesPL is not aware of any pre-existing environmental liabilities to the Buriticá Project which may have a material adverse affect on the Project.

4.3.1 Environmental Permits

The plant capacity is approximately 3,000 tonnes per day (t/d) consistent with that authorized by the modification of the environmental license. This modification also allows the exploitation of construction materials with an extraction volume of 250,000 cubic metre per year (m^3/a). The permitting of the Buriticá Project is summarized in Table 4.5.

Table 4.5 Environmental Permitting at the Buriticá Project.

Permit No.	Purpose	Granting Authority	Date	Amendment
Res. 130HX-1063	Grants environmental license for the Yaraguá Mine	Corantioquia	September 2002	Res. 130HX-3826
Res. 130HX-3826	Unifies environmental Impact Study	Corantioquia	October 2008	Res. 130HX-4991
Res. 130HX-4991	Assigns environmental license to Continental Gold	Corantioquia	October 2010	Res. 130HX-1208-5963
Res. 130HX-1208-5963	Authorizes additional activities for the mining operation	Corantioquia	August 2012	Res.130HX-1301-6179
Res.130HX-1301-6179	Authorizes additional activities for the mining operation	Corantioquia	January 2013	Res. 130HX-1311-6886
Res. 130HX-1311-6886	Authorizes additional activities for the mining operation	Corantioquia	November 2013	Res. 130HX-1405-7222
Res. 130HX-1405-7222	Authorizes additional activities for the mining operation	Corantioquia	May 2014	Res. 1443
Res. 1443	Authorizes big scale mining project – Buriticá Project and integrates all former permits	ANLA	December 2016	Res. 1685
Res. 1685	Authorizes additional activities for the mining operation	ANLA	December 2017	
Res. 0841	Authorizes the construction & operation of a 32 km long 110 kV transmission line between Chorodó – Buriticá Mine	CORPOURABA	July 2016	

Source: CGI, 2019

Other facilities included in the current environmental license are: (i) wastewater treatment plant in the lower part of the Higabra Valley; construction began in 2018; (ii) installation of a pipe with a variable diameter between ten and twelve inches (250 millimetres (mm) to 300 mm) and an approximate length of 3.7 km. This pipe will discharge cleaned waste water into the Cauca River. Laying of the pipe was successfully completed in 2018; (iii) an aerial ropeway for the transportation of material from the benefit process (dry tailing), by wagons that move through cables supported by ropes along its route. The construction of this aerial tram system started in the third quarter of 2018; and (iv) construction of a new electric power line with an approximate length of 33 km which includes connection to the Chorodó electric substation owned by EPM and the supply of electricity for the Buriticá 110 kilovolt (kV) project. Construction is expected to be completed in the second quarter of 2019.

CGI, through modification of environmental license with resolution 01443 of 2016 has been reactivating and expanding the development of its underground infrastructure, managing to build the date of more than 8 km of underground development on a commercial scale divided into three work fronts: Higabra Tunnel, Rampa South and Rampa Yaraguá.

Mores details of the related this to this topic are presented in Chapter 20.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

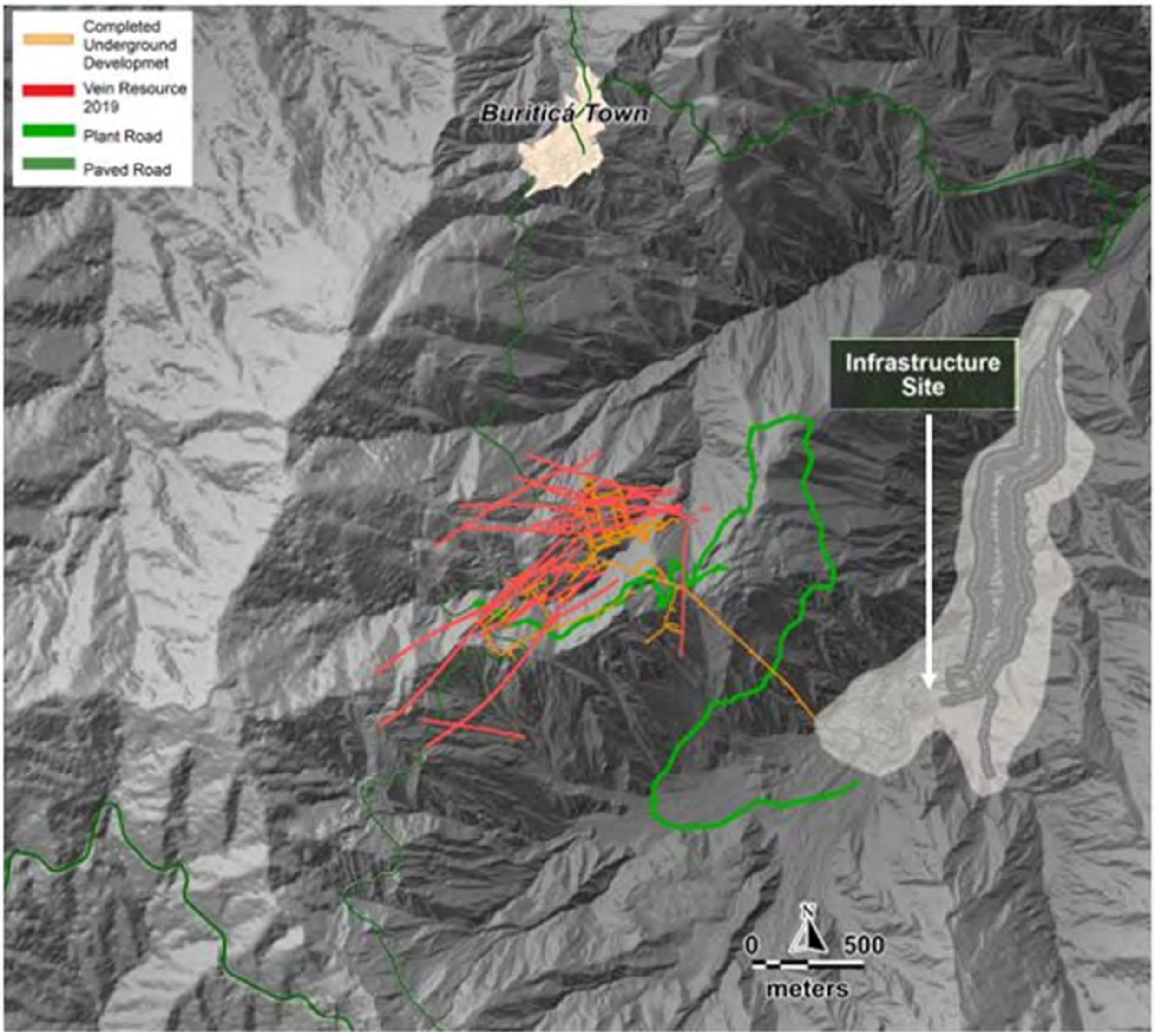
5.1 Topography, Elevation and Vegetation

The terrain in the Buriticá Project area is rugged with elevations ranging from around 600 metre (m), at the Cauca river valley to the east, to a maximum of 2,200 m.

5.2 Access

The Buriticá Project is accessed via the international airport at the major city of Medellín and then north-northwest by driving on Highway 62 for two hours, crossing the Cauca River at the regional centre of Santa Fe de Antioquia (35 km southeast of the mine site) before turning northward towards the village of Buriticá on a minor paved road (Figure 5.1). Personnel access to the Yaraguá Mine and Higabra Valley is currently by car.

Figure 5.1 Location of Buriticá Project with respect to Medellín

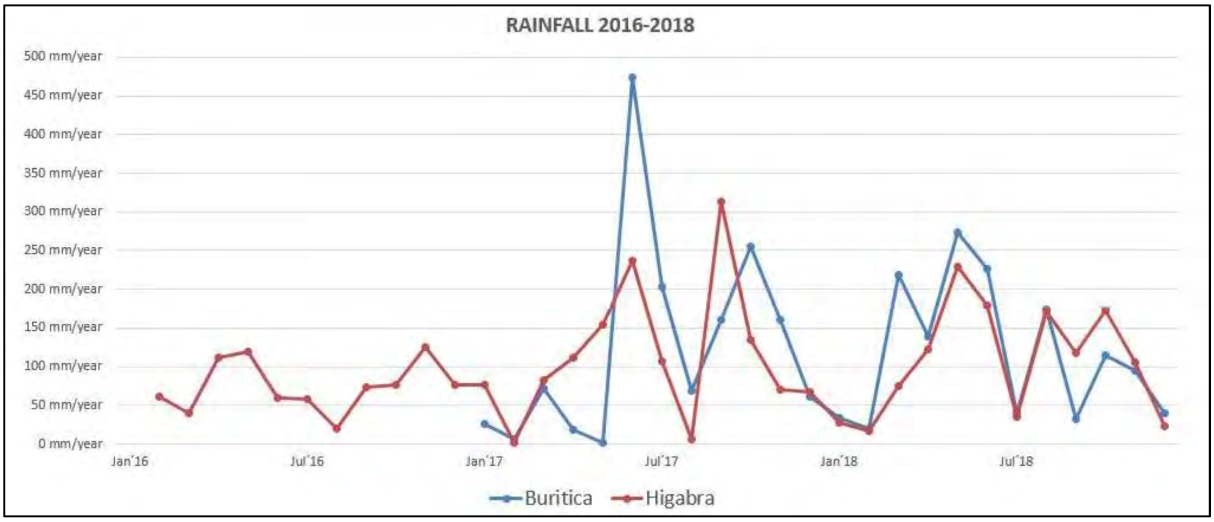


Source: CGI, 2018

5.3 Climate

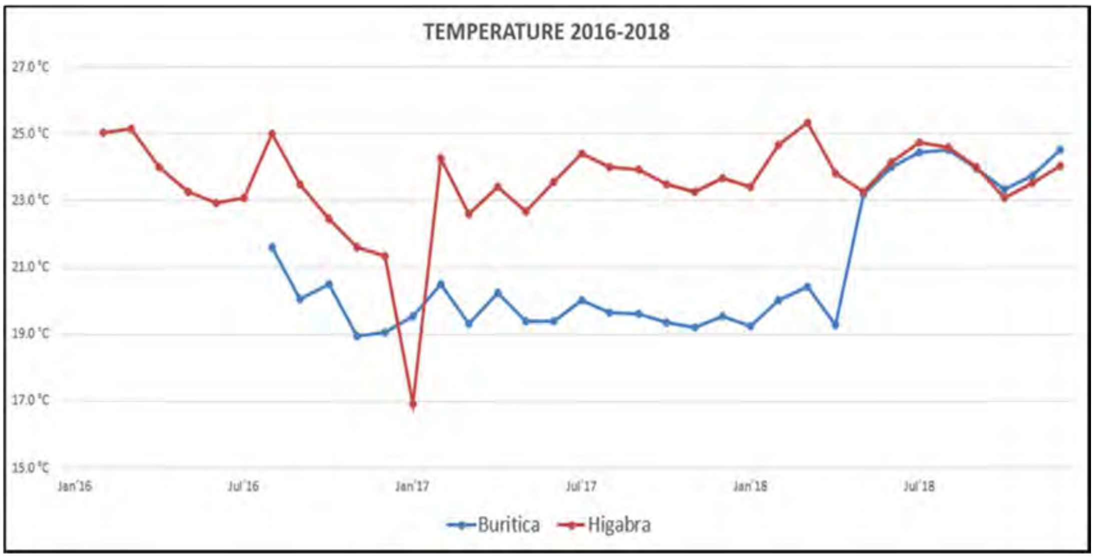
The mean average temperatures for the Buriticá Project range from 16°C to 27°C, and there is a mean annual rainfall from Buriticá is 1,456 mm per year and 1,153 mm per Year in the Higabra Valley. This climate permits year-round exploration and mining operations.

Figure 5.2 Rainfall averages for Buriticá



Source: CGI, 2019

Figure 5.3 Temperature Averages for Buriticá and Higabra Valley



Source: CGI, 2019

5.4 Local Resources

According to the Departamento Nacional de Planeación (DNP), the population of Buriticá municipality is about 6,653 inhabitants (DNP, 2014). Two villages, Pinguro and Higabra, are respectively located in the south and east of the Buriticá Project area, and each has a population of only a few hundred people.

The township of Buriticá is located close to Santa Fe de Antioquia, a municipality in the Antioquia Department, Colombia. The municipality is centred approximately 58 km north of the department capital, Medellín, and had a population in 2014 of approximately 24,369 residents (DNP, 2014).

The economy of Santa Fe de Antioquia is based largely on tourism. At the time of this report, CGI employs around 1,075 people. 585 of those are employed as operators and mainly come from the local communities. 330 people hold staff positions, with a further 14 expatriate personnel. In addition to the local employment, the company's commitment to the local community includes an active training and development program and employs 146 local apprentices.

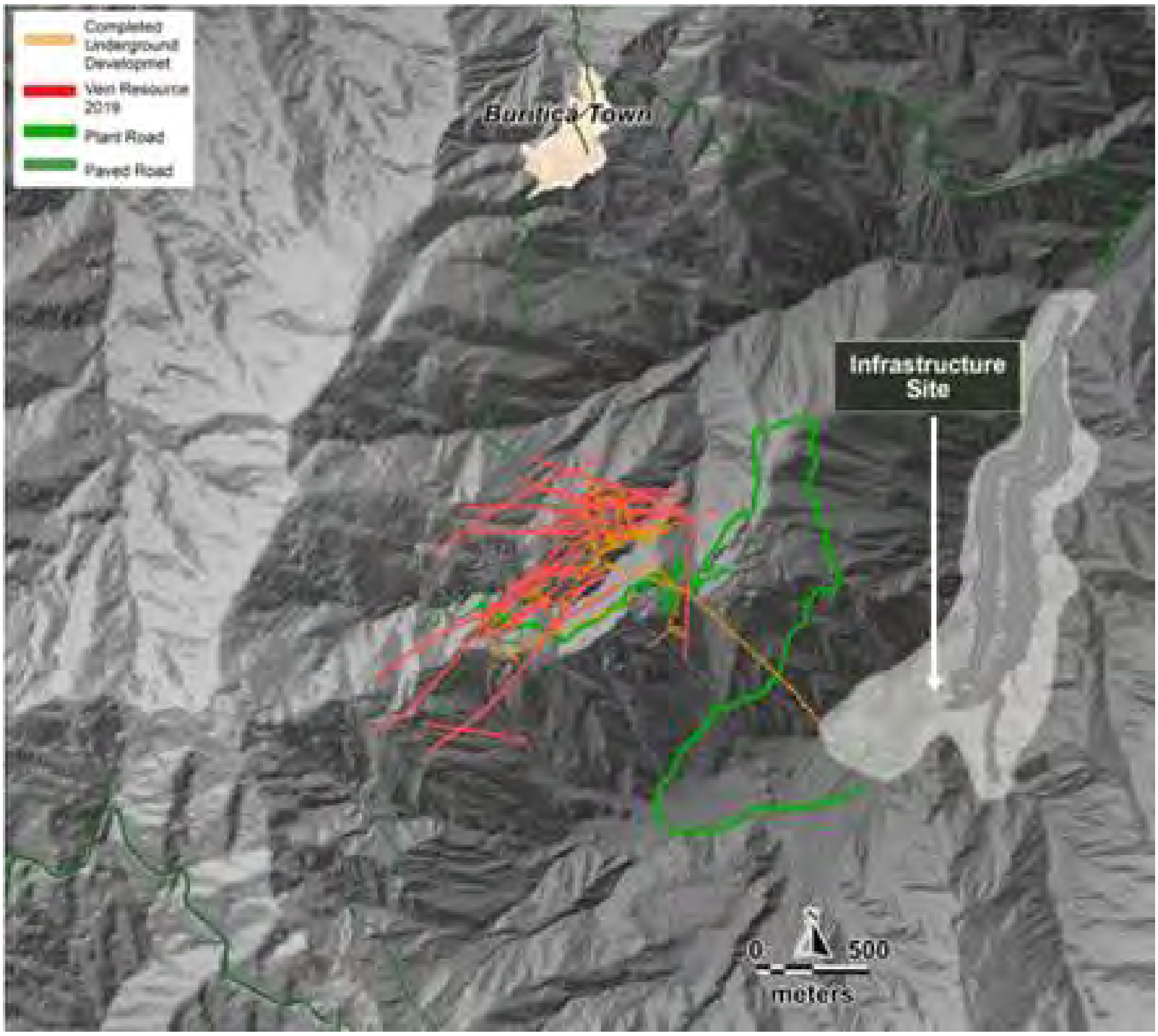
5.5 INFRASTRUCTURE

The Buriticá Project is accessed via a paved road that connects the town of Buriticá to Highway 62 from the city of Medellín, and is also accessible from the major port in Cartagena, Colombia, via the highway network.

5.5.1 CGI's Infrastructure

Access to the Higabra Valley is through the Platanal - Higabra road (Figure 5.4). This route has a length of 5.7 km. Its construction started in 2017 with opening activities from the Platanal area.

Figure 5.4 Main Access Road



Construction of the 3,000 t/d processing plant and associated infrastructure commenced in the Higabra Valley in 2017 with completion due in the first quarter of 2020.

Construction of a wastewater treatment plant in the lower part of the Higabra Valley began in 2018, and a 3.7 km discharge pipe was completed in 2018.

Construction of an aerial ropeway for the transportation of dry tailing from Higabra Valley to the Vet Sur Ramp by gondolas to a paste fill plant started in the third quarter of 2018 and is expected to be completed in 2019.

Colombian grid electrical power is available to the Buriticá township area. Power is supplied from the local grid to a transformer on site in the upper part of the Project area via a dedicated transmission line. At the time of this report, this provides sufficient electricity for the Veta Sur and Yaraguá mine workings and the Yaraguá mill.

In the third quarter of 2018, work began on the construction of the new 110 kV electric power line with an approximate length of 33 km. It connects the Chorodó electric substation owned by EPM and the supply of electricity for the Buriticá Project. Construction of this power line is expected to be completed in the second quarter of 2019.

Communications to the mine are currently via radio and mobile phone.

At the time of this report the source of water for the operations activities is mine water is pumped from the Higabra tunnel to a holding tank above the mine offices. The mine offices include a laboratory.

5.5.2 Mine Development

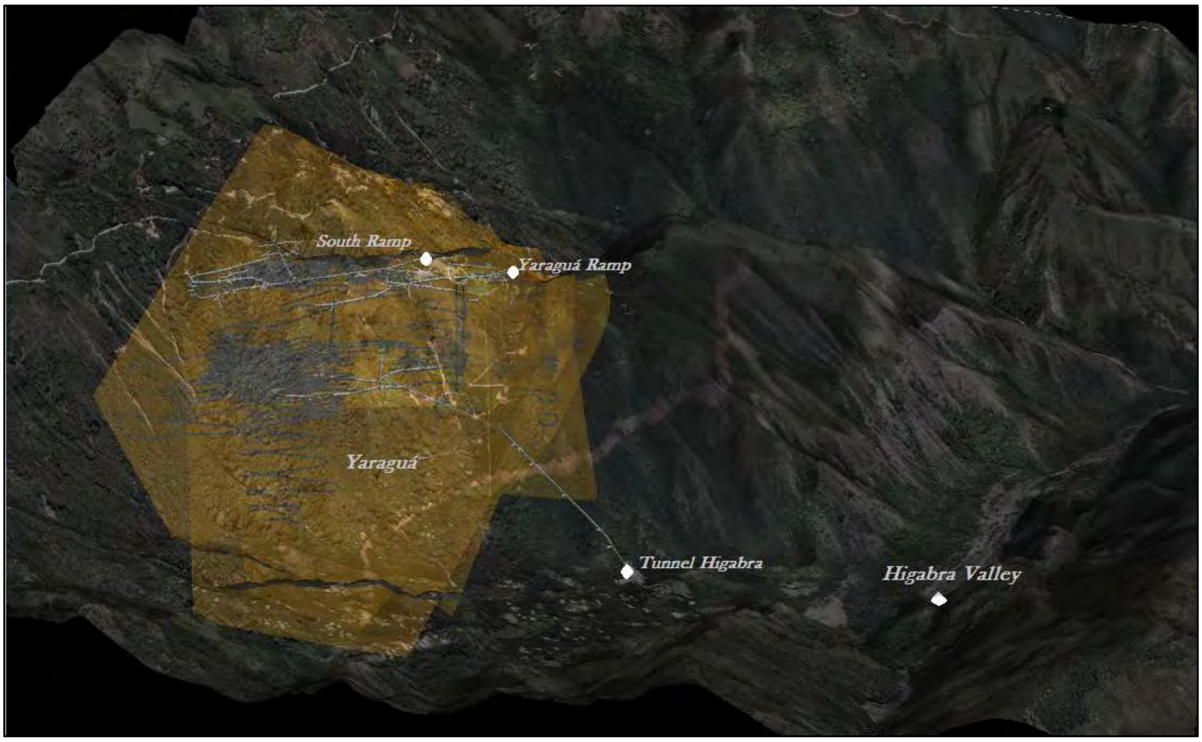
CGI currently operates a small 35 t/d maximum capacity bulk-sampling facility that has been in operation since the early 1990s. There were over 4 km of lateral underground development completed on three levels that cover 150 vertical meters as part of this small-scale mine. There were also three main accesses to the mine being the South Ramp, Yaraguá Ramp and the Higabra valley tunnel (Figure 5.5).

Construction of the South Ramp began in December 2012 and by December 2018, more than 2 km of commercial scale underground development had been completed with a gradient of 13% to access the entire Veta Sur system (Figure 5.8). The ramp provides access to the southern vein system. Additional development includes a horizontal 250 m long cross-cut that was developed from the South Ramp to the center of the Veta Sur system, as well as a 120 m long drift partially along two veins that are part of the current estimate of the Mineral Resource.

The construction of the Yaraguá Ramp restarted in July 2014 with the slashing of the old ramp to larger dimensions. By December 2018 more than 4 km had been completed and provides access to all the pre-existing levels of the conventional mine (Levels 1, 2 and 3). In addition, it provides access to the two sites chosen to perform trial stoping.

Construction of the Higabra valley tunnel began in December 2012 and by December 2018, more than 2.6 km of underground development has been completed (Figure 5.5). This provides the main underground access to connect planned ramps in the Yaraguá and Veta Sur vein deposits, and to the vertical network of the Yaraguá and Veta Sur veins.

Figure 5.5 Oblique 3D View of Current and Proposed Ramp and Access Development

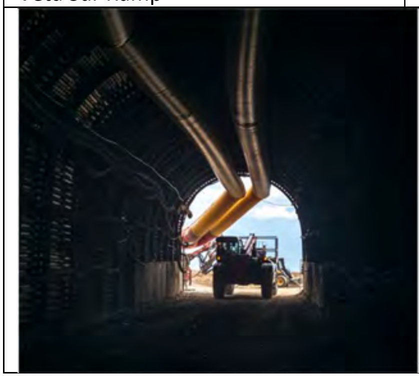


Source: CGI, 2019

Figure 5.6 Oblique 3D View of Current and Proposed Ramp and Access Development Veta Sur

Source: CGI, 2019

Figure 5.7 Main ramps and tunnels

Veta Sur Ramp	Yaraguá Ramp	Higabra Tunnel
		

Source: CGI, 2019

6 HISTORY

6.1 PREVIOUS OWNERSHIP

Grupo de Bullet S.A. (Bullet) held the main concessions over Buriticá prior to CGI's purchase of the concessions in 2007. On account of certain administrative proceedings, some tenements and applications are still held by other third parties related to Bullet, and awaiting assignment by the mining authority.

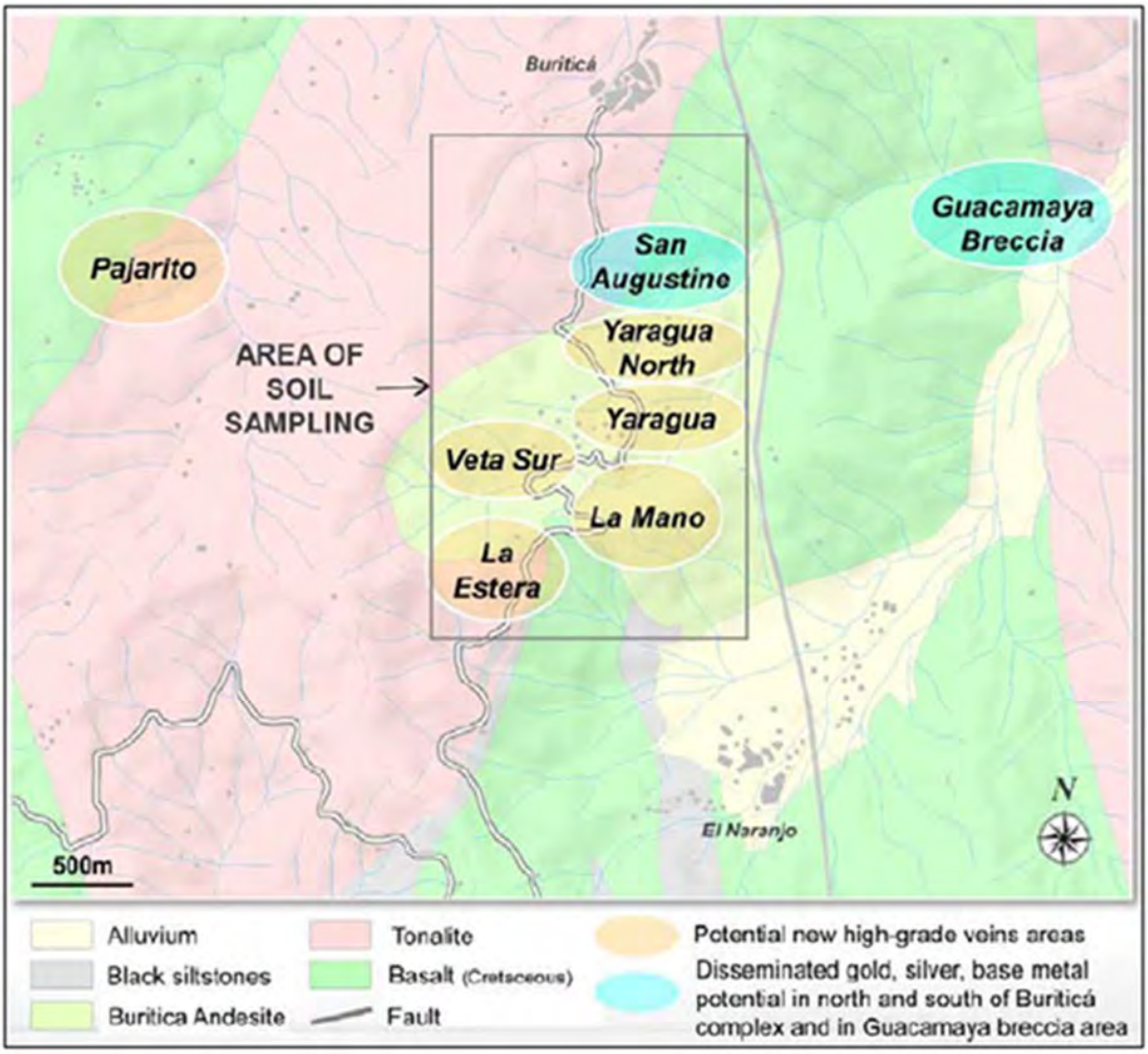
6.2 PREVIOUS EXPLORATION

Gold was mined in the Buriticá area since before the arrival of Spanish colonialists. The Spanish continued mining, principally from placer and colluvial deposits. There are also several historical vein mines in the area. Several surface mapping and sampling surveys have been conducted by different companies during the 1990s including Gran Colombia Resources Ltd

(GCR). Only the following prospects, which are considered to be within the Buriticá Project area, had material in the public domain or within CGI's files available for reporting:

- GCR delineated an area of hydrothermal alteration to the west of the Yaraguá mine measuring 700 m by 400 m. Channel samples were collected from road cuts, with reported grades up to 7.9 g/t Au.
- Le Mano prospect (Laurel área), a massive quartz-limonite alteration zone in siliceous breccia, located 1 km south of the Yaraguá mine, was excavated with an adit. Sampling at the time reported grades of up to 5 grams per tonne (g/t) Au, 150 g/t Ag and 4.6% Zn. GCR conducted grid surface sampling in the immediate area and identified several anomalous areas near the adit. Mineralization was noted on the west side of Tonusco Fault.
- La Estera prospect (Laurel area), a vein prospect located 2 km south of the Yaraguá mine, was excavated in a 100 m drift which was suspended due to poor ground conditions. Average grades were reported of up to 12 g/t Au and over 1,000 g/t Ag. Other veins located in the same area, the Sulliman and Pulpito veins, had reported grades of 5 g/t over 0.5 m vein width.
- San Augustin Creek, located 1 km north of the Yaraguá mine, has a 40 m wide zone of sulphide mineralization in sedimentary rocks. Old workings were reported to the northwest of this occurrence. The mineralization was reported as being associated with a zone of sediments within igneous rocks. Samples from the contact zone were reported to contain an average grade of 1.45 g/t Au and 24.3 g/t Ag.
- La Guacamaya prospect, located just north of the Clara Creek in the Northeast of the Buriticá Project area, was identified as a contact breccia between sediments and a diorite intrusive. Sampling reportedly returned an average grade of 2.7 g/t Au in talus.

Figure 6.1 Historical exploration Prospects - Buriticá Project



Source: CGI, 2011

6.3 HISTORICAL RESOURCE AND RESERVE ESTIMATES

There is no known historical resource or reserve estimate for the Buriticá Project area. Initial resource estimates for the Yaraguá and Veta Sur prospects by Mining Associates of Brisbane were released by CGI in October 2011, and updates released in September 2012, May 2014, and June 2015. These estimates are not considered historical in the context of this report, but are no longer valid.

6.4 HISTORIC PRODUCTION

In the Buriticá area, gold has been mined since before the arrival of the Spanish colonialists in the seventeenth century. Some areas of alluvium and colluvium are believed to have been worked by hydraulic methods. In several areas of the Buriticá Project, high-grade veins were worked in shallow underground artisanal operations for gold and silver and such operations continue to the present day.

Bullet acquired its Buriticá concessions over the last 20 years and undertook some development in the Yaraguá prospect. The Yaraguá mine has been producing gold semi-continuously since 1992, mainly from the Murcielagos vein package which has been partially worked over a strike length of about 470 m and a vertical extent of 160 m.

Between 2001 and 2007, the Yaraguá mine produced 11,694 ounces (oz) of gold (no tonnage or grade data available).

Between 2012 and 2018, the Company has produced 34,333 oz of gold and 35,138 oz of silver as described in Table 6.1.

Table 6.1 Production at Yaraguá Mine from 2012 to 2018

Gold and Silver production					
Year	Tonnes	Au Oz	Au (g/ton)	Ag Oz	Ag (g/ton)
2012	5,957	3,115	18.01	3,519	40.8
2013	6,484	4,801	25.14	4,431	47.2
2014	7,952	5,539	23.71	4,308	37.5
2015	7,158	6,643	31.19	5,029	48.6
2016	7,884	7,500	32.44	7,752	68.0
2017	8,817	4,790	18.79	5,834	45.4
2018	6,709	1,945	10.11	4,265	45.5
Total	50,962	34,333	22.99	35,138	47.8

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY – TECTONIC SETTING

Figure 7.1 Volcanic Belts, Porphyry and Epithermal Deposits in Panama, Colombia and Ecuador

Source: CGI, 2019

The geology of western to central Colombia is of Andean character and its evolution involved the interaction of several oceanic island arc plates with the South American craton from Mesozoic to Recent times. A series of major accretionary events occurred and led to the development of a number of volcanic belts during the Jurassic, Cretaceous and Tertiary periods (Eocene and Miocene epochs). The spatial relationship of these volcanic belts (intrusive and extrusive units) and the distribution of polymetallic (gold and base metals) porphyry and epithermal deposits is simply illustrated in Figure 7.1. The Belts locate along the western Cordillera of South America and can be traced from Peru thru Ecuador and into Colombia and Panama. Furthermore Figure 7.2 (2a and 2b) clearly highlights that the regional geology of Colombia requires reference to the physiography (cordillera and inter-montane depressions) and the position of the magmatic arcs which host the majority of base and precious metal mineralization in several north-south trending belts within the country.

Figure 7.2 *Location of Northern Andean major structural domains*

Figure 7.2a *Location of Middle Cauca Belt and Choco Arc in relation to Cordillera and Intermontane depressions*

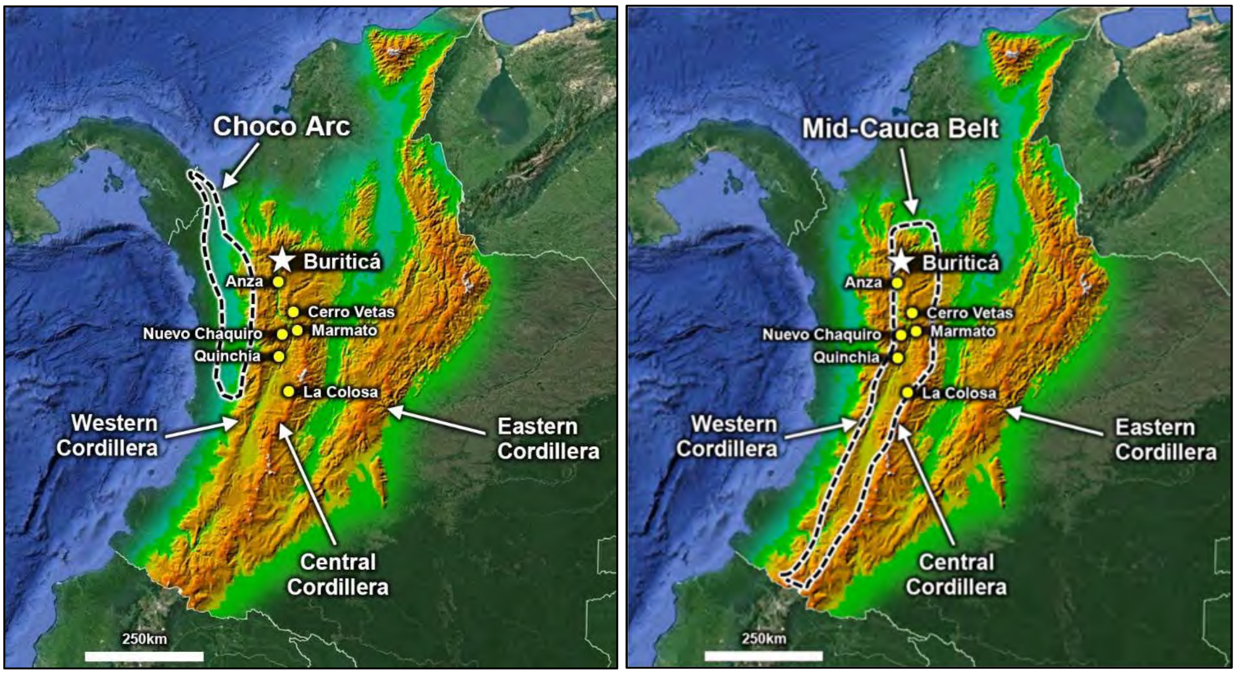
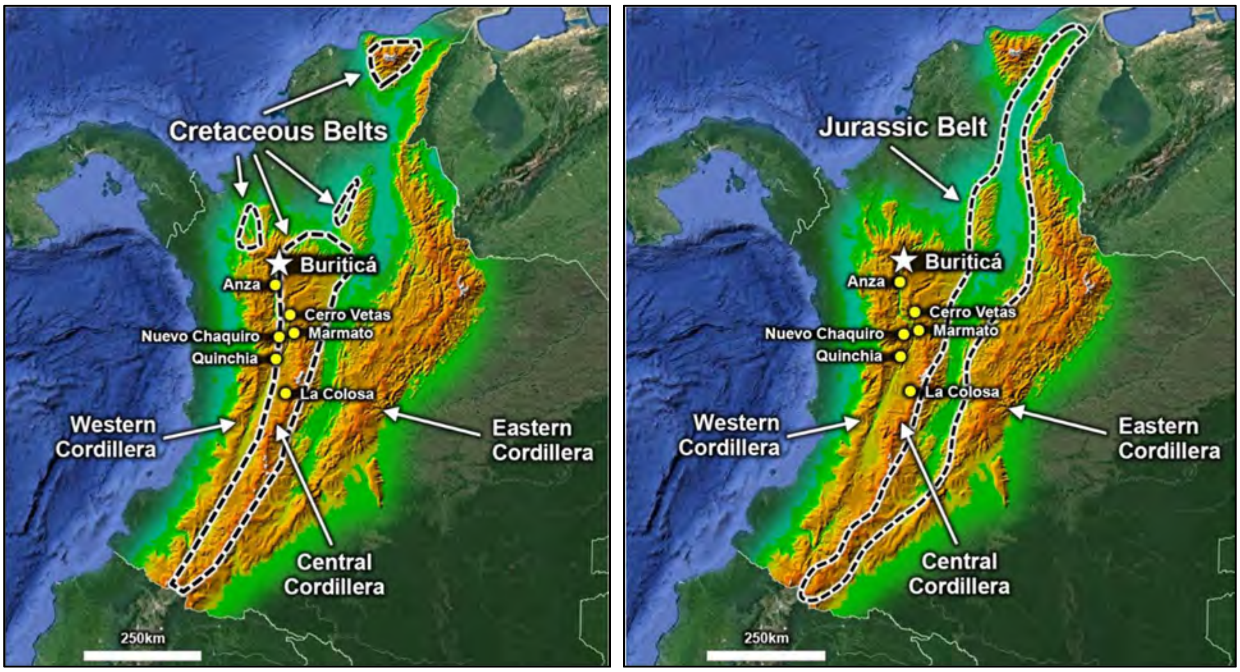
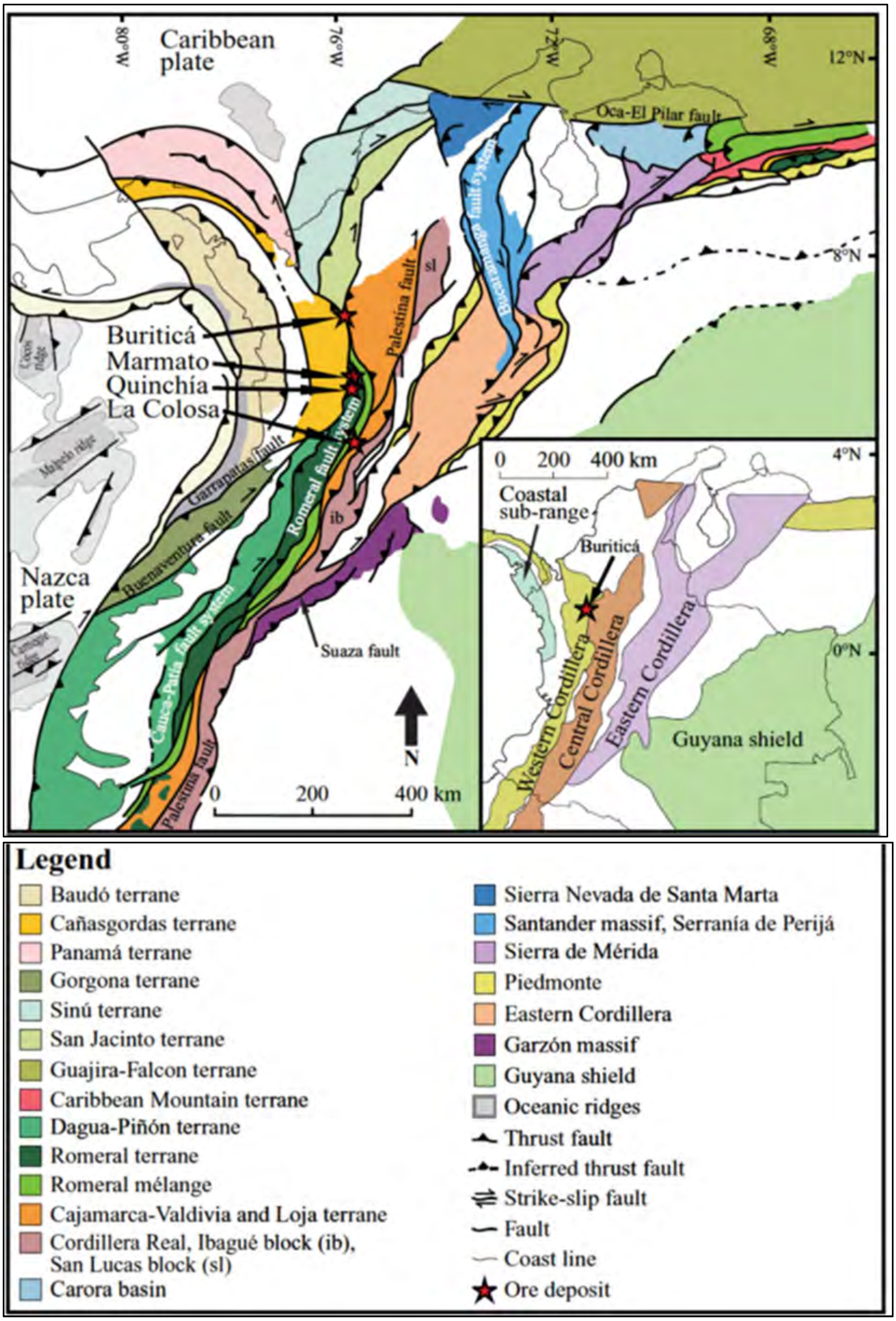


Figure 7.2b *Location of Cretaceous and Jurassic Belts in relation to Cordillera and Intermontane depressions*



Source: CGI, 2019

Figure 7.3 Lithotectonic map of the Northern Andes



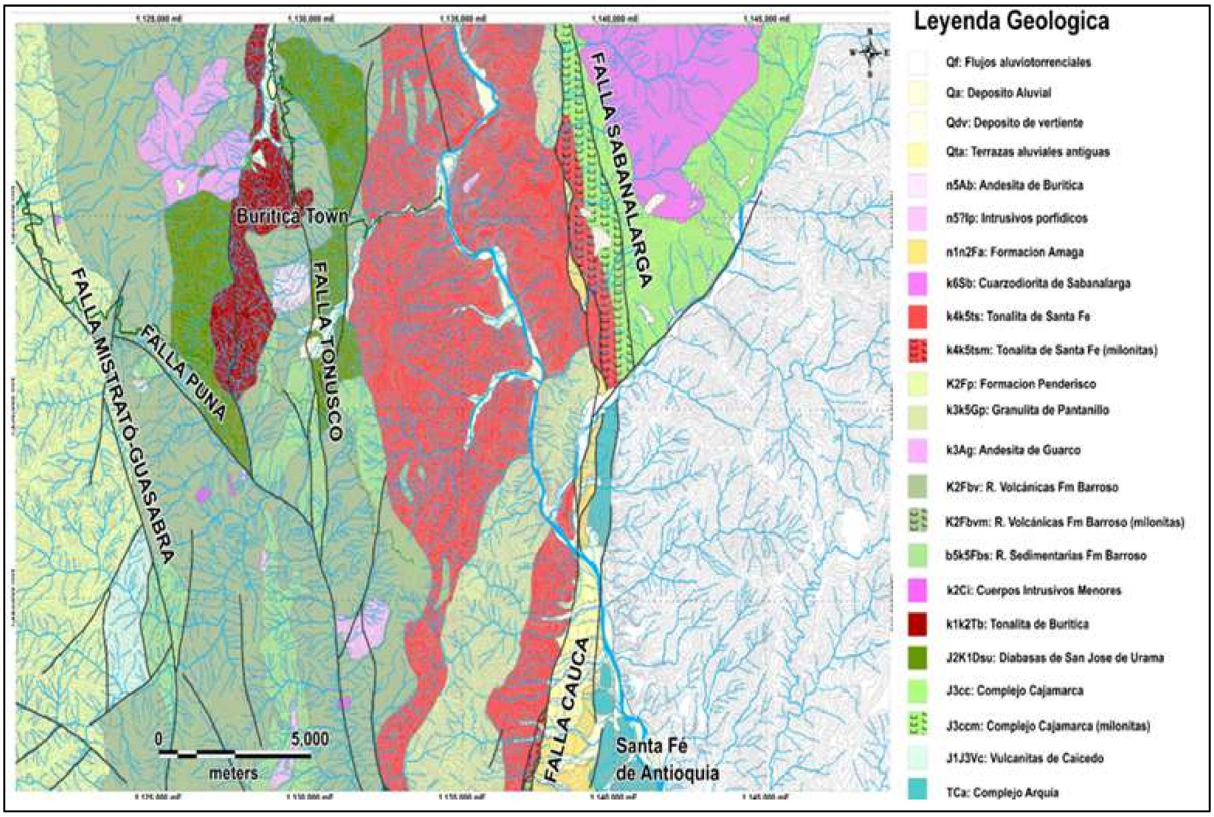
Source: CGI, 2019, modified by Lesage et al 2013 from the original of Ciedel et al, 2003.

The Cauca-Romeral fault system is a major suture formed during the accretionary collisional process and the late Miocene subduction-related magmatic arc formed to the west of the Cauca-Romeral fault system. The Cauca-Romeral fault system is a complex series of north to northeast-trending fault zones. Movement along the Cauca-Romeral fault system is characterized by a general right-lateral strike-slip motion (Ego et al., 1995).

7.2 REGIONAL GEOLOGY

The basement geology of the Buriticá region is dominated by a Cretaceous basalt to andesite package of volcanic and volcanoclastic units interbedded with sedimentary rocks (mudstone, siltstone and chert) which are intruded by Diorite to Gabbroic bodies. The whole volcano-sedimentary Cretaceous package is referred to as the Barroso Formation. In the east and west of the Buriticá Project area, Late Cretaceous tonalitic plutonic suites referred to as the Buriticá tonalite (west) and Santa Fe tonalite (east) intrude the Cretaceous basement. The recent map of Correa et al (Figure 7.4) clearly highlights the location of the Cretaceous volcano-sedimentary sequences, the tonalite plutonic suites and the major fault zones in the Buriticá region. All of the Cretaceous aged sequences and intrusive display lower Greenschist facies metamorphic grade.

Figure 7.4 Geology map and memoire of Borde Occidental de la Plancha 130 Santa Fe de Antioquia.



Source: Correa et al, 2018

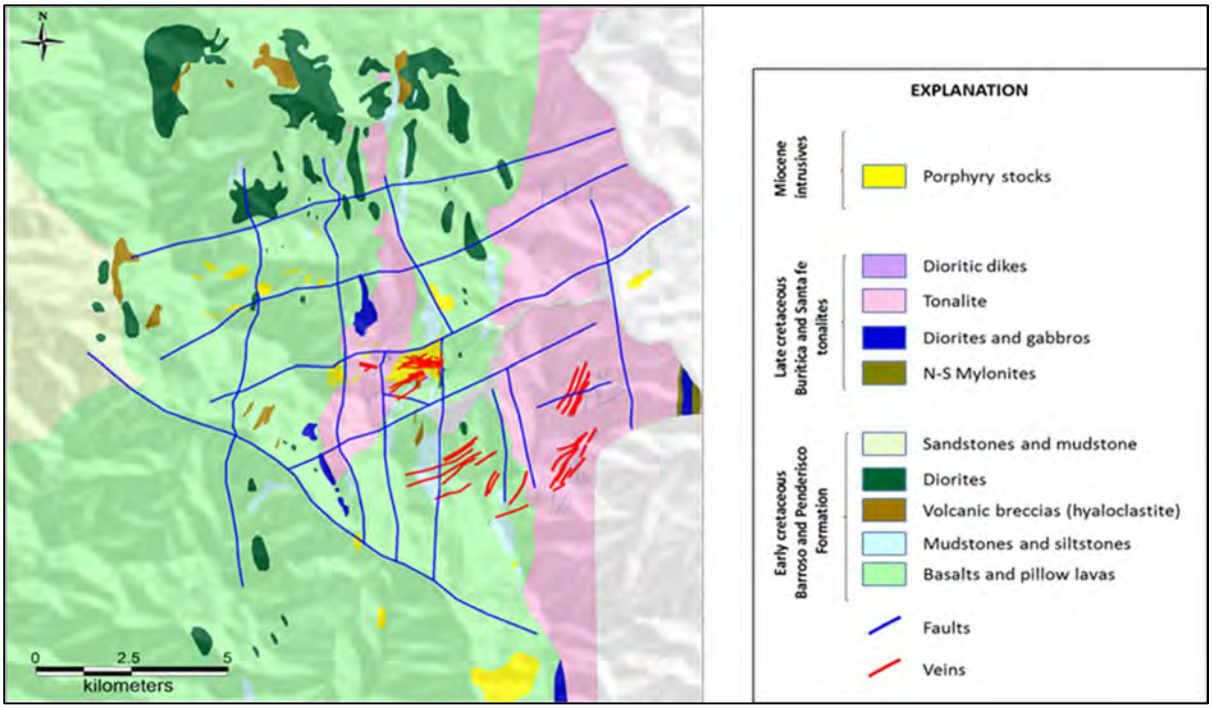
The basement Volcano-sedimentary packages are commonly moderately to steeply dipping to the west and north-northwest striking. These packages are subdivided by major North-South faults and deformed into shallowly plunging broad open folds, locally with a weak axial surface cleavage. The principal fault zone is the Tonusco fault which is a zone of North-South structures east of the Buriticá Intrusive complex which displaces the Cretaceous volcano-sedimentary sequences and juxtapositions these blocks against the Santa Fe Tonalite.

The basement Cretaceous assemblages are intruded by hypabyssal, porphyritic, Miocene bodies of broadly intermediate compositions ranging from Diorite and Dacite to Monzonite. In the Buriticá Project area there are small Miocene intrusion comprising steep walled stocks and dyke-like bodies exhibiting fine- to medium grain sizes and variably porphyritic textures and commonly with intrusive breccia margins. The largest Miocene intrusive body is referred to as the Buriticá Intrusive Complex (BIC) and is spatially associated with the Yaraguá and Veta Sur vein systems.

7.3 LOCAL GEOLOGY

The Buriticá Intrusive Complex (BIC) consists of andesite, diorites and monzodiorite porphyries and intrusive/hydrothermal breccia which have been intruded and emplaced within volcanic and sedimentary sequences of the Barroso Formation and the adjacent Buriticá tonalite. The BIC is elongated in a N50 direction (Figure 7.5) and outcrops over and area of about 1.2 square kilometer (km^2). The BIC is in contact with siltstones and mudstones of the Barroso Formation in eastern Yaraguá and with volcanic and volcanoclastic Barroso units in the remainder of its perimeter with the exception of the far western contact which is with the Buriticá tonalite.

Figure 7.5 Geology map of the Buriticá Region



Source: Modified after Wolfgang Morche and CGI, 2018

Other intrusion complexes have been mapped by CGI in the Poseidon area to the northwest and the Orión area to the south (Figure 5). Andesitic dykes occur throughout the Buriticá Project area and these plus the exposed intrusion complexes are thought by CGI to represent offshoots of larger Miocene plutons at depth. CGI's litho-geochemical data on the Yaraguá and Veta Sur intrusions is consistent with a fractionated and hybridised continental-arc, calc-alkaline suite. Recent radiometric dating (Lesage, 2011) has placed the age of the Buriticá intrusive complexes at 7.4+/-0.1 million years (Ma), consistent with the 6-8 Ma ages of other intrusive complexes with which porphyry copper-gold and epithermal mineralization is associated in the Middle Cauca Belt such as at Nuevo Chaquiro, Marmato and La Colosa.

The Buriticá Project area is transected (and geologically partitioned) by a set of regionally extensive, steeply dipping, north-south trending faults, broadly geometrically similar to the major Cauca and Romeral faults further to the east (Figure 7.5). These NS structures are displaced and flexured by a series of conjugate east-northeast - west-southwest faults. To the east of the Yaraguá and Veta Sur mineralized systems, the steeply-dipping Tonusco Fault system cuts off the Buriticá Intrusive Complex and related vein, breccia and hydrothermal alteration and mineralized systems. A set of east-dipping faults to the west of and possibly related to the Tonusco Fault cut across the Yaraguá and Veta Sur mineralization but appear to exhibit relatively small (and dominantly dip-slip) displacements and mainly brittle deformation characteristics.

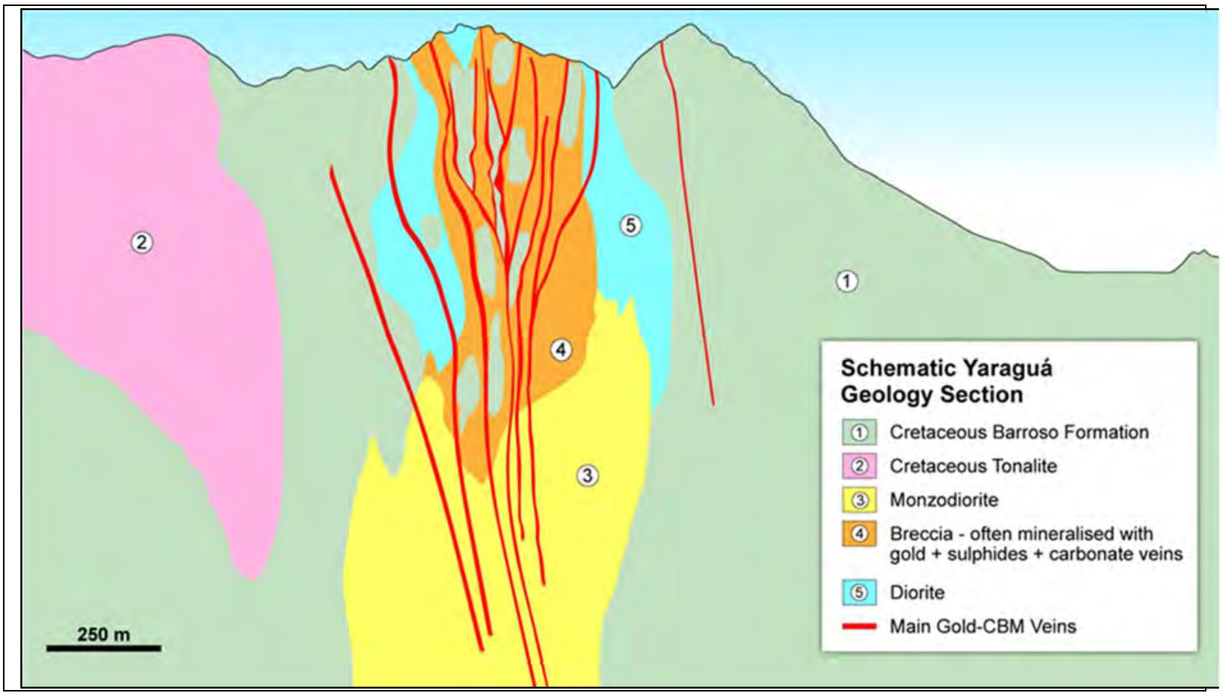
Other district-scale fault-fracture zones in the Buriticá Project are broadly spaced and of east-northeast and west-southwest orientations, evident in drainage alignments, mylonite and gouge features. These fault-fracture zones do not appear to have involved large displacements after the mineralization emplacement, but the geometries and distribution of vein systems and alteration are compatible with the fault-fractures having being active during formation of mineralization.

7.4 MINERALIZATION

Mineralization at Buriticá is a, porphyry related, vein system. This is supported by the spatial relationship to the BIC, the associated alteration, vein and breccia systems, mineral zoning, geochemistry, fluid inclusion work, stable isotope studies and the mineralization stages from early stage 0 (porphyry style mineralization) to the later and main vein mineralization events, namely stages I and II. The following points summarize the Buriticá mineralization:

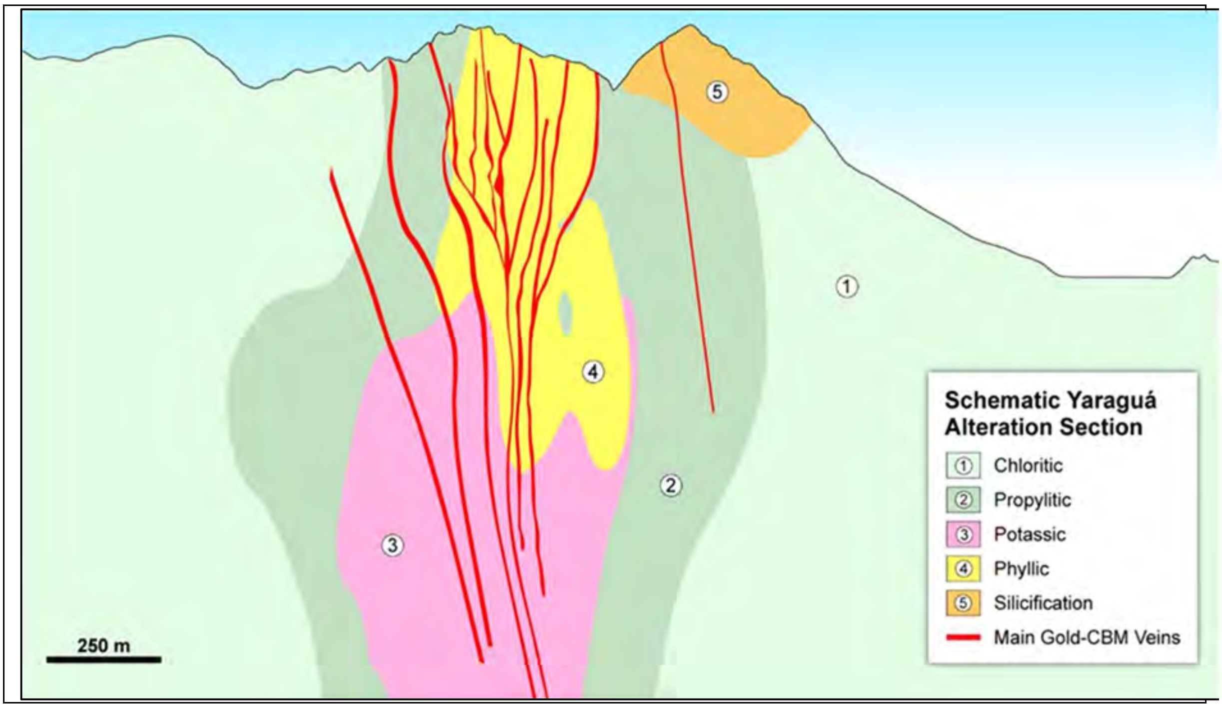
- The Yaraguá vein system is hosted predominantly in breccia and diorites of the Miocene BIC (Figure 7.6), while the Veta Sur vein system is hosted mainly within Barroso Formation volcanics and lesser by breccia of the Buriticá Complex.
- Precious metal mineralization at Buriticá is mainly associated with carbonate-quartz veins and veinlets in association with base metal sulphides and pyrite.
- The Yaraguá veins trend in a N70-80 direction and the Veta Sur veins at N50. There is a northwest trending vein system that intersects the main Veta Sur and Yaraguá trends. The intersection between the principal and northwest vein sets results in broader, plunging, zones of mineralization (referred to herein as the Broader Mineralized Zones or BMZ).
- Carbonate-quartz- base metal-Au mineralization crosscuts all lithological units (Tertiary and Cretaceous – see Figure 7.6) and overprints an earlier porphyry style of mineralization (Stage 0).
- Alteration assemblages resemble the patterns of a porphyry system (Figure 7.7) with early potassic (biotite and minor K Feldspar) and propylitic alteration (chlorite-epidote) overprinted by later phyllic alteration (chlorite-sericite and pyrite). There are several periods of phyllic alteration. Intense phyllic alteration (sericite-adularia as defined by Lesage et al 2013) always occurs within the selvedge to the carbonate-base and precious metal veins.
- Stage 0 mineralization (Figure 7.8a) is the earliest mineralizing event and is characterized by potassic (biotite and K Feldspar) and magnetite alteration which is associated with pyrite and banded quartz veins (B veins) and low grade gold (0.3 g/t to 1 g/t) and copper mineralization (0.1% Cu to 0.3% Cu). Stage 0 mineralization is preserved mainly in the FW and in small areas within the deposit as it has been largely overprinted and obliterated by the later phyllic alteration associated with the carbonate-base and precious metal events.
- Stage I (Figure 7.8b and Figure 7.8c) precious metal mineralization is represented by banded base-metal (copper, iron, zinc and lead in the form of chalcopyrite, sphalerite, galena and pyrite) sulphide-rich mineralization with carbonate and quartz gangue. As well as in sub-parallel narrow vein arrays, Stage I mineralization also occurs in veined (dilation) breccia material occupying substantial areas of both Yaraguá and Veta Sur, but at grades typically lower than those of the high grade veins.
- Stage II mineralization (Figure 7.8b and Figure 7.8c) is a texturally and chemically distinctive high-grade gold mineralization that occurs within and locally cross-cuts and overprints Stage I mineralization as veins and breccia veins. Stage II mineralization is characterized by abundant free (and commonly visible) gold in carbonate gangue, associated with arsenopyrite, gold telluride minerals, stibnite and sulfosalts of copper (Cu), arsenic (As) and antimony (Sb).
- Fluid inclusion, isotope studies and rock geochemistry (Lesage et al, 2013, Aerne and Kretz, 2014) support a magmatic source for the gold bearing fluids with late stage mixing from meteoric ground waters. The fluid inclusion studies highlight that temperature and salinity of the mineralizing fluids progressively drop from 380°C to 250°C during stages 0, I and II.
- The Buriticá deposit has strong zonation in terms of mineralogy and metals. Stibnite is principally concentrated at shallow levels, zinc (Zn) is present throughout the deposit and chalcopyrite levels are higher at depth. This is clearly illustrated (Figure 7.9) in the Cu/Zn ratio which highlights increasing copper concentrations with depth particularly in Veta Sur.
- Structural geology work suggests a pre-existing Cretaceous fault framework (east-northeast and north-south faults – see figure 10) has been reactivated during Miocene aged events and this has controlled the emplacement of the BIC and the later gold bearing vein systems.
- In the formation of the BMZ lithologies have played a part in the locus and geometry of these mineralized systems. Basalts and siltstones from the Barroso Formation have a narrower alteration halo and tend to “concentrate” the mineralization (thinner mineralized zones, better defined structures, locally higher grades and main mineralized system about 50 m wide). In the case of the breccia and lesser extent the diorites, the alteration halo is broader, and mineralization tends to occur as multiple narrow veins and disseminated sulphide – veinlet dilation zones over significant widths (150 m) and associate with mineralize breccia. The San Antonio and Murcielago vein systems are good examples of wider vein and breccia systems.

Figure 7.6 Schematic geology section of Yaraguá



Source: CGI, 2019

Figure 7.7 Schematic alteration section of Yaraguá



Source: CGI, 2019

Figure 7.8 *Core photographs illustrating stages 0, I and II*

Figure 7.8a *Busy 361D03 Veta Sur FW. Stage 0 mineralization. 1.91 g/t Au, 10 g/t Ag and 0.5% Cu. Banded quartz veinlet with centre line (B Vein) + magnetite veinlets in matrix with disseminated chalcopyrite and pyrite. Propylitic alteration overprints earlier potassic alteration.*

Figure 7.8b *Veta Sur vein mineralization*

(Source: CGI, June 2012) illustrated stage I impregnated by stage II

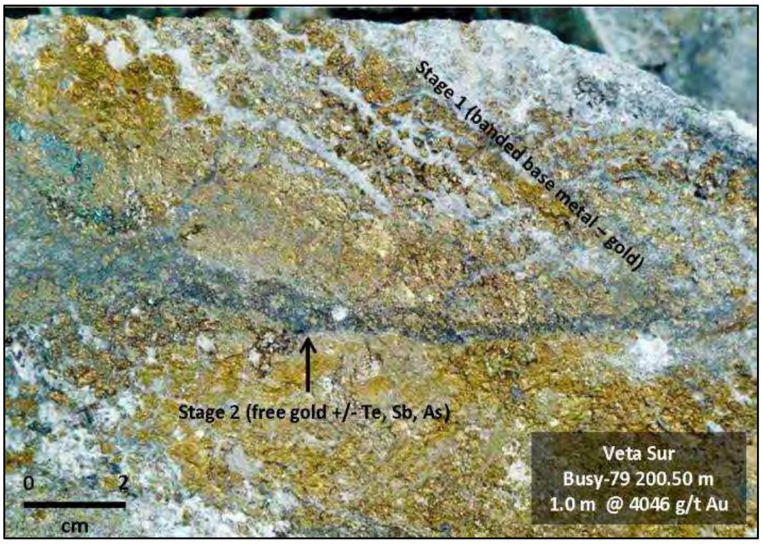
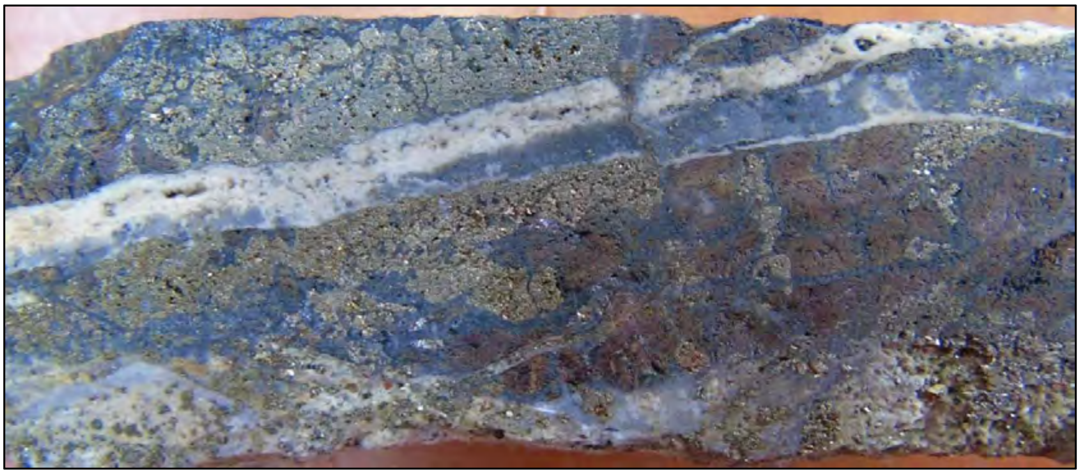
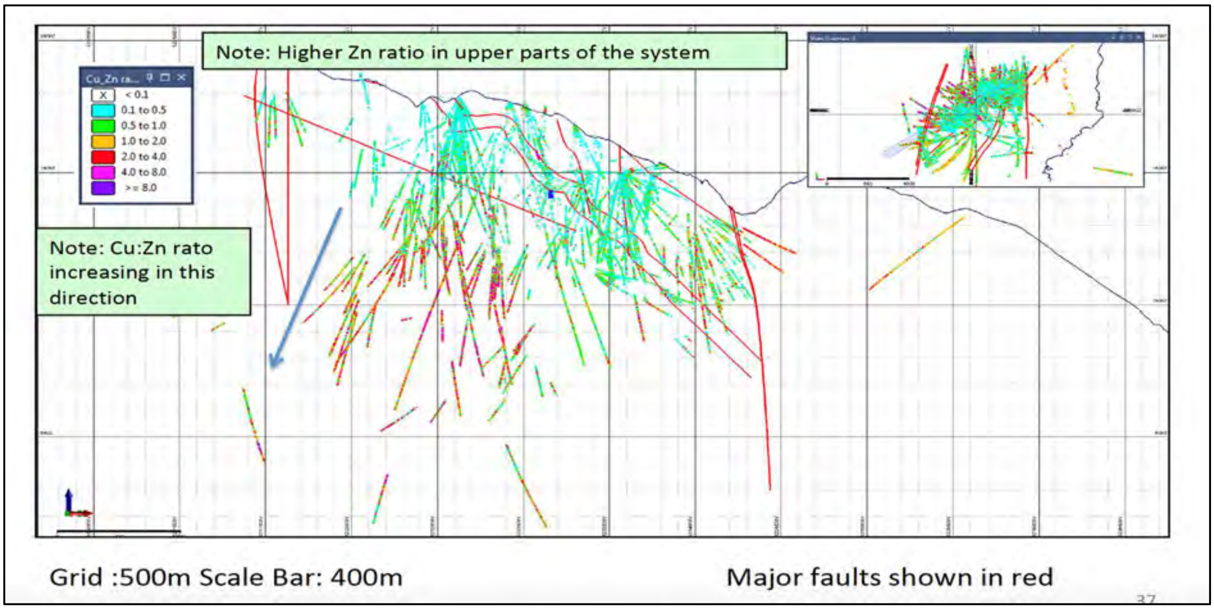


Figure 7.8c *Buuy083. Yaraguá. Banded base metal plus quartz vein stage I with later calcite vein + sulphosalts = stage II. 56 g/t Au, 1,250 g/t Ag, 11% Zn, 2.3% Pb and 0.7% Cu.*



Source: CGI, 2019

Figure 7.9 Cu:Zn ratio in Veta Sur and Yaraguá vein systems



Source: CGI, 2019

7.4.1 Mineralization styles

The two principal mineralization styles at Buriticá are veins and BMZs.

In Veta Sur and Yaraguá, carbonate-quartz-sulphide veins dominate. Gold and Silver mineralization is principally associated with pyrite, sphalerite, galena and chalcopyrite. Electrum and native gold were the primary gold bearing phases and higher gold grades are also associated with minor amounts of stibnite, gold-silver tellurides (i.e. petzite), arsenopyrite and sulfosalts of Cu, Sb and As (i.e. tetrahedrite and tennanite). Pyrite is the dominant sulphide. Veta Sur has higher concentrations of pyrrhotite and chalcopyrite at depth. Higher concentrations of magnetite are also seen in the deeper drillholes.

The gold bearing veins often occur in multiple sheeted arrays and this is seen in the main Veta Sur system (tend N055) and the San Antonio (N072) and Murcielagos (N080) vein systems in Yaraguá.

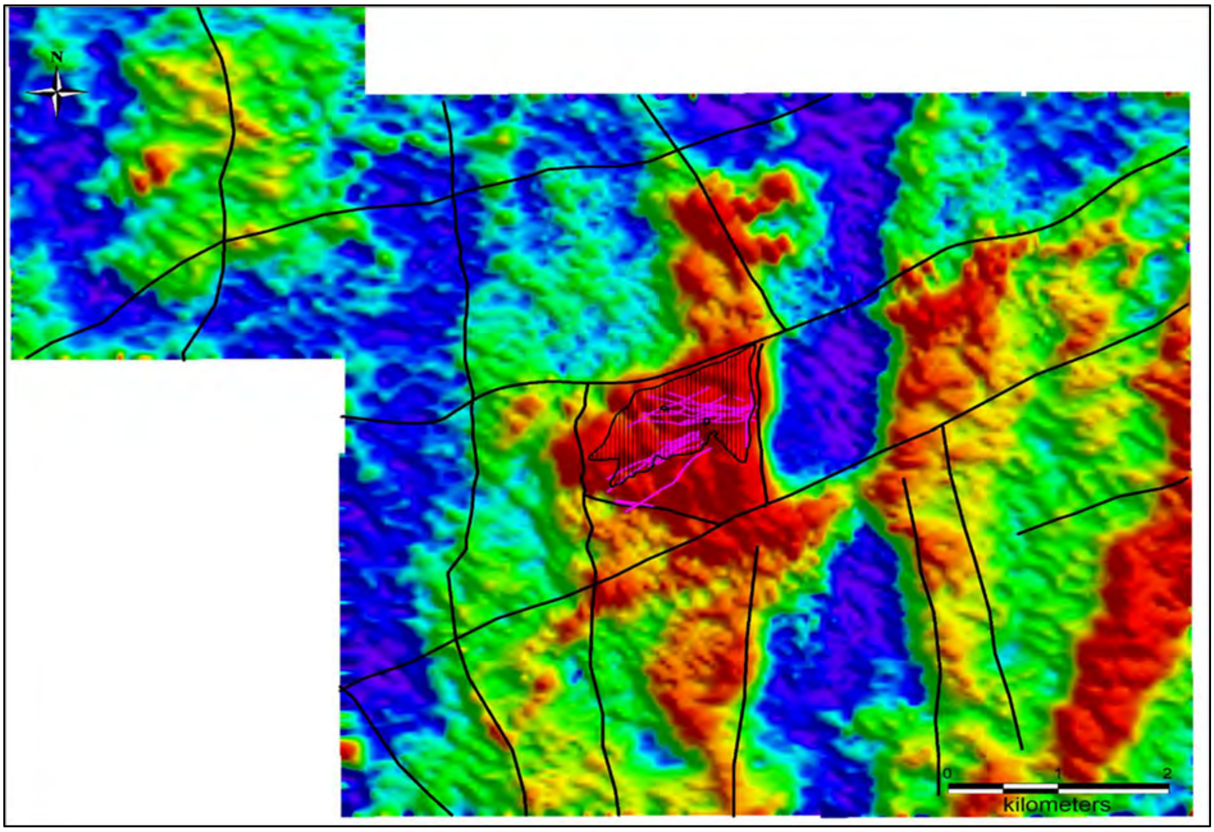
The other principal mineralized style relates to the BMZs. These are dilation zones located between and often in close relation to the intersection of vein systems.

7.4.2 Mineralization zones

A total of 27 vein domains zones and three BMZs have been defined for the Buriticá orebody (Figure 7.10 and Figure 7.11) and are discussed in more detail in section 14 Vein domains include several gold bearing veins and in some cases single veins.

The BMZs include one at Veta Sur and two in the Yaraguá area (Figure 7.10 and Figure 7.11).

Figure 7.10 Ternary radiometric image with principal structures, Buriticá vein domains and outcrop (hatched) of BIC



Source: CGI, 2019

The current geological interpretation has focused on the main gold bearing units rather than all small veins and veinlets as outlined in the previous model of 2015. Furthermore since 2015 there has been extensive additional underground development and another 75 km of diamond drilling which includes orientated core. All of this data has been mapped and logged for geology and mineralization. The current interpretation is therefore based on considerably more geological information.

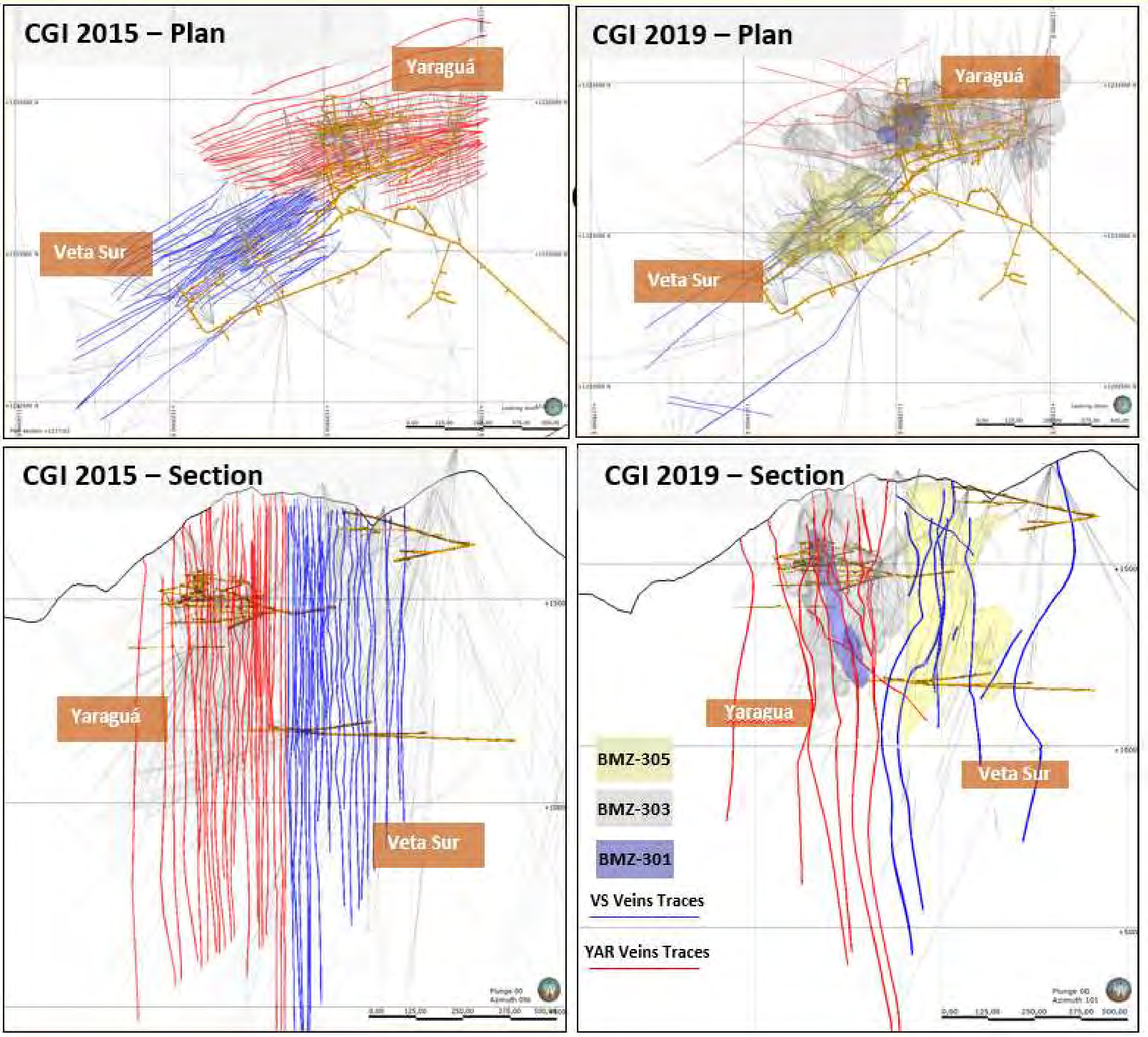
Vein domain interpretation is supported by orientated core, underground mapping (15 km) and orientation of historical workings. Only veins with significant strike lengths (+300 m) and supporting geological information were wire framed. Ten major vein domains host the bulk of the gold mineralization. These master veins include San Antonio (3), Murcielagos (2) and Centena domains in Yaraguá and the four main vein domains in Veta Sur. These principal veins have good geological and grade continuity as supported by extensive drilling, underground development and orientated drill core. The master veins are sites of multiple injection of mineralized fluids and are thought to represent the main feeders to the whole Buriticá mineralized system.

Broad mineralization zones are structural dilation zones that are formed in a number of specific settings and include:

- The intersection of northwest vein systems (i.e. Centena and NW veins) with the main vein systems. This results in the development of steep plunging zones hosting veinlets stockwork and disseminated mineralization. These zones are better developed where the structural intersection coincides with the development of breccia facilitating broader alteration and mineralization
- Coalescence of principal veins related to changes in lithology and lithology contacts. These zones often occur at the contact between breccia and Barroso volcanics (Veta Sur) or between Barroso and diorite (Yaraguá). Mineralization in these areas is coincident with multiple subparallel veinlets and disseminated sulphides.

Potential zones of broader mineralization are well defined by Stage I alteration pathfinder elements for Au, Ag, Zn, Pb and Cu. These elements reflect the first stage of the main mineralization system, namely the gold-quartz-carbonate- base metal (CBM) phase. The 90th statistical percentile for each of these elements defines alteration shells which are coincident with zones of elevated gold mineralization which envelop the principal vein domains. The stage one pathfinder geochemistry has been combined with underground mapping and core logging to define the broad mineralized areas in detail within these alteration shells (Figure 7.11).

Figure 7.11 Vein and BMZ domains at Yaraguá

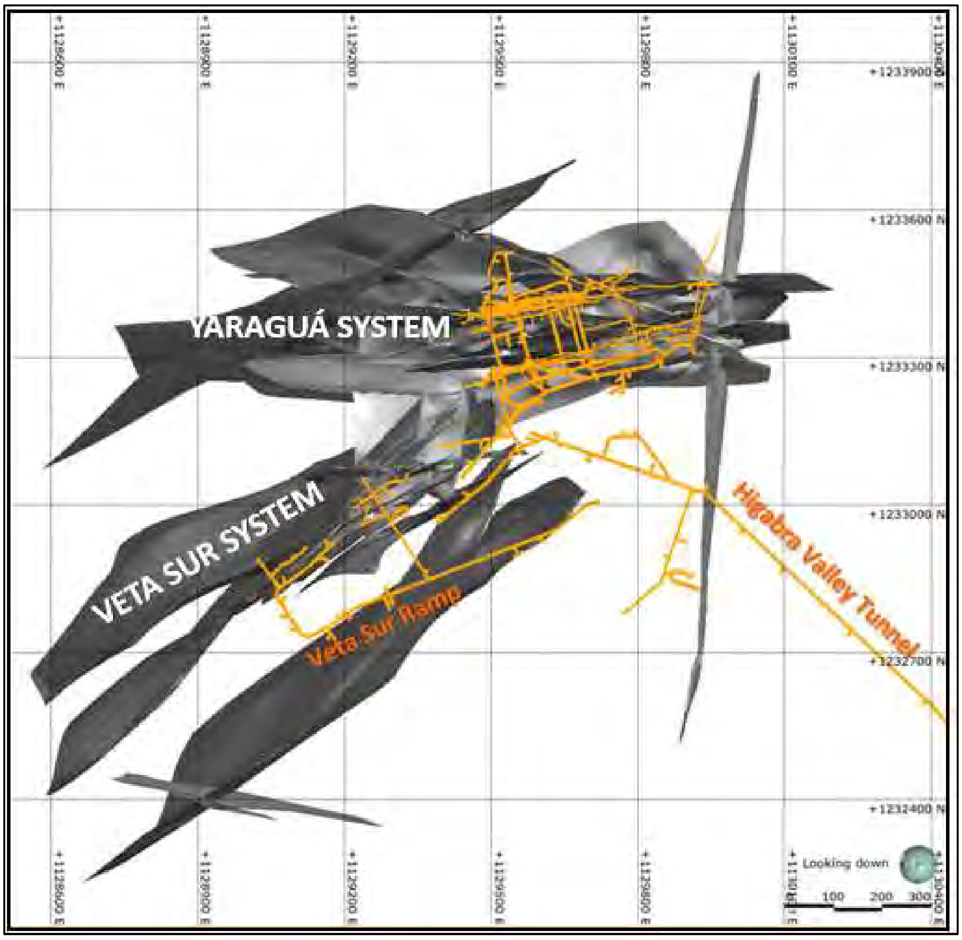


Source: CGI, 2019

7.4.3 Mineralization Controls

The location of the Buriticá deposit is spatially related to the emplacement of the BIC and its contact relationships with surrounding volcanic and sedimentary units of the Barroso formation. The intrusive of the BIC were emplaced over multiple intrusive and mineralization injection events which led to the formation of the various breccia bodies. Hydrothermal convective systems associated with intrusive emplacement led to the classic porphyry style alteration haloes and the introduction of stage 0 mineralization. The CBM veins and phyllic selvage represents the later, low temperature phase of this mineralized system and this was superimposed on all earlier events and lithologies. The vein injection and precipitation was structurally controlled and influenced by lithological contacts and rock types and their brittle-ductile behaviour during deformation. The juxtaposition of the various NE, EW and NW vein systems relate to progressive brittle-ductile deformation. Structural geology work suggests a pre-existing Cretaceous fault framework (ENE and NS faults – see Figure 7.12) has been reactivated during Miocene aged events and this framework has controlled the emplacement of the BIC and the later gold bearing vein systems.

Figure 7.12 Vein Domains for Yaraguá and Veta Sur

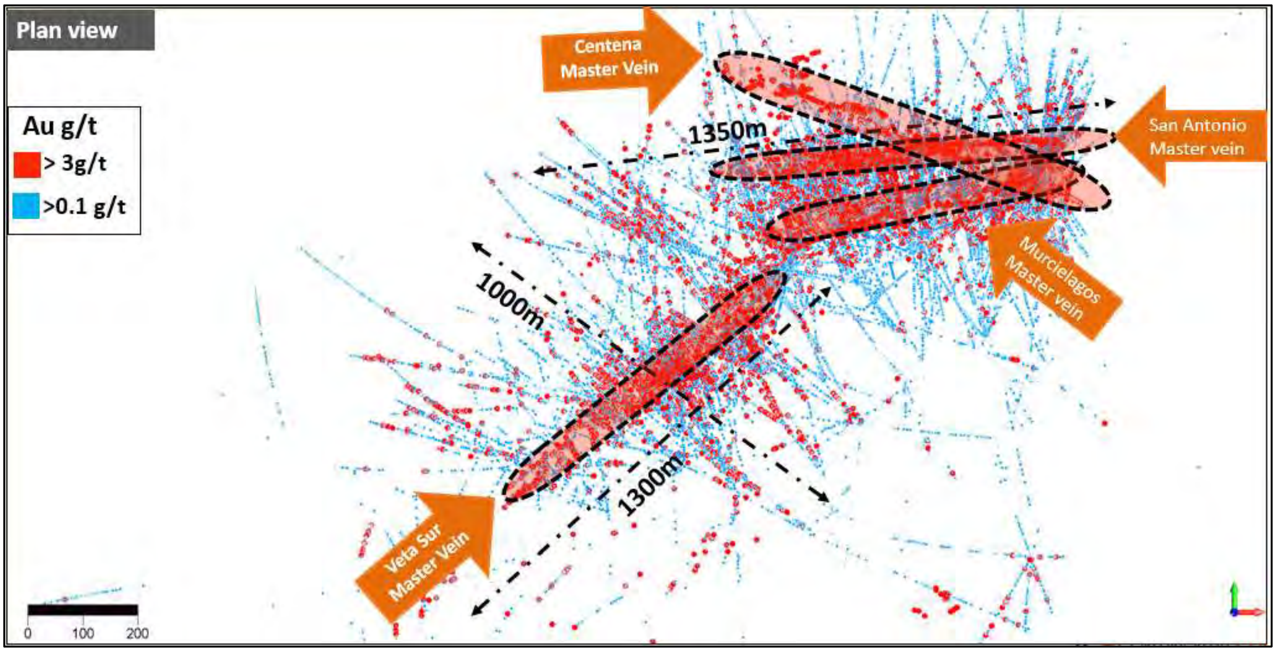


Source: CGI, 2019

7.4.4 Dimensions and Continuity (Figure 7.13)

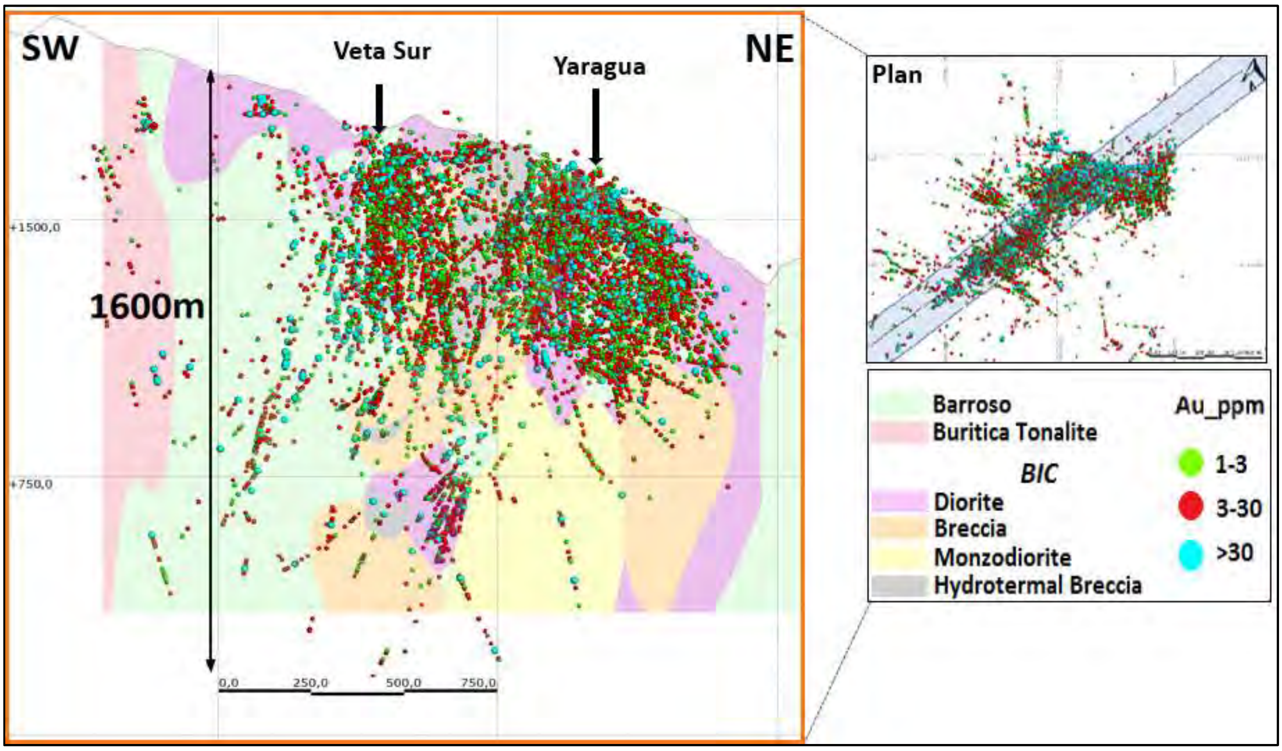
The Yaraguá system has been drilled along 1,350 m of strike and 1,660 m vertically and the main systems in San Antonio and Murcielagos have been sampled in various underground developments on three levels. Small areas of the Veta Sur system have some limited underground sampling. The Veta Sur system has been drill intersected along 1,300 m of strike and 1,600 m vertically. The principal vein systems are characterized by multiple, steeply-dipping veins and are often associated with BMZs (breccia and coalescing vein systems). The Yaraguá and Veta Sur systems both remain open laterally and at depth and there are significant opportunities for expansion.

Figure 7.13 Lateral dimensions of Buriticá Deposit, grade indicators and principal vein systems



Source: CGI, 2019

Figure 7.14 Longitudinal section through the Buriticá deposit with grade superimposed on geology and vertical scale outlined



Source: CGI, 2019

8 DEPOSIT TYPES

Buriticá is the northernmost significant precious metal deposit known to-date in the Miocene Middle Cauca belt, one of the three major gold belts identified in Colombia

The Middle Cauca belt contains gold and copper rich porphyry deposits (the largest of which are La Colosa with 28 million ounces (Moz) of gold and Nuevo Chaquiro with 3.6 Mt of Copper and 5.6 Moz of gold) and also vein-style precious metal mineralization in both Mesothermal and epithermal settings. Numerous gold and copper systems are developed along the 800 km belt and many appear to be spatially related to relatively small, high level intrusions of intermediate composition.

The Buriticá deposit has been previously classified as an intermediate sulphidation epithermal system (Lesage et al 2013) using the terminology of Sillitoe and of Hedenquist (in Simmons et al, 2005). Corbett and Leach (1998) recognised a specific sub-class of low sulphidation epithermal deposits with high base metal contents and principally carbonate-bearing gangue, which they named as Carbonate-Base Metal Gold systems (“CBM”) association. CBM systems contain appreciable levels of carbonates with base metal sulphides, pyrite and gold and form at crustal levels that are intermediate between porphyry and epithermal environments. .

High grade precious metal mineralization in CBM systems may occur over substantial vertical intervals, to well in excess of a kilometre, from the porphyry level to below the shallow epithermal range. Compared to low-sulphidation epithermal styles CBM mineralization is sulphide-rich, with abundant pyrite ± pyrrhotite + sphalerite + galena along with minor sulfosalts, chalcopyrite and predominantly carbonate gangue mineralogy with some earlier stage quartz veins. Mineralization in CBM systems typically comprises sheeted veins, stockwork, disseminated bodies and veinlet clusters associated with breccia.

CBM systems are widespread in the Circum-Pacific magmatic arcs, and include the supergiant Porgera deposits in Papua New Guinea (25 Moz of gold, previous production plus remaining reserves and resources) and the Kelian deposits (7 Moz of gold produced + resources) in Indonesia. Gold mineralization at Porgera has been mined over a vertical range of 500 m but potentially economic mineralization extends over more than 1,000 m depth range.

CGI recognized the strong similarities of the Porgera and Buriticá mineralized systems and this gave CGI the confidence to drill extensively and deeply at Yaraguá and Veta Sur from surface down to 1,660 m depth. An outcome of which has been the substantial resource base in this document and from previous estimation work. Other similarities between Buriticá and CBM systems include metal zonation, the presence of stage I and II mineralization phases and the change in sulphide mineralogy with depth. The spatial relationship to hypabyssal porphyry bodies and associated breccia, as seen at Buriticá, is also typical of CBM systems.

9 EXPLORATION

Exploration work on the Buriticá gold project prior to CGI is described in Chapter 5. Previous technical report(s) for the Buriticá gold project only covered exploration activities up to the end of 2015 (Mining Associates, 2015).

9.1 SOIL SURVEY

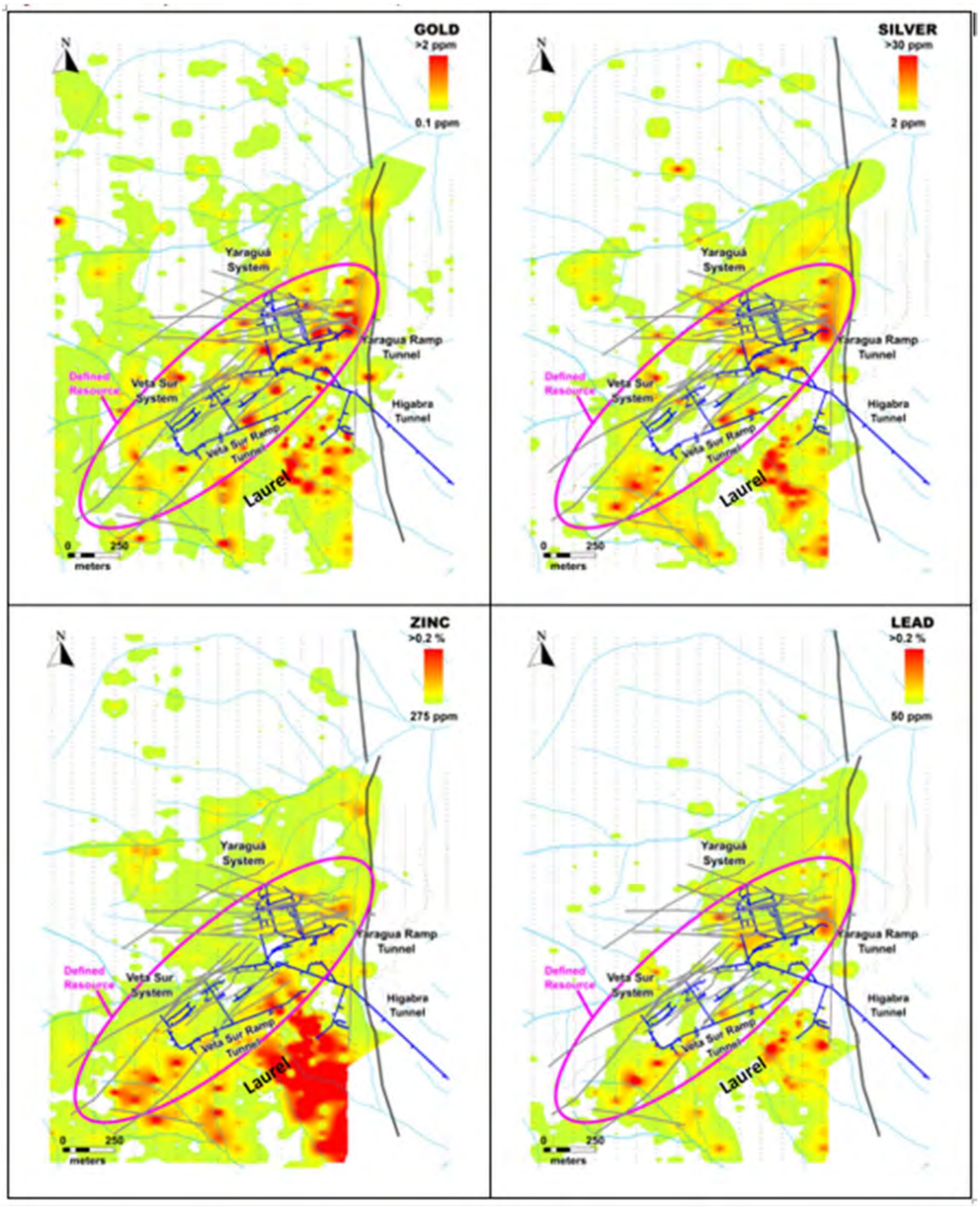
In its search for additional mineralization, CGI has undertaken a detailed soil geochemical program using ridge samples of 20 m to 25 m sample spacing that were assayed for gold, silver, lead and zinc plus a broad suite of additional elements using the base metals as pathfinders. Additional samples were taken as infill and ridge-line sampling. The survey covered an area of approximately 2.5 km by 2.0 km of the Buriticá property (Figure 9.1). Between 2015 and 2018, 4,190 soils samples were taken in the Buriticá regional exploration areas, and the results used to define the following targets: Electra (1), Perseus (2), Laurel (3), Yaraguá North (4), Poseidon y Medusa (5), Orion (6) and Electra North (7).

The soil survey results (Figure 9.2) show anomalous values for all elements in the areas of known mineralization. They also show a strong response in the Laurel area with lesser anomalous responses to the northwest of the Tonusco Fault (Yaraguá North) and further to the west.

Gold, silver, lead and zinc are generally strongly correlated, as in the Yaraguá mineralization, with lead and zinc exhibiting broader but more continuous patterns than the precious metals. Overall the soil geochemical anomalies indicate a wider distribution of the gold mineralized systems within the Buriticá tenements area, suggesting additional exploration potential for gold mineralization.

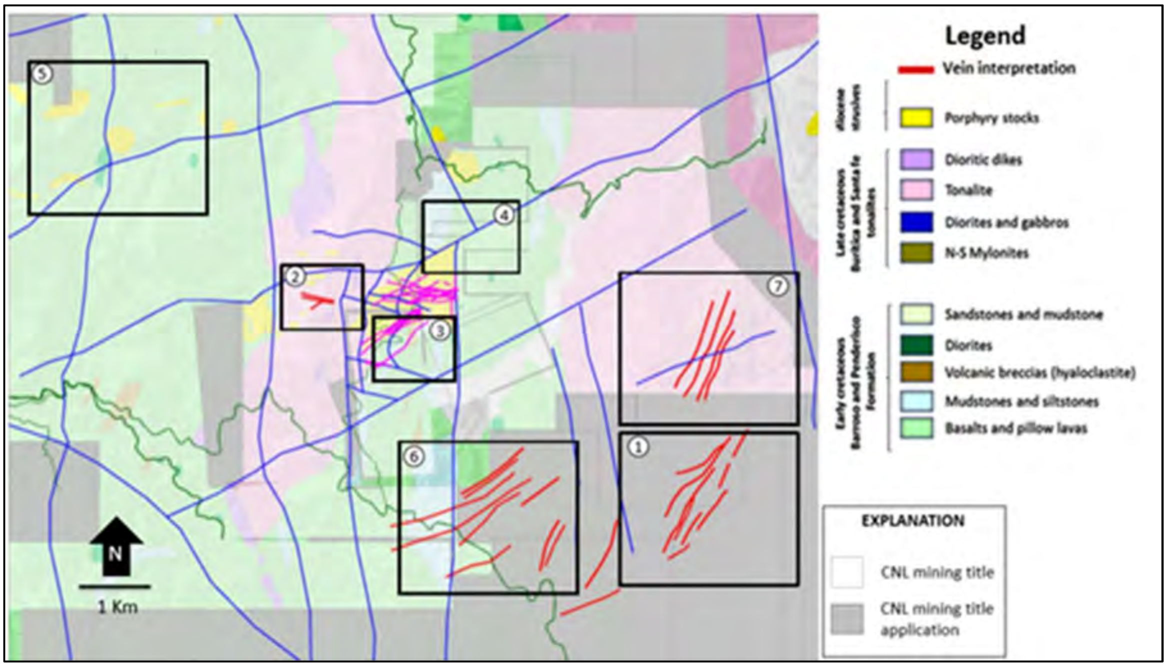
All the anomalies require more detailed follow-up involving mapping, systematically sampling in drainage channels, trackpads and trenches with closer spacing than the samples used in identifying anomalous Au/Ag/Cu/Mo/Zn/Pb/Ars soil samples. Ultimately, more successful definition of the soil anomalies will be followed by drilling. The strong anomalies in the southeast quarter of the Buriticá grid (Laurel) is partly due to downslope creep of the soil, but is also due to extensive historical colluvial workings. Some historical underground development in this area have been diamond drilled and the presence of Au/Ag veins confirmed.

Figure 9.1 Laurel Geochemistry from Soil Sampling: Gold, Silver, Zinc and Lead Maps



Source: CGI, 2018

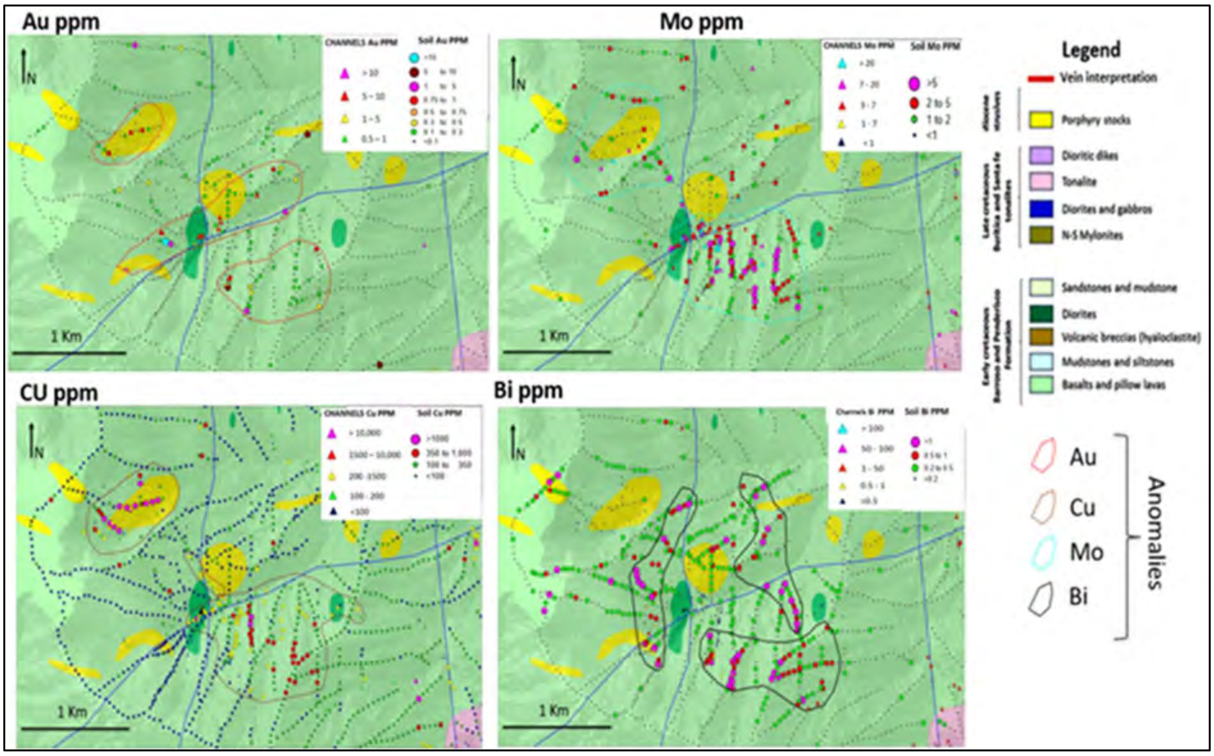
Figure 9.2 CGI Exploration Targets within the Buriticá Project area



Source: CGI, 2018

The Poseidon and Medusa targets (5) have been defined by soils sampling with anomalies in Au, Cu, molybdenum (Mo) and bismuth (Bi).

Figure 9.3 Target 5: Poseidon and Medusa geochemical anomalies from soil sampling

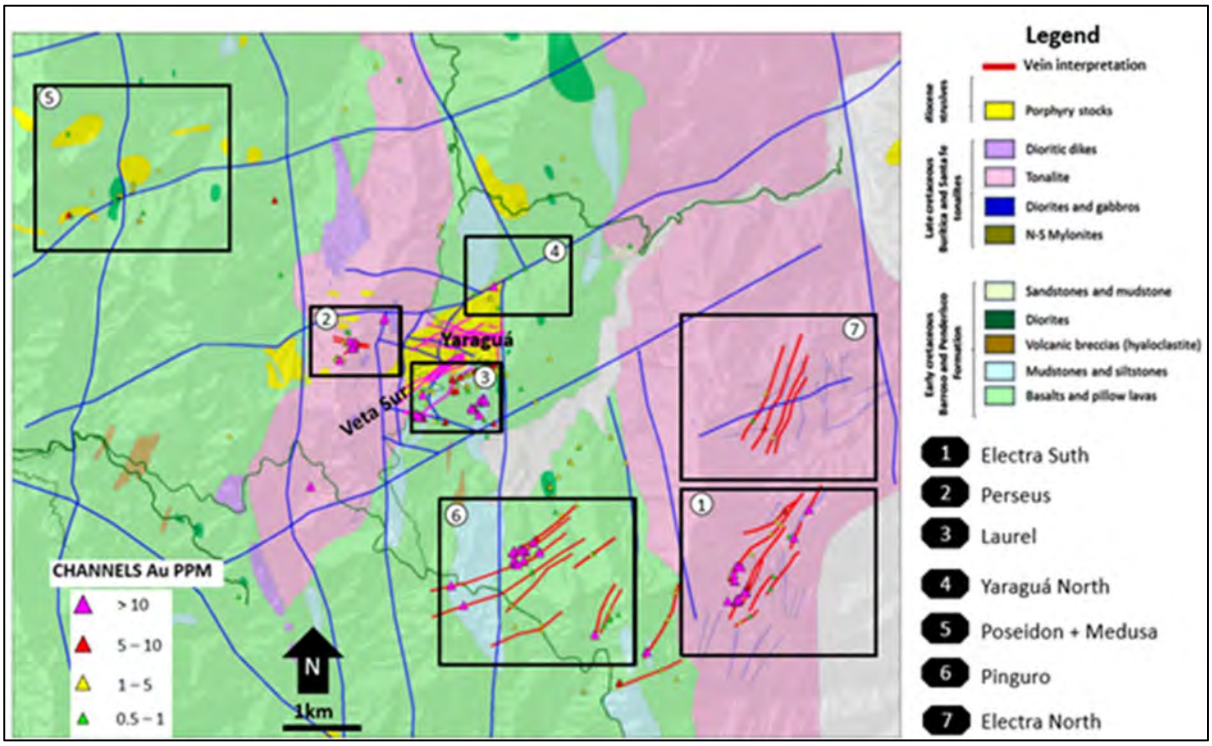


Source: CGI, 2018

9.2 CHANNEL SAMPLING

A total of 4,413 samples have been collected and analyzed over the broader Buriticá project (1,989 samples during the exploration campaign 2016-2018). The most relevant gold results were located in the Perseus target (Target 2) from underground artisanal tunneling, and the anomalous results are consistent with the anomalous soil results obtained for the definition of the exploration target.

Figure 9.4 Perseus, Electra and Orion channel sampling Results (gold)

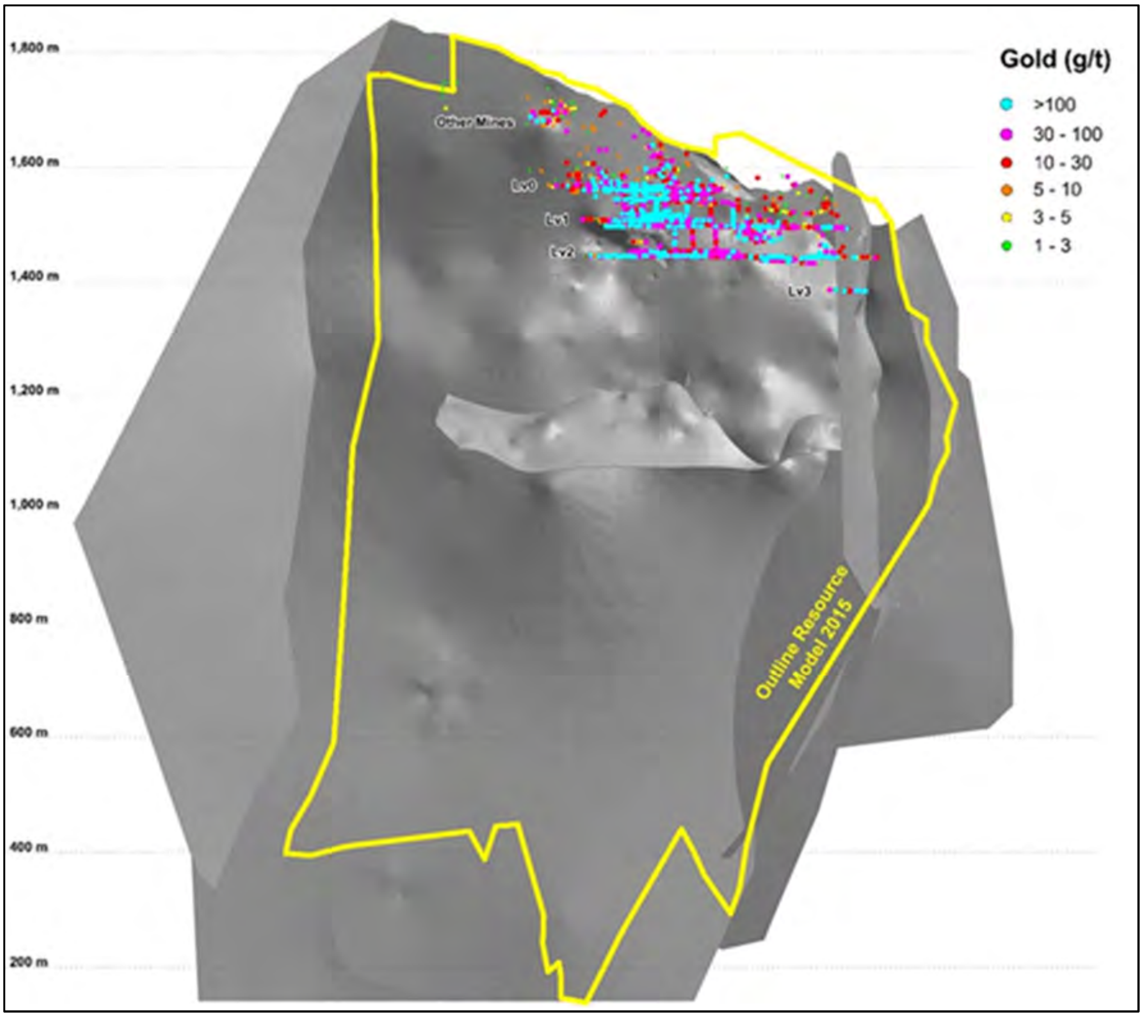


Source: CGI, 2018

Underground channel sampling was also done in the upper levels of the Yaraguá system. There are approximately 4,500 m of underground development, and this includes historical development as well as the more recent underground workings. The workings include drifts (largely along veins), cross cut development, raises and historical stopes on the Murcielagos veins. These underground workings provide platforms for exploration and delineation drilling, and for detailed geological and structural mapping as well as channel sampling. CGI continued its' program of systematic sampling of these underground openings during 2016 to 2018, and this included sampling 1,744 additional channels in the Veta Sur and Higabra tunnels. The average sample length of the channel samples was 3 m, and 1.5 m across the drifts and raises.

Table 9.1 lists the sampling results of channel sampling in the main levels of the Yaraguá Underground Mine for the Master Veins: San Antonio, Centena, Hangingwall and Murcielagos. Level 2 sampling is about 50 vertical meters below Level 1, and shows strong vertical continuity of the high grades in the vein sets, as well as continuity of grade along strike in central Yaraguá. Level 3 is approximately 50 m below Level 2.

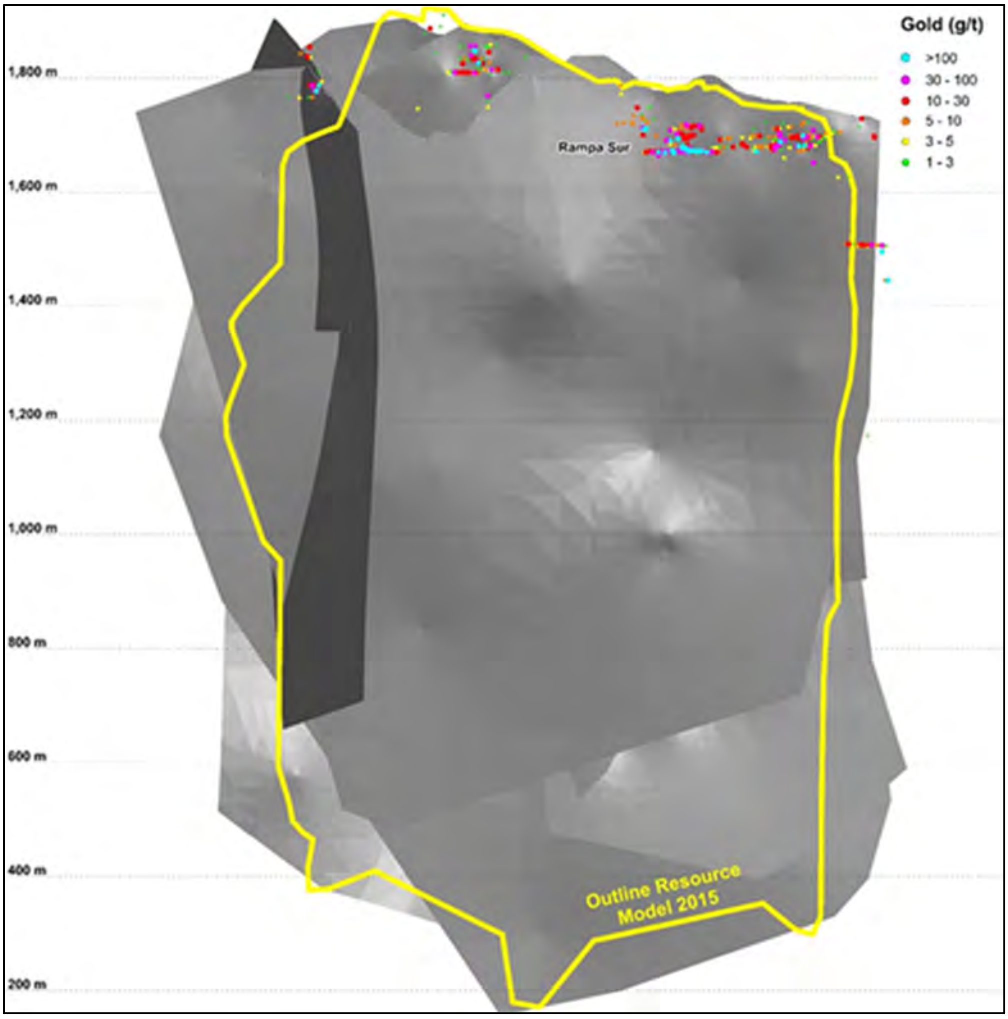
Figure 9.5 Location of the Yaraguá channel sampling and the 2015 Resource outline looking north



Source: CGI, 2019

The underground sampling indicates that the high gold grades within the principal veins are continuous along strike and within the vertical range, as sampled for several of the Yaraguá vein sets. The continuity of the channel sampling data allows a higher confidence level in resource modelling. The channel samples are considered representative and have been incorporated into the data set for estimation of the Mineral Resource.

Figure 9.6 *Location of the Veta Sur channel sampling and the 2015 Resource outline looking northwest*



Source: CGI, 2019

Table 9.1 *Underground channel sampling – Significant results*

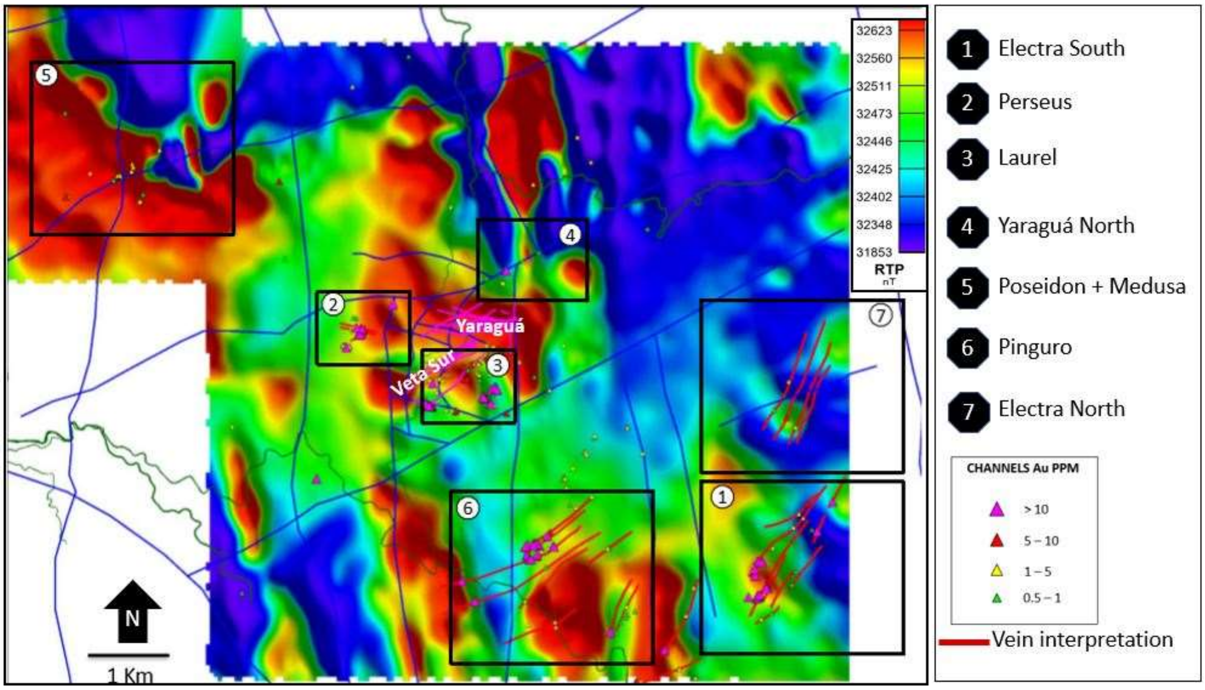
Underground Level	Average of RL (m)	Average of Width (m)	Au_ppm (w.Avg)	Ag_ppm (w.Avg)	Zn_% (w.Avg)
Level 0	1558.98	0.48	10.87	23.9	0.82
Level 0A	1565.80	0.54	37.95	50.1	1.19
Level 1A	1516.21	0.46	63.53	79.1	1.69
Level 1B	1544.54	0.82	25.09	52.1	1.07
Level 1I	1497.21	0.49	9.93	33.8	0.59
Level 1S	1506.01	0.84	20.00	10.8	0.53
Level 2	1443.11	0.52	8.25	32.9	0.36
Level 2A	1451.82	0.41	15.45	29.9	0.78
Level 2B	1469.00	1.88	3.65	12.5	1.51
Level 3	1382.28	1.23	2.76	4.6	0.06

Source: CGI, 2019

9.3 GEOPHYSICAL SURVEYS

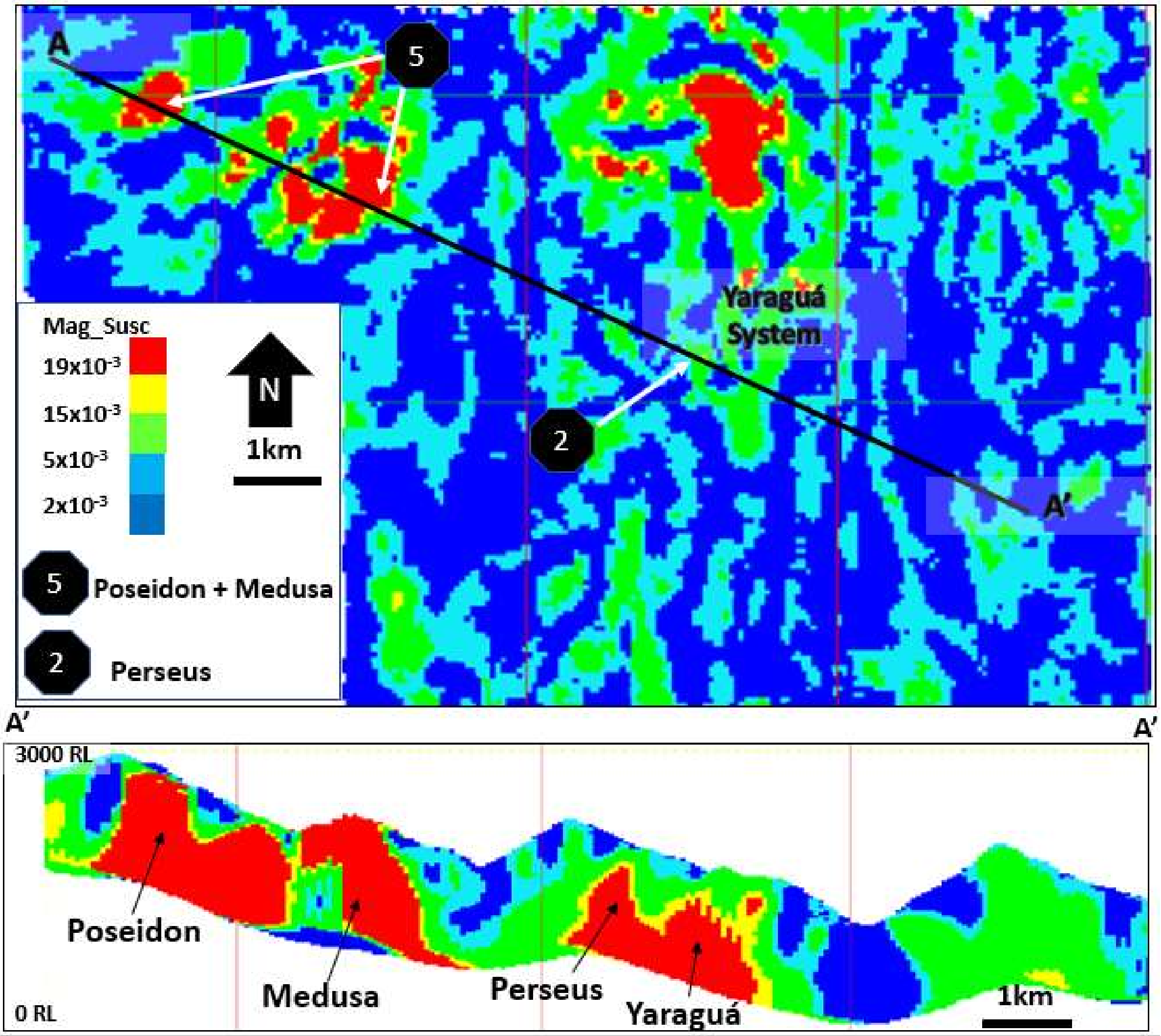
In 2018, Newmont Mining reprocessed the AMAG data acquired in 2011 and provided a new: Digital Terrain Model (DTM), total magnetic intensity (TMI) map, reduce to pole map (RTP), Analytical signal map (ANSIG), First Vertical Derivative map and 3D magnetic inversion model. This information was used to improve the targeting definition and the explorations programs as is presented in Figure 9.7.

Figure 9.7 Regional exploration Targets on the Reduce to Pole map



Source: CGI, 2019

Figure 9.8 Geophysical 3D Re- Interpretation and Regional exploration target



10 Drilling

10.1 Underground sampling

Underground channel samples have been collected from face samples and wall sampling at both Veta Sur and Yaraguá since 2009.

Samples were collected underground in a bucket covered by a plastic sheet that is cleaned between each sample. Sample positions were chosen by the geologist typically at three metre spacings along strike in underground drifts and raises, and the location of each sample surveyed. At each sample location, three samples were generally taken across the full width of the underground opening. All relevant data such as dip, structure, lithology mineralogy, size of sample etc. was logged into a book similar to the drillhole logging forms and the logging data entered into the LOGCHIEF system. Underground sampling data are stored in the database as pseudo drill-holes to facilitate 3D modelling.

Each sample is placed in double plastic bags with barcodes inserted into the bags for recording purposes. Once the sample is taken, it is sent to the sample preparation shed to await transport to the laboratory.

The channel sampling is performed by technicians under a geologist's supervision.

10.2 HISTORICAL DRILLING

There was no drilling completed at Buriticá prior to CGI's acquisition of the project.

10.3 DRILLING BY CGI (2007-2018)

CGI has completed diamond drilling (DD) programmes since its acquisition of the project in 2007 in various exploration and stope definition exploration campaigns. Underground definition diamond drilling commenced in 2018 at Buriticá. The CGI drilling is summarized in Table 10.1.

The drilling program in 2017-2018 focused on expanding the mineral resources, understanding the BMZ mineralization and increasing knowledge of the vein mineralization to allow higher classification categories. This helped identify areas which it is hoped will provide opportunities for bulk tonnage mining. The definition drilling focused on improving confidence in the model (and thereby defining Measured Resources) in areas incorporating the first few years of production of the mine.

Brownfield drilling focused on expanding horizontal and vertical extents of the Yaraguá and Veta Sur systems with focus on areas that are moderately close to existing mineral reserves, as well as assessing some high-impact targets within the limits of the 2015 resource model.

Greenfield drilling consisted of testing objectives close to the Buriticá project. The exploration methodology has been the same as that used to discover the Yaraguá and Veta Sur vein systems.

Table 10.1 lists the drilling statistics used in the 2019 Technical Report which include drilling by CGI since commencement of drilling in 2007.

Table 10.1 Summary of drilling completed by CGI

Drilling/Sampling Type	Area	Drill-Holes	Samples (M)	Metres	Samples
Surface DH (BUSY & BUSM)	Yaraguá and Veta Sur	435	183,470	191,753	171,085
Underground DH (BUUY)	Yaraguá and Veta Sur	519	150,886	152,934	179,517
Definition (DYR & DVS)	Yaraguá and Veta Sur	129	10,731	11,366	20,611
Channel samples	Yaraguá and Veta Sur	5,374	9,281	9,294	15,915
Total	Yaraguá and Veta Sur	6,457	354,368	365,346	387,128

For comparison:					
2015 resource Database -drilling	Yaraguá and Veta Sur	736		271,083	256,786
2015 resource Database -channels	Yaraguá and Veta Sur	4,084	7,215	7,215	11,032

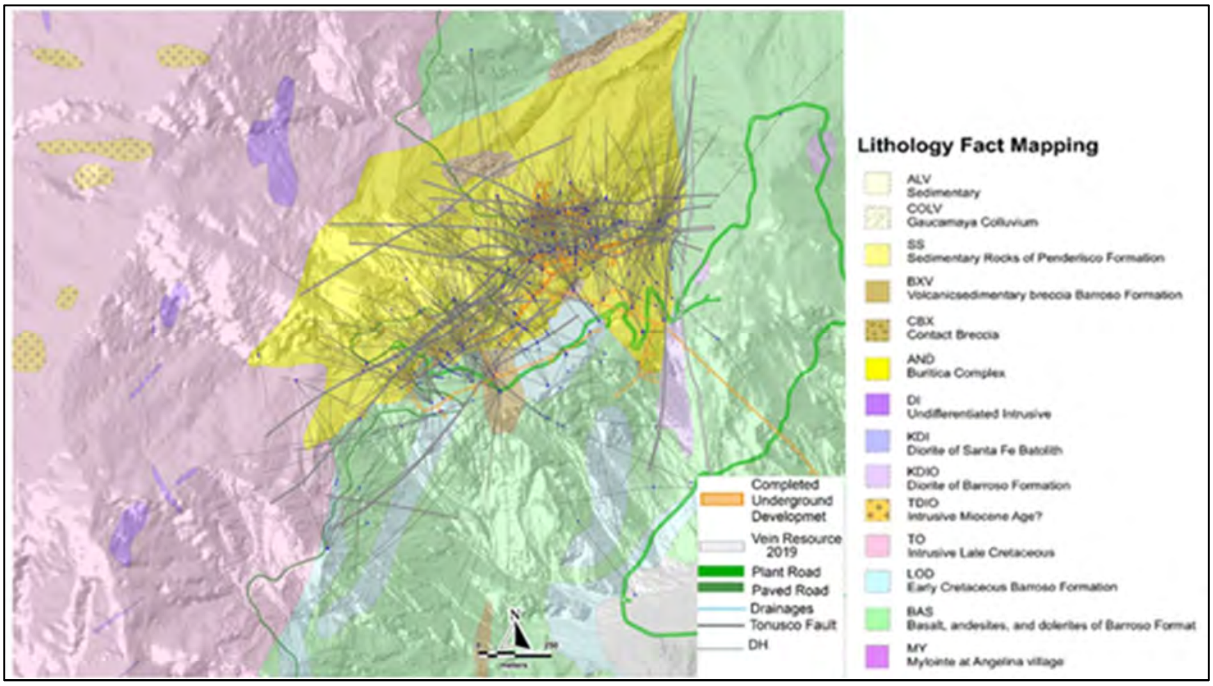
10.4 TYPE, EXTENT, PROCEDURES AND RESULTS

A complete list of significant drilling results for the Yaraguá and Veta Sur area drilling is not provided in this report as they are considered too voluminous and not appropriate to be listed for the project at this stage of development.

10.4.1 Drill Collar Plan and Representative Section

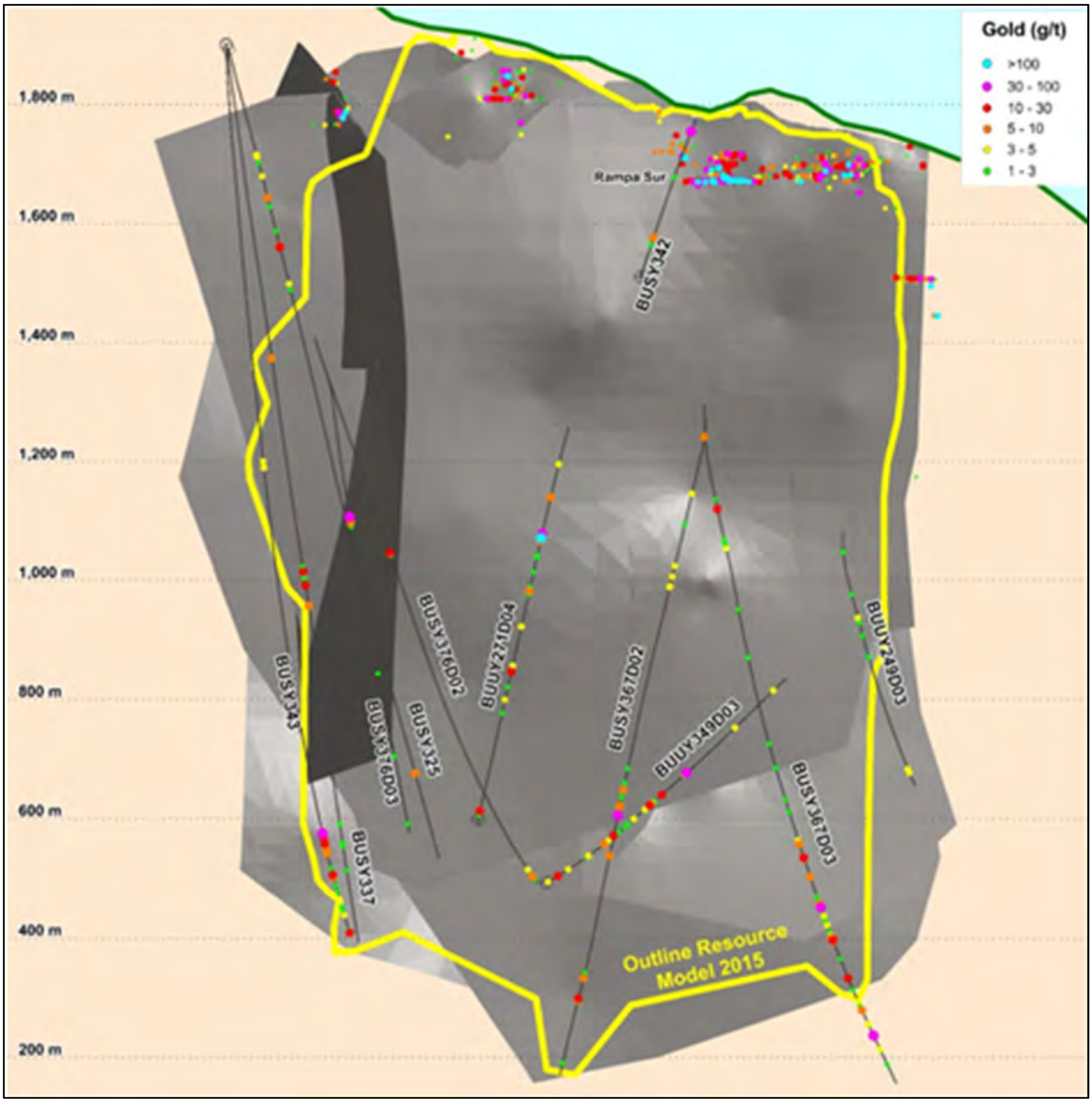
Figure 10.1 shows, in plan view, the distribution of drillholes utilized in vein domain modelling, along with traces of modelled vein domains at the 1,200 m elevation. Figure 10.2 and Figure 10.3 show representative deep drilling intercepts in long sectional view.

Figure 10.1 Geology, Vein Traces and drill traces at 1,200 m RL



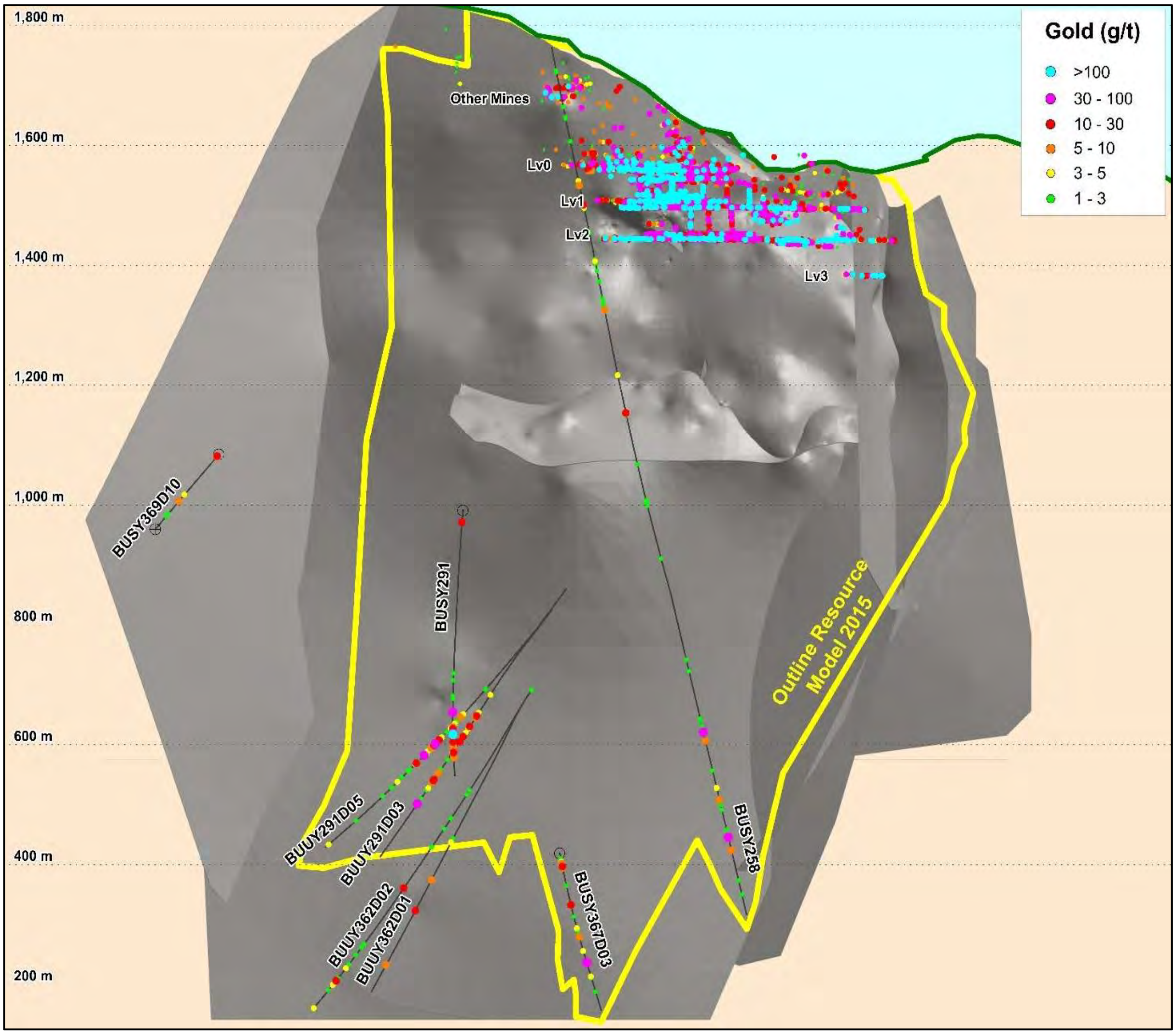
Source: CGI, 2018

Figure 10.2 Section View SW-NE showing the Location of channel sampling and of Deep Drill Holes, Veta Sur



Source: CGI, 2018

Figure 10.3 Section View W-E showing the Location of channel sampling and of Deep Drill Holes, Yaraguá



Source: CGI, 2018

10.5 Accuracy and Reliability

All collars were surveyed using a total-station, and down-hole surveys were completed using either a Reflex EZ-Trac or a GYRO survey tool. The downhole survey instruments are subject to good quality assurance with quality control checks in place.

Core recovery is generally good to very good (Table 10.2).

Table 10.2 Core Recovery statistics for recent drilling

Hole Group	Avg % Recovery
BUSY	92.93
BUUY	96.24
DVS	98.63
DYR	98.53

There is no evidence to suggest that core recovery creates any bias in a samples grade.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 CHANNEL SAMPLE PREPARATION

After the channel samples had been collected, the bags of samples were taken from the underground workings to the logging shed. Blanks and Certified Reference Materials (CRMs) were there introduced into the sample stream in accordance with the Corporate quality assurance/quality control (QA/QC) protocols, and the samples dispatched from the sample management facility to the laboratory.

Refer to Section 11.6 for more details on the Corporate QA/QC protocols and results.

11.2 DRILL SAMPLES - CONTINENTAL GOLD

Drilling processes at Buriticá were essentially the same for both Exploration drilling and Definition drilling with two main differences. The first is that half core was sampled for the Exploration drilling, whilst whole core was sampled for the Definition drill samples to the laboratory for analysis. The second main difference is that the laboratory is different as well, with samples from Exploration drill core going to ALS, whilst definition drilling samples went to ActLabs.

11.2.1 Exploration Drilling (Surface and Underground)

After core was retrieved from the core barrel and placed in core trays by the drillers (Figure 11.1), the core boxes were taken from the drill site to the logging shed where initial photos were taken before the core was washed. The lengths were marked in core trays and wooden spacers inserted with down hole lengths added by a technician. The core trays were laid out in order of depth and the core loss was calculated while correct depths were marked in the tray.

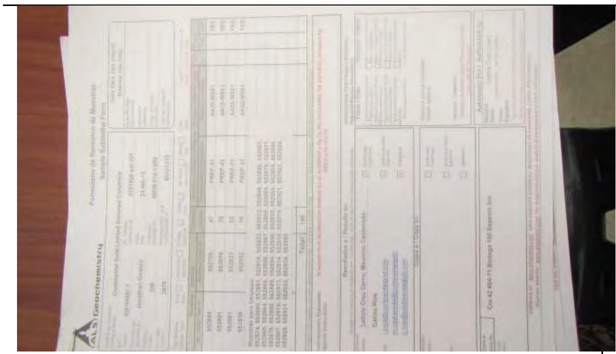
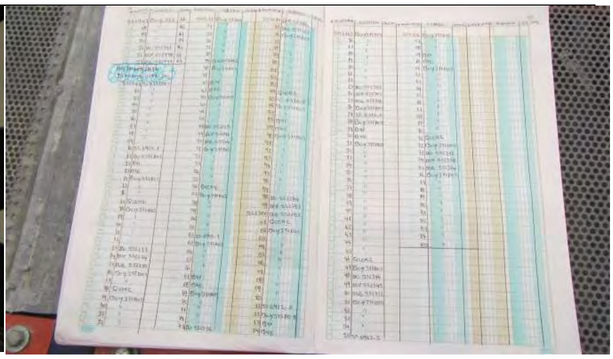
Logging was then entered into the LOGCHIEF system directly for lithological, alteration, mineralogy and geotechnical data. Sample intervals were then chosen based on lithology, alteration and mineralogy, with lithology changes, veins, alteration changes or anything else of note used to assist in the choice of boundaries for sampling.

The sampling protocol entailed the mark-up of the core for cutting, and cutting of the core with a diamond saw by CGI staff. Generally, the smallest interval chosen was 50 centimetres (cm) with unmineralized country rock sampled at 1.5 m intervals. Once sampling intervals were selected, the core trays were photographed with sample intervals shown by stickers indicating sample boundaries, downhole lengths, and drillhole names. Drill core was then marked for cutting by a geologist. Cutting of the core was carried out on site at the core logging shed.

Once logging, core-markup and photography was completed, the core trays were transported to the site sample preparation area. HQ and NQ diamond drill-core was sawn in half with one half sampled and the other half kept and stored in the CGI warehouse. 100% of BQ diameter drill samples were shipped. The sampled half (or quarter cut for duplicates) was put into a bag with a barcode sticker which records the sample number, and then these placed into a second bag, also with a sticker marking the sample number (Figure 11.2). Samples were then wrapped and sealed with packing tape with the geologist's or technician's sign-off on the sample sheet. A geologist was responsible for handling the sampling if mineralization was identified in the logging process, otherwise a technician generally sampled the unmineralized core. Half of the sample was retained at site and the other half sampled and dispatched to the ALS Laboratory in Colombia (ALS Colombia) located at Bodegas San Bartolome Warehouse 3, Carrera 48B No 99 Sur - 59, La Estrella Medellín.

In line with the Corporate QA/QC programme, control samples were added into the sample stream. Control samples include CRMs, blanks, and duplicates.

Figure 11.1 Photographs of Exploration Core Dispatch and Storage

	
Original Assay Sheet	Sample Ledgers
	
Multi-level Core Storage	Core Boxes in Racks
	
CRM Standards and Blanks	Samples bagged for Dispatch

Source: CGI, 2018

Figure 11.2 Photographs of Core Sample Handling and Logging


Logging Area	Samples being prepared for delivery to the laboratory


Core Storage Shed (expanded since 2015)

Source: CGI, 2018

Figure 11.3 Photographs of Buriticá Underground Drilling and Sample Handling


Underground drill rig – Yaraguá – 2018	Drill tray for drill core samples – Yaraguá - 2018

Source: CGI, 2018

11.2.2 Coarse and Pulp Duplicates - Precision

A coarse Duplicates is considered a fail when Relative Error is +/- 20%

A pulp duplicate is considered a fail when Relative Error is +/- 10%

Exploration Drilling

18,529 coarse duplicates were analyzed with 8.7% fails for Au and 0.5% fails for Ag.

18,533 pulp duplicates were analyzed with 18.1% fails for Au and 6% fails for Ag.

Definition Drilling

715 coarse duplicates were analyzed with 4.5% fails for Au and 3.5% for Ag.

733 pulp duplicates were analyzed with 18.4% fails for Au and 12.7% fails for Ag.

11.2.3 Definition Drilling (Underground)

The core boxes with the cores from the underground Definition drilling were mobilized at the end of each shift by the contractor, who took them from the drill platform to the logging shed. At the logging shed, the numbering and the depths marked on the core was verified with respect to the report of both shifts. The cores were then washed with sprinklers, or if they were very dirty they were washed with a soft brush to clean them in preparation for photography, and the boxes placed two by two on shelves and initial photographs taken. Subsequently, a quick log was completed to detect structures of interest. The cores were then depth marked in detail including identifying empty spaces in fault, fractured or re-perforated zones.

Subsequently, the geologist completed logging in detail recording lithology, alteration, mineralization and geotechnical data (RQD). The logging was entered directly into the MX Deposit software used for managing the technical services data. For sample mark-up, the geologist marked up the intervals of the samples. The minimum sample length was 20 cm and the maximum one meter for non-mineralized zones. Samples were bagged in batches with a maximum of 6 sets, where one set was of 34 samples of which 30 are real samples and four corresponded to control samples: one sterile sample, one standard sample, one pulp duplicate and one coarse duplicate. After the core was logged and sampled, the boxes were photographed indicating their depths and the name of the drillhole (Figure 11.2).

After carrying out a primary validation of the information generated, the geologist gives the sticker books (stickers with numbering and barcode) of the samples to the technicians. The stickers were then placed in the sampling bags; two bags per sample with one bag placed inside the other with the corresponding sticker. The samples marked on the boxes are checked to verify that they match the stickers attach in the bags, and the whole core is taken without leaving any support for the sample. After the sample was taken, the bag is sealed with cable tie (Figure 11.5).

Sample preparation is conducted in the Actlabs Laboratory in Medellín. Definition drilling also uses the corporate QA/QC CRMs in its' sampling. All drilling was HQ3 diamond drill-core and 100% drill samples were shipped.

11.3 Sample Security

Each day the drill core samples were transported from the drill site in metal boxes properly marked with the drillhole and box number to the exploration core shed, under the management of and guarded by CGI personnel. Each box was carefully tied with plastic straps for transportation. Once the core trays were received at the sample storage facility, they were in a secure location with CGI's security staff.

When the exploration drilling and channel samples left the sample management facility, they were packed in double plastic bags that had been previously marked with stickers showing a sample number assigned by the geologist. Before the batches were sent, geologists and technicians prepared a batch checklist to track the movement of the material, identify the number of samples, batches, and QC samples, with its type, and the costal number. At this stage, the checklist was signed by the geologists, security guard, and the driver of the vehicle. When this process was completed, the batches were then sent to the company's warehouse in Medellín. Here, the warehouse foreman took control of the batches from the driver, checked the delivery against the batch checklist, and signed to verify the contents of the batches. The foreman was the individual responsible to hand-deliver the samples to the ALS Medellín laboratory.

Upon delivery of the exploration drilling and channel samples, the ALS shift supervisor verified that all samples as specified in the laboratory request sheet were the same as delivered, then signed for their receipt. At this point, the samples were covered under ALS's security. The samples were logged in the internal system called "Webtrieve" (used globally by ALS clients) and assigned a work order number known as the internal way lot. Every time a sample went through this process, it was tracked by the system indicating its stage in the process.

The samples for the exploration drilling and channel samples went through the initial preparation process at ALS Colombia (crushed, split, and pulverized) and the pulp sent to ALS Peru (as defined below) in Lima. This pulp is packed in a paper bag and coated with plastic, then sent in heavy gauge cardboard boxes with ALS tape and coded security straps, which identifies those boxes if any that have been opened during transit between ALS Medellín and ALS Peru by customs. The leftover pulp and coarse rejects are sent to the CGI warehouse in Itagui within 45 days of the date of issue of the certificate.

The definition drilling samples, however, were picked up by ActLabs personnel at site (Buriticá), where they verified the number of samples and number or batches. Then the samples were taken to the ActLabs Laboratory in Rionegro Antioquia where the process of preparation and assaying was completed.

Figure 11.4 Photographs of Definition Core Sample Handling and Logging

	
Initial photos	Quick logging by the geologist
	
Measurement of the boxes and marking of the meter by meter	

Marks the intervals of the samples and pastes the stickers

Source: CGI, 2018

Figure 11.5 Photographs of Definition Core Dispatch and Storage

Marking of the intervals of samples and paste of stickers by the geologist

Source: CGI, 2018

11.4 Sample Analyses

11.4.1 Exploration Drill Samples and Channel samples

From 2012, Exploration samples were analysed at the ALS laboratory in Lima, Peru (ALS Peru). The secondary laboratory, and primary laboratory prior to 2012 was SGS in Lima.

Each sample was dried in ovens at 100 °C, crushed to approximately 10 mm, between 1 kg and 1.5 kg split off from the sample using a riffle splitter, the subsample crushed to 70% less than 2 mm, approximately 250 grams (g) split off from that sample by riffle splitter, and this final sample pulverised to 85 percent passing 75 microns (µm). Approximately 100 g of the pulverised sample was placed in sealed packets and sent to the ALS assay laboratory in Lima, Peru. Previously SGS in Lima and ALS in Vancouver were also used.

Samples were analysed at ALS for gold using a conventional fire assay procedure on 30 g sub-samples with a gravimetric finish, and for silver by atomic absorption after a four acid digest, and for the higher grades conventional fire assay procedure on 30 g sub-samples with a gravimetric finish.

Reject samples were returned to the Buriticá mine site and stored on site by CGI staff.

11.4.2 Definition Samples

Definition drilling samples were analysed at ActLabs laboratory in Rionegro, Colombia (ActLabs). The secondary laboratory was ALS in Lima.

Each sample was dried in ovens at 100°C, crushed to approximately 10 mm, between 1 kilogram (kg) and 1.5 kg split off from the sample by riffle splitter, the subsample crushed to 70% less than 2 mm, approximately 250 g of that sample split off again by riffle splitter, and that sample pulverised to 85 percent passing 75 µm .

Samples were analysed for gold using a conventional fire assay procedure on 50 g sub-samples with a gravimetric finish, and for silver by atomic absorption after an aqua regia digest. The higher grade samples were re-assayed using a conventional fire assay procedure on 50 g sub-samples with a gravimetric finish.

Reject samples were put into storage at the ActLabs Laboratory.

11.4.3 Laboratory Independence and Certification

ALS in Medellín is part of the ALS Group of laboratories that operate under a global quality management system in accordance with ISO/IEC 9001. ALS Peru is independent from CGI and has ISO/IEC 17025:2005 Accreditation by the Standards Council of Canada as a Testing Laboratory.

Actlabs Colombia is independent from CGI and has ISO 9001:2015 certification by ICONTEC, The International Certification Network for Geochemical analysis for the mining sector.

SGS Perú is independent from CGI and has ISO9001:2015, certification by ABS Quality Evaluations for Certification, inspection and testing of ferrous, non-ferrous, geochemical materials at national level; Certification, inspection and testing of metallic chemical products and mining samples at national level; Metallurgical services; and Mining sample preparation service; Mine site laboratory administration and operations. It also has ISO/IEC 17025:2006 certification by INACAL.

SGS Colombia is independent from CGI and has ISO 9001:2005 certification by Applus + Colombia Ltda for Provision of inspection, sampling, preparation, laboratory analysis and quantity and quality control services for metallic minerals.

11.5 Specific Gravity & Volumetric Mass Density data

Approximately 11,300 volumetric mass density measurements on cores were taken by CGI using a standard weight-in-air and weight-in-water (covered in wax) technique. The samples were selected and measured by CGI geological technicians in the core shed on site.

Samples selected for volumetric mass density measurements comprised a length of half core with no more than four pieces and taken to provide representative samples for different lithologies and different alterations and spread geographically across the deposit. The pieces were individually weighed, and the weights totaled before the overall SG calculated for the sample.

There are some notable differences of Specific Gravity observed between mineralized and un-mineralized, and from Veta Sur to Yaraguá.

Table 11.1 Density (SG) Measurements for the Buriticá Project

Location	Number of samples	Average SG
Veta Sur Veins	393	3.29
Yaraguá Veins	269	2.89
All Veins	662	3.13
BMZ	379	3.04
All samples	11,314	2.80

Specific Gravity values used in the resource model are discussed and reported in Table 14.15 of Chapter 14.8.1.

11.6 QUALITY CONTROL

Quality Assurance (QA) concerns the establishment of measurement systems and procedures to provide adequate confidence that quality is adhered to. Quality Control (QC) is one aspect of QA and refers to the use of control checks of the measurements to ensure the systems are working as planned.

CGI has adopted Corporate QA/QC protocols for drill core and channel sampling that meet the mineral industry standard and have acceptable insertion rates. JonesPL considers that the protocols were adequate for the determination of accuracy and precision. According to these procedures, the following samples were to be taken or inserted into the sample stream (both drill core and channel):

- 15 CRMs supplied by Ore Research & Exploration Pty Ltd, Geostats and Rocklabs (historically there have been 30) have been inserted variably on site at a planned rate of one every 19 samples. For planning of which CRM to be inserted into the sample stream, the CRMs are broadly split into low, medium and high-grade Au, and low and medium grade Ag. For Definition drilling CRM´s, the rate is one in every 30 samples.
- Field Duplicate Samples were inserted on site at a rate of one in every 19 samples. However the core was cut twice resulting in the duplicates being quarter core. Both samples were inserted into the sampling stream and prepared and assayed like any other sample. For Definition drilling Field Duplicates samples were not inserted.
- Coarse split and pulp duplicates (DUG and DUP) are managed by the laboratory and inserted every 19 samples for the Exploration samples. For the Definition samples, the rate is one in every 30 samples. The geologist is responsible for selection of samples for reanalysis.
- CGI used Coarse Blanks (BKG) and Fine Blank (BKF) samples which had been assayed at SGS Colombia laboratory with results showing low levels of gold and defined levels for the multi-element suite (51 elements). These blanks were inserted as one BKF and one BKG every 20 samples.
  - Blanks for Exploration samples were inserted on site at an approximate rate of one in every 19 samples.
  - Blanks for Definition samples were inserted on site at an approximate rate of one in every 30 samples.
- At six monthly intervals CGI sends 5% of the pulps (Au>1 parts per million (ppm) or Ag>50 ppm) to a second laboratory for check analysis using the same analytical method as the primary laboratory.

With respect to inter-laboratory checks, a portion of the exploration pulp samples were sent biannually to SGS Colombia and re-assayed as a check. For the definition drill samples, a portion were re-assayed by ALS Colombia.

In addition, the independent laboratory also conducted its own internal QA/QC consisting of CRM testing, duplicates assaying and repeats. A portion of the samples are periodically check-assayed at ALS Peru's ISO 17025 accredited assay laboratory in Lima, Peru.

At the time of this report 17,731 CRMs for gold had been inserted ranging in grade from 0.38 g/t to 48.5 g/t Au, in 387,128 samples (5% insertion rate), and 3,347 CRMs for silver ranging in grade from 6.1 g/t to159.5 g/t Ag.

The Author has reviewed these procedures and considers them suitable for managing the quality of its sample assay data.

11.6.1 CRMs Results – Accuracy

Accuracy of the assaying was monitored by the submission of CRMs into the sample stream.

CGI monitored its accuracy by the plotting of the results of the CRM assays with respect to the certified values on control charts. Results within ± two standard deviations (SD) of the expected value (from the CRM certificates) were considered acceptable by CGI. Individual results between ± 2 SD and ± 3 SD of the expected value were also deemed acceptable, but monitoring was required. Multiple results between ± 2 SD and ± 3 SD of the expected value were investigated and are considered by CGI to indicate potential problems with bias or poor quality. Any results outside ± 3 SD CGI considered as 'fails' and were examined for problems with sample number allocation and potential follow up with re-assaying of the entire batch where considered necessary.

Exploration Drilling

CGI used CRMs provided by independent and reputable laboratories Ore Research & Exploration Pty Ltd, Geostats Pty Ltd and RockLabs. CGI selected 32 gold CRMs to approximate cut-off, low grade, moderate grade and high-grade gold material and nine silver CRMs. CRMs were inserted at a planned rate of one every 19 samples.

Review of the QA/QC indicated no significant bias in the results, although the assays tend to be slightly low with respect to the CRM expected values (eg Figure 11.6).

Definition Drilling

CRMs supplied by Geostats: low, medium and high-grade Au, were inserted at a planned rate of one every 30 samples.

Figure 11.6 Example: Control Chart for CRM SN74-Au

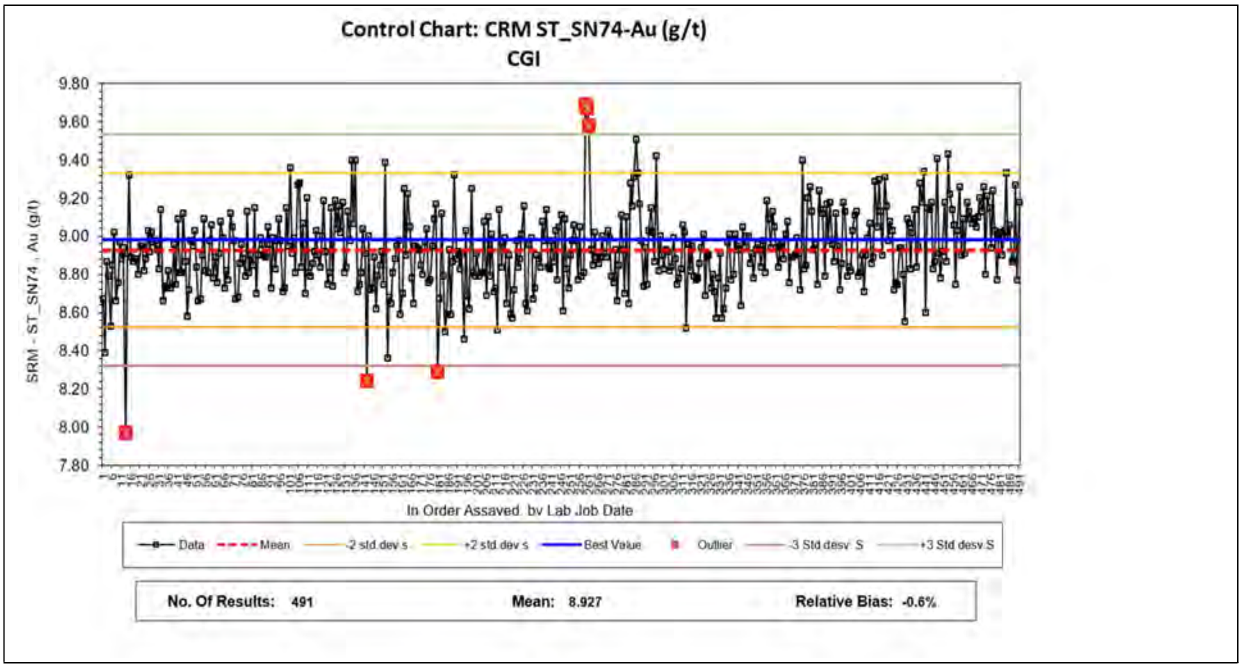


Table 11.2 Summary CRMs Results for exploration and definition drilling

CRM	Low CRM (ppm)	High CRM (ppm)	Count	Fails > |3DS|	Percent of CRM (%)
Low Grade Au	0.38	1.06	8044	68	0.85%
Moderate Grade Au	1.52	9.281	8555	68	0.79%
High Grade Au	11.03	48.53	1132	7	0.62%
Low Grade Ag	6.10	15.5	1840	16	0.87%
Moderate Grade Ag	51.5	55.3	1228	7	0.57%
High Grade Ag	127.1	159.5	279	1	0.36%

Review of the QA/QC indicated no significant bias in the results, although the assays tend to be slightly low with respect to the CRM expected values.

11.6.2 Field Duplicates – Precision

Exploration Drilling

Duplicate results were analysed by comparing the values obtained for a pair of samples and determining the average difference or error. Duplicate results have been evaluated using the formula:

Relative Error = 100* (Repeat Value –Original Value)/ (Repeat Value +Original Value)/2

JonesPL notes that the duplicates have been assayed at the same primary laboratory. A difference in the analysis of any duplicate samples is a result of poor precision at either the laboratory or in the sample. However, the use of quarter core instead of half core renders the results meaningless with respect to the half core samples. As such, these results have not been analysed.

Having said that, 19,932 Field duplicates samples were analyzed by CGI and reported that 8.95% of the pairs for gold and 0.9% of the pairs for silver have greater than +/- 30% Relative Error. These results are relatively low, especially for quarter core, and JonesPL sees no reason to be concerned from this analysis.

Definition Drilling

There are no field duplicate samples for the Definition Drilling as whole core is sampled.

11.6.3 Laboratory QA/QC

Exploration Drilling

Laboratory checks are carried out every six months using pulps. Approximately 5% of the total samples containing >1 ppm Au or >50 ppm Ag are selected randomly and sent to SGS Colombia. Fire Assay and gravimetric finish methods are used to compare similar analytical procedures between ALS and SGS.

Between 2008 and second semester 2017, 4,187 samples had been sent to SGS Colombia to look at inter-laboratory differences in the grades. Of the 4,187 samples analysed in the check laboratory, 1,242 samples were from the 2012 to 2017 drilling and analysed for gold and silver, whereas 2,945 samples from 2008 to 2012 were only analysed for gold.

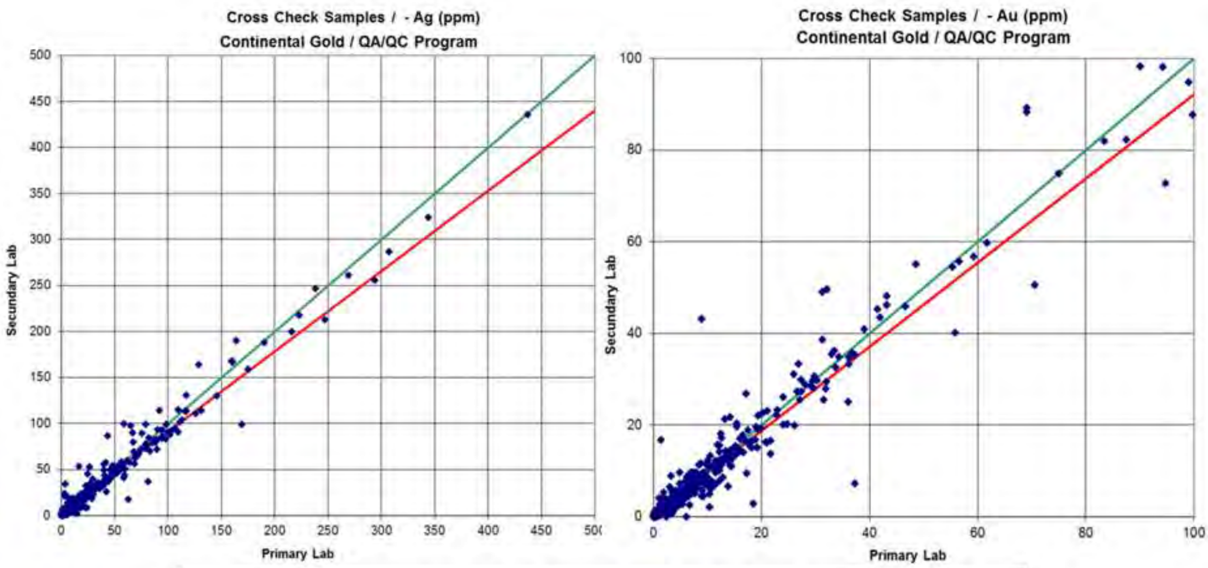
The inter-laboratory cross-check analysis has shown that the SGS analyses are biased slightly low when compared to the primary laboratory. However, some of these results, such as those for silver in the period between 2012 and 2014 for silver indicate an issue with the second laboratory for the higher grades. The blind CRMs for the primary laboratory during this period were not anomalous, and the Author is more concerned that the second laboratory results might confuse the issue than pose a significant issue in the evaluation of the mineralization.

Definition Drilling

At the time of this report, 289 samples had been re-assayed at ALS for gold, and 287 for silver. The results indicate that ActLabs is reporting its' gold and silver grades biased low (about 7% for gold and 8% for silver) when compared to ALS. ALS is the primary laboratory for the exploration data. The inter-laboratory cross-check analysis also showed that the ActLabs analyses are biased slightly low when compared to the primary laboratory.

Figure 11.7 shows a scatter plot of the laboratory cross check analysis for the exploration drilling campaign (2015-2017) versus the definition drilling campaign (2018). There is a notable bias for gold and silver of 8.31% and 12.8% respectively. The results shown are for CRM´s for both ALS and ActLabs Laboratory analyses.

Figure 11.7 Laboratory cross checks for all drilling data 2015-2018



Element	R^2	N (total)	m	Error (m)	b	Error (b)	RMA Ecuation	Bias
Au (ppm)	0.968	780	0.917	0.006	0.538	1.272	RMA: y=0.917x+0.538	8.31%
Ag (ppm)	0.992	778	0.872	0.003	3.789	2.920	RMA: y=0.872x3.789	12.8%

11.6.4 Field Blanks - Contamination

Field blank samples were composed of material that was known to contain Au grades that were less than the detection limit of the analytical method in use. They were inserted into the sample stream by the geologists. Blank sample analysis is a method of determining sample switching and cross-contamination of samples during the sample preparation or analysis processes.

Exploration Drilling

BKF and BKG have been used by CGI as provided by SGS labs. For BKF the upper limit is defined as three times the detection limit and for BKG the upper limit is defined as five times the detection limit. The assay results of BKF and BKG show limited contamination during sample preparation and assaying for both gold and silver, with all results classified as a fail being processed immediately after a high grade sample.

Definition Drilling

Waste material for use as field blank material in definition drilling was obtained in batches of 500 kg from a road aggregate quarry nearby to the Buriticá Project area. For BKG the upper limit is defined as five times the detection limit. In definition drilling BKF were not inserted.

Table 11.3 shows the results for the analysis of blank samples for the definition and exploration drilling programs. Less than 0.5% of the blank samples inserted in the program reported values above the limits defined for the contamination.

Table 11.3 Results of the analyses of blank QA/QC samples

Blanks	Element	Count	Fail	Failure rate (%)
BKF	Au	17425	31	0.18
BKF	Ag	17425	12	0.07
BKG*	Au	18006	81	0.45
BKG	Ag	18006	12	0.07

* Include BKG for definition and exploration drilling.

Source: CGI, 2018

11.6.5 Specific Gravity Measurements

CGI has adopted a QA program which has four samples it uses as CRMs, and sends samples to the laboratory to cross-check the internal specific gravity measurements. The CRMs are used and checked after every eighth measurement.

At the time of this report, 147 measurements had been completed as checks on the specific gravity measurements, and no significant bias or precision issues had been identified from the results.

Table 11.4 Internal repeats of specific gravity measurements

CRM	Average SG (t/m^3)	Repeats	Bias
DB001	4.60	49	0.2%
DB002	2.78	35	0.6%
DB003	2.89	28	1.3%
DB004	2.83	34	-0.1%

At the time of this report, an additional 105 samples had SG values determined using the same method at ALS Colombia. No significant bias or precision issues identified.

11.6.6 Interpretation of QA/QC Results

Blanks, CRM's, and laboratory duplicates were used at an acceptable rate and closely monitored by CGI geologists. The insertion rates, and monitoring of the QC samples are consistent with accepted industry standards. No evidence of any significant contamination in the sample preparation or sampling analysis was identified.

11.7 Audits

Two audits of CGI's QA/QC protocols have been completed by independent consultants AMEC and REI -RMI.

AMEC (2013) recommended:

- AMEC recommended that samples should not be quarter drill core, but half core. Each half core should then be sent to the laboratory for independent analysis to ensure repeatability in the evaluation. This should be complemented with appropriate photographic record of the core before cut. Additionally, the bag with the coarse reject could be maintained as evidence of the initial core.
- Results that are at the low limit of detection should be replaced by half of this limit for the data processing quality control.
- The rates of insertion for control samples should be adjusted so that the total insertion rate is not more than 20%, including external control samples. Planning insertions in batches of 50 samples would be more appropriate in this case, rather than in batches of 25 samples.

REI-RMI (2013) recommended:

- CGI investigate using core known to be barren for coarse blank samples (QA/QC), so that the laboratory cannot detect the coarse blank and clean crushers/pulverizes immediately before preparing the coarse blank. Certification could be done by splitting and assaying core in barren lithologies.
- New sample numbers should be assigned to coarse duplicates and duplicate pulps (keeping careful track of sample numbering) to prevent the laboratory from cross-checking with the original assays.

These recommendations have mostly been implemented by CGI and included in the field procedures. However, there is one exception being the field duplicates where the audits completed recommended the duplicates to be half core, but remain as quarter core.

11.8 Author's opinion on the adequacy of sample preparation, security, and analytical procedures

The on-site sample management facility inspected by JonesPL during the site visit was found to be acceptable for purpose. Sample protocols, including sample methodology, preparation, security, analysis and data verification have been conducted in accordance with industry standards using appropriate QA/QC procedures. These have been in place since the inception of CGI work in 2010 under the direct supervision of CGI's Vice-President of Exploration, Mauricio Castañeda. The Author understands Mr. Castañeda is a Qualified Person under NI 43-101.

The Author is of the opinion that CGI personnel have used due care in the collection and management of field and assaying exploration data. Furthermore, sample preparation, sample security, and analytical procedures including quality assurance and control used by CGI are consistent with best practice as generally accepted in the industry, and the results are suitable for the purpose of mineral resource estimation.

12 DATA VERIFICATION

Data verification conducted prior to 2016 is summarized in MA (2015) and JDS (2016). Information in this section has been excerpted, updated and condensed from JDS (2016).

Further verification has not been completed for the following reasons:

- Data verification of sampling information has previously been completed and is documented in prior technical reports (MA, 2015; JDS, 2016).
- Small Scale Miners have been operating at Yaraguá to such an extent that CGI required assistance from the government to address the issue.
- The project has been operating as a small producer demonstrating the presence of gold in the mineralization. Records have been kept since 2012, but the mine was operating prior to CGI's acquisition in 2007. Production from 2001 to 2007 was 11,694 oz.
- The project is now a development project, and there are other more significant checks such as metallurgical testwork that is far more meaningful.
- A site visit was completed by the Author (Mr. Ivor Jones of Ivor Jones Pty Ltd) on the 12-13 December 2018, and observed drilling; parts of the sample management; sample preparation at the core management facility in Buriticá; and handling and security procedures on site. In addition, the Author reviewed the underground workings and sufficient exposure of the mineralization to confirm the nature of the mineralization and appropriateness of the interpreted geological framework and estimation method.

The Author has not undertaken a complete data verification study, however sufficient checks have been completed to satisfy the Author that the Buriticá drilling and sampling data, and the interpreted geological framework, are suitable for use in Mineral Resource estimation.

For the purposes used in this technical report, it is the Author's opinion that the data provided with respect to the geology and sampling is sufficiently verified within the scope of the resource modelling and suitability for the purposes intended.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 DISCLOSURE

The information contained in this report referring to Metallurgical Testing and Mineral Processing was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

No new metallurgical testing or mineral processing design work has been completed since the 2016 Feasibility Study. The 2019 mineral resource estimate is based on the same deposits that were the focus of the 2016 Feasibility Study and the majority of additional drilling information incorporated into the 2019 resource estimate was infill drilling in the same general areas included for mining in the Feasibility Study.

13.2 INTRODUCTION

The metallurgical test work carried out to support development of the Buriticá process facility is described in this section of the report. The metallurgical test work creating the basis of this section was supervised by Stacy Freudigmann, P.Eng., working in conjunction with Allen Anderson from CGI and BaseMet Labs in Kamloops, BC, Canada. The results of the test work to provide metallurgical inputs to M3, who in turn used these to develop the design criteria, and to design the process facility described in Section 17 of this report.

As permitted by Item 3 of Form 43-101F1 – Technical Report, published by the Canadian Securities Administrators (Form 43-101F1), the Qualified Person (QP) responsible for the preparation of this Section has relied upon certain reports, opinions and statements of certain experts who are not Qualified Persons. These reports, opinions and statements, the makers of each such report, opinion or statement and the extent of reliance are described.

13.3 TESTING HISTORY

In previous project development phases, testing was undertaken on both variability samples and composites blended from each of the deposits on the Buriticá property. More recent test work was carried out on a "Year 1-5" composite, constructed to represent the first five years of the mine life, and also on variability composites to determine variability of individual samples selected to represent the lithology and spatial aspects of the resource. Testing on the Year 1-5 Composite was designed to optimize the Pre-feasibility Study (PFS) flowsheet. The resulting Feasibility Study (FS) flowsheet, and more closely defined process variables, were then used to determine the metallurgical performance of a number of variability composites, evaluating both gold and silver recoveries.

A considerable quantity of testing has been undertaken on the Buriticá Project in a relatively short period. Only the recent feasibility testing is directly applicable to the derivation of the current flowsheet, however, portions of the metallurgical information previously summarized by M3 in the 2014 PEA (December 22, 2014) have been included for completeness. Table 13.1 is a summary of the test work to date.

Table 13.1 Summary of Test work Completed

Year	Laboratory/ Consultant	Report No.	Mineralogy	Comminution	Gravity	Flotation	Cyanidation	Solid/Liquid Separation	Cyanide Oxidation	Other
2015	Kemetco	I2410							X	
2015	BaseMet	BL0047	X	X	X	X	X			Oxygen Uptake, Preg-robbing
2015	Terra	15SEP-002	X					X		Tailing
2014	Pocock	-						X		Rheology
2014	Montana Tech	-	X							
2014	Transmin/SGS	TM 627	X	X			X	X		
2014	SGS	Cz MET 0113/2013 MIN	X	X	X	X	X	X		
2014	Gekko	T1098-Rev5							X	
2013	McClelland	MLI Job No. 3679			X	X	X			
2013	Pocock	-						X		
2013	JKTech	-		X						
2012	Hazen	-		X						
2012	EGC	-	X							
2012	FLSmidth - Knelson	-			X					
2011	Metcon	Q770-03-028.01	X		X	X	X			

Source: JDS, 2016

The results of the test programs are available in the following reports:

- Kemetco Research Inc. (Kemetco), Vancouver, Canada, November 2015, Buriticá Tails Detoxification;
- Base Metallurgical Laboratories Ltd. (BaseMet), Kamloops, Canada, January 2016, Metallurgical Testing to Support a Feasibility Study of the Buriticá Project BL0047;
- Terra Mineralogical Services Inc. (Terra), Ontario, Canada, September 2015, Determination of Gold Deportment in One Metallurgical Test Leach Residue Sample from Buriticá Gravity Tail;
- METCON Research Inc. (Metcon), Tucson, Arizona, August, 2011 Buriticá Project, Metallurgical Study;
- Hazen Research, Inc. (Hazen), Golden, Colorado, June 2012, Comminution Testing;
- Economic Geology Consulting (EGC), Reno, Nevada, July 2012, Mineralogy of Metallurgical Samples BUMM-001 through BUMM-004;
- McClelland Laboratories Inc. (McClelland), Sparks, Nevada, May, 2013, Report on Metallurgical Testing, Scoping Laboratory Cyanide Leach, Flotation & Gravity Test work Results;
- JKTech Pty Ltd. (JKTech), Santiago, Chile, September 2013, JKDW & SMC Test Report.
- SGS Mineral Services (SGS), Lima, Peru, January 2014, Report on Metallurgical Testing, Comminution, Cyanide Leach Optimization and Variability, Flotation & Gravity Test work Results.
- Transmin Metallurgical Consultants (Transmin), March 2014, TM 627 Buriticá Reorte Metalurgico, Estudio De Pre-Factibilidad PFS.
- Pocock Industrial Inc. (Pocock), Salt Lake City, Utah, March–April 2013, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration and Pressure Filtration Study for Buriticá Project.
- Pocock Industrial Inc. Salt Lake City, Utah, January 2014, Sample Characterization, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration with Wash and Pressure Filtration with Wash Study for Continental Gold, Buriticá Project Leach Residue.
- Pocock Industrial Inc. Salt Lake City, Utah, March 2014, Sample Characterization, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration with Wash and Pressure Filtration with Wash Study for Continental Gold, Buriticá Project Leach Fines.
- The Center for Advanced Mineral & Metallurgical Processing, Montana Tech of the University of Montana (Montana Tech), Butte, Montana, April 2014, Mineral Liberation Analysis (MLA) Characterization of Ore Samples from the Buriticá Project.
- FLSmidth Knelson, Langley, Canada, October 2012, Gravity Modelling Report.
- Gekko Global Cyanide Detox Group (Gekko), Ballarat, Victoria, Australia, April 2014, Continental Gold – Buriticá Project Detox Test work Report.

Test work programs completed by independent reputable metallurgical laboratories using primarily drill core samples from exploration drilling, include but are not limited to characterization and mineralogical studies, comminution studies, extended gravity recoverable gold and gravity concentration tests, flotation, leach and settling tests. Historical test work results indicate that the mineralization responded well to flotation and to cyanide leaching for precious metal extraction.

13.4 MINERALOGICAL EVALUATIONS

13.4.1 Mineralogy

Historically, mineralogical analysis were conducted by Economic Geology Consulting (EGC) on four composites prepared by McClelland, and also at the Center for Advanced Mineral and Metallurgical Processing on eight mineralized material samples, for the assessment of gold/silver and overall mineralogy by Mineral Liberation Analysis (MLA). The main observations are:

- Electrum and native gold were the primary gold-bearing phase in all of the samples, with trace amounts of the gold-silver telluride (petzite), in about half of the samples. The silver minerals encountered in the samples were acanthite, the tellurides, hessite and petzite, electrum, and silver-bearing tetrahedrite.
- Electrum and gold appeared to be more abundant in the head samples and typically occurred as relatively large liberated particles with grain size distributions P50 ranging from 50 to 100 µm. Gold content of the electrum/gold grains was found to be relatively high, commonly found in the range from about 82 to 92% Au.
- Gangue mineralogy was observed in two major gangue phases; one where potassium feldspar was higher at 26 to 27%, plagioclase at 22 to 26%, quartz at 13 to 16%, and pyrite at 10 to 14%; and the other where quartz was increased to 33 to 38%, 18 to 23% pyrite, 14 to 15% mica (K-mica), and 11 to 12% potassium feldspar. Carbonates, primarily ankerite/dolomite, were more common and galena was observed up to approximately 4%.

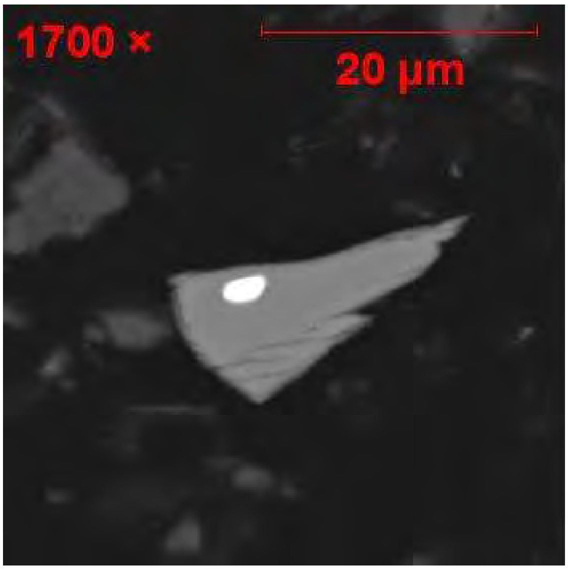
In 2015, both BaseMet Laboratories and Giovanni Di Prisco of Terra Mineralogical Services undertook characterizations of the lithologically and spatially representative variability composites and of a leach tailing residue respectively.

The modal abundance work indicated that all of the samples had substantial amounts of pyrite, ranging from 5% to almost 40%, while the Veta Sur composites had increased levels of pyrrhotite over the Yaraguá composites, which themselves show relatively higher levels of base metals, predominantly sphalerite. Some of the Veta Sur samples exhibited minor levels of base metals.

Historically both deposits have returned assays for copper. The predominant copper mineral in the FS samples is chalcopyrite, while it is clear that Yaraguá has slightly more Tennantite (~5%) and Tetrahedrite (~3%). It is interesting to note that there is more "Other Copper" in the Yaraguá samples than in the Veta Sur samples. "Other copper" here is defined as a combination of chalcanthite, cupro-tungstite, brochantite, malachite, native copper, delafossite, chrysocolla, atacamite, cuprite and petrukite.

The tail leach residue sample submitted to Terra Mineralogical Services Inc. for mineral examination was generated from a cyanide leach test performed on a gravity tail sample from the Year 1-5 Composite ground to approximately 80% passing 50 µm. The main points of interest are summarized

Figure 13.1 Sub-hedral Native Gold Grain Locked in Pyrite



Source: Terra, 2015

- Native gold, electrum and petzite (gold-silver telluride) grains were the gold-bearing species identified in this cyanide leach residue;
- Native gold and electrum were found to be the predominant gold carrier (combined ~ 86% of gold), whereas petzite carried the remaining (~ 14 %);
- The entire group of gold particles identified occurred entirely locked, as minute inclusions in pyrite; and
- The average grain size of the gold particles identified in the tail sample is fine, at approximately 1.4 µm.

Although the total population of gold particles identified was limited and the data cannot be considered statistically representative, the observations indicate a clear trend on how discrete gold grains are deported to the tail sample. In addition, experience indicates that with gold grades ranging from 0.4 to 0.5 g/t a larger population of discrete gold-bearing particles should have been identified. The fact that only a limited number of gold particles were found in the leach residue sample could indicate that a fraction of gold in the Buriticá mineralization is contained in solid solution in sulphide minerals, and particularly in pyrite. This hypothesis and observations hold together well with the previous mineralogy undertaken by EGC and Montana Tech.

13.5 Test Work

For each of the test work programs, the number of drill holes sampled have increased, as illustrated in Table 13.2, with the feasibility test program taking samples from 100 drill holes. Longer intervals were sampled for the pre-feasibility, which included increased amounts of dilution. Although a representative metallurgical response was obtained, the comminution composites contained increased amounts of harder host rock, which would potentially increase those results. As the feasibility samples were selected to represent more of the mineralized vein material from Veta Sur and Yaraguá, and prepared in such a way to limit the inclusion of the low-grade host waste rock, they would be more representative of feed to the process facility than the previous programs.

Table 13.2 Test Sample Summary

Test Program	Preliminary Economic Assessment (McClelland)	Pre-Feasibility (SGS)	Feasibility (BaseMet)
Number of Drill Holes	49 drill holes	89 drill holes	100 drill holes
Interval Length Tested	240.8 m	568.6 m	444.4 m
Number of Composites	4 Composites	50 Variability Samples 20 Comminution Samples 4 Deposit Composites	Year 1-5 Optimization composite 45 Variability Composites

Source: JDS, 2016

13.5.1 Historical Metallurgical Testing

Metcon Research Inc.

Metcon Research carried out preliminary scoping level test work in August 2011 (Q770-03-028.01). Gravity concentration, cyanidation, and flotation tests were performed on eight composite samples with a combined average grade of 54 g/t Au and 174g/t Ag, identified as: East San Antonio Vein, Murcielagos Vein, West San Antonio Vein, Breccia BX1, South Vein, composite 1, Breccia BX1 & BX2 and composite 2. It should be noted that no mercury was detected in any of the samples.

Each composite sample was subjected to gravity concentration at a grind size of approximately 80% passing 74 µm using a laboratory concentrator. The gravity concentrate was cleaned by panning and the combined tails were subjected to agitated cyanide leaching. Gold extraction in the cyanidation stage ranged from 76.1% to 93.7% (average 89.1%). The best result was from the Murcielagos Vein composite sample, which indicated 93.7% gold extraction. The combined gravity-cyanidation gold extraction ranged from 95.8% to 98.8% (average 97.8%). Silver recovery averaged 57%.

McClelland Laboratories Inc.

McClelland Laboratories Inc. carried out metallurgical test work in April 2013 on composites developed from a total of 234 drill core intervals. The intervals were combined to produce four drill core composites, (approximately 60 m of drill core per composite), BUMM-001 (Yaraguá, 30.7 g/t Au), BUMM-002 (Veta Sur, 10.2 g/t Au), BUMM-003 (70% Yaraguá, 30% Veta Sur, 13.1 g/t Au), and BUMM-004 (Non – Typical, 17.5 g/t Au) on which cyanidation, flotation and gravity concentration tests were carried out.

A combined gravity concentration and cyanidation of the gravity concentration tailing test at a size distribution of approximately 80% passing 75 µm was conducted.

The gravity concentration gold recovery averaged 45% on these tests, however, the subsequent gravity recoverable gold work undertaken at FLSmidth Knelson, ranged between 68.3% and 90.9% depending on the size distribution tested. It was subsequently recommended that a gravity concentration circuit be included in the process flow sheet moving forward through the process design. The gravity concentration followed by gravity tailing cyanidation combined gold recovery ranged from 92.8 to 97.9%, while the gravity concentration followed by gravity tailing carbon-in-leach (CIL) combined gold recovery ranged from 93.6 to 98.4%, The Yaraguá composite (BUMM-001) had the highest gold recovery in both cases. Although the gravity tailing is amenable to cyanidation and the test results did not indicate occurrence of preg-robbing, the extraction kinetics are faster for the cyanidation test without carbon. Based on these results, CIL was not recommended for the mineral represented by the tested composites.

A gravity concentration test followed by gravity concentrate intensive cyanidation was conducted on each composite. A dose of 5,000 ppm NaCN was used at a grind size of approximately 80% passing 75 µm. The results of the tests indicate that although the gravity concentrate is amenable to intensive cyanidation the total gold recovered to solution in this un-optimized test was relatively low, ranging between 46.3% and 71.1%.

Based on the metallurgical tests described above, the process flowsheet selected for the PEA at this level included gravity concentration of the ball mill discharge, intensive cyanidation of the gravity concentrate, cyanidation of the gravity tailing followed by CCD (Counter-Current Decantation) and Merrill Crowe. This was the basis of the process flowsheet utilized moving forward.

SGS Mineral Services

SGS Mineral Services (SGS), under supervision by Transmin Metallurgical Consultants, undertook initial optimization and variability test work in January 2014, using 50 samples from the Yaraguá and Veta Sur deposits. The samples were combined to produce four composites with BC-001 and BC-002 representing Yaraguá, BC-003 and BC-004 representing Veta Sur. Cyanidation, flotation and gravity concentration tests were carried out on the four composite samples.

A summary of the composite samples makeup and the head assays of each are presented in Table 13.3.

Table 13.3 Composite Sample Head Assays

Composite ID	Zone	Head Grades	
		Au, g/t	Ag, g/t
BC-001	Yaraguá	11.6	28.42
BC-002	Yaraguá	14.67	35.67
BC-003	Veta Sur	11.08	35.21
BC-004	Veta Sur	13.99	28.71

Source: SGS, 2016

Initial optimization testwork was undertaken, however, there was no clear relationship between grind size and recovery in this program due to un-optimized test conditions. The test conditions with the highest gold extractions were at a grind size of approximately 80% passing 53 µm, 33% solids, 48 hours, lead nitrate and oxygen addition. However, there was only a slight decrease between the gold extraction at 80% passing 74 µm and 80% passing 53 µm for these test series, and based on the coarser grinding benefits, a grind size of 80% passing 74 µm was recommended by SGS for the Buriticá mineralization. The cyanide concentrations tested did not have an impact on the gold and silver recoveries, however, an increase in the cyanide consumption was observed when the cyanide concentration increased from 1 g/L of NaCN to 1.5 g/L of NaCN and 2 g/L of NaCN. The effect of the lead nitrate on the gold and silver recovery was investigated at 25 g/t, 50 g/t and 100 g/t, showing little impact on the gold and silver recoveries. It was noted however, that the sodium cyanide consumption reduced between 15 to 29% and based on these results, a lead nitrate dosage of 100 g/t was recommended. Oxygen optimization tests were undertaken on Composite BC-10 and the results indicated that 20 mg/L of dissolved oxygen produced the highest gold and silver extractions of 95.29% and 72.72% respectively, with the final recovery being achieved after 48 hours. Based on these leach kinetics, a dissolved oxygen concentration of 20 mg/L was recommended, and a leach retention time of 48 hours utilized moving forward.

Variability testing was also undertaken in this program on 50 variability samples, 36 samples from the Yaraguá zone and 14 samples from the Veta Sur zone. The tested conditions used were as per the previous tests on the additional composites using 33% solids, 80% passing 74 µm, 1 g/L NaCN,100 g/t $Pb(NO_3)2$, 25 mg/L DO and a 72 hour leach time, with the cyanidation test results illustrated in Figure 13.2 and Figure 13.3 respectively.

Figure 13.2 Yaraguá Zone – Variability Test Results

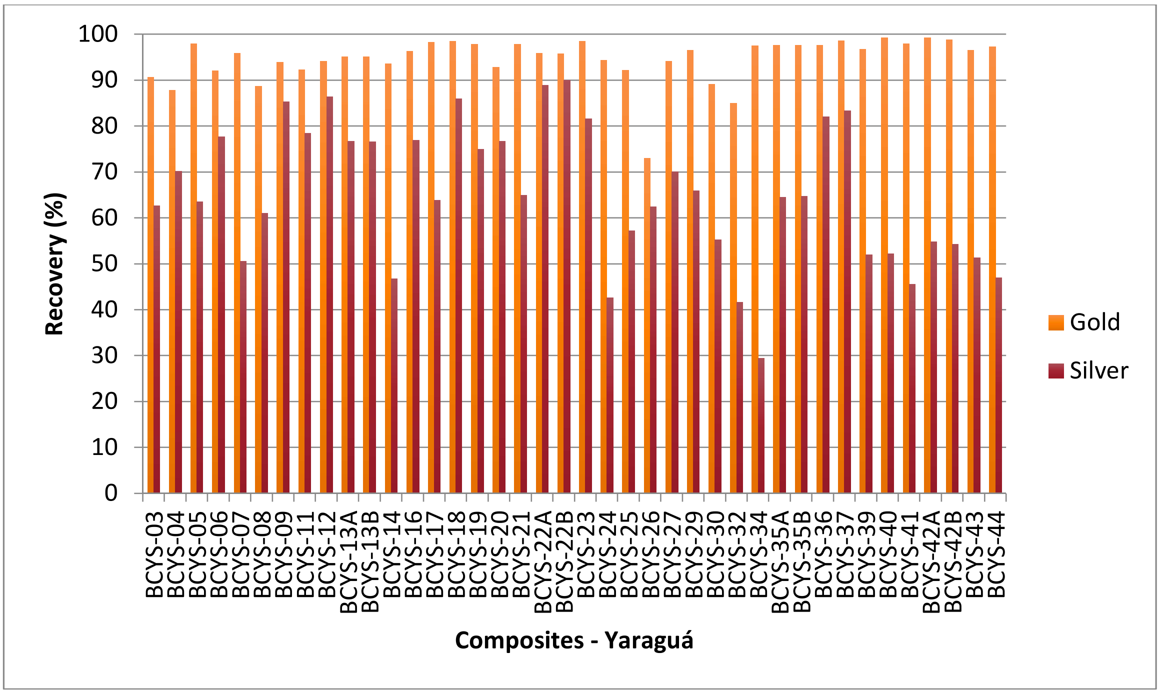
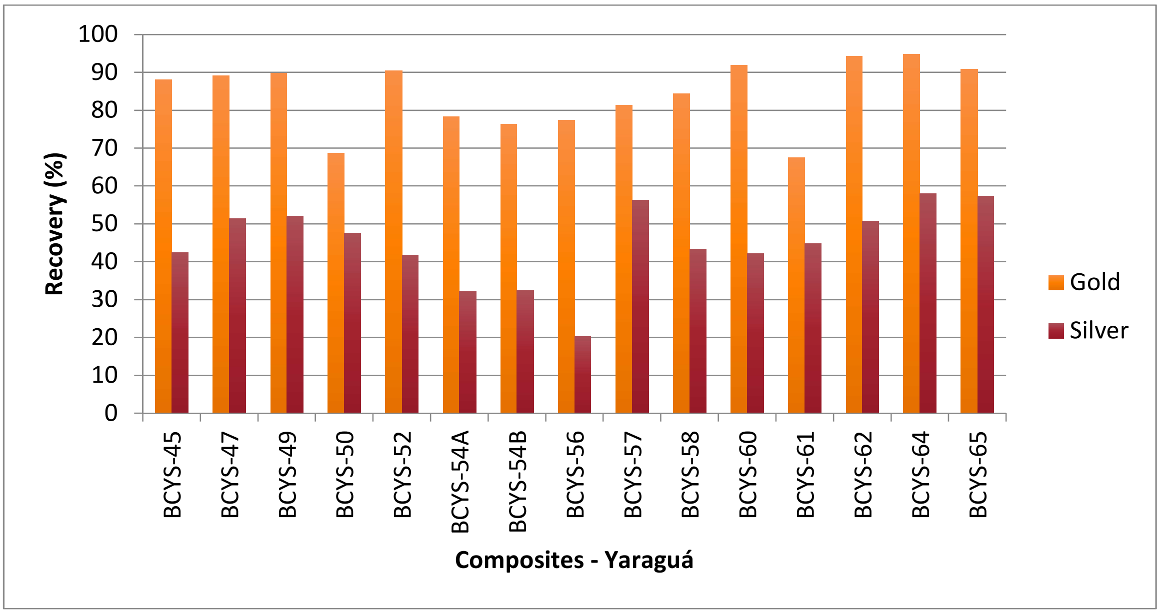


Figure 13.3 Veta Sur Zone – Variability Test Results



Source: JDS, 2016

The Yaraguá zone gold extraction average was 94.7% with the majority of the samples recovering above 90%, and the silver extraction being highly variable, averaged 65.40%. The Veta Sur zone gold extraction again was relatively lower than Yaraguá, averaging 84.21% and the silver extraction averaged 44.91%.

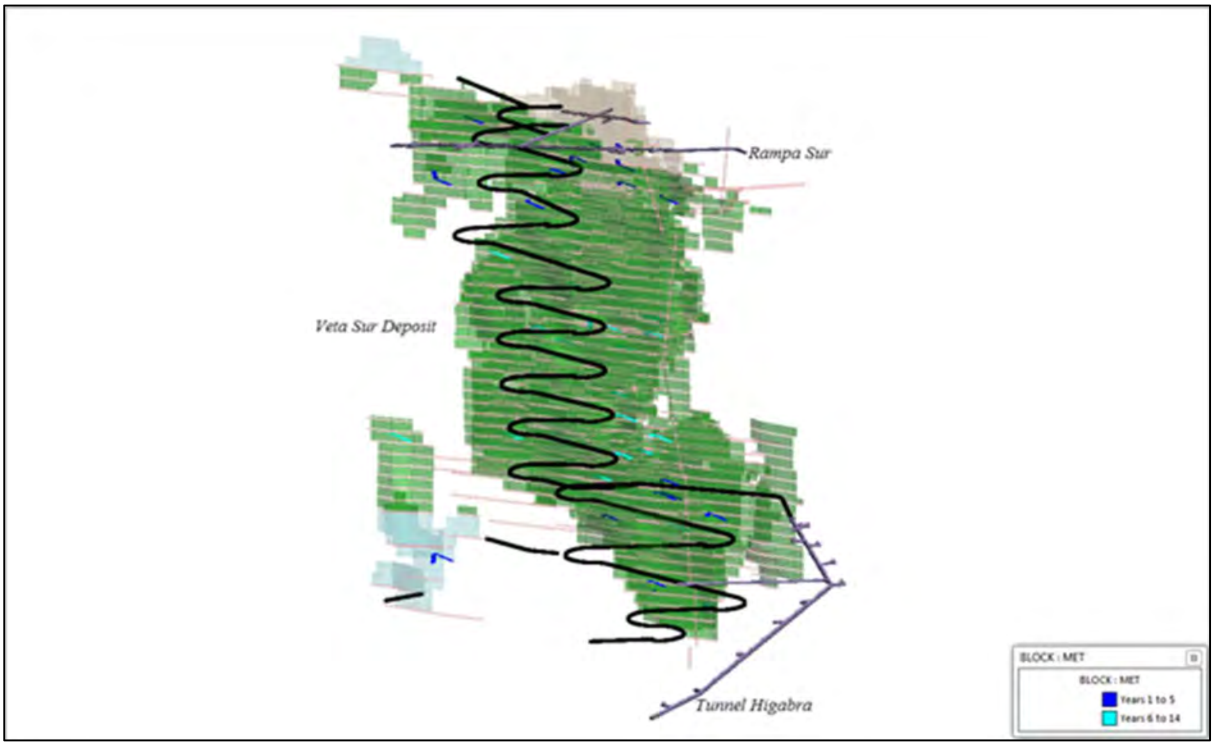
13.5.2 Feasibility Sampling and Composites

The feasibility metallurgical samples, a list of these being available in the test work report provided by BaseMet were selected to cover different lithologies and from different depths, drill holes and areas of the mineralized zones in an effort to be spatially representative of the deposits, and that the corresponding recoveries would be representative of the mineralization types in those deposits. The samples were selected by JDS and CGI site staff packaged these for shipment to BaseMet in Canada.

13.5.3 Veta Sur

Figure 13.4 indicates the locations of the metallurgical samples for Veta Sur. Veta Sur is processed throughout the mine life and represents on average approximately 38% of the process plant feed. Consequently, 229 individual interval samples were selected and combined into 46 metallurgical samples. These metallurgical samples were then combined at Base Met Labs to form 21 metallurgical variability composites, identified as "Comp A" through "Comp U", being representative of the lithologies and spatial areas of the deposit.

Figure 13.4 Veta Sur Feasibility Metallurgical Sample Locations



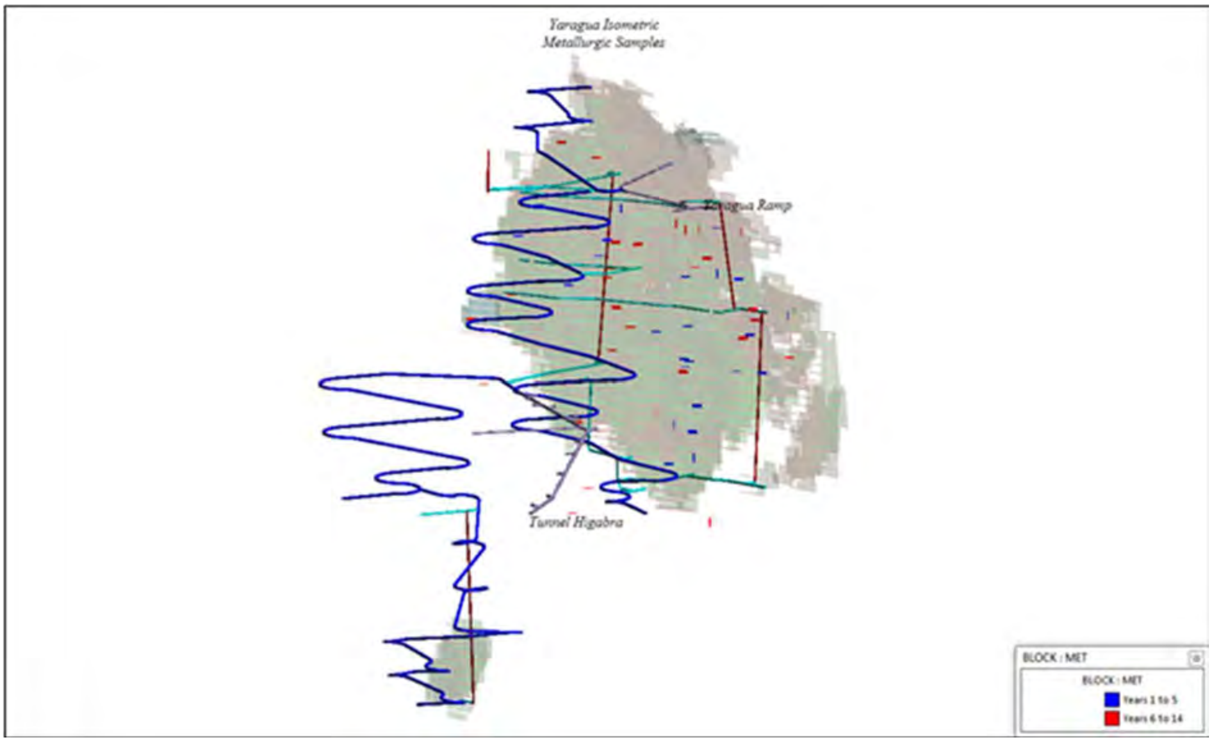
Source: JDS, 2016

The darker blue shaded samples in Figure 13.5 were to be mined in the first five years of the mine life, and metallurgical composites from these areas were selected to form part of the composite identified as "Year 1-5 Composite" used for optimization test work.

13.5.4 Yaraguá

Figure 13.5 indicates the locations of the metallurgical samples for Yaraguá. Yaraguá is also processed throughout the mine plan and represents the majority of the process plant feed over the life of mine at approximately 62%. Two hundred seventy-nine individual interval samples were selected and combined into 50 metallurgical samples. These metallurgical samples were then combined at Base Met Labs to form 24 metallurgical variability composites, identified as "Comp AA" through "Comp XX", produced to represent lithology and spatial areas of the deposit.

Figure 13.5 Yaraguá Feasibility Metallurgical Sample Locations



Source: JDS, 2016

The blue shaded blocks in Figure 13.5were to be mined in the first two years of the mine life, and metallurgical composites from these areas were selected to form part of the composite identified as "Year 1-5 Composite" used for optimization test work.

13.5.5 Year 1 – 5 Composite

The Year 1-5 Composite was created to represent the first five years of the process plant feed and to provide sufficient mass for feasibility process variable optimization test work. Based on the high-level mine plan available in July 2015, at the commencement of the feasibility metallurgical test program, it was determined that the process plant feed over the first five years would be made up from approximately 60% Veta Sur and 40% Yaraguá; which was the target composite makeup.

An effort was made to represent the LOM gold and silver grade during this period and also maintain the levels of detrimental metallurgical elements such as copper, lead, zinc, sulphur and arsenic. The composite was later compared with the feasibility mine plan and its representativity confirmed.

13.5.6 Comminution Test Work

Historical Comminution Test Work

Comminution testing was carried out by Hazen Research, Inc. in June 2012 (Hazen Project 11555). One composite sample prepared by McClelland, was subjected to JKTech full drop-weight, Bond crusher impact work index (CWi), Bond rod mill work index (RWi), Bond ball mill work index (BWi), and Bond Abrasion Index (Ai) testing. The Buriticá Composite 1 was identified with the number 53154-1. A second comminution testing program was carried out by SGS in September 2013 as part of the larger test program described in Section 13.5.1and summarized in Table 13.1 and Table 13.5. The comminution program was conducted on the 20 variability samples and four composites and included: RWi, BWi, Ai, JKTech full drop-weight and SMC Test. Table 13.4 summarizes the CWi, RWi, BWi, Axb and Ai for this Buriticá Project comminution scoping sample, 53154-1 and the average results from the test work undertaken by SGS.

Table 13.4 Historical CWi, RWi, BWi, Axb and Ai Results

Laboratory	CWi (kWh/t)	RWi (kWh/t)	BWi (kWh/t)	A x b	Ai (g)
Hazen/McClelland	13.62	16.8	16.3	36.2	0.349
SGS	-	18.8	19.0 (150) 22.6 (106)	36.5	0.142

Source: Hazen/SGS Note: Average BWi at SGS at a closed screen size of 150 µm and 106 µm.

The drop-weight test result classifies the Buriticá Composite 1 and the average results from the variability comminution tests at SGS as hard for resistance to impact breakage or "moderately hard" to "very hard", with the 75th percentile A*b of the SGS variability tests of 35.4 being similar to the average and the previous McClelland result.

Composites tested during the 2013 test work were harder than the composite tested in the previous 2012 test work at Hazen. Upon review of the composite makeup, it was hypothesized that due to the nature of the vein deposit and the compositing procedure, a larger than typical proportion of host rock was included in the comminution composite structure, which may have contributed to the elevated comminution results.

The 75th percentile of the Bond Abrasion Index of the 20 variability samples and of the four composites samples undertaken at SGS was 0.19 g with an average of 0.14 g.

Feasibility Comminution Test Work

Each of the variability composites for the feasibility test work program undertaken at BaseMet Labs was subjected to both SMC and Bond Ball Mill Work Index testing. Six (6) of the variability composites representing the main lithologies were selected and submitted to Bond Abrasion Index testing. Table 13.5 presents a summary of the feasibility variability composite SMC test results.

Table 13.5 Feasibility Comminution Test Results Summary

Deposit	Sample ID	DWi kWh/m³	A x b	Bwi (kWh/mt)	Ai (g)
Veta Sur	Average	7.19	43.02	16.26	0.05
	Median	6.93	41.6	15.85	0.06
	75th	8.47	33.2	17.2	0.07
Yaraguá	Average	8.08	37.04	15.99	0.05
	Median	8.22	34.2	16.2	0.04
	75th	9.65	28.6	17.25	0.06
Total	Average	7.67	39.83	16.11	0.05
	Median	8.2	35.3	16	0.05
	75th	9.3	30.5	17.25	0.07

Source: JDS, 2016

Twenty-seven (27) of the 45 variability composites returned an SMC A*b result less than 40, while the other 40% of the results are "softer" and produce an overall 75th percentile of 30.5.

In the BWi tests, the 80% passing size of the product averaged 78 µm with a closed screen size of 106 µm. Due to the 75th percentile returning a 17.3kWh/mt result and thus not as hard as the previous test work, composites were selected for repeat tests and shipped to SGS Lakefield. The results from these tests checked well with the BaseMet Lab results, which leant validity to the results.

As the feasibility samples were selected to represent more of the mineralized vein material from Veta Sur and Yaraguá, and prepared in such a way to limit the inclusion of the low-grade host waste rock, which would be more representative of feed to the process facility, the feasibility results from the variability program were used for design inputs.

The Bond Abrasion Index of six Feasibility Study variability composites would be considered much "less abrasive" than the previous test work results. Based on the difference between the Ai results from the different programs, which may be due to the industry-wide issue of different laboratories using different types of metals to undertake the test, all of the Ai data was collated and a Bond Abrasion Index (Ai) of 0.184 g was recommended for the design input.

13.5.7 Feasibility Optimization Test Work

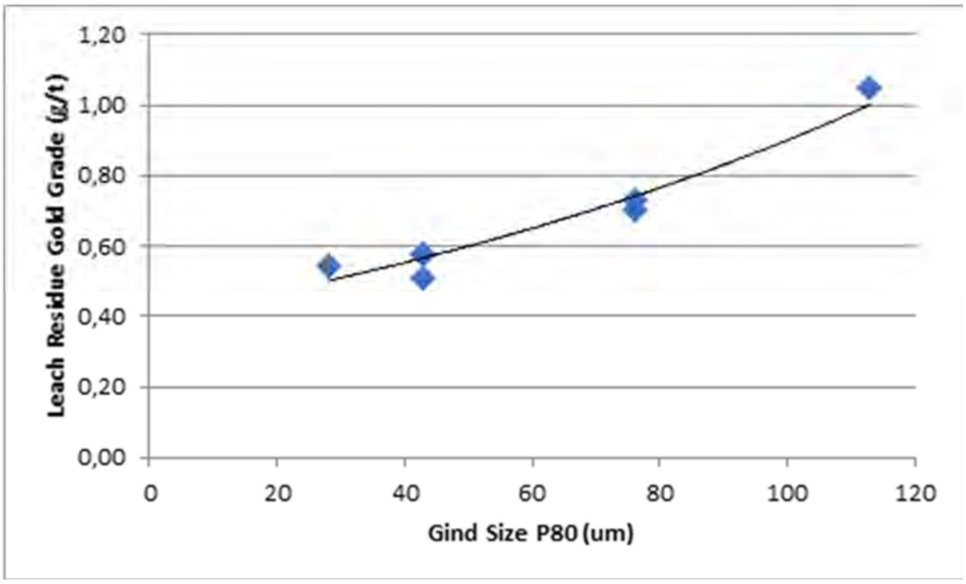
As mentioned previously, the Year 1-5 Composite was created to represent the first five years of the process plant feed and was formed to undertake testing in order to refine the process variables for the leach process. For the initial seven tests, each test charge was submitted to an individual gravity separation step. A larger "bulk" gravity test, Test 8, was undertaken to generate a sufficient mass for subsequent gravity concentrate and tailing for subsequent leach optimization work. Note that the recoveries in the optimization test work do not include the gravity recoverable portion, so overall recovery would be higher.

Gravity Tailing Test Work

Effect of Grind

The first seven tests were undertaken as individual tests, such that each charge was submitted to gravity concentration to determine the effect of grind size distribution on the gravity tail leach performance. Gravity tail leach conditions developed in previous test work programs were used to undertake this test series.

Figure 13.6 Year 1-5 Composite Gravity Tailing Leach Residue Grade vs. Grind Size



Source: JDS, 2015

Due to the presence of coarse gold in the mineralization and the affect the coarse gold had on the gold recovery calculation, the leach tail grade was monitored to indicate gold extraction performance. Figure 13.6 illustrates the effect of grind size on tailing grade for the initial tests, and review indicates that the gold tailing grade decreases with decreasing grind size. Preliminary analysis of this relationship indicated that a finer grind to approximately 80% passing 50 µm would be justified, however, additional test work to evaluate this opportunity is recommended.

Even though 80% passing 74 µm was selected for the primary grind size for the process and the variability testing, 80% passing 50 µm was used for the grind size for the majority of the optimization test work on the Year 1-5 Composite.

Effect of Cyanide Concentration

The cyanide consumption and tail grades in the initial 12 optimization tests indicated that the cyanide consumption had a strong relationship with cyanide concentration on the grind size tested. Cyanide consumption increases with decreasing grind size, if the cyanide concentration is held the same, however it was observed that the cyanide consumption decreases at the same grind size once the concentration is decreased with no change in tail grade. Although the gold tail grade is not affected for a decrease in cyanide concentration from 1,000 ppm to 500 ppm, the cyanide consumption decreases by approximately 1.45 kg/t. Silver tailing grade did increase slightly for this decrease in cyanide concentration, however, preliminary analysis indicated the savings in cyanide and subsequent detoxification costs outweighed the value of the increased silver recovery at higher cyanide concentration. Decreasing the cyanide concentration below 500ppm for a grind size of approximately 80% passing 70 µm, causes an increase in the gold tail grade. Additional work however would be required to fully optimize the cyanide concentration in the leach, but it is suggested that there is little value added to the Project at this level of study and further optimization should be pursued once in production.

Based on these test results, 500 ppm NaCN was selected as the target NaCN concentration for additional work and for the variability tests.

Effect of Lead Nitrate

Lead nitrate did not have a marked effect on gold tailing grade or cyanide consumption, but it did impact the silver leach tailing grade. Preliminary analysis indicated that the improved silver tailing grade justified the cost of the lead nitrate addition. Addition of 0.1 kg per tonne Pb $(NO_3)2$ was selected for the remaining optimization tests and for the variability test work, but higher dosages may be justified, pending additional study. BMA mineralogy indicates that there is pyrrhotite present, predominantly in the Veta Sur ores. Lead Nitrate addition may assist with reducing the effect of decreased gold dissolution when pyrrhotite is present in the process plant feed.

Effect of Other Process Variables

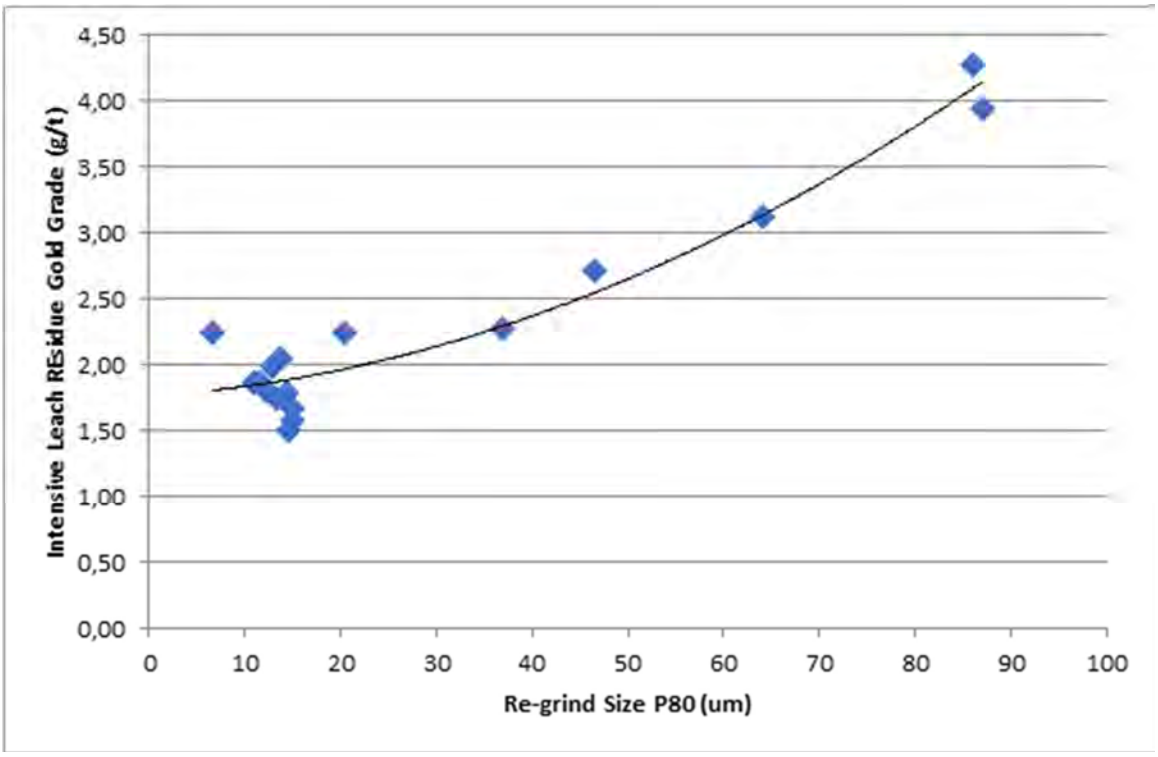
Other optimization tests were undertaken to evaluate the effect of various schemes to reduce cyanide consumption or improve leach test performance including pre-leach aeration, low leach pH, high leach pH, cement for pH control, CIL processing and air versus oxygen sparging. Conclusions from this test group are summarized below:

- Cyanide consumption at pH 10 was higher than at pH 11 or pH 12 when using lime for pH control;
- Cement for pH control at pH 11.5 was effective at reducing cyanide consumption and cement consumption rates were similar or only slightly higher to lime consumption rates;
- A pre-leach aeration step was not justified;
- Leaching at higher density (45% solids) did not affect leach performance compared to the standard leach at 33% solids;
- Air for leaching did not adversely affect leach tail grade compared to oxygen, however it did negatively impact the leach kinetics over the first 24 hours of leaching;
- CIL processing was not beneficial; and
- Leach time of 48 hours is adequate.

Gravity Concentrate Test work

A series of tests were also undertaken on the bulk gravity concentrate in an effort to more fully develop the variables around intensive concentrate leaching. Test results indicate generally a decreasing gold intensive leach tailing grade as the regrind size was reduced from approximately 80% passing 80 µm with no regrind, to less than 80% passing 20 µm as illustrated in Figure 13.7.

Figure 13.7 Year 1-5 Composite Gravity Concentrate Intensive Leach Residue Grade vs. Grind Size



Source: JDS, 2016

No lead nitrate was added to the gravity concentrate leach as the recoveries were in line with previous experience for intensive leaching and it was not deemed to be required. The tailing grade did increase on the test result where a NaCN concentration of 1,000 ppm was used, and 2,000 ppm was recommended for the plant design should an intensive leach be included in the flowsheet.

It is noted that the leach tailing grade on sample that was not reground was just over 4.0 grams gold per tonne of concentrate. After regrinding, the leached gravity tailing grade decreased to 1.5 to 2.4 grams gold per tonne, depending on the test. Additional work is required to further optimize the gravity concentrate process with respect to increased mass pull to the gravity concentrate and leach conditions with respect to cyanide concentration should gravity concentrate leaching be included in the process flowsheet in the future.

13.5.8 Feasibility Variability Test work

Based on the process variable development, the variability tests were then undertaken on the 45 variability composites from both mineralized zones. Of the 45 composites, only eight tests were repeated, and all repeats responded as expected except composite R from Veta Sur, which had relatively elevated levels of arsenic compared with the other composites. Test results are summarized in Table 13.6 and included in the BaseMet report.

Table 13.6 Variability Test Result Summary

		Calc Head	Calc Head	Au Recovery (%)		Ag Recovery
		Au (g/t)	Ag (g/t)	Gravity	48hr	48hr (%)
Veta Sur	min	3.4	5.8	33.7	66.3	80.5
	average	9.8	44.4	61.9	91.6	51.2
	median	9.8	30.9	58.3	91.7	50.3
	max	20	384	85.8	98.8	48.8
Yaraguá	min	0.5	3.9	34.6	89.5	88.9
	average	12.8	68.2	60.3	95.5	57.4
	median	6.8	33.7	62.9	95.9	55
	max	61.5	348	90.9	99.2	55.7
Overall	min	0.5	3.9	33.7	66.3	6.8
	average	11.4	57.1	61.1	93.7	54.5
	median	8.2	31	60.7	93.7	52.4
	max	61.5	384	90.9	99.2	88.9

Note: Averages are based on the most appropriate result, excluding 1 000 ppm NaCN repeats and including tests with the desired grind size.

Source: JDS, 2016

Review of Table 13.6 indicates that the Veta Sur gold recovery averaged 91.67%. Analysis of the repeat tests indicates that grind size indeed plays a role in the gold recovery. The median Veta Sur gold recovery was 91.7%. Yaraguá responded well to the applied flowsheet and leach condition ns, with the average recovery at 95.5% Au and the median at 95.9% Au.

Using the appropriate tests for the average, (excluding 1,000 ppm NaCN and including repeat tests with the required grind size), the average gold recovery was 93.7%.

Analysis of the variability results showed an excellent gold recovery correlation with head arsenic concentration for the Veta Sur composites, while the Yaraguá composite gold recoveries correlated well with iron, (or pyrite), levels. Both of these recovery responses compare well with the mineralogy observed through the deposits and on the tailing samples.

Geometallurgical techniques may yield gold recovery relationships that might improve gold recovery modelling and further study would be required to more fully understand these.

13.5.9 Solid-Liquid Separation Test work

Three solid-liquid separation programs were conducted on the Buriticá mineralization. The first in April 2013 was conducted at Pocock Industrial Inc. for McClelland on leached flotation tailing and leached flotation concentrate samples from the BUMM-001 – BUMM-004 composites. The average 80% passing particle size of the flotation tailing was approximately 113 µm, while the average 80% passing particle size of the flotation concentrate was 42 µm.

The second program was conducted on one leach residue sample from the SGS test work program, and also tested by Pockock Industrial Inc. in January 2014. This leach residue sample was generated from the composite BC-09, which was historically prepared from 196 m of drill core from 31 holes. Composite BC-09 contained 14 intervals from 12 drill holes from the Veta Sur zone and 19 intervals from 19 drill holes from the Yaraguá zone. The particle size distribution of this leach residue was approximately 80% passing 78 µm.

The third program was also conducted on another leach residue sample from the SGS test work program, and also tested by Pocock Industrial Inc. in March 2014. This leach residue sample was generated from the composite BC-10, which was historically prepared from 265 m of drill core from 40 drill holes. Composite BC-10 contained ten intervals from nine drill holes from the Veta Sur zone and 36 intervals from 31 drill holes from the Yaraguá zone. This leach residue was received and then separated into a coarse and fine fraction using a hydro-separator. The coarse fraction was not tested; however, the particle size distribution of fine fraction from this leach residue was approximately 80% passing 41 µm.

A brief summary of some of the recommendations from the testing programs, concentrating on the BC-09 leach residue sample being more representative of process variables, is as follows below.

The flocculant selected for the best overall performance; and thus used in subsequent thickening testing was Hychem AF 304, a medium to high molecular weight, 15% charge density, and anionic polyacrylamide. Minimum flocculant dose requirements for thickening on the BC-09 leach residue were observed in the range of 15 - 25 g/t, and should be delivered at a maximum solution concentration of 0.1- 0.2 grams per litre (g/L).

Results of static or conventional thickening tests indicated that the BC-09 leach residue sample thickened very well at feed solids concentrations in the range of 15% - 20%. At feed solids concentrations higher than 25%, flocculation efficiency may be difficult to achieve in a plant situation, resulting in lower settling/rise rates and higher unit area requirements. Hence, a maximum thickener feed solids concentration of 15% - 20% was recommended for this material.

The maximum predicted operating density range for standard thickener on leach residue with a grind size of approximately 80% passing 78 µm was from 57 to 61%. Recommended maximum operating densities for leached concentrate material was from 54 to 67% and for leached flotation tail is 56 to 63%.

The minimum unit area for conventional thickener sizing on BC-09 leach residue with a grind size of 80% passing 78 µm is between 0.195 and 0.22 m2/t/d and the net feed loading rate range is 4.7 to 5.2 m3/m2h, with an average of 4.95 m3/m2h.

Pulp Rheology

A comparison of apparent viscosity at reference shear rates and varying percent solids for the thickened BC-09 leach residue sample for CCD Stage: 1 and CCD Stage: 3 – n is as follows:

Table 13.7 Pulp Rheology Test Results on BC-09 Leach Residue Sample Variability Test Result Summary

Material	Solids Conc. (%)	Coefficient of Rigidity (Pa·s)	Yield Value (Pa or N/m²)	Apparent Viscosity, Pa·s @ Shear Rates								
				5 Sec⁻¹	25 Sec⁻¹	50 Sec⁻¹	100 Sec⁻¹	200 Sec⁻¹	400 Sec⁻¹	600 Sec⁻¹	800 Sec⁻¹	1000 Sec⁻¹
Leach Residue (CCD Stage: 1)	64.8	0.070	69.0	6.443	2.493	1.656	1.100	0.731	0.486	0.382	0.323	0.283
	63.7	0.054	55.2	4.812	1.837	1.213	0.801	0.529	0.350	0.274	0.231	0.202
	59.9	0.033	25.0	2.490	0.898	0.578	0.373	0.240	0.155	0.120	0.100	0.087
	54.8	0.017	8.6	1.163	0.369	0.225	0.137	0.084	0.051	0.038	0.031	0.026
Leach Residue (CCD Stage: 3 - n)	65.1	0.108	72.7	7.747	2.774	1.782	1.145	0.736	0.473	0.365	0.304	0.264
	63.2	0.078	54.4	5.771	2.014	1.279	0.813	0.517	0.328	0.252	0.209	0.180
	59.9	0.048	27.0	3.249	1.082	0.674	0.420	0.261	0.163	0.123	0.101	0.087
	55.2	0.029	10.4	1.337	0.480	0.309	0.199	0.128	0.082	0.063	0.053	0.046

Source: Pocock, 2016

The decreasing apparent viscosity, with increasing shear rate or "shear thinning" behavior of the underflow pulps examined is characteristic of the pseudoplastic class of non-Newtonian fluids (in the solids concentration range tested). It demonstrates the need to achieve and maintain a specific velocity gradient or shear rate in order to initiate and maintain flow. Underflow pulps with yield values in excess of 30 N/m² (Pascals) measured on pre-sheared pulps are normally beyond the capabilities of conventional thickening and pumping systems.

Specialized equipment and design engineering are generally required if high underflow densities with yield values greater than 30 N/m^2 are to be considered.

Filtration

Based on the test data obtained, the recommended type of filter press for the leach residue material is a recess plate with air blow and membrane squeeze.

Recovery results from washing analysis in these pressure filtration tests indicated that a wash ratio of N = 2.0 – 3.0 for the air blow and membrane squeeze tests, would require two 2,000 mm units with a P19 frame size and require 297 – 379 filter chambers; in this wash range, removal efficiencies were between 96.76% and 98.42%. With higher wash ratios the recovery efficiency only slightly increased but would require more pressure filter units.

With filter feed solids of 58.5% the estimated moisture of the filter cake for the air blow and membrane squeeze case 14.3%. At these moistures the filter cakes produced from pressure filtration testing of the leach residue material were easily dischargeable from the testing apparatus and generated a stackable and conveyable cake.

Cyanide Oxidation Test work

The historical cyanide oxidation test work was undertaken by Gekko Systems Pty. Ltd in Australia in April 2014. The SO2/O2 cyanide destruction process was successful in reducing the levels of CNWAD to the target of less than 1.0 mg/L. A detox feed slurry containing 559.5 mg/L CNWAD was effectively treated and resulted in a stable final CNWAD of less than 0.2 mg/L under reaction conditions of 34% solids, 4.5 gSO2 / g CNWAD, pH 8.5 and 115 minutes retention time. No copper catalyst addition was required in this test work due to sufficient level of soluble copper in the leach tail. The SO2/O2 cyanide destruction process could not obtain the target CNWAD level if the pH was decreased from 8.5 to 8.0, or the retention time was decreased from 115 to 80 minutes.

Based on the results from the test work program the SO2/O2 cyanide destruction process was the preferred process, as the Caro's acid method was unable to reduce the CNWAD to the target level.

Kemetco Research Inc. in Vancouver undertook a program of cyanide leaching and detoxification testing using Year 1-5 Optimization composite gravity tailing samples, in October 2015. The purpose of the work was to verify plant design criteria, and to deliver representative treated effluent samples for environmental testing. Leach conditions of 34% solids, pH to 11.5 (with cement), 100 g/t lead nitrate, 48-hours of leaching with 500 mg/L NaCN at a dissolved oxygen level >15 ppm.

In total, six extended bench-scale tests were conducted to verify properly-optimized detoxification conditions. An average reduction of 37 mg/L Cu and 545 mg/L of CNp was obtained with NaCN-spiked DT feed, resulting in average discharge levels of 0.2 mg/L CNp, 0.6 mg/L Cu and 490 mg/L CNO-, using a 4.5:1 SO2:CNWAD ratio, and 90 minutes of retention at pH 8.5, without the need for additional Cu-catalyst. The picric acid method (CNp) was used to estimate the CNWAD contents of weak acid dissociable cyanide.

Table 13.8 Kemetco Detoxification Test Summary on Year 1-5 Composite Gravity Tailing

Test No	SO2/ CNp Ratio	%Solids PD	CNp ppm	As ppm	Cu ppm	Fe ppm	Avg, mV
batch	5.0:1	32.25	0.09	0.43	0.13	0.15	-150.8
DT1	5.0:1	32.25	0.09	0.16	0.19	0.20	8.0
DT1A	4.0:1	32.25	0.05	0.67	1.15	0.19	-33.9
DT2	4.5:1	28.62	0.32	0.89	0.51	0.37	-56.1
DT3	4.5:1	48.17	0.13	1.05	1.21	0.38	-101.2
DT4	4.5:1	36.88	0.05	0.66	0.27	0.16	-52.9
DT5B'	4.5:1	36.33	0.74	0.86	0.76	<0.2	-237.4
AVG	4.5:1	35.25	0.20	0.67	0.60	0.21	-47.2

Source: Kemetco

The changes in the key variables for these tests produced consistent results, with CNp results all less than 1ppm, including the high pulp density of 48%. This would indicate that the oxidation circuit might be able to be designed after tailing thickening without dilution of the slurry and further work would be required to determine the validity of this approach.

It was concluded that the oxidation test parameters were valid in achieving the target discharge cyanide concentrations, and that excursions to higher pulp densities and slightly shorter retention times could be tolerated. Substitution of cement for lime, and air for O2 was found to be possible, but further test work would be required to optimize these conditions in conjunction with optimization of the cyanide leach circuit and precious metals recovery steps.

13.6 Other Design Considerations

13.6.1 Mercury

Only traces of mercury have been observed in the composites sampled. Typically, if the mercury level is below 50 ppm in the process plant feed, in gold districts where mercury is present, it is not expected to be an issue downstream, either as a competitor for gold in the extraction process or for health reasons. 50ppm is an experience-based guideline as it is dependent on the extraction potential of the mercury and its geological form. Above 50 ppm, mercury mitigation actions may be required, however, it is understood that the Buriticá process facility has included these abatement processes in the design.

13.6.2 Reagent Consumption

During the feasibility optimization test series, the addition of cement for alkalinity control was tested against lime for both gravity tail and concentrate. Table 13.9 reports the average comparable data from the feasibility test work for the gravity tail leach.

Table 13.9 Lime versus Cement Consumption on Gravity Tail Leach

Dose [NaCN] (ppm)	Grind Size	NaCN Consumption (kg/t)	Cement Consumption(kg/t)
500	75	0.8	2.6
500	75* Regrind	1	2.4
	Average:	0.9	2.5
Dose [NaCN] (ppm)	Grind Size	NaCN Consumption (kg/t)	Lime Consumption (kg/t)
500	75 + 50	1.2	2
500	75* Regrind	1.7	2.6
	Average:	1.5	2.3

Source: JDS, 2016

Based on these results, use of cement alkalinity control in the Buriticá process should be considered as it decreases cyanide consumption in the gravity tailing leach process by approximately 17% over using lime.

13.7 Recovery Correlations

At the conclusion of the test program at Base Met Labs, and upon analysis of the available data from this program, the overall recovery relationships were developed.

It was observed that recovery relationships were more highly correlated when the data from two mineralized zones, Veta Sur and Yaraguá, were treated separately. Consequently, two recovery relationships were developed. As discussed in the following paragraphs, the best correlations were found to be with arsenic for Veta Sur and with iron for Yaraguá, even though sulphur did produce a correlation, it was not as accurate a prediction of recovery when compared to arsenic and iron. CGI and JDS completed an effort for this Feasibility Study to incorporate the iron and arsenic assays into the block model and mine plan and the recovery relationships are as follows;

Recovery Equations:

For Veta Sur, the recovery relationships proposed for gold grades between 3.0 – 24.0 g/t Au and silver grades between 5.0 – 105.0 g/t Ag, based on the feasibility data would be:

- Gold Recovery (%) = 95.627 – 0.006861 x Arsenic(ppm);
- Silver Recovery (%) = 64.408 – 0.4317 x (silver grade (g/t));
- For Yaraguá the recovery relationships proposed for gold grades tested between 1.0 – 93.0 g/t Au and silver grades between 3.0 – 190.0 g/t Ag, based on the feasibility data would be:
- Gold Recovery (%) = 102.4 – 1.0672 x Fe (%);

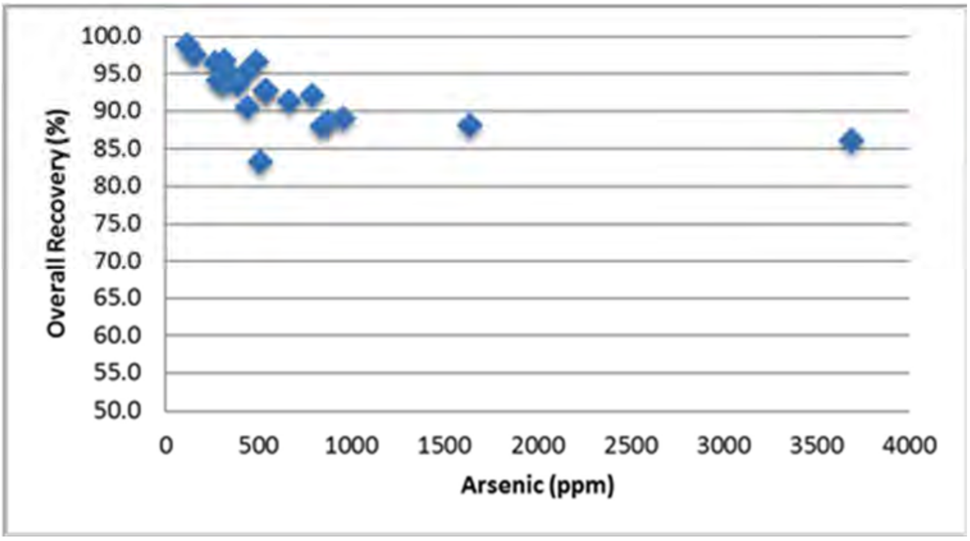
- Silver Recovery (%) = 72.864 – 0.2787 x (silver grade (g/t)).

These equations include 0.75% deduction for solution losses and other plant inefficiencies, as experienced in typical operations.

13.7.1 Veta Sur

The data in Figure 13.8 indicates a correlation between arsenic levels and recovery for the Veta Sur mineralization, with recovery beginning to decrease at arsenic levels in the feed above approximately 400-500 ppm As.

Figure 13.8 Veta Sur Overall Gold Recovery versus Arsenic

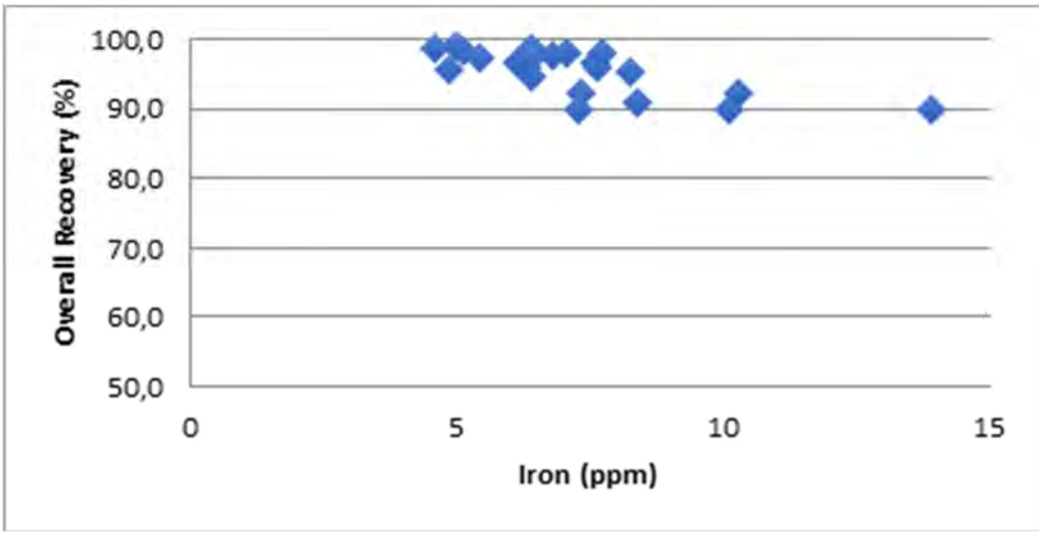


Source: JDS

13.7.2 Yaraguá

Similarly with Yaraguá as for Veta Sur, the data indicates a correlation between arsenic levels and recovery for the Yaraguá mineralization, with gold recovery also beginning to decrease at arsenic levels in the feed above approximately 500 ppm, however, the correlation was found to be more variable in Yaraguá than the relationship with iron as illustrated in Figure 13.9, which provided a better correlation with the gold recovery.

Figure 13.9 Yaraguá Overall Gold Recovery versus Iron



Source: JDS

14 MINERAL RESOURCE ESTIMATES

In 2018, Continental Gold decided, following the acquisition of new exploration drilling information, that it was appropriate to revisit the mineral resource for the Buriticá gold deposit. The new information allowed improved resolution for the development of the geological interpretations.

The January 30, 2019 estimate of the Mineral Resource for the Buriticá gold deposit, as documented in this report, used data provided by Continental Gold and geological interpretations also provided by Continental Gold. The data included information from 87,128 m of drilling from 323 diamond drillholes and 1,481 channel samples completed since the 2015 resource estimate.

14.1 DISCLOSURE

Mineral Resources were prepared under the direct supervision of the Author, Ivor Jones. Mr. Jones is an employee of Ivor Jones Pty Ltd. The Author is a Qualified Person as defined by NI 43-101. This is by way of his experience, membership of a recognized professional organization and qualifications. Both Mr. Jones and Ivor Jones Pty Ltd are independent of Continental Gold.

14.2 KNOWN ISSUES THAT MATERIALLY AFFECT MINERAL RESOURCES

At the time of this report, the Author was not aware of any permitting, legal, title, taxation, socio-economic, and marketing that could materially affect the Mineral Resource.

14.3 THE APPROACH USED FOR MODELLING

The basis of the resource estimates for the Buriticá gold deposit was prepared in the following steps:

- digital data validation.
- data preparation.
- exploratory data analysis of Au and Ag.
- geological interpretation and modelling (wireframing).
- establishment of block models.
- coding and compositing of assay intervals.
- consideration of grade outliers.
- derivation of kriging plan and boundary conditions.
- variogram analysis and selection of kriging parameters.
- grade interpolation of Au and Ag using ordinary kriging.
- validation of Au and Ag grade estimates and models.
- classification of estimates.
- deduction for prior mining.
- resource tabulation and resource reporting.

The ordinary kriging grade estimation method was chosen as there is well recognized and demonstrated continuity of the mineralization, which exceed the average drill spacing for the vein interpretations used in the resource estimate. In this context, the interpretation of the veins ranges from very well defined for the major veins and mineralized domains, to moderate in others where geological continuity is not as well defined.

14.4 DATA PROVIDED FOR ESTIMATION

The drillhole database used for the resource estimate was provided by Continental Gold. The data was provided as access format "mdb" files from the Issuer database and contained collar, survey, assay, geological codes and specific gravity data.

Digital terrain models (DTMs) for the topographic elevation, were provided by Continental Gold, together with solids for the veins, mineralized zones, lithological units and intrusives.

The January 2019 Mineral Resource for Buriticá was based upon information from a total of 365,346 m of drilling from 1,083 drillholes and 5,374 underground channel samples.

The sample database and the topographic surface were reviewed and validated by Continental Gold prior to being supplied for grade estimation.

14.4.1 The assay data used for grade estimation

The assay data comprising the most complete dataset for grade estimation was formed from 283,844 samples by Fire Assay based on a 30 g charge and 101,691 samples by Fire Assay based on a 50 g charge as well as 938 samples by Screen Fire Assay (SFA) assays based on a 1 kg pulverized sample.

The drilling dataset includes:

- Fire assay results for 385,535 diamond drillhole samples for which there is no SFA assay. Of the 386,473 fire assays: 51,919 samples have a value of 0.5 g/t Au or greater, with an average grade of 8.83 g/t Au and a maximum grade of 5,030 g/t Au.
- SFA assay results for 684 diamond drillhole samples with a value of 0.5 g/t or greater, and that have replaced fire assay results from the earlier 2018 drilling. They have an average grade of 85.83 g/t Au and a maximum grade of 3799.49 g/t Au.

For the purposes of this work, the SFA assay where available was taken as the primary assay. If there was no SFA assay, then the fire assay was used. If there was no fire assay available in the drill data (an issue of selective sampling), a default grade of 0.0025 g/t Au was assigned. In some of the drilling, there were intervals with no sample only where there was recovery or no sample where a hole intersected a cavity.

14.5 Geological Interpretation and Modelling

The mineralization at the Buriticá gold deposit has been interpreted to fall into two broad areas, the Yaraguá System; and the Veta Sur System (Figure 14.1). Figure 14.2 is a cross-section showing the geological interpretation including the BMZs and main veins.

In the 2015 models, there were 51 vein packages interpreted and modelled for Yaraguá, and 38 for Veta Sur, each as sets of sub–parallel and steeply-dipping vein domains.

In the interpretation adopted for this model, the new drilling information has been used to rework the vein package interpretations. In addition to the new drilling information, CGI has used mapping from the underground workings, information from channel samples, and structural measurements from mapping and from core logging.

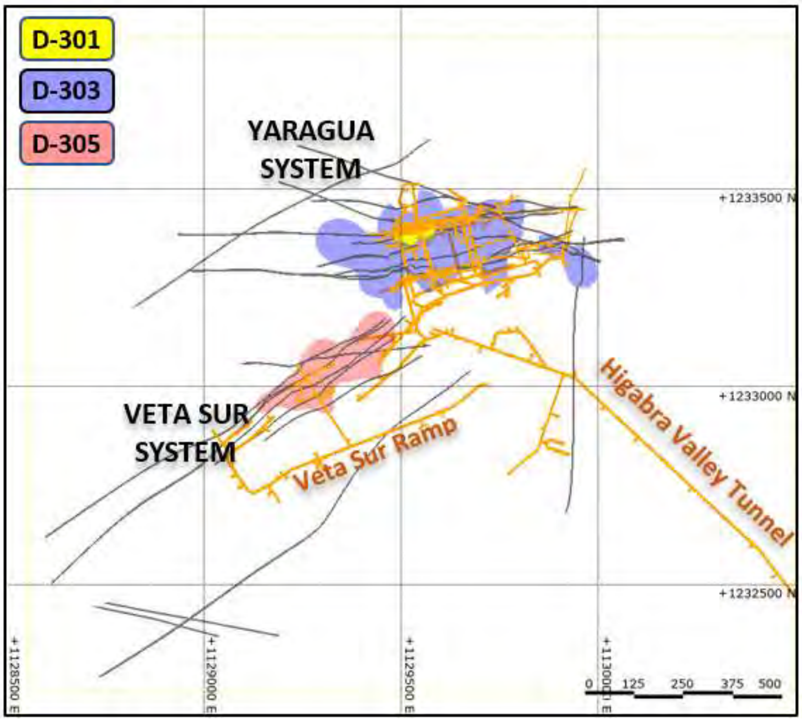
The information available was evaluated in plan view, section view and in three dimensions in order to tag the samples used for generating the domains. Samples were tagged to represent each mineralized structure (vein package), and therefore the Vein domain. Halo tags were defined as samples within two meters on either side of the vein (Figure 14.3). Data sets for each domain (Halo and Vein) were analyzed and reviewed independently, with no dilution assumptions.

This new drilling information has tightened the grid of information in the areas hosting the most prominent vertical veins. This has allowed a more detailed review of the interpretations, and the decision made by Continental Gold with the support of the Author to adopt the vein interpretations over these areas as well.

For the BMZ domains, the tags were initially selected using the shells and wireframes that defined the base on the geological and geochemical interpretation. Tags flagged as Veins and channel samples associated with veins were then removed from those coded as BMZ.

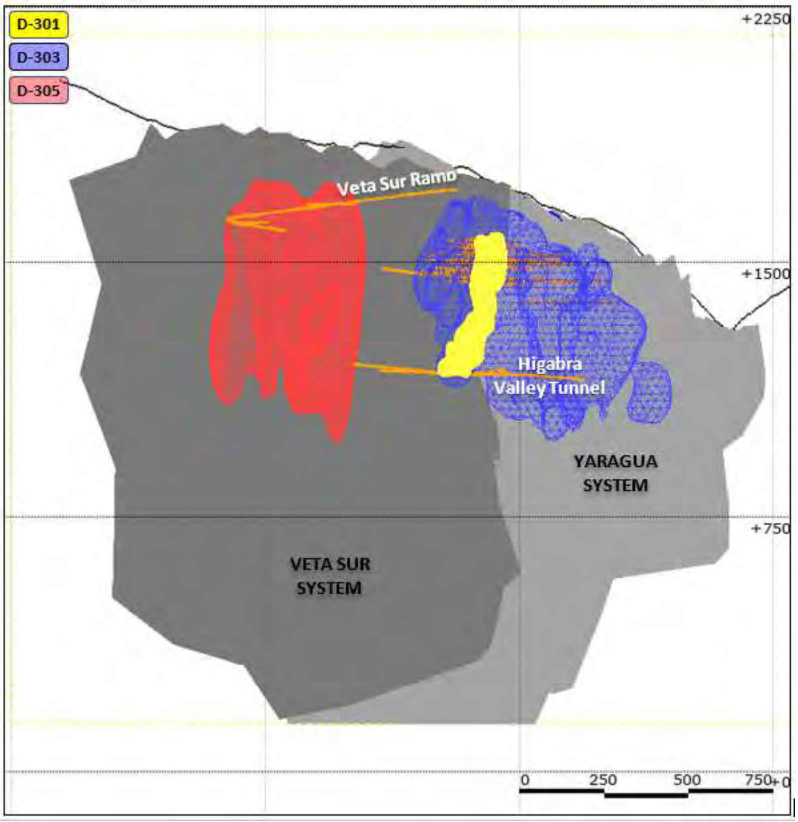
Overall there were 27 vein packages interpreted and three BMZs used for this grade modelling. There is a relatively high degree of confidence in the geological framework in the interpretation presented.

Figure 14.1 Definition Geological Domains Plan view



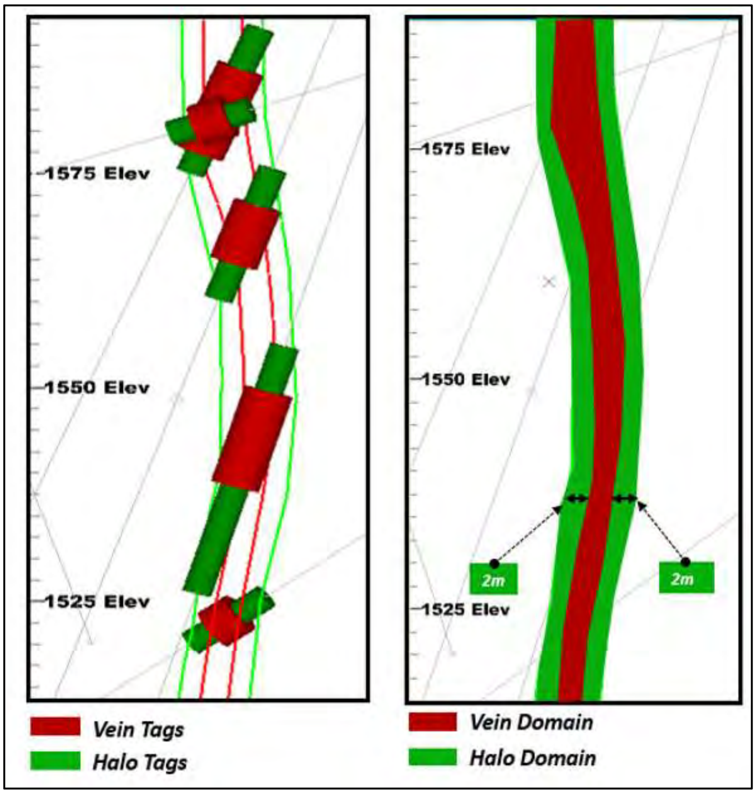
Source: CGI, 2019

Figure 14.2 Definition of geological domains, Section View



Source: CGI, 2019

Figure 14.3 Veins and Halos Tags



14.6 Compositing of Assay Intervals

The composite sample length selected for Buriticá was 1.5 m based on the most common sample length. Compositing was completed in Datamine's COMPDH process, with the parameter MODE=1 selected so as to avoid small samples as residuals, and to provide composites as close to the same sample support as possible. The composited data was then coded according to the relevant vein package or BMZ zone in preparation for modelling.

14.6.1 Summary statistics

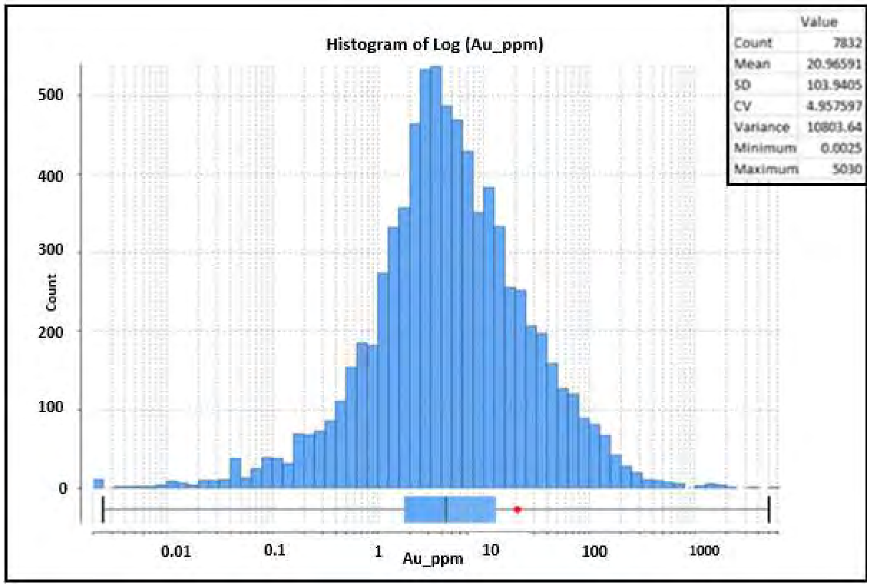
Histograms of the data exhibit a moderately strong positive skewn with a moderate coefficient of variation (CV), with some grades that are considerably higher than the average grades (Table 14.1). Table 14.1 summarizes the statistics for gold grade for the 1.5 m composites of all vein packages.

Table 14.1 Summary statistics for Au of all composited data for the vein packages

Statistic	All data	Composites greater than 0.5 g/t Au
Number of samples	7832	7175
Minimum grade	0.0025 g/t Au	0.50 g/t Au
Maximum grade	5030 g/t Au	5030 g/t Au
Mean grade	20.97 g/t Au	22.87 g/t Au
Standard deviation	103.94	108.4
CV	4.96	4.74
Variance	10803.6	117.50

The interpretations represent varying numbers of samples per wireframe, and with that comes varying amounts of robustness in the decisions made using the statistics.

Figure 14.4 Log histogram of gold grades of all composited drill data for the vein packages



The BMZs are zones with mixed mineralization and the data in the domains have a higher coefficient of the variation than the vein packages, and have lower average gold grades (Table 14.2).

Table 14.2 Summary statistics of all composited data BMZ

Statistic	All data	Composites greater than 0.5 g/t Au
Number of samples	76936	15413
Minimum grade	0.0025 g/t Au	0.5 g/t Au
Maximum grade	730.05 g/t Au	730.05 g/t Au
Mean grade	0.53 g/t Au	2.10 g/t Au
Standard deviation	3.86	8.43
CV	7.33	4.02
Variance	14.86	71.05

14.6.2 The higher grade values

The histogram of the grades of composite samples in the mineralized domains is positively skewed with a small proportion of the higher grades in amongst a large number of lower grade mineralization. There is also clustering of high grades locally within the Buriticá gold deposit, so the spatial relationships between high grades was considered during the capping strategy.

For each vein, the composites were displayed above increasing grade thresholds (Figure 14.6), allowing the identification of areas of high grade (Sub- Domain1), medium grade (Sub- Domain 2) and low grade (Sub- Domain 3) in each vein. The definition of the high grade subdomains was conservative, but recognized the clustered high grades and allowed for different levels of capping of grades in different areas.

Subdomains were therefore defined for the definition of cap values where it appeared that there were clustered high grade values and could justify spatially a higher level of capping. Capping was therefore always applied, and is documented as subdomain 3. If a zone of moderate to high grade could be defined, the subdomain 2 was defined, and a higher capping grade defined for within that subdomain. In cases like Domain 5 in Yaraguá, a third subdomain was defined for capping the high grade where the high grades were clearly clustered (Figure 14.6).

Figure 14.5 Log histogram of gold grades of all composited drill data in the BMZ

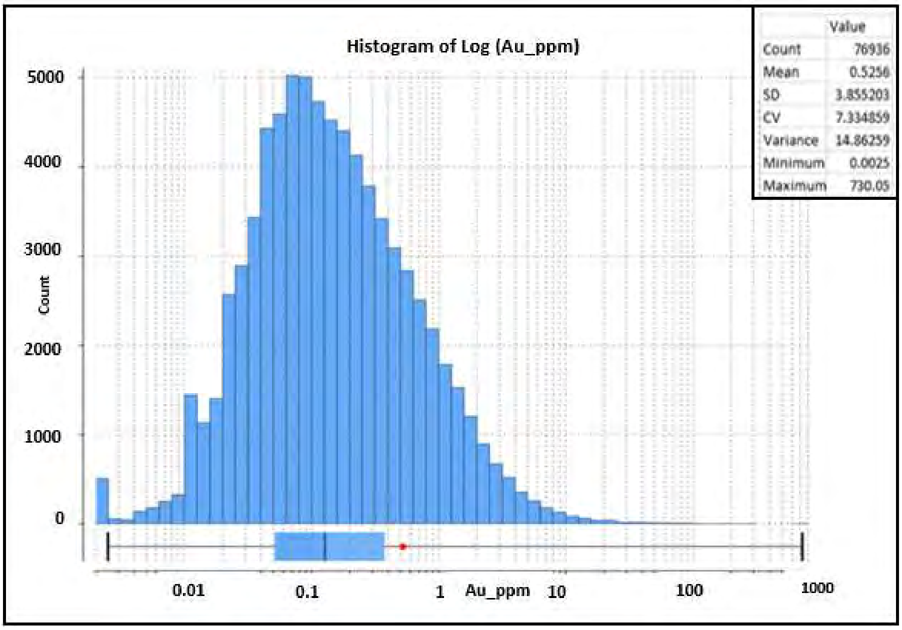
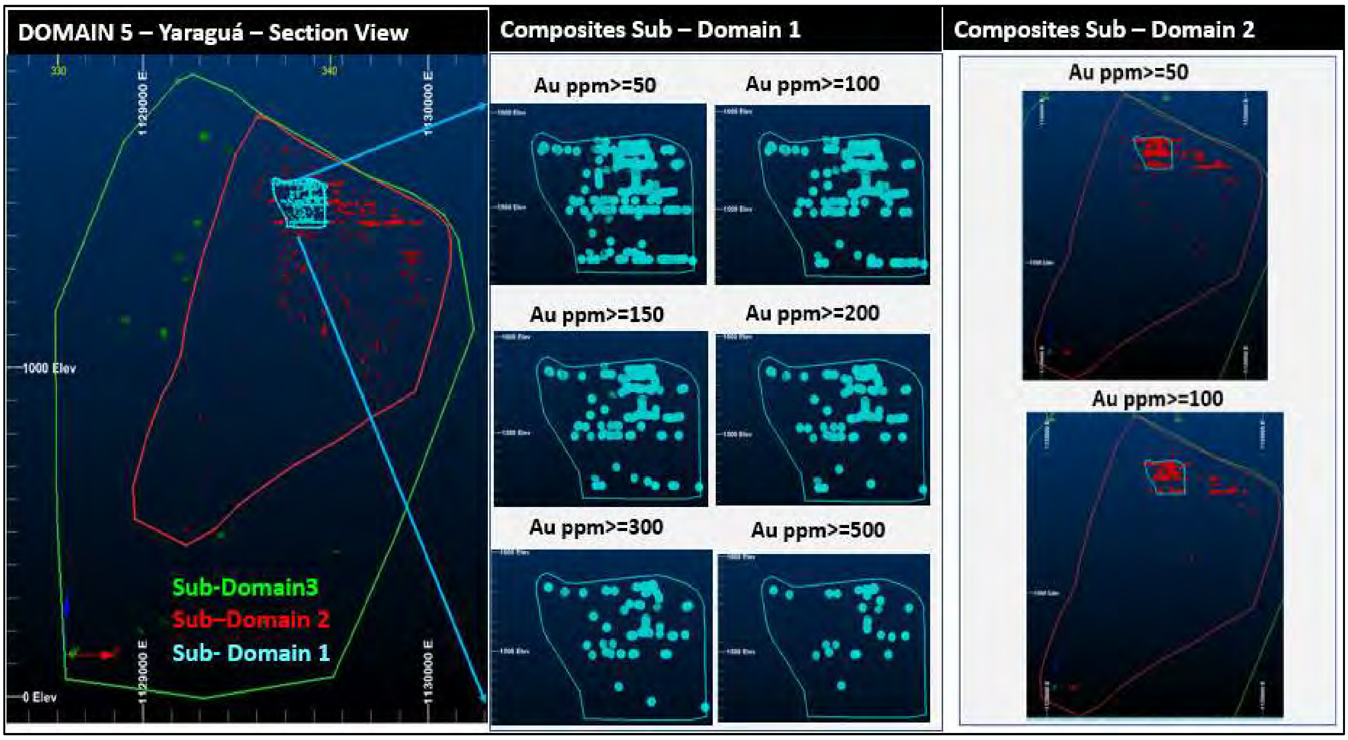


Figure 14.6 Section View, Domain 5, Yaraguá System. Subdomains Definition (high, medium and Low grade)



14.6.3 Grade Capping

High grade capping was applied to the composited gold and silver grades each domain and subdomain defined. The value selected as cap was defined based on the log probability plots and the tail decomposition method with the log histograms.

The main veins for Yaraguá are the San Antonio Master Vein (Domain 5), the Murcielagos Master Vein (Domain 7) and the Centena Master Vein (Domain 8). The main veins for Veta Sur are Vein 39 (Domain 7) and Vein 62 (Domain 10). Composited caps for Gold are shown in Table 14.3 and Table 14.4. Composited caps for Silver are shown in Table 14.5 and Table 14.6.

Table 14.3 Yaraguá Gold Grade Cap Values by Domain and Sub Domain

Domain	Composites number	Maximum g/t Au	Mean g/t Au	STDV	CV	CAP1-SUB1 g/t Au	CAP2-SUB2 g/t Au	CAP3-SUB3 g/t Au
1	190	169.50	**9.65**	21.66	2.24		100	10
2	71	138.50	**10.88**	20.56	1.89			50
3	50	183.00	**5.96**	17.51	2.94			80
4	201	1139.53	**20.24**	98.01	4.84			50
5	1404	1845.00	**26.61**	70.89	2.66	700	300	10
6	155	204.00	**9.36**	20.76	2.22			20
7	1095	385.00	**6.68**	16.19	2.42	150	120	20
8	507	1341.61	**17.17**	44.24	2.58	350	250	30
9	328	535.15	**11.39**	44.03	3.86			50
10	515	1551.73	**25.96**	100.05	3.85	700	200	20
11	431	653.23	**18.51**	63.52	3.43	500	200	15
12	86	1654.57	**31.72**	203.99	6.43			100
13	175	42.00	**4.15**	5.71	1.38			10

Table 14.4 Veta Sur Gold Grade Cap Values by Domain and Sub Domain

Domain	Composites number	Maximum g/t Au	Mean g/t Au	STDV	CV	CAP1-SUB1 g/t Au	CAP2-SUB2 g/t Au	CAP3-SUB3 g/t Au
1	66	231.00	**12.73**	22.17	1.74		50	20
2	137	716.37	**12.49**	70.05	5.61		40	20
3	22	48.98	**9.95**	8.27	0.83			65
4	19	33.40	**3.85**	4.44	1.15			25
5	103	142.10	**10.91**	20.49	1.88		100	30
6	81	229.93	**23.55**	44.91	1.91		100	15
7	1379	5030.00	**21.16**	120.39	5.69	250	100	25
8	46	125.50	**5.05**	8.18	1.62		20	15
9	49	303.35	**18.26**	50.49	2.77			90
10	283	3384.12	**31.58**	248.90	7.88		150	40
11	36	70.46	**8.51**	14.84	1.74			50
12	60	50.53	**4.05**	6.99	1.73			20
13	298	190.00	**7.29**	12.76	1.75		80	20
14	45	57.20	**7.87**	8.38	1.06			30

Table 14.5 Yaraguá Silver Grade Cap Values by Domain and Sub Domain

Domain	Composites number	Maximum g/t Ag	Mean g/t Ag	STDV	CV	CAP1-SUB1 g/t Ag	CAP2-SUB2 g/t Ag	CAP3-SUB3 g/t Ag
1	190	753.00	**27.80**	73.30	2.64		400	30
2	71	701.00	**48.46**	106.35	2.19			500
3	50	13175.50	**158.95**	972.38	6.12			8000
4	201	1615.00	**44.90**	133.05	2.96			1000
5	1388	9098.00	**58.43**	166.04	2.84	1000	2000	200
6	155	490.30	**24.61**	49.44	2.01		300	100
7	1095	1015.00	**18.04**	46.44	2.57	1000	600	300
8	507	5790.00	**140.34**	366.31	2.61	3000	2500	200
9	328	1934.21	**38.53**	142.20	3.69			400
10	515	999.00	**30.07**	62.73	2.09	800	400	150
11	431	1320.00	**60.01**	160.10	2.67	1000	1000	200
12	86	138.00	**10.80**	21.65	2.00			80
13	175	196.11	**10.47**	18.91	1.80		200	40

Table 14.6 Veta Sur Silver Grade Cap Values by Domain and Sub Domain

Domain	Composites number	Maximum g/t Ag	Mean g/t Ag	STDV	CV	CAP1-SUB1 g/t Ag	CAP2-SUB2 g/t Ag	CAP3-SUB3 g/t Ag
1	66	231.00	**12.73**	22.17	1.74		50	20
2	137	716.37	**12.49**	70.05	5.61		40	20
3	22	48.98	**9.95**	8.27	0.83			65
4	19	33.40	**3.85**	4.44	1.15			25
5	103	142.10	**10.91**	20.49	1.88		100	30
6	81	229.93	**23.55**	44.91	1.91		100	15
7	1379	5030.00	**21.16**	120.39	5.69	250	100	25
8	46	125.50	**5.05**	8.18	1.62		20	15
9	49	303.35	**18.26**	50.49	2.77			90
10	283	3384.12	**31.58**	248.90	7.88		150	40
11	36	70.46	**8.51**	14.84	1.74			50
12	60	50.53	**4.05**	6.99	1.73			20
13	298	190.00	**7.29**	12.76	1.75		80	20
14	45	57.20	**7.87**	8.38	1.06			30

For the BMZs, the gold and silver composites were analysed independently for channels and drillholes, and capping values defined separately based on the log probability plots and log histograms as is shown in Table 14.7 and Table 14.8.

For halos, max cap value of 3.0 g/t Au and 20 g/t Ag were applied to the composites. This is because of some of the uncertainty with respect to the orientation of veins in the halo.

Table 14.7 Gold Grade Cap Values by Domain in the BMZs

Domain	Composites number	MAX g/t Au	MEAN g/t Au	STDV	CV	CAP1-Channels g/t Au	CAP2-Drillholes g/t Au
301	3,977	30	1.37	3.31	2.42	30	30
303	48,171	40	0.46	1.59	3.47	20	50
305	27,138	20	0.47	1.31	2.78	20	20

Table 14.8 Silver Grade Cap Values by Domain in the BMZs

Domain	Composites number	MAX g/t Ag	MEAN g/t Ag	STDV	CV	CAP1-Channels g/t Ag	CAP2-Drillholes g/t Ag
301	3,977	49.7	3.6	5.9	1.6	50	40
303	48,171	50.0	2.4	5.0	2.0	50	50
305	27,138	300.0	4.3	10.8	2.5	300	150

14.7 VARIOGRAM ANALYSIS

14.7.1 Variograms (Auand Ag) for Veins

Experimental variograms for gold were calculated and modelled for each of the veins and BMZ domains as outlined above.

For Yaraguá Domain 5 (San Antonio Vein), Normal Scores variograms were calculated, modelled and variogram estimation parameters back-calculated for use in modelling. Variograms were only calculated and modelled for Domain 5 as the other domains had insufficient data to estimate variograms suitable for modelling. These variogram models were then applied to veins with the same orientation and where the data indicated the anisotropy of the mineralization was consistent with that modelled (Table 14.9 and Table 14.10).

For Veta Sur Domain 7 (otherwise known as Vein 39), Normal Scores variograms were calculated, modelled and variogram estimation parameters back-calculated for use in modelling. Variograms were only calculated and modelled for Domain 7 as the other domains had insufficient data to estimate variograms suitable for modelling. These variogram models were then applied to veins with the same orientation and where the data indicated the anisotropy of the mineralization was consistent with that modelled (Table 14.11 and Table 14.12).

Domains at both Yaraguá and Veta Sur with insufficient data that showed no evidence of anisotropy (perhaps because of the insufficient data) were modelled as isotropic, but separately for Yaraguá and for Veta Sur.

Table 14.9 Variogram parameters by vein for the Yaraguá System (Au)

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
1,5,6,7,9,10,13	59/68	0.44	0.45	56	0.11	60
	269/20			59		60
	175/10			14		15
2,3,4,8,11,12	Isotropic	0.46	0.46	25	0.44	50
	Isotropic			25		50
	Isotropic			25		50

Table 14.10 Variogram parameters by vein for the Yaraguá System (Ag)

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
1,5,6,7,9,10,13	5/85	0.16	0.26	15	0.58	157
	355/0			15		116
	0/90			4		15
2,3,4,8,11,12	Isotropic	0.35	0.18	7	0.47	50
	Isotropic			7		50
	Isotropic			7		50

Table 14.11 Variogram parameters by vein for the Veta Sur System (Au)

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
1,2,6,7,9,10,11, 12,13,1,4	235/0	0.49	0.46	15	0.006	60
	0/90			5		55
	145/0			5		5
3,4,5,8	Isotropic	0.49	0.46	5	0.006	60
	Isotropic			5		60
	Isotropic			5		60

Table 14.12 Variogram parameters by vein for the Veta Sur System (Ag)

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
1,2,6,7,9,10,11, 12,13,1,4	235/0	0.25	0.48	18	0.25	65
	0/90			5		5
	145/0			5		
3,4,5,8	Isotropic	0.25	0.48	4	0.28	60
	Isotropic			4		60
	Isotropic			4		60

For the first BMZ domain evaluated (BMZ 1 or domain 301), traditional variograms were calculated, modelled and variogram estimation parameters back-calculated for use in modelling. For the remaining BMZ domains, Normal Scores variograms were calculated, modelled and variogram estimation parameters back-calculated for use in modelling.

Table 14.13 Variogram parameters BMZs - Au

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
	120/30			18		33
301	300/60	2.34	9.3	6	11.05	11
	30/0			7		15
				9		90
303		0.61	0.35	9	0.04	40
				7		40
	250/0			6		67
305	160/0	0.44	0.41	6	0.15	26
	90/0			3		58

Table 14.14 Variogram parameters for the BMZs – Ag

Domain	Orientation	Nugget	Structure 1		Structure 2	
			Sill	Range (m)	Sill	Range (m)
301	120/30	13	10.2	8	19.2	21
	300/60			24		50
	30/0			5		16
303		0.57	0.31	10	0.120	120
				12		60
				10		85
	65/0	0.27	0.56	8	0.17	120
305	0/90			7		60
	335/0			5		123

14.8 Block Model Set Up

A Datamine block model with parent cell dimensions of 10 mE by 10 mN by 10 mRL was created and coded to reflect the surface topography, BMZ domains and vein packages.

Sub-celling was allowed so that at domain or vein boundaries (and at topography), a cell could be divided into 10 equal parts in an east-west direction with exact centres in the northing direction. One domain, Domain 2 in Yaraguá vein system was north-west, and the sub-cells were orientated east-west instead of north-south.

14.8.1 Volumetric Mass Density & Specific Gravity

Specific Gravity was from measurements described in Section 11.6, and assigned in the block model based on the state of the rock with respect to weathering (Table 14.15).

Table 14.15 Specific Gravity values used in the resource model

Rock Type	No. of samples	Average SG
Vein Packages	663	3.10
BMZs	382	2.95
Halos	1976	2.80

Density values were determined from samples flagged in the model as follows:

- Halo SGs were defined from samples with a grade generally below 1 g/t Au
- Vein SGs were defined from samples with the tags used for the estimation Yaraguá and Veta Sur System
- BMZ SGs were defined from samples with the tags used for the estimation of the BMZ.

Note that the BMZ density is lower than the average of all of the BMZ samples, but the average SG of the BMZ was biased by samples from one area, and a decision was made on site to use a lower average SG more consistent with the overall BMZs.

14.9 GRADE ESTIMATION

Assay populations from gold deposits are generally positively skewed and contain outliers that can introduce bias into mineral resource estimates.

The composite data for Buriticá exhibits a strongly skewed grade population where the grades are represented in a skewed histogram with individual raw gold grades of up to 5,030 g/t Au. The higher grades have been shown from the mining to be a normal part of the mineralization and are relatively continuous.

Ordinary kriging (OK) with capped high grades was selected for estimation of the grade of the mineralized portion.

14.9.1 Assumptions in the grade estimation

The key assumption used for the grade modelling is that the mineralized veins, and the grades in the mineralized veins are continuous. This has been demonstrated through drilling as well as underground mapping on several different mining levels. The underground mapping of vein exposures shows that connectivity of the mineralization can be assumed within the major vein packages and assumed within the mineralized domains.

The mineralization in the Halos is slightly different to the vein packages. Whilst mineralization in the halos can be considered, in general, to be parallel to the vein, it is not guaranteed. It may represent splays off the mineralization, or mineralization from different structures intersecting the main vein package, and as such cannot be considered an integral part of the normal mineralization in the halo. Halo domains were therefore treated as completely separate domains in estimation, and more sever top-capping strategies were applied to them.

14.9.2 Grade estimation in steps

The grade estimation has been completed in several steps to optimize evaluation of the resource. These were:

1. a model was prepared at the parent block size (10 m by 10 m by 10 m) using sub-cells to honour the volume locally, with blocks coded by vein Domain, Halo, BMZ, and rock type. Subcells of 1.0 m by 1.0 m were created along the vein, with variable width across the vein for grade estimation;
2. variograms were prepared for the gold and silver composites;
3. blocks were flagged by Sub-domain;
4. composited data was analysed and top-cap values selected by Domain and by Subdomain;
5. grade estimation was completed using OK of the capped grades;
6. the estimates were checked/validated against the composited data.

Specific Comments:

- Veins and Halos were treated as completely separate domains and estimated independently.
- Halos were modelled for all vein packages, but were replaced by the BMZ estimates where the BMZ was interpreted.

14.9.3 Grade estimation parameters

Variogram models (Table 14.16) were used as input parameters to the ordinary kriging. Search parameters were selected so that the search would select enough data to make an estimate. Search parameters were applied as is shown in Table 14.16 with veins and halos adopting the same search strategy.

Grade estimation was then completed using the parent cells as the base.

Table 14.16 Search parameters within the veins and BMZs

Parameter	Veins Yaraguá System	Veins Veta Sur System	BMZ 301, 303, 305
Estimation method	OK	OK	OK
Pass 1			
Search ellipse (Master Veins)	30 m by 15 m by 15 m	30 m by 15 m by 1 m	25 m by 10 m by 25 m
Search ellipse (Other veins)	15 m by 15 m by 15 m	15 m by 15 m by 15 m	
Minimum samples	9	9	12
Maximum samples	12	12	24
Maximum composites per drillhole	3	3	8
Pass 2			
Search volume factor	2	2	2
Search volume factor (Other veins)	4	4	
Minimum samples	6	6	12
Maximum samples	12	12	24
Maximum composites per drillhole	3	3	8
Pass 3			
Search volume factor	15	20	8
Search volume factor (Other veins)	15	15	
Minimum samples	1	1	4
Maximum samples	9	9	12
Maximum composites per drillhole	3	3	3

Note – An extended search has been applied for the second search.

14.10 MODEL VALIDATION

In addition to conducting validation checks on all stages of the modelling and estimation process, final grade estimates and models were checked / validated by comparing global grades with the input drillhole composites, by visual validation of block model cross sections against drilling and channel sampling information, and by grade trend plots.

14.10.1 Global comparisons

The final grade estimates were validated statistically against the input drillhole composites. Table 14.17 and Table 14.18 provide comparisons between the estimated grades and the input grades for the global estimate of each of the domains. This statistical comparison shows that the grade estimates in the domains validate reasonably well.

*Table 14.17 Comparison of the mean composites grade (Declustering 25*25) with the mean block model grade Yaraguá System for Measured and Indicated category*

Domain	Au_cap DH	Au_Mean BM	Ag_Cap DH	Ag_Mean BM
1	9.65	9.69	41.34	36.04
2 – Only Inferred Resource	10.88	8.00	48.5	35.4
3	15.61	15.81	743.5	752.0
4	10.00	9.38	73.2	64.7
5	16.67	13.35*	67.8	44.2
6	12.35	11.32	30.6	28.0
7	10.06	9.06	44.6	36.5
8	13.74	11.69*	97.0*	74.1
9	6.17	6.38	22.5	24.9
10	16.09	15.69	28.6	26.8
11	11.34	11.05	58.4	56.7
12	8.99	8.89	12.3	11.7
13	3.86	4.00	11.7	11.8

* the comparison improves if declustering is performed (100 m*100 m)

*Table 14.18 Comparison of the mean composite grade (Declustering 25*25) with the mean block model grade Veta Sur System for Measured and Indicated category*

Domain	Au_cap DH	Au_Mean BM	Ag_Cap DH	Ag_Mean BM
1	10.86	10.73	24.65	25.58
2	5.89	5.62	18.30	17.23
3	9.63	9.83	1145.31	1175.30
4	4.48	4.63	598.09	576.97
5	10.53	10.43	64.23	61.79
6	13.91	15.61*	18.15	18.50
7	13.80	13.81	58.52	52.35
8	5.71	5.42	123.67	125.82
9	11.50	12.45*	29.91	28.38
10	10.64	10.40	29.29	27.08
11	12.81	12.85	14.79	15.02
12	5.19	4.05	32.75	26.52
13	8.64	9.71	64.13	59.31
14	7.56	8.09	72.67	63.54

* the comparison improves if declustering is performed (100 m*100 m)

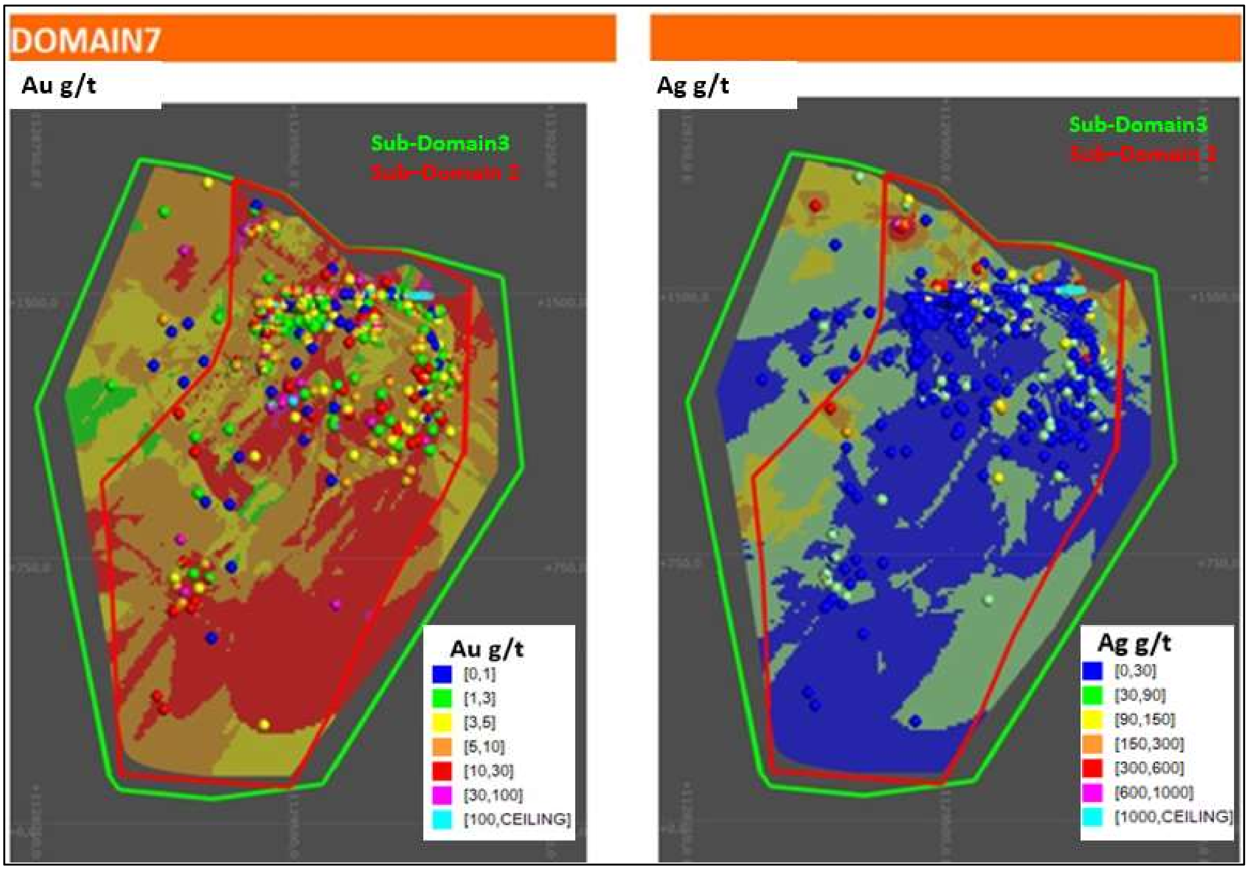
Table 14.19 Comparison of the mean composite grade with the mean block model grade BMZs

BMZ	Composite Mean Gold (g/t)	Estimated Mean Gold (g/t)	Composite Mean Silver (g/t)	Estimated Mean Gold (g/t)
DOMAIN 301	2.10	2.00	4.6	4.9
DOMAIN 303	0.67	0.51	2.9	2.8
DOMAIN 305	0.51	0.47	4.6	4.3

14.10.2 Visual validation

The gold and silver estimates show a good visual correspondence with the input composite grades. An example long-section of the discretized model as used for validation is illustrated in Figure 14.7.

Figure 14.7 Long-section validation view of Domain 7 - Yaraguá System

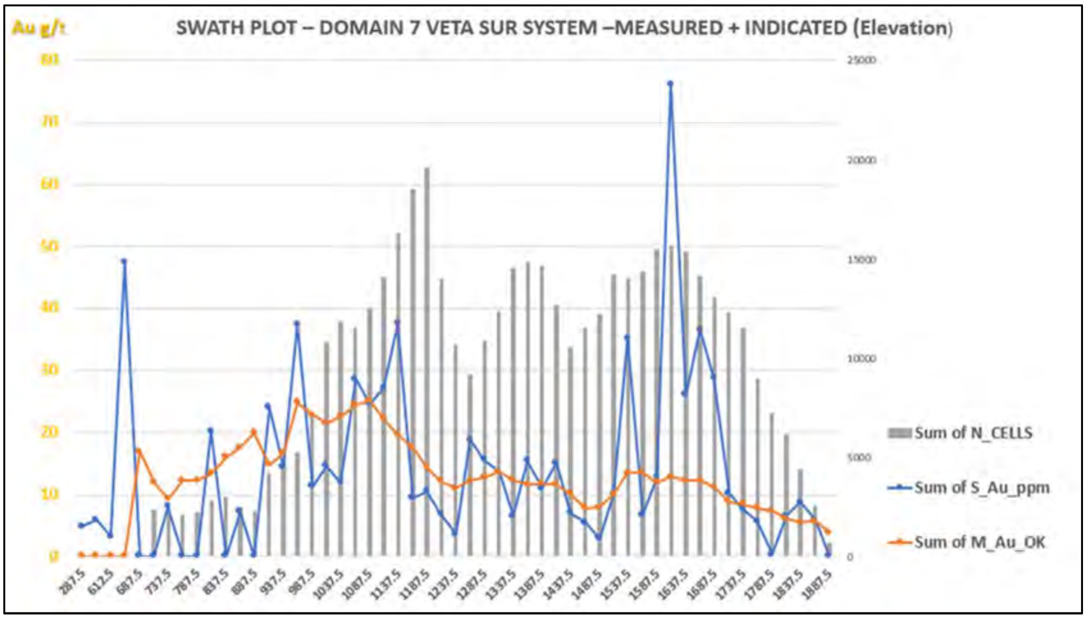


14.10.3 Grade trend plots

Sectional validation graphs otherwise known as grade trend plots were created to assess the reproduction of local means and to validate the grade trends in the model. Essentially a grade trend plot is a sort of moving window average where the average of the estimated grades in the model in a slice of the model is compared to the average grade of the input grades for the same slice. The graphs also show the number of input samples on the right axis to give an indication of the support for each bin.

The graphs indicate that there is generally good local reproduction of the input grades and proportions of mineralization. An example is shown in Figure 14.8 for Vein 7 of the Veta Sur System for the gold grade. The mineralized population estimate generally shows a good reproduction of the input grades with some smoothing evident, even though at this scale the detail is not evident. Departures noted in these graphs were checked and generally found to represent clustering of data relative to the model, and not an issue with the model.

Figure 14.8 Grade trend plot of composite data vs average model grade – Domain7 Veta Sur System



Note: grey = number of composite samples, blue = composite grade > 0.1 g/t, orange = model grade

Mineral Resource classification

The Mineral Resource classification definitions used for this estimate are those published by the CIM Definition Standards (2014) and includes Measured, Indicated and Inferred Mineral Resource.

- *Measured Mineral Resource: that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of* the *deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.*
- *Indicated Mineral Resource: that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and* economic *parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.*
- *Inferred Mineral Resource: that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.*

The Author and Qualified Person for the Mineral Resource is satisfied that the information which was used to define the Mineral Resource is of a high quality and suitable for the estimation of resources at a high level of confidence. The Author is also satisfied that the confidence in the geological framework as defined by the geological interpretation is adequately reflected in the classification of the resource, and that any changes to the interpretation following the acquisition of new data would have minimal impact on the Mineral Resource.

Once the Author was satisfied that the data and geological interpretation met the confidence required for the classification, the confidence in the estimation became more the confidence in the grade estimation, particularly the estimation of the gold grade which carries the most value. The remaining part of the classification was thus based on the following:

14.10.4 Vein systems

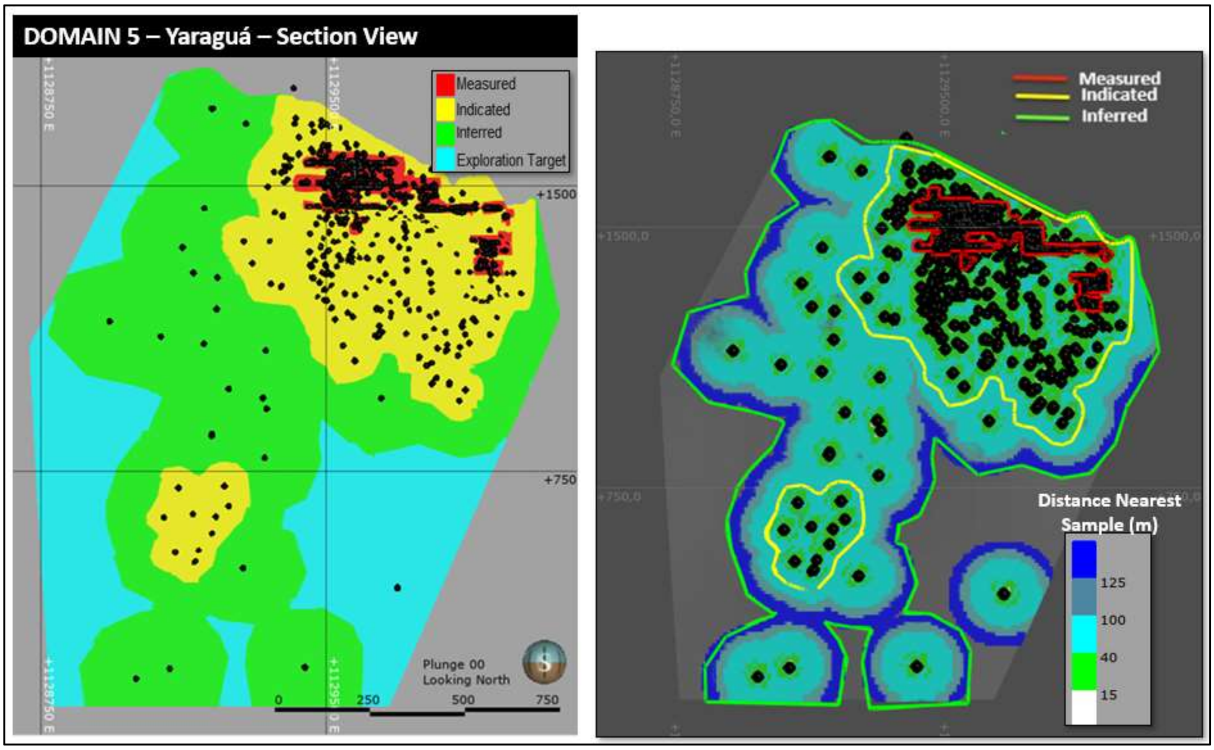
The general criteria used during the resource classification for the Veins Systems are presented below. Each vein was analysed and reviewed independently drawing by hand the strings (Figure 14.9) used to flag the blocks as Measured, Indicated or Inferred, and taking in account additional parameters to avoid isolated blocks flagged as Indicated or Measured with low continuity or extension. It also helped to avoid small zones of Indicated or Inferred within the other classifications.

- Measured:
  - For an estimate to be classified as Measured, it needed to be within a perimeter generally defined as within 15 m of at least two drill or channel samples and be estimated using the information from a minimum of 9 samples used.
- Indicated:
  - For an estimate to be classified as Indicated, it needed to be within a perimeter generally defined as within 40 or 60m (Master Veins) m of at least two drill or channel samples and be estimated using the information from a minimum of 6 samples used.
- Inferred:
  - For a vein estimate to be classified as Inferred, there need to be at least one drillholes within 100 m (150 m for Master Vein Systems) and a minimum of 1 sample used. Generally there were more than one sample used for the Inferred classification.

14.10.5 Broader Mineralized Zones

- Measured:
  - For an estimate to be classified as Measured, it needed to be generally within a 10 m drill spacing and be estimated using the information from two holes as well as having generally a minimum of 9 samples used.
- Indicated:
  - For an estimate to be classified as Indicated, it needed to be generally within a 30 m drill spacing and be estimated using the information from two holes as well as having generally a minimum of 6 samples used.
- Inferred:
  - For an estimate to be classified as Inferred, there need to be at least one drillholes within 50 m and a minimum of 1 sample used.

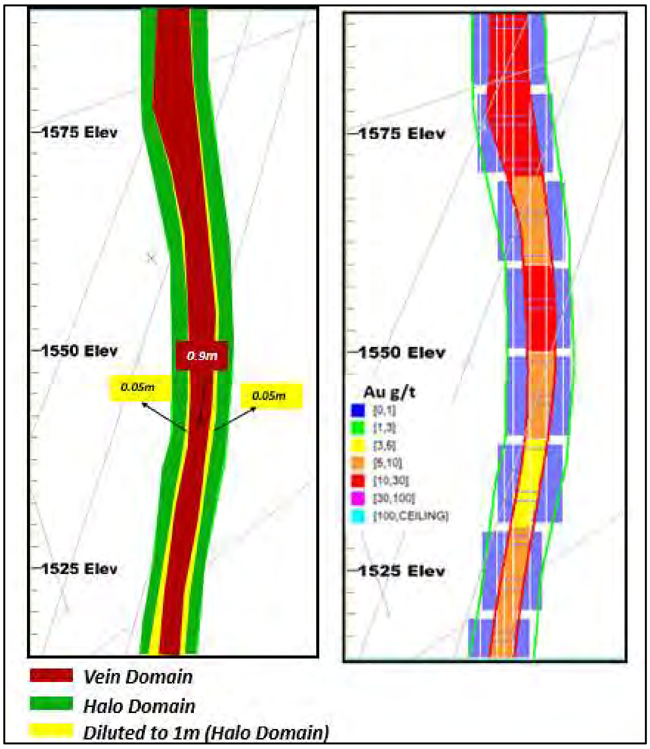
Figure 14.9 Resources Classification for Vein System. Example Domain 5 – Yaraguá



14.10.6 Mineral Resource reporting

Mineral Resources for the Buriticá Gold Project are reported to minimum 1 m horizontal width. In areas where the horizontal width of the estimated vein was less than 1 m, a part of the estimated grades in the halo or the BMZ's were used to report the grade for gold and silver diluted to the minimum 1 m width (Figure 14.10). Where grades were reported in the vein minimum diluted width, they were not reported as a part of the BMZ´s.

Figure 14.10 Section View showing the process to report a minimum 1 m width



The summarized results are shown in Table 14.20 with more detail provided in Table 14.21 and Table 14.22.

*Table 14.20 Mineral Resource for the Buriticá Gold Project, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	1.40	13.70	57.24	0.62	2.58
Indicated Resource	14.62	10.00	39.18	4.70	18.42
Measured + Indicated	16.02	10.32	40.76	5.32	21.00
Inferred Resource^	21.87	8.56	37.28	6.02	26.22

Note: Cut-off grade of 3.0 g/t Au. Contained metal and tonnes figures in totals may differ due to rounding.

*** Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues. The Mineral Resources in this Technical Report were estimated using CIM (2014) Standards on Mineral Resources and Reserves, Definitions and Guidelines.*

^ The quantity and grade of reported the Inferred Resources in this estimation are uncertain in nature and there has been insufficient exploration to define this Inferred Resource as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in upgrading the Inferred Resource to an Indicated or Measured Mineral Resource category.

*Table 14.21 Mineral Resource for the Veta Sur Vein System, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.27	16.37	103.40	0.14	0.90
Indicated Resource	5.70	11.68	41.77	2.14	7.65
Measured + Indicated	5.97	11.89	44.58	2.28	8.55
Inferred Resource^	10.90	10.15	33.94	3.56	11.90

The Mineral Resource for the veins has been reported at a minimum horizontal width of 1 m.
Notes to Table 14.20 apply

*Table 14.22 Mineral Resource for the Yaraguá Vein System, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	1.01	14.00	49.89	0.45	1.62
Indicated Resource	8.47	9.17	38.93	2.50	10.60
Measured + Indicated	9.48	9.68	40.10	2.95	12.22
Inferred Resource^	9.46	7.40	45.58	2.25	13.87

The Mineral Resource for the veins has been reported at a minimum horizontal width of 1 m.
Notes to Table 14.20 apply

*Table 14.23 Mineral Resource for the Broader Mineralized Zones, January 30, 2019***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.12	5.15	14.67	0.02	0.06
Indicated Resource	0.46	4.50	11.62	0.07	0.17
Measured + Indicated	0.58	4.64	12.25	0.09	0.23
Inferred Resource^	1.51	4.41	9.37	0.21	0.45

Notes to Table 14.20 apply

Table 14.24 Mineral Resource Veta Sur System by Vein – 1 m minimum horizontal width

Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
Measured >=3.0 Au g/t					
2	0.00	4.98	16.33	0.00	0.00
3	0.00	6.14	793.08	0.00	0.06
4	0.00	4.08	835.00	0.00	0.01
5	0.01	5.75	65.58	0.00	0.01
7	0.24	17.47	98.44	0.14	0.76
8	0.00	4.00	439.58	0.00	0.02
10	0.01	7.84	33.18	0.00	0.01
13	0.01	9.99	70.36	0.00	0.03
Total	0.27	16.37	103.40	0.14	0.90
(Indicated >=3.0 Au g/t					
Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
1	0.25	6.55	16.57	0.05	0.13
2	0.17	4.78	12.56	0.03	0.07
3	0.01	4.19	451.84	0.00	0.10
4	0.01	4.49	603.45	0.00	0.14
5	0.22	6.64	35.88	0.05	0.26
6	0.36	12.88	15.25	0.15	0.18
7	3.08	14.00	48.58	1.39	4.81
8	0.04	4.70	56.28	0.01	0.08
9	0.07	11.96	27.00	0.03	0.06
10	0.59	10.12	24.69	0.19	0.47
11	0.05	12.14	14.06	0.02	0.02
12	0.05	4.83	26.84	0.01	0.04
13	0.70	8.90	49.13	0.20	1.10
14	0.10	7.45	57.92	0.02	0.19
Total	5.70	11.68	41.77	2.14	7.65
(inferred >=3.0 Au g/t					
Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
1	0.54	7.74	16.87	0.13	0.29
2	0.14	4.35	8.83	0.02	0.04
3	0.03	4.32	138.79	0.00	0.13
4	0.00	3.91	732.23	0.00	0.07
5	0.33	9.46	21.36	0.10	0.23
6	0.76	8.54	11.46	0.21	0.28
7	3.42	13.10	48.27	1.44	5.30
10	1.05	7.17	20.44	0.24	0.69
11	0.04	14.23	19.19	0.02	0.02
12	0.08	7.16	31.13	0.02	0.08
13	2.87	9.24	22.95	0.85	2.11
14	1.65	9.85	49.75	0.52	2.65
Total	10.90	10.15	33.94	3.56	11.90

Notes to Table 14.20 apply

Table 14.25 Mineral Resource Yaraguá System by Vein – 1 m minimum horizontal width

		Measured >=3.0 Au g/t			
Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
1	0.01	7.75	12.60	0.00	0.00
3	0.00	4.78	164.37	0.00	0.01
5	0.19	26.18	82.29	0.16	0.51
6	0.01	10.12	14.29	0.00	0.00
7	0.44	7.76	28.07	0.11	0.40
8	0.12	13.70	118.09	0.05	0.45
9	0.02	7.74	36.41	0.00	0.02
10	0.11	21.49	31.34	0.07	0.11
11	0.05	18.65	54.82	0.03	0.09
12	0.04	10.22	11.73	0.01	0.01
13	0.02	4.83	13.41	0.00	0.01
Total	1.01	14.00	49.89	0.45	1.62
		Indicated >=3.0 Au g/t			
Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
1	0.77	7.73	28.57	0.19	0.70
3	0.03	7.10	281.18	0.01	0.30
4	0.97	7.61	50.95	0.24	1.58
5	2.27	10.61	36.03	0.78	2.63
6	0.23	9.71	23.87	0.07	0.18
7	1.88	8.88	35.91	0.54	2.18
8	0.76	10.27	58.69	0.25	1.43
9	0.34	6.32	24.08	0.07	0.27
10	0.33	12.66	22.91	0.13	0.24
11	0.68	8.47	46.65	0.18	1.02
12	0.08	7.59	9.21	0.02	0.02
13	0.12	4.33	11.40	0.02	0.04
Total	8.47	9.17	38.93	2.50	10.60
		inferred >=3.0 Au g/t			
Domain	Mt	Au g/t	Ag g/t	Au MOnz	Ag MOnz
1	0.65	6.19	20.81	0.13	0.43
2	1.00	6.88	24.89	0.22	0.80
3	0.18	4.91	150.42	0.03	0.85
4	0.03	14.54	35.11	0.02	0.04
5	2.51	7.78	58.25	0.63	4.70
7	3.39	7.65	46.40	0.84	5.06
8	0.79	8.01	33.93	0.20	0.86
9	0.09	8.40	23.47	0.03	0.07
11	0.73	5.92	42.92	0.14	1.01
12	0.07	9.96	11.72	0.02	0.03
13	0.01	3.35	12.00	0.00	0.00
Total	9.46	7.40	45.58	2.25	13.87

Notes to Table 14.20 apply

Table 14.26 Mineral Resource Broader Mineralized Zone by Domain

		Domain 301 (BMZ1) >=3.0 Au g/t			
Category	Mt	Au (g/t)	Ag (g/t)	Au Moz	Ag Moz
Measured	0.08	5.95	10.60	0.02	0.03
Indicated	0.29	4.87	9.40	0.05	0.09
MI	0.38	5.11	9.66	0.06	0.12
Inferred	0.14	5.38	12.15	0.02	0.06
Total	**0.52**	**5.18**	**10.34**	**0.09**	**0.17**
		Domain 303 (BMZ3) >=3.0 Au g/t			
Category	Mt	Au (g/t)	Ag (g/t)	Au Moz	Ag Moz
Measured					
Indicated					
MI					
Inferred	1.31	4.34	8.57	0.18	0.36
Total	**1.31**	**4.34**	**8.57**	**0.18**	**0.36**
		Domain 305 (BMZ5) >=3.0 Au g/t			
Category	Mt	Au (g/t)	Ag (g/t)	Au Moz	Ag Moz
Measured	0.04	3.37	23.62	0.00	0.03
Indicated	0.16	3.84	15.61	0.02	0.08
MI	0.20	3.76	17.11	0.02	0.11
Inferred	0.06	3.62	20.96	0.01	0.04
Total	**0.26**	**3.73**	**17.96**	**0.03**	**0.15**

Notes to Table 14.20 apply

14.10.7 Consolidated reporting of BMZ1

The BMZs reported above report the BMZs exclusive of the veins that have been reported. But to get a proper picture of the potential of the BMZs, it is appropriate to consider the BMZs inclusive of the intersecting veins. This report of the mineral resource within BMZ1 was derived from a recompilation of the block models used to calculate the global mineral resource estimate for the Buriticá project announced on January 30, 2019 and is inclusive of veins. Of note:

- BMZ1 is a high-grade, steeply plunging, pipe-like shoot of mineralization related to the intersection of two vein systems and includes discreet veins as well as disseminated and vein stockwork materials (see Figure 14.11);
- BMZ1 has a vertical extent of 400 m and ranges from 25 m to 40 m in width by 80 m to 120 m of lateral extent; and
- BMZ1 remains open at depth for expansion. Up to 10,000 m of drilling specifically targeting BMZ1 is planned in 2019.

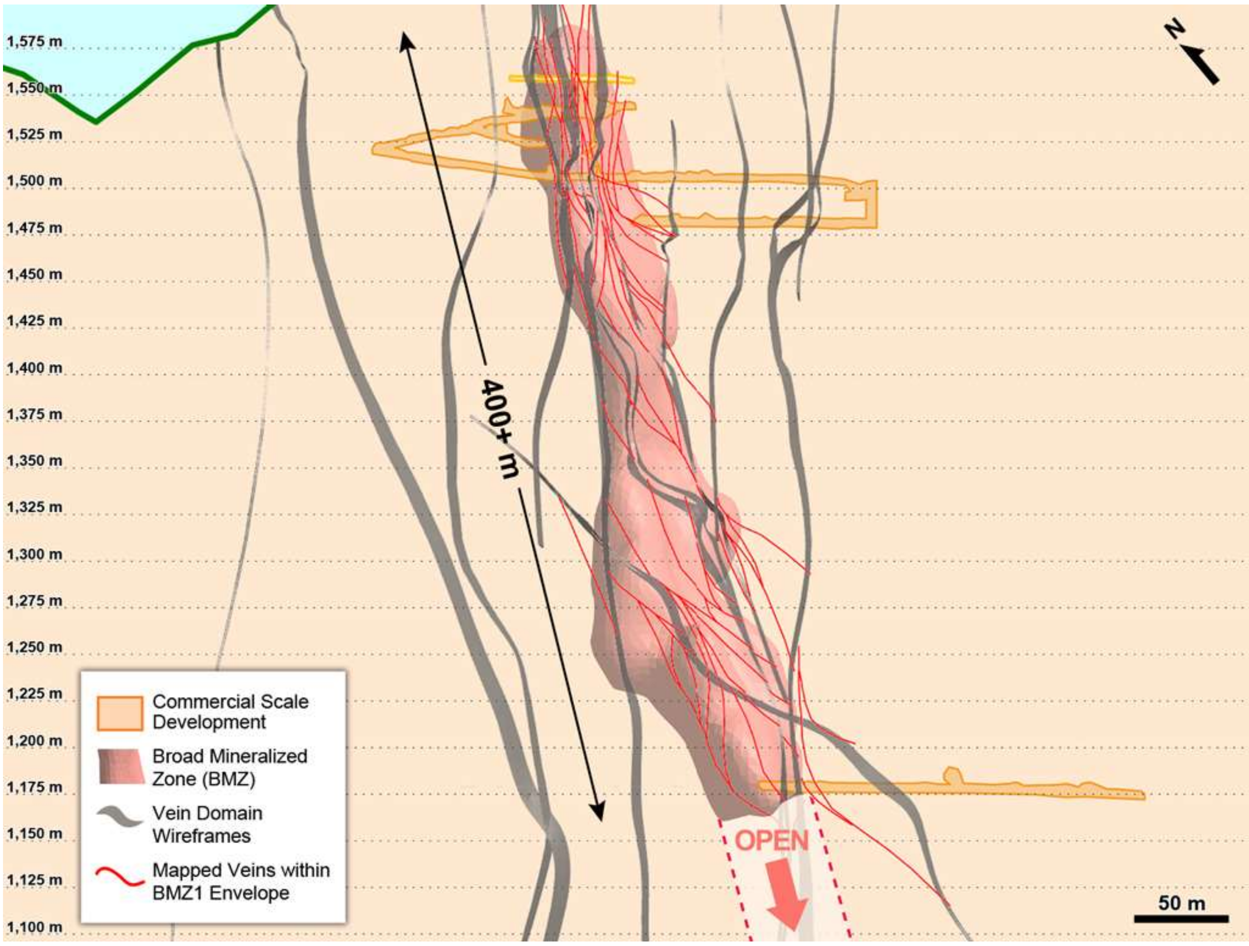
A total of 141 drill holes totaling 6,410 m and 1,084 m of underground channel sampling along development drifts were used in the estimate.

Table 14.27 BMZ1 Mineral Resource Estimate

BMZ1 Mineral Resource Statement at a 3 g/t Cut-off Effective January 26, 2019					
Resource		Grades		Metal	
Category	Tonnes	Gold (g/t)	Silver (g/t)	Gold (Oz)	Silver (Oz)
Measured	206,980	24.29	37.3	161,600	248,300
Indicated	621,880	10.77	18.2	215,300	363,000
M&I	**828,870**	**14.15**	**22.9**	**377,000**	**611,000**
Inferred	141,150	5.37	12.1	24,400	55,000

Notes to Table 14.20 apply

Figure 14.11 Section Combining Modelled and Mapped Veins within BMZ1



Source: CGI, 2019

14.10.8 2015 Mineral Resource

The 2015 Mineral Resource (Table 1.6), whilst not current, is reported here as it forms the basis of the 2016 Mineral Reserve.

*Table 14.28 Mineral Resource for the Buriticá Gold Project, May 11, 2015***

Category	Mineralization (Mt)	Gold grade (g/t Au)	Silver grade (g/t Ag)	Contained gold (Moz)	Contained silver (Moz)
Measured Resource	0.9	19.0	55	0.54	1.58
Indicated Resource	12.0	10.2	32	3.94	12.4
Measured + Indicated	12.9	10.8	34	4.48	13.98
Inferred Resource^	15.6	9.0	29	4.5	14.7

Notes to Table 14.20 apply

15 MINERAL RESERVE ESTIMATES

15.1 DISCLOSURE

The information contained in this report referring to the mineral reserves was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

The Mineral Reserve has not been updated in light of the updated mineral resource for Buriticá. However, work to-date indicates that the 2019 resource estimate does not significantly affect the mineral resource that formed the basis of the mineral reserve as reported in the 2016 Mineral Reserve. The basis for the Mineral Reserve is the 2015 resource estimate as reported on May 11, 2015. The primary differences between the 2015 mineral resource model and the 2019 mineral resource model is the additional information from mapping of the underground workings to increase confidence in the interpretation of the geological framework used in modelling, an increase in the number of boreholes used, inclusion of new and relevant underground channel samples, and the refinement of modelling to focus on the dominant veins and BMZs. The Company is in the process of updating the mineral reserves using the 2019 mineral resource and will report the results of this work at a later date.

15.2 INTRODUCTION

The mineral reserve estimate documented in this section was estimated based on Canadian Institute of Mining (CIM) guidelines that define Mineral Reserves as "the economically mineable part of a Measured or Indicated mineral resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined."

Furthermore, CIM guidelines stipulate that "Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the Qualified Person(s) making the estimates, is the basis of an economically viable Project after taking account of all relevant processing, metallurgical, economic, marketing, legal, environmental, socio-economic and government factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the mineralized material and delivered to the treatment plant or equivalent facility. The term 'Mineral Reserve' need not necessarily signify that extraction facilities are in place or operative or that all government approvals have been received. It does signify that there are reasonable expectations of such approvals."

For the Buriticá Project, Mineral Resources were converted to Mineral Reserves using estimated cut-off grades (COGs) by mining method for each deposit based on estimated gold price, mining dilution and losses, mining costs, processing costs & recoveries, general and administration costs, transport & refining costs, and royalties. In-situ mining shapes were selected to prepare a diluted stope inventory, and then an iterative process was used to prepare a mine design and production schedule in order to estimate mining costs subsequently used to re-estimate COGs. Sub-economic diluted mining shapes were then excluded, and iterations were performed until all material met COG criteria. During the process, these diluted mining shapes were reviewed to verify there was sufficient margin to pay for stope access development costs. The final production plan iteration established the Mineral Reserves estimate.

Although both deposits outcrop at surface or sub-outcrop close to surface, only underground mining methods were considered for Buriticá. Choice of mining method was driven principally by geomechanical criteria as well as vein geometry, orientation, and in some cases degree of isolation from the main Yaraguá and Veta Sur stoping areas.

A potential unknown identified by the QP is the extent of unauthorized and illegal mining activities in the Yaraguá and Veta Sur areas. CGI has entered into formalized sub-contracts with several small-scale mining associations. These sub-contracts established mining limits for the associations to work within, but unauthorized mining outside of those limits has occurred in some areas. In addition, illegal mining activities have been discovered, on occasion, adjacent to Continental's underground workings in the Yaraguá and Veta Sur deposits. In late July 2015, CGI surveyed the extent of unauthorized mine workings in areas that were accessible. These areas are excluded from the Mineral Reserves; however, the extent of impact in the upper areas of the reserve may not be fully quantified.

The QP has not identified any risk including legal, political, or environmental that would materially affect potential Mineral Reserves development except for the following: 1) Continued unauthorized mining activities; and, 2) successfully securing from the Columbian government the required permits for Project development and operation. The QP is not aware of unique characteristics related to this Project that would prevent the granting of such permits.

Gregory A. Blaylock, P.Eng. is the Qualified Person who prepared this disclosure and who participated in and supervised all aspects of converting Mineral Resources to Mineral Reserves for the Project. He is independent of the issuer in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects.

The Mineral Reserve estimate for the Project is shown in Table 15.1. The Mineral Reserve estimate is based on Measured and Indicated Resources only and was determined by applying cost estimates, a gold price of $950 $/oz and an exchange rate of 2,850 Colombian Pesos to one $. The effective date for the mineral reserve estimate contained in this report is July 31, 2015.

Mineral Reserves are included in Total Mineral Resources (Section 14) except for the dilution component of Mineral Reserves that was not reported in Mineral Resources. Mineral Resources include vein domains only, while Mineral Reserves include metal contained in dilution tonnes comprised of "halo" resource blocks classified as an indicated resource outside of the vein domains. See sections 14.1 and 14.1.1 for an explanation of how the "halo" model was prepared and used for the mineral resource estimate. The "halo" model provides: 1) A way to estimate Mineral Resources using a 1.0 m minimum mining width, and 2) Dilution tonnes and grades for Mineral Reserves.

Table 15.1 Summary of Mineral Reserve Estimate

Deposit and Classification	Tonnes (kt)	Diluted Grade Au (g/t)	Diluted Grade Ag (g/t)
Proven Reserves			
Yaraguá	450.6	20.49	47.6
Veta Sur	226.8	22.19	84.66
Total Proven	677.4	21.06	60.01
Probable Reserves			
Yaraguá	8,378.80	7.01	20.82
Veta Sur	4,660.60	9.09	25.38
Total Probable	13,039.40	7.76	22.45
Total Proven and Probable	13,716.80	8.41	24.31

Source: JDS, 2016

Contained metal in the Table 15.1 totals 3,710,000 oz gold and 10,719,000 oz silver, including dilution material and mining losses. Slight differences in contained metal ounces may result from using tonnes and grades rounded to significant figures.

15.3 BASIS OF MINERAL RESERVE ESTIMATE

All vein interpretations from the resource block model were reviewed and verified using Surpac™ software to ensure that only Measured and Indicated Resources were included and to verify the reliability of the classifications. A total of 72 veins were identified to include in the Mineral Reserve estimates.

Vulcan™ software was used to calculate Mineral Reserve estimates. The resource block model was imported into Vulcan™ and all resource blocks with gold values of 3.0 g/t or greater for Yaraguá and Veta Sur were delineated. In areas with formalization sub-contracts, the legal boundary descriptions were modelled as 3D solids including a 5 m boundary pillar to exclude from the Mineral Reserves. Also, any unauthorized mining activity identified from Continental's July 31, 2015 survey was excluded, and in the adjacent areas, criteria included cut and fill (C&F) extraction using 80% recovery. The remaining resource block was then initially divided into 15 m high sublevels. Geomechanical evaluation supported this level spacing as well as a 30 m strike length for typical stopes. These dimensions were used to establish an initial pool of in-situ undiluted mining shapes. In some areas, these shapes included material grading less than 3.0 g/t Au and some inferred resource blocks. All inferred material included in tonnage calculations was assigned a 0 g/t Au value.

Planned external dilution based on mining and geomechanical criteria was then added to the in-situ mining shapes using Vulcan™ software. COGs developed for Yaraguá and Veta Sur were then applied to the diluted shapes to establish the preliminary economic stope inventory used as a basis for mine design and Mineral Reserve estimation.

15.4 MINING METHODS AND MINING COSTS

Three underground mining methods will be used at Buriticá: Longhole open stoping (LHOS), cut & fill (C&F), and shrinkage stoping. Mining method selected was driven primarily by geomechanical criteria. Longhole mining was the preferred mining method due to higher productivities and lower mining costs compared to either C&F or shrinkage. Preliminary mining cost estimates were used to calculate an initial COG to establish the potentially economic stope inventory, which was then used to estimate mining costs on a first principles basis for all three mining methods from the resulting mine design and production schedule. Using these mining costs, the COG was again calculated, applied to the stope inventory, and the mine design and production schedule were revised accordingly. Final direct and indirect costs, and COGs were estimated after several iterations, and final checks ensured that no uneconomic stopes were included in the final mine plan and Mineral Reserves.

15.5 CUT-OFF GRADES

Due to differences in metallurgical recovery of gold, COGs were estimated separately for the Yaraguá and Veta Sur deposits. Final cut-off grades are based on an exchange rate of 2,850 COP:$, a $950/oz gold price, and feasibility level cost and recovery estimates as shown in Table 15.2.

Table 15.2 Cut-Off Grade Calculation Basis

Item	Unit	Value
Revenue & Cost of Sales		
Gold Price	$/troy ounce	950
Payable Metal	%	99.93
Assay, Transport, Refining & Insurance Costs	$/troy ounce	1.09
Royalties, Effective % basis of Mine Mouth Gross Metal Value	%	3.2
Production Unit Costs		
Mining - Longhole	$/ore tonne mined	54.51
Mining - Cut & Fill	$/ ore tonne mined	70.11
Mining - Shrinkage	$/ ore tonne mined	57.12
Mining – Development Ore	$/ore tonne mined	54.85
Processing	$/tonne milled	26.16
General & Administration	$/tonne milled	14.13
Management Fee	$/tonne milled	3.01
Metallurgical Recoveries		
Yaraguá	%	95.4
Veta Sur	%	92.3
Mining Recoveries		
Longhole Mining	%	95
Cut & Fill Mining	%	90
Shrinkage Mining	%	95

Source: JDS, 2016

Silver value was not included in COG calculations due to its relatively small contribution to total value. However, revenue for silver produced is included in the project economic model, and silver is included in reserves.

A separate COG was estimated for development, including stope sills and drifting on vein. The COG calculation excludes the development drifting cost, but includes all other production costs. This COG was used to determine if planned development in mineralized material would be included as mill feed in the mine plan or considered waste tonnage.

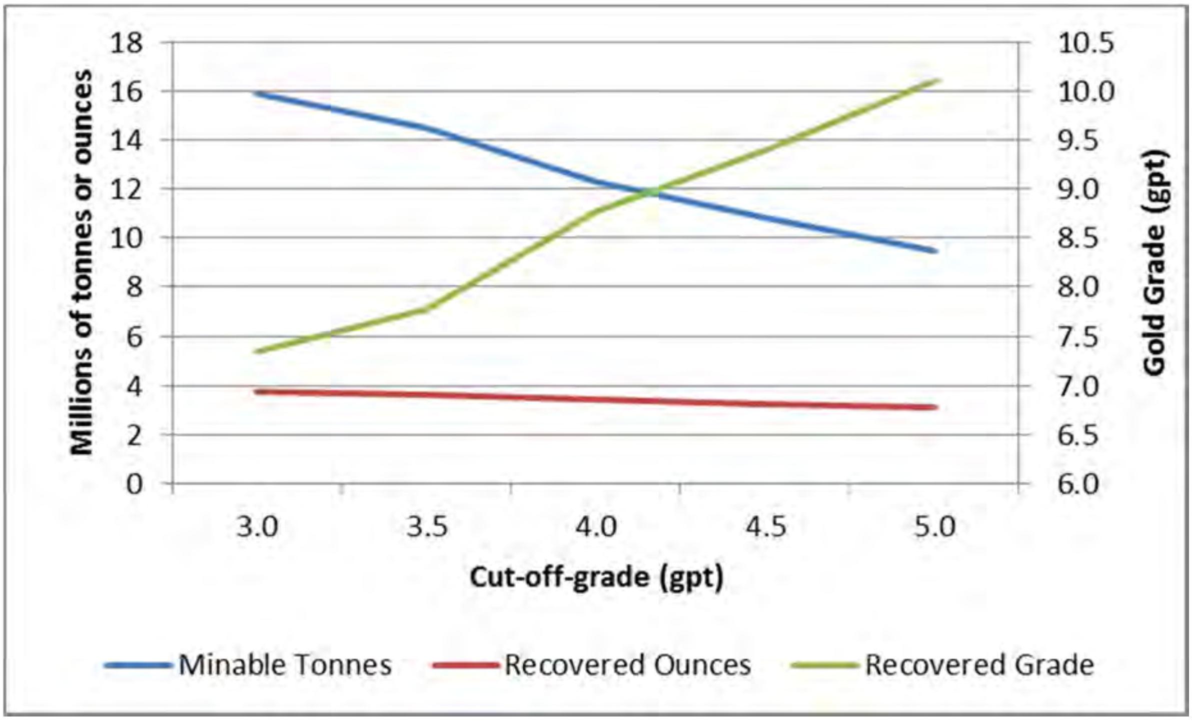
Using the calculated COGs, a mine plan was completed for average stope COG's of 3.8 g/t Au for Yaraguá and 4.0 g/t Au for Veta Sur. However, during the Feasibility Study, market conditions indicated that a gold price above $950/oz should be used. At $1,200/oz gold, the average break-even COG is approximately 3.2 g/t. Concurrently with the mine design and production schedule iterations and COG determination, trade-off evaluations, performed to assess the gold production profile and return on investment, indicated that using the cut-off grades established for $950/oz gold resulted in several benefits: Less overall development and lower metres developed per produced gold ounce; more uniform metal production profile; and improved return on investment potential. For these reasons, the final selected mine design and production plan was based on COGs of 3.8 g/t for Yaraguá and 4.0 g/t for Veta Sur. As a consequence, use of the higher COGs provides a mine plan potentially viable to $950/oz gold price.

Other observations supporting these findings and decision to use the selected COGs:

- Resource characteristics;
- Figure 15.1 shows that increasing the COG from 3 g/t to 4 g/t results in a small decrease to total recovered gold ounces compared to a significant drop in mineable tonnes and increase to recovered gold grade. These relationships indicate minimal loss to total recovered metal by not mining marginal material in the 3 g/t to 4 g/t grade range;

- It should be noted that the material between 3 g/t and 4 g/t is generally located in separate discrete stopes which would bear the full cost of development and production, rather than material that could be incrementally extracted from the wall rock in a minable stope. For this reason, the material is not incremental to the diluted minable stope shape, and an analysis including development and stope operating costs would be required to determine marginal contribution and benefits to mine economics. Lower margin material not included in the production plan, but located along strike and towards the vein fringes is not sterilized, and if economic, could be recovered later in the mine life.

Figure 15.1 *COG Resource Grade – Tonnage Curves*



Inferred resources not included

Source: JDS, 2016

- Production and economic throughput considerations;
- Feasibility Study evaluations established that 3,000 t/d mining rate is a practical limit which achieves operational balance for development and stope production. Given this production constraint, the opportunity existed to improve project financial metrics using a mining schedule with higher-margin ore, and economic assessments verified that such a mine plan improved IRR and NPV. Also production plan provides increased upfront revenue reducing payback time, and as a consequence, project capital risk is reduced;
- It should be noted that high level economic assessments indicated that mine plans using planning cut-offs of 4.5 g/t and 5.0 g/t could potentially produce equal or improved IRR and NPV results. Separate mine designs and production plans would be required in order to fully evaluate these alternatives.

15.6 DILUTION

15.6.1 Internal Stope Dilution

Veins in the resource model with less than 0.8 m true width were diluted to a minimum 1.0 m mining width using "halo" estimated grades as described in Sections 14.1 and 14.1.1 of this report. This internal dilution already included in the resource model vein domains is included in the mineral reserve estimate.

Discrete Vein Stopes

There are 31 veins in Veta Sur and 41 veins in Yaraguá included in the mine plan and Mineral Reserves. The majority of mining shapes are stopes comprised of single, discrete veins. For veins with an undiluted true width of less than 80 cm, dilution is limited to material added to bring the vein to the minimum mining width of 1.0 m.

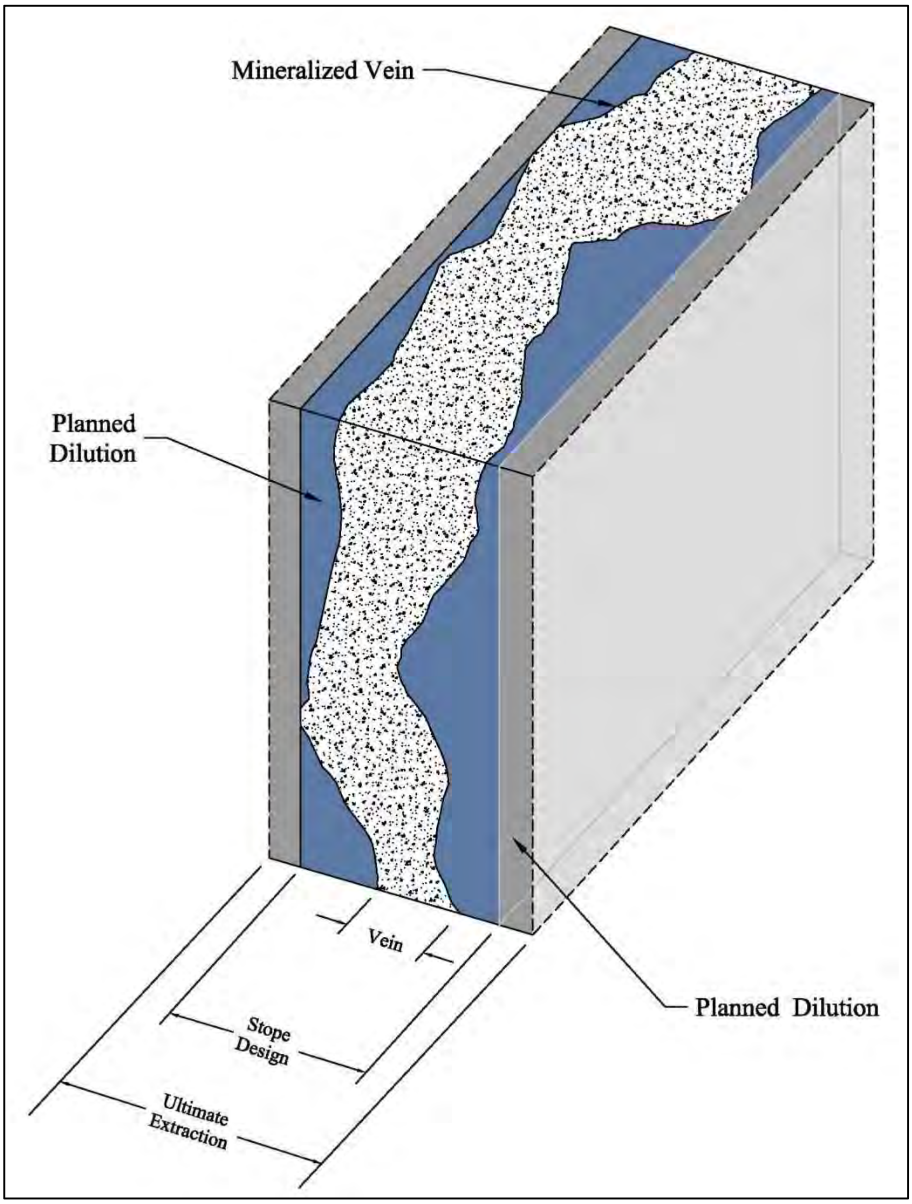
Other potential sources of internal dilution are resource blocks within the stope shapes with Au grades less than 3.0 g/t, or inferred category material which is assigned a value of zero. The uneconomic material or inferred blocks included within the mining shapes is a result of realistic stope design geometries for each mining method. Figure 15.2 shows an example of designed internal dilution in a typical planned discrete vein stope.

Combined Vein Stopes

In numerous situations, vein proximity provided the opportunity for improved economic extraction by combining two or more veins in a stope. Some veins were close enough to combine them into economic mineable shapes that would include the uneconomic or inferred material between and within veins. Identifying the combined vein stopes was largely a visual, manual exercise based on cross sections showing vein geometry and block grades.

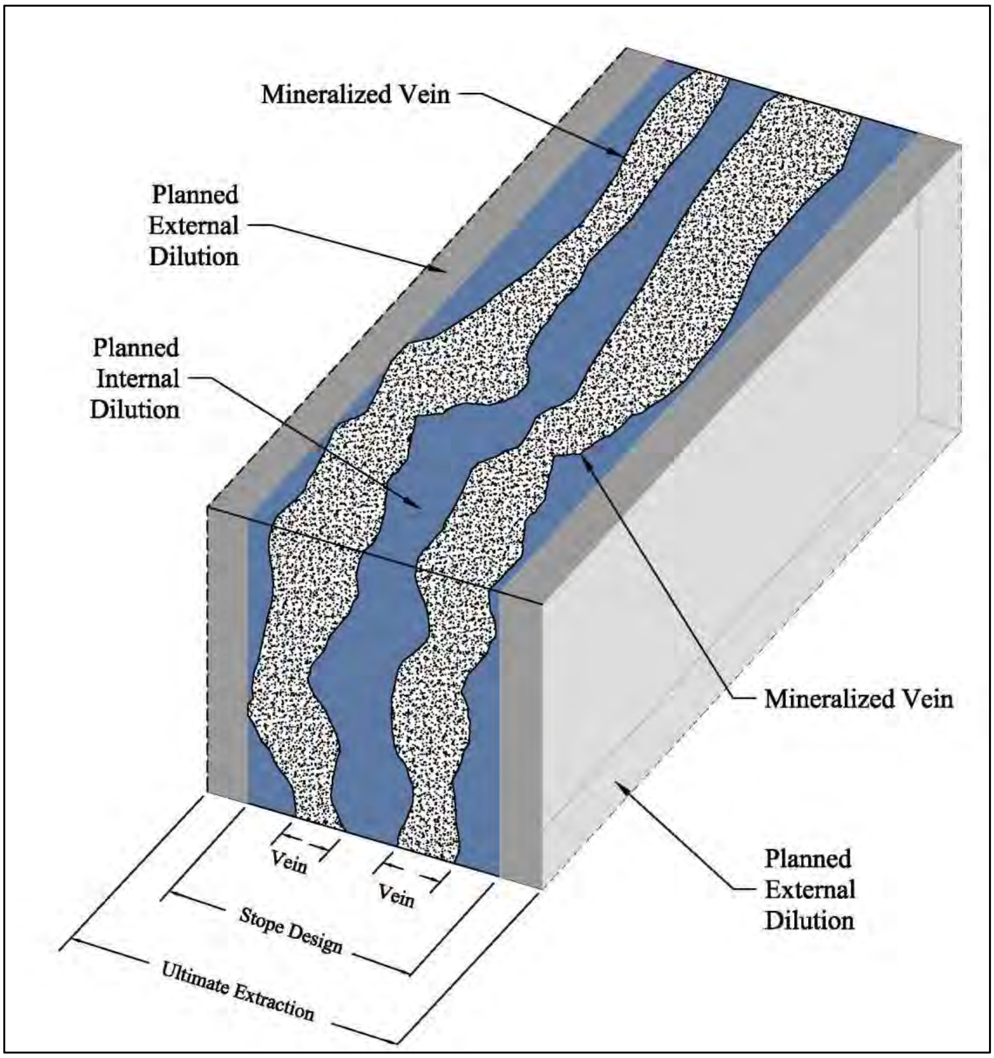
The metal content of the uneconomic material between veins that was classified as measured or indicated is included in the Mineral Reserves, and any inferred blocks that may have been included between veins were assigned a gold grade value of zero. Figure 15.3 shows an example of two veins combined into a larger stope block with the internal dilution between veins.

Figure 15.2 Discrete Stope Dilution



Source: JDS, 2016

Figure 15.3 Combined Stope Dilution



Source: JDS, 2016

External Stope Dilution

Planned external dilution was included by increasing the designed stope width using estimated overbreak based on in-situ stope width and proximity to other stopes. For both the discrete and the combined vein stopes, the dilution skin overbreak from Table 15.3 was used to estimate the ultimate extraction widths.

Table 15.3 External Dilution Parameters

Dilution Basis	Dilution "skin" (cm)
Vein true width < 80 cm, discrete vein mining, dilution grades from halo model	0
Vein true width > 80 cm < 2.0 m, discrete vein mining, dilution grades from halo model	20
Vein true width >2.0 m < 6.0 m, discrete vein mining, dilution grades from halo model	30
Vein true width > 6.0 m, discrete vein mining, dilution grades from halo model	50
Combined vein mining, dilution grades from halo model	50

Source: JDS, 2016

Figure 15.2 and Figure 15.3 show how planned external dilution is defined and accounted for in all stope designs by increasing stope widths to model overbreak for the fully diluted mining shapes.

After all stope designs were complete, the resultant diluted stope shape solids were validated and used to interrogate the resource block models. Results of these interrogations provide diluted tonnes and metal grades for each mining shape using only measured or indicated resource blocks from the vein and halo models.

15.6.2 Backfill Dilution

Longhole Stopes

Dilution in longhole stopes from paste backfill is estimated to average 2.9%. Dilution from paste backfill is applied to all longhole stopes in addition to internal and external dilution estimates. No metal values are assumed for the paste backfill.

Dilution from paste backfill in longhole stopes will come from the floor when working on top of paste backfill and from ends where mining along strike, adjacent to a previously filled stope. The intent of working on top of cemented paste fill is to provide a durable visible marker horizon to maximize recovery. Floor dilution from paste backfill will be minimal as the paste will contain cement and be designed for a minimum 7-day strength of 350 kPa. Where stopes are two or three sublevels high there will be no floor dilution between sublevels since the stacked stopes are drawn down from the bottom sublevel. Where draw points are not utilized, as with many 15 m high discrete vein stopes, remote longitudinal mucking on vein is estimated to average 10 cm of floor dilution.

The amount of paste backfill dilution from adjacent stope ends is a function of stope width and height as summarized in Table 15.4.

Table 15.4: Paste Backfill Dilution Parameters

Stope Width	Stacked Stope Height (m)	Paste Strength Required (UCS @ 7 days, kPa)	Paste Backfill Dilution (cm)
	15	350	50
Less than 2 m	30	350	100
	45	350	100
	15	700	50
2 – 6 m	30	700	100
	45	700	100
	15	1000	50
6 – 15 m	30	1400	100
	45	1400	100

Source: JDS, 2016

Cut & Fill Stopes

The high-grade nature of the deposit and expected disproportionate percentage of value in fines support estimating dilution due to mining loss. A 10% mining loss (see Section 15.7) is used to estimate gold losses in the backfill as well as the lower grades due to over-mucking the bottom. Additional dilution from waste rock backfill used in C&F stopes is not included since losses are accounted for in the 90% mining recovery.

Shrinkage Stopes

An estimated 10% dilution from backfill is estimated to come from shrinkage stopes where waste rock has either been top-loaded into the stope during drawdown or additional waste rock comes in from backfilled adjacent stopes. No metal values are assumed in dilution from waste rock.

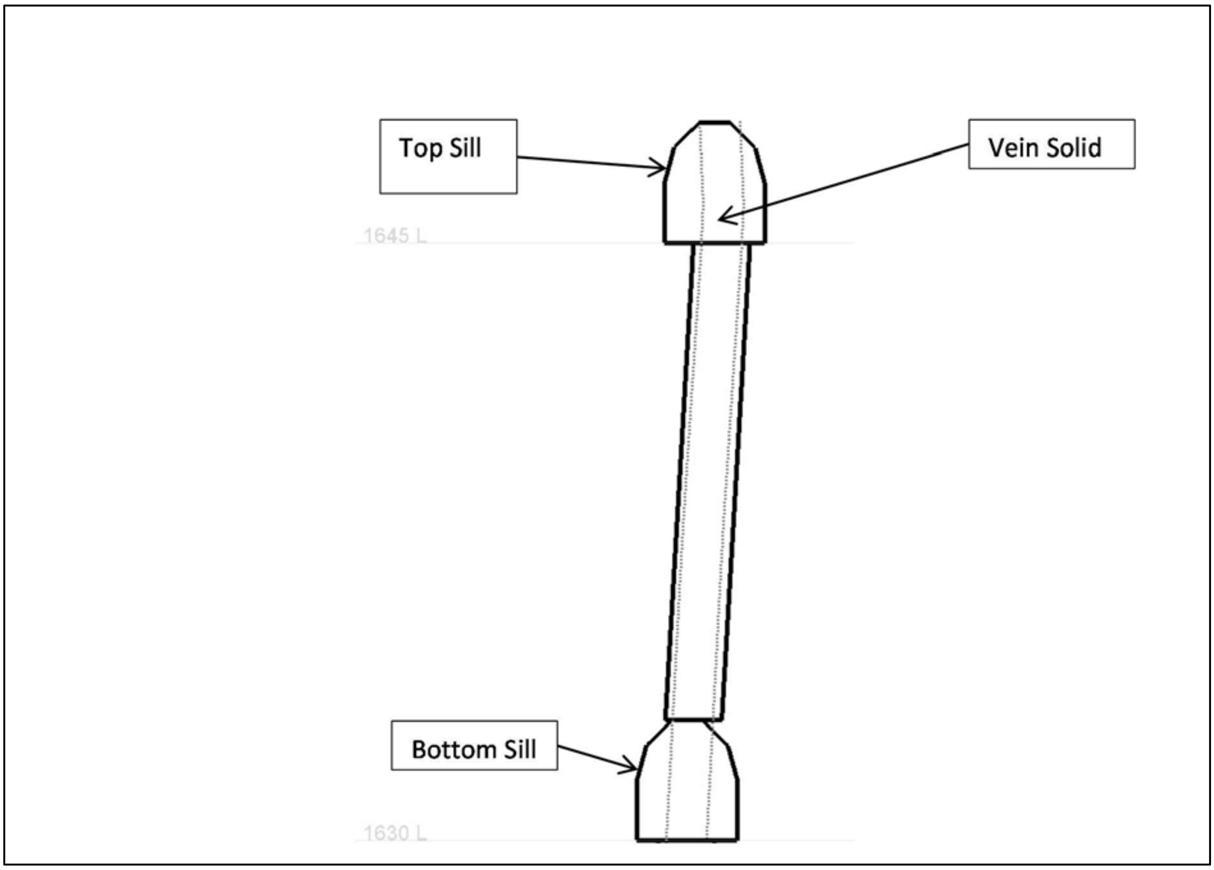
Development Ore Dilution

Stope sills developed to prepare stopes for mining are designed to a width of 2.5 m and incur varying degrees of dilution depending on vein width. The 2.5 m width is considered the minimum development heading width. For stopes containing veins wider than 2.5 m the sill development heading widths will vary to accommodate full vein exposure, and no external dilution is added to these development ore tonnes.

Stope access development that occurs on vein will have larger mining dimensions of either 3.5 m by 3.5 m or 4.5 m by 4.5 m. The objective is to minimize development in waste while generating development ore tonnes that pass the development ore COG.

To illustrate for typical narrow vein extraction, **F**igure 15.4 shows greater dilution the in top and bottom sills than in the longhole void.

Figure 15.4 Ore Development Dilution Example



Source: JDS, 2016

15.7 Mining Recovery

Mining recoveries were estimated for the three mining methods planned for Buriticá; longhole stoping, cut & fill mining and shrinkage stoping. The following table summarizes mining recoveries by mining method.

Table 15.5 Summarized Mining Method Recoveries

Mining Method	Mining Recovery (%)
Longhole	95
Cut & Fill	90
Shrinkage	95
Development Ore	95

Source: JDS, 2016

Mining recoveries were applied to each individual stope or development shape depending on mining method. In areas where mining has already occurred, the mining method selected is C&F with a mining recovery of 80% applied to stopes impacted by historical mining.

15.8 Mineral Reserve Estimate

The Buriticá underground Mineral Reserves estimate is shown Table 15.6.

Table 15.6 Buriticá Underground Mineral Reserves

Proven & Probable Reserves			
		Diluted Grade	
Deposit/Mining Method	Tonnes (kt)	Au (g/t)	Ag (g/t)
Yaraguá Longhole	4,578.60	8.02	21.67
Yaraguá Cut & Fill	1,665.80	9.33	28.48
Yaraguá Shrinkage	119.4	8.13	54.48
Yaraguá Development Ore	2,465.60	5.99	17.34
Total Yaraguá	8,829.40	7.7	22.19
Veta Sur Longhole	3,373.60	10.03	28.93
Veta Sur Cut & Fill	223.6	16.68	54.22
Veta Sur Shrinkage	95.5	7.61	24.97
Veta Sur Development Ore	1,194.70	7.62	21.23
Total Veta Sur	4,887.40	9.7	28.13
Total Buriticá	13,716.80	8.41	24.31

Source: JDS, 2016

The contained metal in the summary of Mineral Reserves shown in Table 15.5 totals 3,710,000 oz gold and 10,719,000 oz silver. Mineral reserves include dilution material and mining losses. Slight differences in contained metal ounces may result from using tonnes and grades rounded to significant figures in Table 15.1 and Table 15.5.

16 Mining Methods

16.1 Disclosure

The information contained in this report referring to mining methods was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

The methodology for Mining Methods have not been updated in light of the January 2019 Mineral Resource for Buriticá. The Company is in the process of updating the Mineral Reserve and as a part of that the Mining Methods will be reviewed and the results of this work reported at a later date.

16.2 Introduction

Three underground mining methods were selected for Buriticá; longhole open stoping (LHOS), cut & fill (C&F), and shrinkage stoping. Mining method selection was driven primarily by geomechanical rock quality, vein geometry, depth, proximity to old workings, stope margin and vein continuity. Unless geomechanical and geometry characteristics required either C&F or shrinkage, longhole mining was the preferred mining method due to higher productivities and lower mining costs compared to either C&F or shrinkage.

16.3 Deposit CHARACTERISTICS

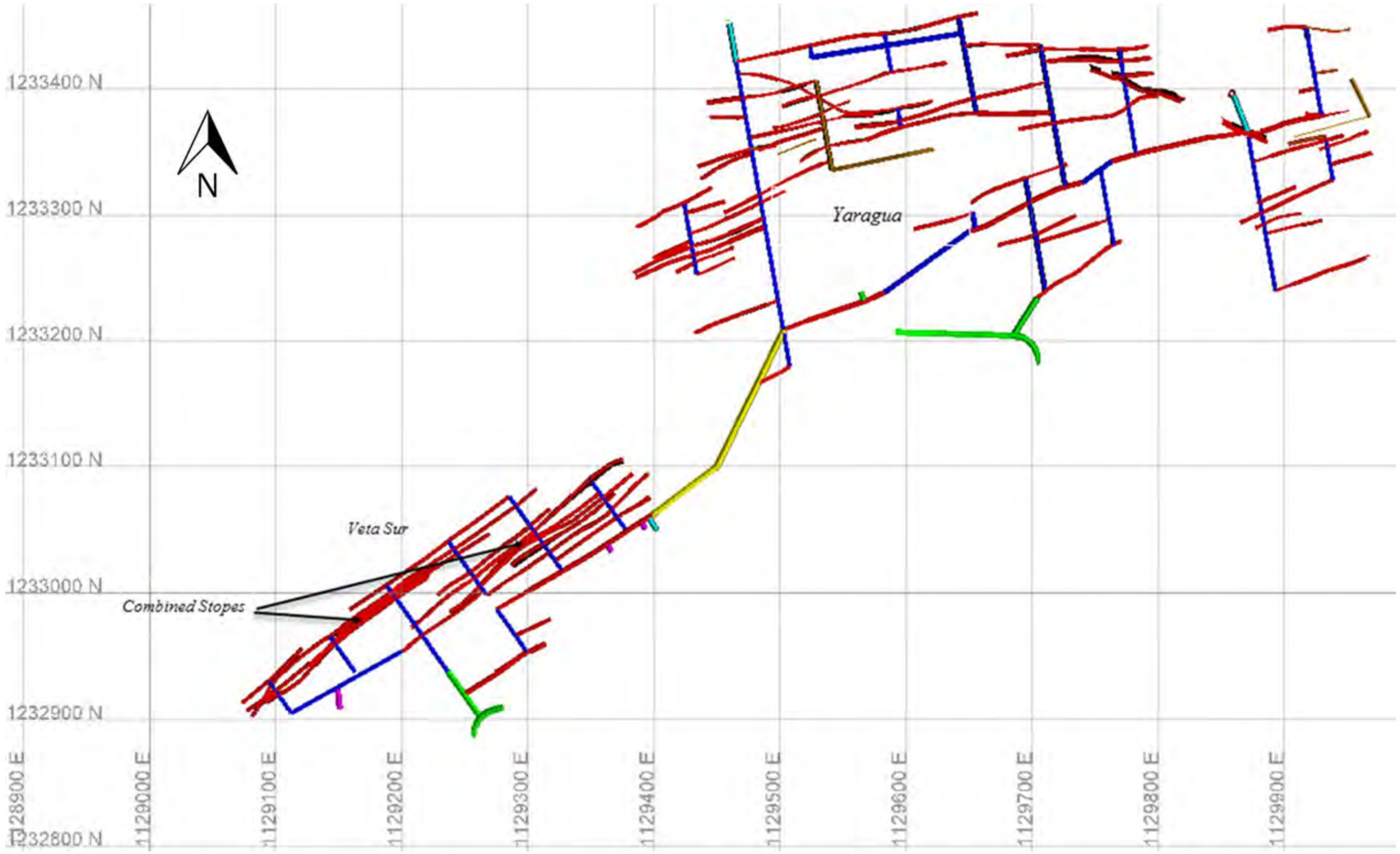
There are two vein systems that will be exploited in the Buriticá mine: Yaraguá and the Veta Sur. The Yaraguá system generally strikes to the east, and has been drill intersected over 1,125 m along strike and 1,540 m vertically. There are several veins within the system that strike to the northwest, intersecting the east-striking veins. Vein strike lengths vary from 50 to 1,100 m and vein dip distances vary from 50 to 1,300 m. The Veta Sur system strikes to the Northeast, and has been drill intersected over 1,140 m along strike and 1,600 m vertically. Vein strike lengths vary from 70 to 1,000 m, and vein dip distances vary from 150 to 1,350 m.

The mine production plan and Mineral Reserves include 72 veins; 41 in Yaraguá and 31 in Veta Sur. Horizontal distances between veins typically vary between 2 to 25 m, and in some cases veins converge or cross. Although most veins occur as discrete structures which can be mined alone, where practical and economic, certain closely spaced veins were combined during stope design. Yaraguá average diluted stope width is 1.9 m, and Veta Sur average diluted stope width is 3.2 m. Overall average diluted stope width is approximately 2.4 m, although combined vein stopes can reach 12 to 15 m width.

Metallurgical testwork determined that gold recovery differs for the two deposits. In general, ore from Veta Sur exhibits on average, 3% lower recovery than that from Yaraguá. Another important factor is Veta Sur on average has higher arsenic concentrations. Due to the metallurgical recovery difference and higher average Veta Sur arsenic content, the mine production plan balanced extraction to limit total mill feed to no greater than 50 percent from Veta Sur.

The mineralization continuity along strike and down dip at both Veta Sur and Yaraguá deposits has been well documented from extensive drilling and underground exploration as well as through CGI's Yaraguá mine operation experience including trial mining initiatives to date. As expected for high-grade precious metal mineralization, gold and silver distributions can be highly variable; however, the veins demonstrate excellent continuity above the COG values along strike and down dip. This important characteristic facilitates mining method selection because the veins can be sub-divided into economic mining shapes that are contiguous for extraction. See Figure 16.1 for an example of stope continuity on multiple veins between 1,390 masl and 1,405 masl.

Figure 16.1 Plan View Veta Sur and Yaraguá Showing Stope Outlines at Elevation 1390



Source: JDS, 2015

16.4 GEOTECHNICAL ANALYSIS AND RECOMMENDATIONS

16.4.1 Geomechanics

Geomechanical Characterization

The vein systems and surrounding host rock at Buriticá were characterized geomechanically from drill core; logging for rock mass quality and discontinuity orientation, and laboratory strength testing of core samples. This information was supplemented with mapping of existing underground workings. Two separate characterization campaigns have been completed for the Project. In 2014, a pre-feasibility level characterization program was initially performed by Ingenieria de Rocas Ltda. (Ingeroc). In 2015, a comprehensive supplemental characterization program was then performed by SRK to provide geomechanical characterization at a feasibility level (SRK 2016).

Overall, the two characterization programs consisted of the following components:

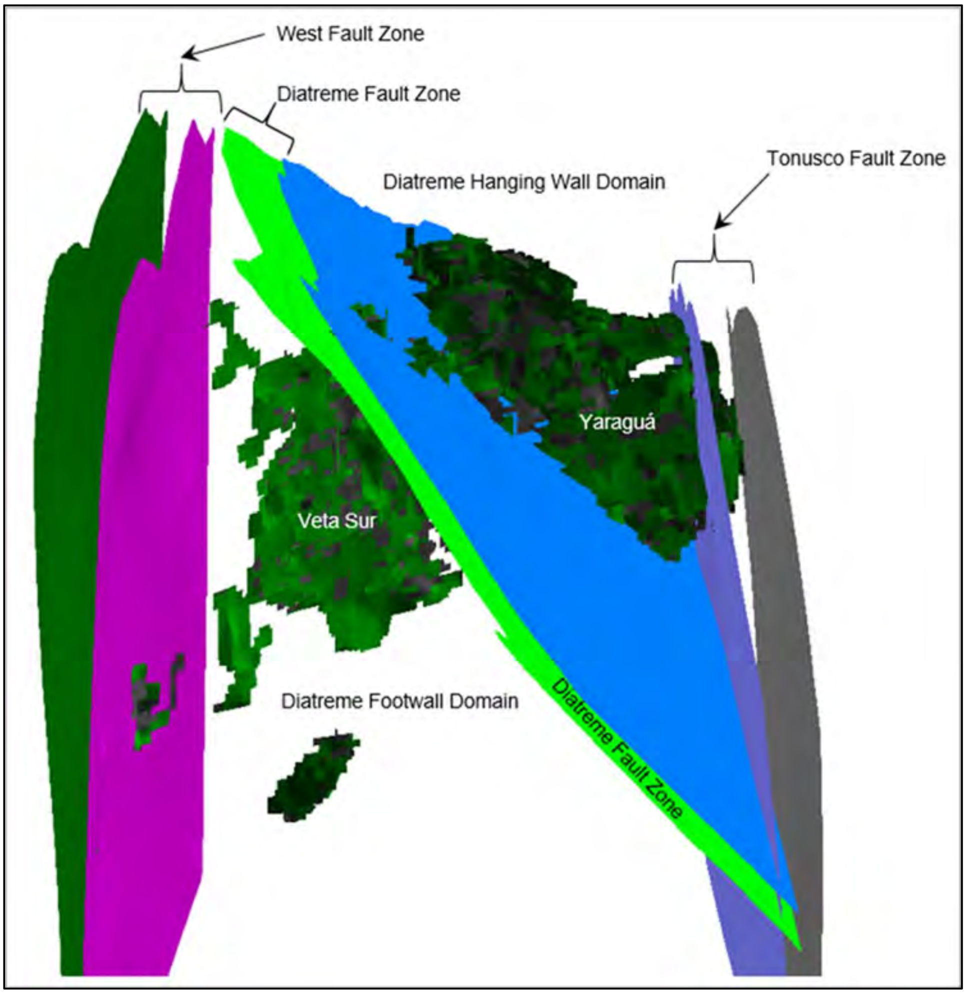
- Geomechanical logging of 3,950 m of core from ten diamond drillholes across the deposits;
- Orientation of discontinuities in core from four of the ten drillholes;
- Laboratory core sample strength testing including 81 uniaxial compressive strength (UCS), 14 triaxial compressive strength (TCS), 22 Brazilian tensile strength (BTS) and three saw-cut direct shear strength tests;
- Geomechanical mapping of existing underground workings and documentation of excavation stability; and,
- Rock mass classification of core logging data according to the Barton (1974) Q' and Bieniawski (1989) RMR systems.

16.4.2 Geomechanical Domains and Rock Mass Properties

Based on the geologic structural model, surface topography and the geomechanical characterization described above, the deposit was divided into 3D structural-geomechanical domains. The individual domains grouped areas of similar rock mass quality, which were used for developing geomechanical design parameters. Geologic structure was identified as the dominant factor controlling rock quality domains compared to lithology. Five structural-geomechanical domains were delineated (see Figure 16.2).

- Diatreme Fault Zone Domain: Delineated by two sub-parallel thrusts approximately 50 m apart containing many thrusts or thrust zones. The rock within this domain is typically poor geomechanical quality, and intensely sheared and damaged. The average rock strength from three valid UCS tests conducted on samples obtained is 50 megapascal (MPa); however, this value is anticipated to be unrepresentatively high as most of the rock core from this zone was too heavily fractured to obtain laboratory test samples;
- Diatreme Hanging Wall Domain: Defined as the area above the Diatreme Fault Zone and generally consists of fair quality rock with frequent Diatreme-parallel structures. The average intact rock strength from 17 valid UCS tests conducted on samples obtained within the domain is 98 MPa;
- Diatreme Footwall Domain: Defined as the rock below the Diatreme Fault Zone. The footwall domain is typically good geomechanical rock quality with significantly fewer structures. The average intact rock strength from 24 valid UCS tests conducted on samples obtained from the domain is 90 MPa;
- West Fault Zone Domain: Damaged zone associated with the regional West fault. Rock mass quality is anticipated to be poor, similar to the Diatreme Fault Zone. No laboratory test samples were obtained from the West Fault Zone Domain; however, the UCS strength is anticipated to be similar to that of the Diatreme Fault Zone; and,
- Tonusco Fault Zone Domain: Damaged zone associated with the regional Tonusco Fault. Rock mass quality is anticipated to be poor, similar to the Diatreme Fault Zone. No laboratory test samples were obtained from the Tonusco Fault Zone Domain; however, the UCS strength is anticipated to be similar to the Diatreme Fault Zone.

Figure 16.2 3D view of geomechanical domain boundaries (looking north)



Source: SRK, 2015

16.4.3 Stope Design Recommendations

The LHOS layout is designed using 15 m sublevel spacings. Where rock quality is sufficiently high to remain stable for stacked longhole stopes, sequential 15 m sublevels will be blasted up to a maximum height of 45 m, which will then be mucked from the lowest of the levels, and drawn down to create sufficient void space for continued longhole blasting. Stope lengths are typically 30 m. For the few 10-15 m wide stopes, lengths will be reduced to 15 m to reduce the hydraulic radius and improve ground stability. Potvin's (2001) empirical stope design method was used to estimate stable stope dimensions for the various ground conditions.

Design of parallel longhole stopes included minimum pillar width criteria based on stope height, rock mass quality, useful life and confinement conditions:

- 45 m height: 4 m pillar;
- 30 m height: 3 m pillar;
- 15 m height: 2 m pillar.

During drawdown, stopes will only be open to full height at the end of extraction. Blasted muck will provide confinement support to stope walls prior to final drawdown. Empty stopes will then be backfilled with cemented paste or waste rock depending on sequencing requirements.

For localized areas where poor ground conditions are anticipated such as within the Diatreme, West and Tonusco Fault Zone Domains, C&F mining will be used. Table 16.1 summarizes mining methods used for each geotechnical domain. Ultimate stope height will be determined from definition drilling results prior to mining. Shrinkage stoping is utilized based more on economic considerations than geomechanical. Shrinkage makes up less than 2% of the total reserves and is utilized in isolated areas of the deposit.

Table 16.1 Mining Methods and Stope Dimensions by Domain

Geomechanical Domain	Cut & Fill	15-m High LHOS	30-m High LHOS	45-m High LHOS
Diatreme Fault Zone	70%	30%	-	-
Tonusco Fault Zone	70%	30%	-	-
Diatreme Hanging Wall Zone	-	15%	60%	25%
Diatreme Footwall Zone	-	10%	20%	70%
West Fault Zone	100%	-	-	-

Source: SRK, 2016

16.4.4 Stoping Sequence and Sill Pillars

The magnitude and direction of in-situ stresses in the Buriticá Project area have not been directly measured. For this reason, stress conditions were estimated based on regional geologic information and site topographic features. Most of the mining will occur above the Higabra Valley floor in what is anticipated to be a relatively low stress environment with horizontal stresses approximately equal to or less than vertical stresses. However, high stress gradients can exist beneath deep valley floors such as the Higabra due to geometric effects thus horizontal stresses are anticipated to be higher below the valley floor.

To reduce potential stress impacts on mining, stopes have been sequenced to direct stresses away from the central mining areas and toward outer abutments. The mine plan follows an overall geomechanical sequence to mine from north to south. Northernmost veins are scheduled to be mined early as levels are developed in an attempt to divert stresses away from remaining stopes on the level.

Where three or more closely spaced parallel stopes need to be mined discretely, the outer stopes will be taken first leaving the middle stope(s) to create a wide temporary pillar between the outer stopes. After the outer stopes are backfilled, the middle stope(s) will then be mined in 15 m lifts to minimize potential latent effects caused by mining the adjacent stopes.

16.4.5 Stope Backfill Specifications

Cemented backfill will be used to fill stope voids to provide confinement on the waste rock pillars in the hanging wall and footwall between parallel stopes spaced close together, and as the fill develops strength, to reduce lateral loads on these pillars. This is an important aspect when mining closely spaced sub-vertical veins so adjacent veins planned for mining are not sterilized due to potentially unstable waste rock pillars between sub-parallel stopes. The use of cemented backfill also enables secondary stopes along strike to be mined directly adjacent to the primary backfilled stopes without requiring a rib-dip pillar.

Requirements for cemented paste backfill UCS strength were developed analytically using Marston's (1930) two dimensional arch solution to estimate the maximum vertical stress within the stope backfill, taking into consideration the horizontal pressure or confinement provided by the stope hanging wall and footwall. The required backfill strength was then calculated to resist the maximum vertical stress predicted by Marston's equations assigning a factor of safety of approximately 2.

Based on the analyses, the following was concluded:

- Stopes up to 2 m wide - 7-day UCS of 350 kPa should be used. Once cured, the maximum vertical backfill stress will be reached within the first 15 m of backfill height and as such, the required backfill strength is the same for the 15-m, 30-m and 45-m high cases;
- Stopes between 2 and 6 m wide - 7-day UCS of 700 kPa should be used;
- Stopes between 6 and 15 m wide - 7-day UCS of 1 MPa for 15 m high stopes, and 1.4 MPa for the 30-m and 45-m high stopes should be used.

The specifications for backfill UCS requirements are provided for 7-day curing strengths in alignment with the planned approximate two week mining cycle (including mining, backfilling and curing).

16.4.6 Mine Infrastructure and Offset Distances

Mine infrastructure will include two ramp systems (one for Yaraguá and one for Veta Sur), a light maintenance shop area on the 1,525 m level, electrical substations, explosives storage facilities, compressor stations, ore and waste rock passes, ventilation raises and small diameter boreholes for backfill and utilities.

The light maintenance shop is located in the Diatreme Hanging Wall domain where good rock quality is anticipated. Pillars between the individual bays within the shop areas are designed with a minimum 2:1 (W:H) ratio for stability purposes.

Ore passes and ventilation raises are designed within the Diatreme Footwall and Hanging Wall domains to the extent possible; however, a small percentage will have to be constructed through the Diatreme Fault Zone. Pilot holes will be drilled and geotechnical investigations conducted in advance of the raises to verify rock quality. If necessary, fault or fracture zones may be pressure grouted from the pilot hole to improve ground conditions for the larger diameter raises.

Primary ramps are located in the good quality domains to the greatest extent possible, and where ramps and other access development headings must pass through the Diatreme, Tonusco, or West Fault Zones, appropriate ground support will be used.

Offset distances were confirmed with 3D numerical stress modelling. Minimum offset distances are shown in Table 16.2.

Table 16.2 Minimum Offset Distances

Geotechnical Guidance	Minimum Value (M)
Minimum offset from nearest stope, primary access and haulage ramp	30
Minimum offset from nearest stope, internal access ramps	20
Minimum offset from nearest stope, footwall drives	20
Minimum offset from nearest stope, drawpoint scram drifts	8
Minimum offset from nearest stope, ore and waste passes	25
Minimum offset from nearest stope, ventilation raises	25
Minimum offset from nearest stope, conventional raise	15

Source: JDS, 2015

16.4.7 Ground Support

Based on the range of Q' values as well as the size and expected life of the various mine openings, ground support recommendations were developed according to the Barton (1974) criteria. Different criteria were used for primary (permanent access) and secondary (temporary) stopes and development openings.

16.5 Hydrogeology Analysis and Recommendations

16.5.1 Conceptual Hydrogeologic Model

The development of the conceptual hydrogeological model of the Buriticá area was based on recently obtained field information, previous investigation results, and experience with similar hydrogeologic environments.

Available information verified that the hydrogeologic system is a fractured rock aquifer, where groundwater flow and movement is controlled predominantly by the quantity and permeability of fractures associated with faulting and mineralization, and not by primary rock permeability, which overall is low. It is believed that the aquifer system in the Buriticá area is dominantly unconfined, although some areas may locally be confined due to lack of fracturing.

16.5.2 Hydrogeologic Modelling

To estimate groundwater inflows to underground workings during mining, Montgomery & Associates constructed a numerical groundwater flow model calibrated with available hydrogeologic data.

Groundwater Flow Direction

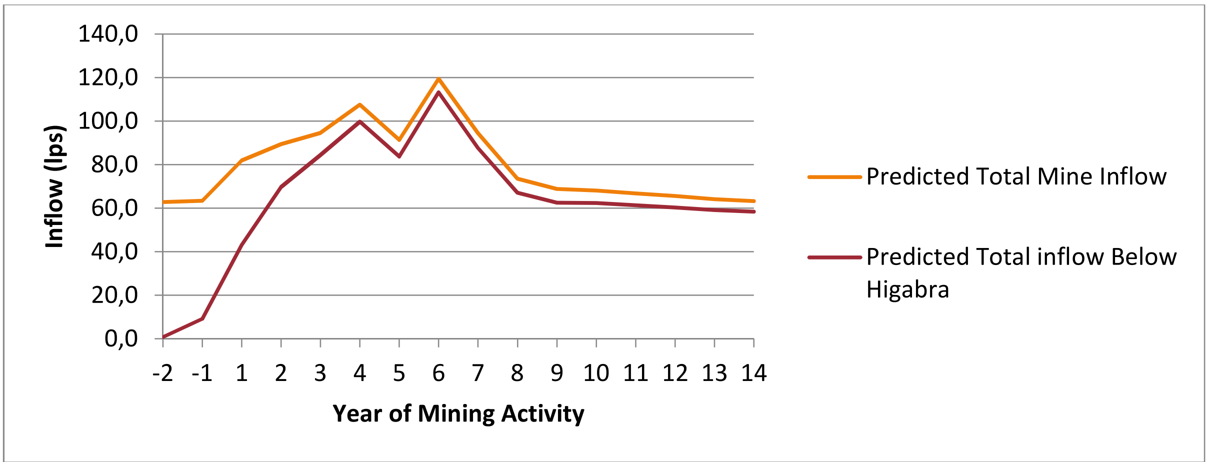
Groundwater flow direction is controlled by hydraulic gradient and also the orientation of the fractures. Regionally, the groundwater system flows are generally to the north and east following topographic gradient. Locally, the groundwater gradient indicates that flow in the Buriticá area is toward the east/Northeast from Yaraguá and Veta Sur areas.

16.5.3 Hydrogeologic Modelling Results

Figure 16.3 shows modelled groundwater inflow rates using the mine design and schedule. The main focus of the hydrologic modelling is to estimate the groundwater inflow volumes to the mine workings during development and operations. Using hydraulic conductivity, porosity, and permeability parameters in conjunction with infiltration coefficients, Montgomery & Associates estimated groundwater inflows.

Inflows were estimated for areas both above the Higabra level where water will flow by gravity from the mine and below the Higabra level, where pumping will be required. As mining advances below the Higabra into the deeper levels of Yaraguá, groundwater inflows increase over time to reach a maximum in years 4 to 6 when mining occurs between elevation 555 and 730 masl. These modelled inflows were used to design and estimate costs of pumping stations with sufficient capacity for peak estimated inflows. By the end of year 10, ore between elevations 555 and 730 masl will be mined out, and total inflows stabilize at about 60 l/s. Seventy-nine percent of LOM ore originates from above the Higabra level, and is not impacted by these deeper flows and pumping requirements.

Figure 16.3 Modelled Groundwater Inflow Rates

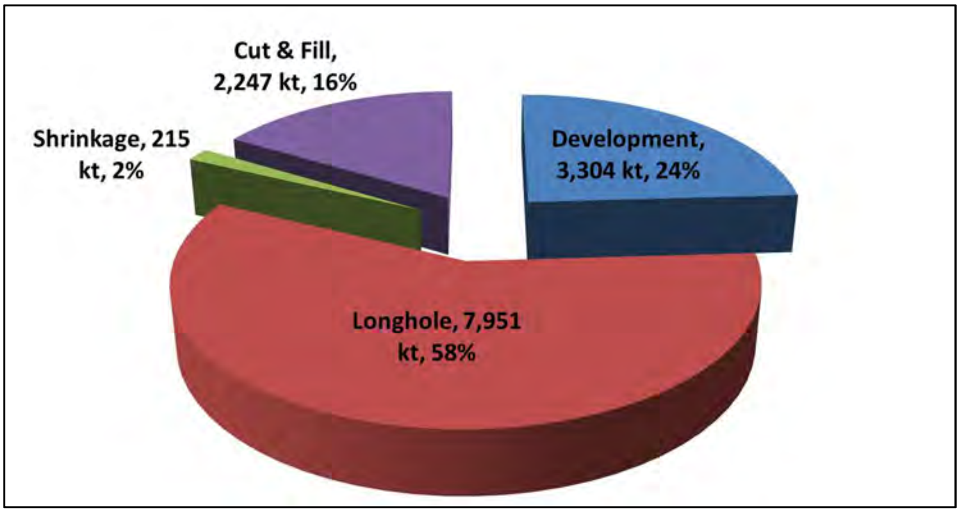


Source: JDS, 2015

16.6 Mining Methods

Three underground mining methods were selected for Buriticá; LHOS, C&F and shrinkage stoping. The bulk of the mining is with LHOS. C&F stopes are prevalent closer to surface in the Yaraguá deposit and along the Tonusco and Diatreme faults zones where ground is weaker. Shrinkage stoping is reserved for discrete, narrow veins in isolated areas that cannot support the sublevel development to mine them with more productive methods. Figure 16.4 illustrates the ore tonnage breakdown by mining method. Substantial mill feed comes from development ore.

Figure 16.4 Ore Tonnes by Mining Method



Source: JDS, 2015

16.6.1 Longhole Mining

LHOS will be used where rock quality and ground conditions allow and where vein thickness is relatively uniform. It is the highest productivity method selected for the production phase, but given many veins are relatively narrow, considerable preparation is required to maintain stope inventory.

LHOS is the least selective of the three methods when applied over long vertical distances due to drillhole deviation and vein geometry variations. To mitigate these effects, longhole drilling distances at Buriticá will be limited to 12 m.

During top and bottom sill development, mine geologists will inspect and map headings to identify structural controls and collect channel samples as part of the mine grade control protocol. Information from channel sampling and mapping in the top and bottom sills will be used, in conjunction with exploration and definition drilling results, to identify the economic limits and complete final stope designs. Mine experience to date verifies that structural boundaries can be used to define vein and stope limits. The mining engineers will use all collected grade control information to prepare drillhole and blasting sequences to minimize extraction dilution and maximize ore recovery. Mine surveyors will then locate and mark drillhole locations and provide drillhole lengths and orientations for drilling.

According to final stope design, the longhole mining cycle will begin with blasting the drop raise to provide a free face for the first longhole round and initial empty volume for blasted swell. Production blasting will begin at the stope ends and retreat to the access.

16.6.2 Cut and Fill

C&F mining methods were selected for areas that have lower quality rock. C&F was selected for all stopes within 70 m of surface due to observed weathering profiles, which are associated with weaker ground conditions. In areas of documented historic mining, C&F was also selected because these areas are typically near surface and the selectivity allows safe and high recovery extraction. This method limits vertical stope wall exposure during extraction.

The C&F mining cycle begins with the pivot ramp driven downward from the footwall to access the bottom of the stope block at its midpoint along strike. Once the bottom sill is mined, production uppers (2 m) are drilled and blasted for the first cut, and then the ore is mucked and the stope backfilled with mine waste rock using a remote LHD. The back is then taken down in the pivot ramp to access the next lift. The stope is then supported with the drill jumbo or miners using jacklegs working from the waste fill. Once ground support is installed, mine geologists will map and sample the stope back as part of the grade control protocol. The next cut won't be drilled until the limits of economic mineralization are marked on the back.

An alternative to the uphole technique (uppers) would be breast mining in which the face is advanced in horizontal 2-3 m rounds, depending on stope width, and then ground support installed. This C&F technique allows ground support to be installed soon after blasting and is suitable for weaker ground shorter standup times.

16.6.3 Shrinkage Stoping

Shrinkage stoping accounts for less than 2% of planned mill feed but is nonetheless an important option for mining methods selected for Buriticá and offers additional production flexibility. Shrinkage stopes are designed and planned in isolated areas of the mine where extensive level development is not justified or required. It will be the least productive of the three mining methods and will be used only where economically justified.

Stope development begins with sill cuts driven on vein at the top and bottom of the stope block along with conventional raises driven at both ends. Raises provide personnel and service access, as well as flow through ventilation. Extraction drifts and drawpoints are driven on the bottom level.

Production mining commences with drilling the full stope with uppers using conventional jackleg drills and stopers. After blasting, approximately 30% to 35% of ore blasted within the stope must be drawn down in a controlled fashion so enough broken ore remains in the stope as a work platform. The process of drawing down ore can result in an uneven working surface within the stope so slushers and shovels will be used to level the stope floor as ground support is installed on re-entry.

Before subsequent rounds are drilled and blasted, mine geologists will inspect, channel sample, and mark the boundaries of economic mineralization. Keeping blasted ore within the stope provides a working surface for miners as well as maintaining stope sidewall stability.

The last step of the shrinkage stope mining cycle will be to completely draw down all remaining blasted ore within the stope. Access into the stope by miners will no longer be required so the stope is completely emptied. Once emptied, the stope can be left empty, or filled with waste rock or paste backfill.

16.7 Mining Dilution and Recoveries

See Sections 15.6 and 15.7 for a discussion on how mining dilution and recovery parameters were developed and used for stope design.

16.8 Mine Design

Existing access ramps at Yaraguá and Veta Sur will be slashed to 5 m by 5 m, and portals reconstructed as necessary prior to continuing development. The Higabra portal and adit will not require slashing or portal reconstruction. All main ramps will be mined to full dimensions of 5 m by 5 m with an arched back. Ramps will be located as close to the deposits as possible yet far enough away to ensure life of mine (LOM) stability.

Mine design criteria were developed as shown in Table 16.3.

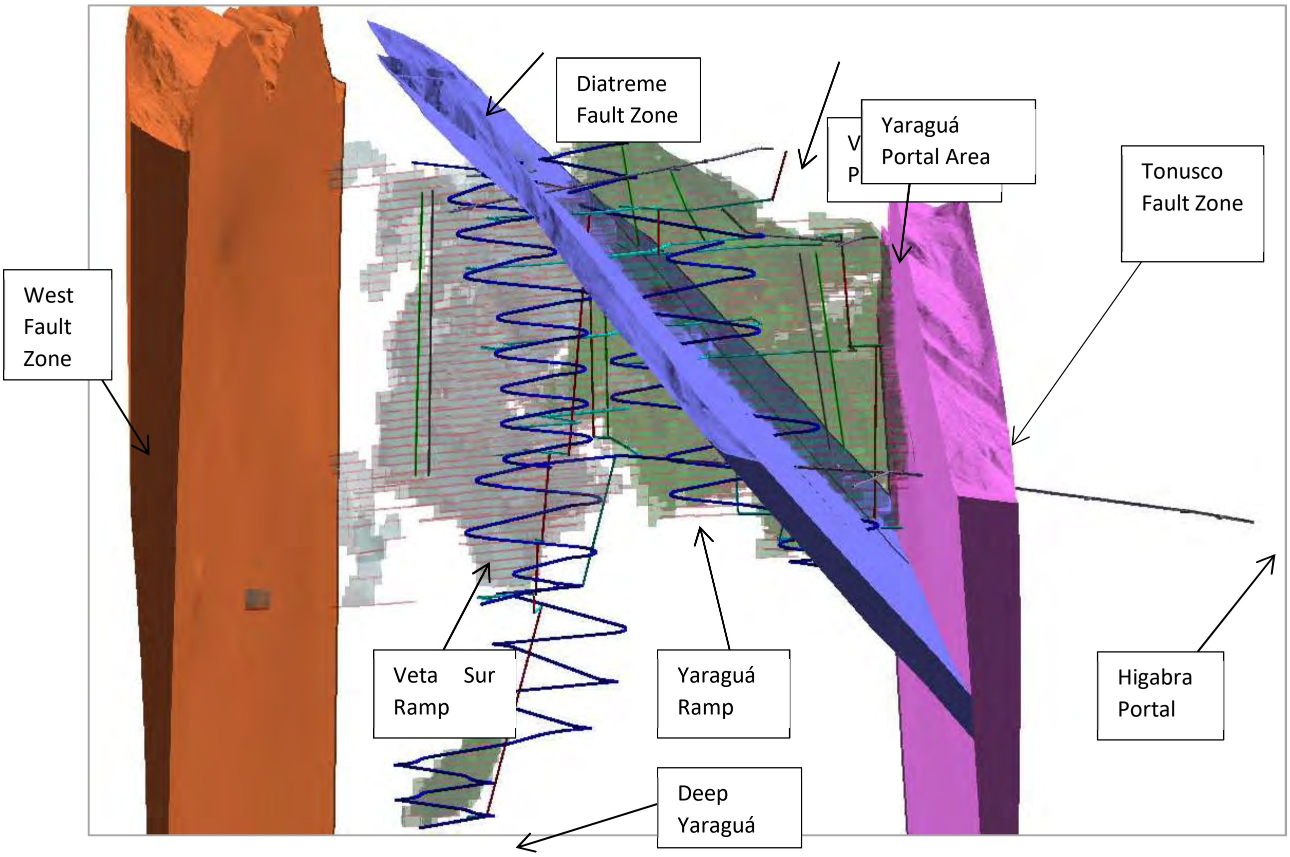
Table 16.3 Mine Design Criteria

Development Heading Parameters - Horizontal/Incline/Decline	Width (m)	Height (m)	Length (m)	Maximum Gradient (%)	Minimum Gradient (%)
Main access and haulage ramps	5	5	Varies	15	15
Centerline radius of curvature - main access and haulage ramps			20		
Internal access ramps for longhole, C & F, and shrinkage stopes	4	4	Varies	15	15
Centerline radius of curvature - internal ramps			16		
Attack ramps for cut and fill stopes	3.5	3.5	Varies	18	-18
Footwall drives above Higabra elevation (scooptram ore and waste to ore/waste passes)	3.5	3.5	Varies	2	2
Footwall drives below Higabra elevation (truck loadout required)	4.5	4.5	Varies	2	2
Longhole stope sills (minimum dimensions, maximum width depends on vein width)	2	3	30	2	2
Stope drawpoints	4	4	8	2	2
Exploration/definition drilling bays	4.5	6	15	2	2
Muck bays (main access and haulage ramps)	4.5	4.5	12	-20	-2
Sumps	4.5	4.5	8	-20	-2

Source: JDS, 2015

Additional design criteria include avoidance of fault zones where possible, and when unavoidable, use of additional ground support and reduced advance rates in mine scheduling. Figure 16.5 shows an illustration of the primary ramps, portals, ventilation raises, ore and waste passes in relation to identified fault zones.

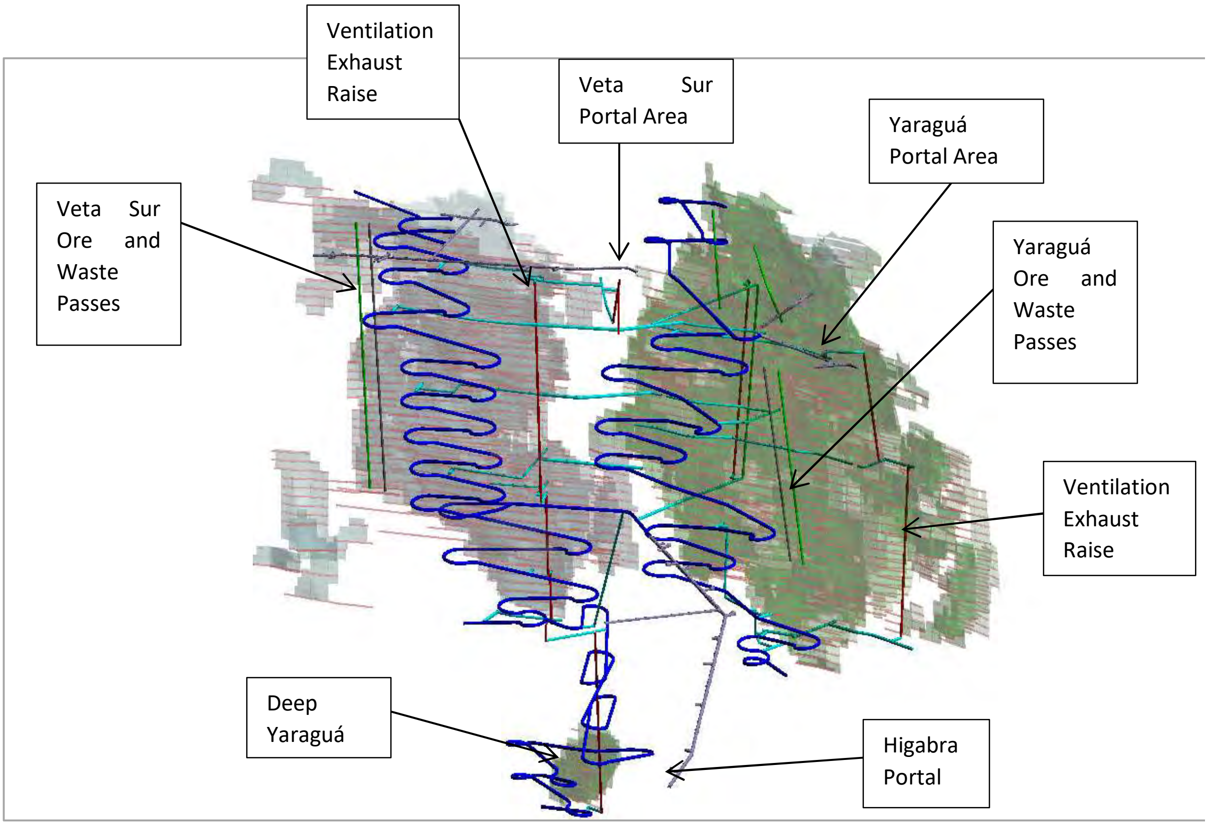
Figure 16.5 Primary Mine Infrastructure Design (Looking North)



Source: JDS, 2015

Figure 16.6 shows the primary mine infrastructure in a 3D rendering looking North-East. The deep Yaraguá orebody will be accessed by extending the Veta Sur ramp to elevation 555 masl. The opportunity exists to complete infill drilling in the zone between the bottom of the main Yaraguá resource and deep Yaraguá. If the intervening Yaraguá inferred resource can be upgraded, this material could be included in future mine plans.

Figure 16.6 Primary Mine Infrastructure Design (3D Rendering Looking NE)



Source: JDS, 2015

All primary ramps shown are 5 m by 5 m, ore and waste passes are 2.0 to 3.0 m diameter raise bores, and the majority of ventilation raises are raise bores 4.0 to 5.0 m in diameter. The ventilation raise servicing the deep Yaraguá is a 3.0 m by 5.0 m raise climber excavation.

16.8.1 Level Access Design and Layouts

Sublevel access will be developed at 15 m vertical intervals from the Veta Sur and Yaraguá ramps. Cross-cuts will be driven to access all veins on the level, and access drifts will be driven on vein as much as possible. Mine geologists will map and channel sample development headings to identify structural boundaries, and to verify location and intervals of economic veins for near-term mine design and planning. Concurrently, definition drilling will be performed to obtain additional information for mine planning and stope design. An extensive definition drilling program has been included in the operating plan. The information collected during development and operations will be used to reconcile with the resource model and use experience gained to improve resource estimation methodologies.

16.8.2 Access

Surface access to the Veta Sur and Yaraguá portals is by existing road. Higabra portal will be accessed from the main valley access road scheduled for construction prior to pre-production mining activities. These three portals will serve all mine access requirements for the mine life.

16.8.3 Development Types

Lateral development types include conventional mechanized jumbo drill & blast for primary and access ramps, footwall drives, cross-cuts, sumps, maintenance facility, and other excavations for mine services. This development is scheduled using CGI equipment and personnel.

Vertical development types include raise bores for ventilation, waste passes and ore passes. Raise bore diameters range from 2.0 m for rock passes to 5 m for ventilation, and will be contracted. Rectangular and square raises are also planned to be developed using a raise climber, which will also be contracted. A small amount of conventional raising may be required and will be accomplished using CGI equipment and personnel.

Boreholes of varying diameters are also planned to deliver paste backfill, accommodate pipes for clean and mine drainage water, and carry other services. These boreholes are scheduled using contractor raise bore machines that are able to drill pilot holes up to 24” diameter.

16.9 Mine Services

16.9.1 Mine Ventilation

The ventilation network and fresh air supply quantities were designed to comply with U.S. and Canadian ventilation standards. Required airflows were determined at multiple stages during the mine life, using equipment numbers and utilization, specific engine types and exhaust output, and personnel working underground. For Buriticá the following were determined:

- Equipment being purchased and used underground will meet the new Tier 3 or Tier 4 U.S. EPA diesel emission standards;
- During peak production, 16,680 m^3/min will be required to remove diesel emissions;
- Total 400 employees at 3.0 m^3/min/person underground will require 1,200 m^3/min; and
- The additional 1,320 m^3/min is for worker comfort and air quality.

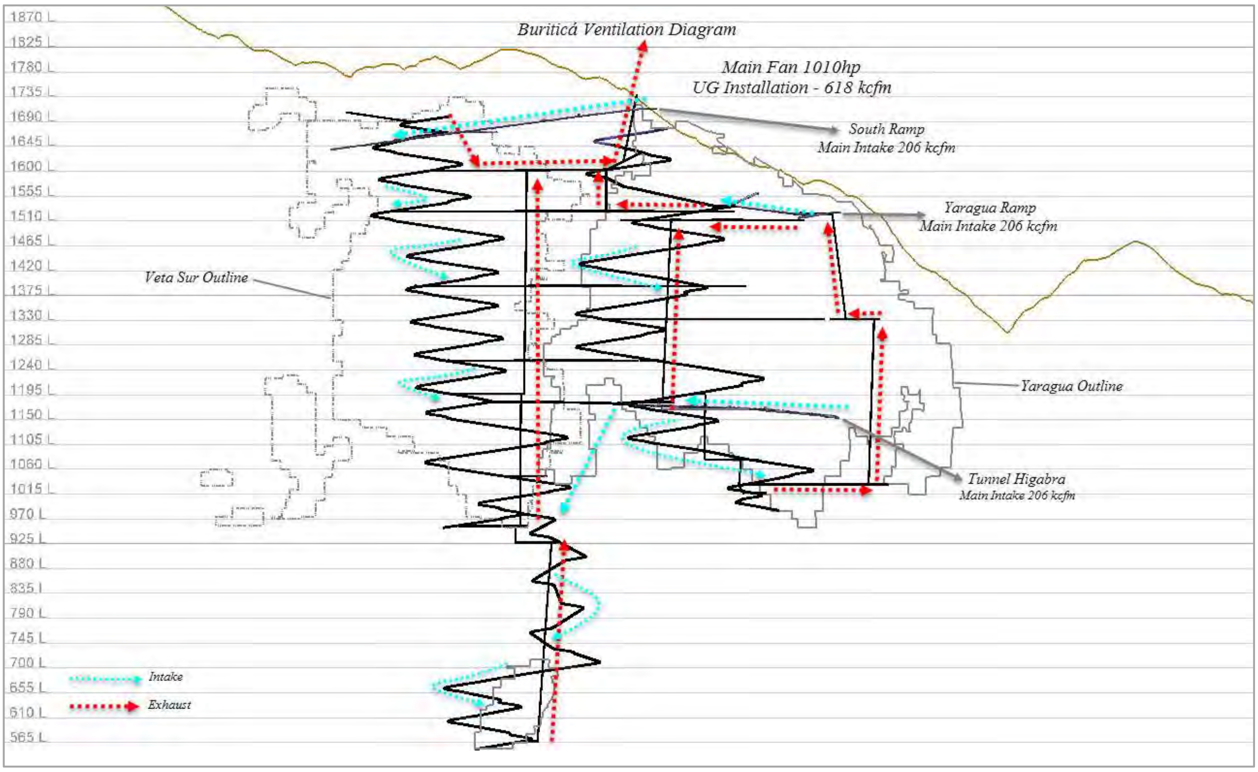
Total designed capacity is 19,200 m^3/min. Initially, surface fans, vent ducting, and booster fans will be used to advance underground development from the Higabra adit, Yaraguá and Veta Sur ramps. CGI has sufficient ventilation fans currently on-site to use for development start-up.

During pre-production, the peak ventilation quantity required will occur in month 16 (147.7 m^3/s or 312,700 cfm). After the connection is made between the Yaraguá ramp and upper Veta Sur ramp, exhaust fans will be installed at the Yaraguá portal, and fresh air will intake from the Veta Sur portal and the Higabra Portal. This connector drift will minimize pre-production ventilation fan requirements and power costs.

The permanent ventilation network will consist of three components: Primary ventilation fan, secondary fans and auxiliary fans. The main ventilation fan will be a single 19,200 m^3/min fan installed underground in a ventilation gallery. Fresh air will intake via the three portals and be directed to the active mining levels through the main ramps. Level ventilation will be controlled primarily by regulators. A series of 4.0 m and 5.0 m diameter exhaust raises will collect and direct exhaust air to the main fans and out of the mine. Air from the exhaust airways will not be re-used again in work areas.

Figure 16.7 shows the primary ventilation circuit to support mine production. All primary ramps will be fresh air throughout the mine life. The ventilation system is design to balance without using mine doors.

Figure 16.7 Primary Ventilation Network



Source: JDS, 2016

16.9.2 Water Supply

During pre-production mine development, the current Yaraguá and Veta Sur mine service water systems will be used, and supplied from a stream source in the Higabra Valley. Once the Veta Sur ramp and boreholes for water pipes are complete the permanent mine water is supplied from dewatering flows.

Production water requirements are estimated to average 6 to 8 litres per second (l/s) with a peak demand of 12.1 l/s. Water from the Higabra level will be pumped to an intermediate holding/transfer tank located on the 1,390 m level at a design rate of 12 l/s. From this location, water will distributed on levels beneath the 1,390 level, or pumped to the Veta Sur portal holding tank at the same design rate of 12 l/s. The surface tank will supply water for the upper levels, and fire water and water to the pastefill plant. Level switches installed in the intermediate and surface tanks will be connected to pump controls to maintain supply.

16.9.3 Dewatering

Drain holes from the Higabra adit will dewater the upper parts of the mine where it will flow by gravity to surface. For levels above Higabra, there are several service boreholes designed for each deposit and located between them which extend from the uppermost workings down to the Higabra level. Level accesses, cross-cuts, and most other mine development will be driven at an average +2% grade to direct mine water flows towards these main drainage boreholes, or intermediate sumps.

Dewatering below Higabra will include drainage galleries and collection sumps developed with the main decline. Pumps, designed to handle up to 10% solids, will discharge water to the Higabra adit where it will flow by gravity to surface. The cost for sumps, pumps and excavations are included as sustaining capital. All Higabra adit discharge will be piped to settling ponds or directly to the water treatment facility.

16.9.4 Electrical Distribution

Electrical power is currently supplied to Continental's small-scale operation from the 13.2 kV local power grid. During the pre-production period, peak power demand may require supplemental diesel gensets.

A new 110 kVA power line as described in Section 18, Project Infrastructure and Services, will be connected with the main substation located in Higabra Valley. From the Higabra substation, the main mine power cable will enter the Higabra portal, and overhead transmission lines will supply power to the Veta Sur and Yaraguá portals. All main mine power will be distributed at 13.8 kV; the primary ventilation fans will be 4,160 volts with other mine equipment specified at 600 volts. Mobile load centers and transformers at compressor locations will step down main mine power to required voltages. This main power distribution will follow ramp systems with level take-offs as required.

In the production phase, the mine power distribution system is designed with redundancy to ensure the mine maintains power in case one power line should be disrupted for any reason.

RDalflyen Consulting Inc. conducted a preliminary load flow study for the mine using the estimated mine power demand provided by JDS. The information provided was used to develop a model of the mine power system using ETAP™ software version 12.6.5. A Motor Acceleration Analysis was performed to identify any issues with motor starting when all the utilized loads are online. Soft starts are recommended for motors greater than 100 HP in order to improve overall system reliability. Furthermore, soft starts may be required to simultaneously start multiple motors.

Table 16.4 summarizes estimated mine power requirements by period.

Table 16.4 Summary LOM Power Requirements

Year	Total Connected Load (kW)	Total Utilized Load (kW)
-2 (pre-production)	1,314	425
-1 (pre-production)	1,812	725
1	5,657	2,921
2	6,575	3,502
3	6,951	3,877
4	8,770	4,597
5	9,825	4,658
6	9,523	5,166
7	9,549	4,474
8	9,479	4,082
9	9,344	2,964
10	9,094	2,781
11	8,959	2,899
12	9,364	3,029
13	8,192	2,065
14	7,546	1,016

Source: JDS, 2016

16.9.5 Compressed Air

Compressed air will be supplied using 185 kW portable electric compressors that will service mining areas spanning 3 to 4 levels; these compressors will be relocated as mining progresses.

16.9.6 Mine Communications

A leaky feeder system with RFID tracking is included. Mobile equipment operators, light vehicles, and supervisors will be equipped with hand-held radios to communicate with personnel on surface. RFID tags on trucks will be used for tracking equipment movements and equipment dispatching.

16.9.7 Portable Refuge Chambers

Portable refuge chambers are planned for use where no secondary egress is available during mine operations.

16.9.8 Maintenance Facilities

An underground maintenance facility with an equipment wash bay, lube & oil change bays, jackleg repair, electrical shop, and warehouse will be constructed for routine services and small repairs. All equipment requiring a major service, and component change-out or repairs will be taken to the surface facility.

16.10 Unit Operations

16.10.1 Drilling

There are five principal drilling machines selected for Buriticá. Each has their own primary use:

- Electric-hydraulic development drill jumbos. Twin boom jumbos are planned for large dimension development rounds. A single boom jumbo will be used for smaller development headings;
- Bolting Machines – Ground support installation;
- Stopemate – Longhole drilling;
- Long Tom jackleg drill jumbos – C&F production drilling, Longhole stope sill development; and
- Jackleg drills – Shrinkage mining and general purpose drilling.

Drilling productivities (m/percussion hour) were built up from first principles and these vary by drilling machine type and heading dimensions. Jumbo drilling rates vary from 60 m/hr in small headings to 80 m/hr in large headings. Long Tom drill penetration rates average 35 m/hr, longhole drill machines average 38 m/hr and jackleg drilling averages 17 m/hr.

16.10.2 Blasting

Blasting crews will be trained and certified in Colombia for explosives use. ANFO will be used for most production blasting and some development rounds. Emulsion cartridges will be used in wet conditions. Also required will be boosters, primers, detonators, shock tube, detonation cord and other ancillary blasting supplies.

Bulk explosives will be stored in a secure surface powder magazine in accordance with current Colombian explosives regulations. The blasting crews will pick up the estimated quantities of explosives required for each shift using explosives transport vehicles and deliver those explosives to working faces and explosives-loading equipment underground. Excess explosives and accessories will be returned to the secure powder magazine every shift.

Blasting will occur at designated times using a centralized blasting system, and where ventilation allows, multi-blasting of isolated high priority development headings is anticipated.

16.10.3 Ground Support

Ground support will be installed in accordance with specifications based on geomechanical analysis provided by SRK for the various rock qualities expected (see Section 16.4.5). Electric-hydraulic bolters with screen handlers and shotcrete spraying machines will be used. Some ground support will be installed using Long Tom and jackleg drills.

There will be a shotcrete batch facility located at the Veta Sur portal area and transmixers have been included in the mining equipment list to deliver a wet mix to the shotcrete machine underground.

16.10.4 Mucking

The largest LHDs with a nominal 7.5 yd^3 bucket capacity will be used for primary ramp development and excavation of other larger development headings or stopes. The mid-size LHD has a 6 yd^3 bucket capacity and will be used for footwall drives, cross-cuts, and internal ramps, excavation of stopes and construction of backfill barricades. The smallest LHD has a 2.6 yd^3 bucket capacity and will be used to muck out longhole sill drifts and for working in C&F stopes.

Development LHD's will typically muck a blasted round to a nearby remuck bay in order to clear the working face prior to ground support installation. Rock temporarily stored in the remuck is then either trammed to a rock pass or loaded into a haul truck. Where development headings are proximal to Cut & Fill stopes, development waste rock will get trammed to the C&F stope for backfill.

Stope ore will be mucked with LHD and either direct trammed or trucked to the rock pass system. In-mine haulage distances will be limited to approximately 400 m.

16.10.5 Hauling

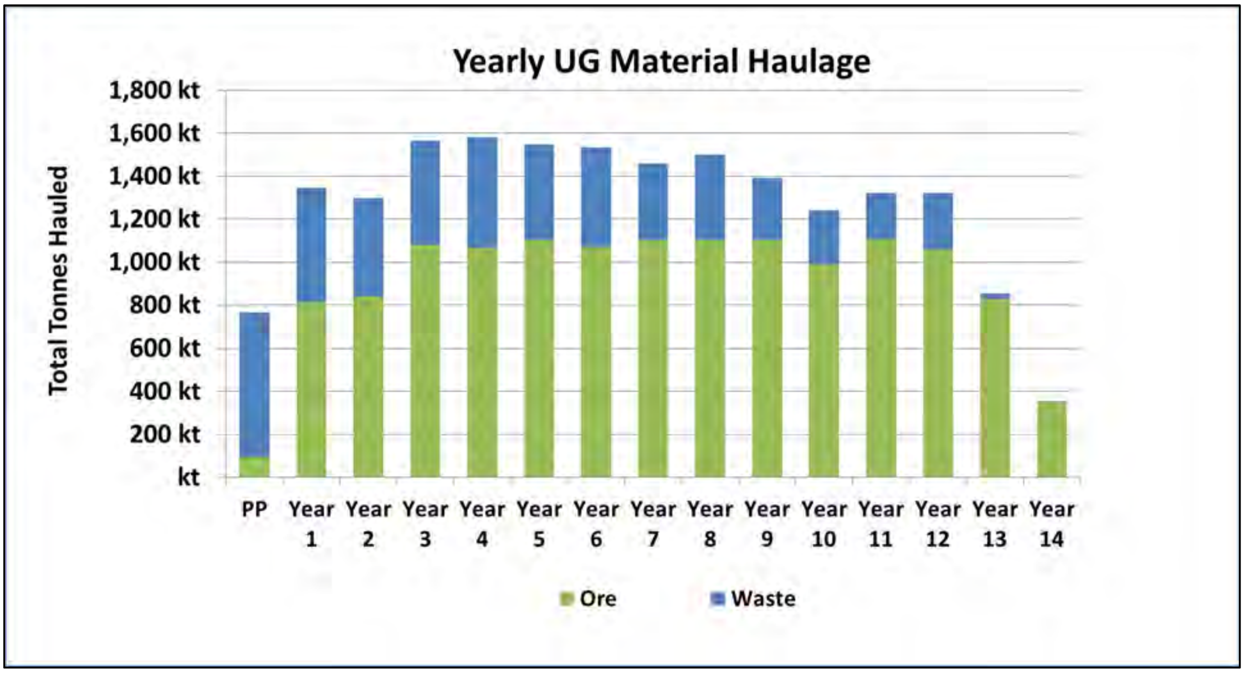
Haulage will be by conventional low-profile underground mining trucks of 30 or 40 t capacity. For mining areas located no greater than approximately 200 vertical metres above the Higabra level, trucks loaded underground will transport the ore/waste directly to surface. For areas located greater than approximately 200 vertical metres above the Higabra level, loaded trucks will haul to an ore or waste pass. Short rock passes are designed between sublevels and main ore & waste passes to cover the full vertical extent of the Yaraguá and Veta Sur deposits down to the Higabra level. Access to the main rock passes will be on primary sublevels approximately every 45-60 m vertically.

Ore and waste delivered to the main rock passes will be truck loaded on the Higabra level for truck haulage to surface. Truck chutes for loading ore and waste at the Higabra level are included in the fixed mining equipment list.

Ore hauled to surface during pre-production will be placed in a lined stockpile area to be moved later to the crusher. During operations, ore will be hauled directly to the crusher stockpile. Waste rock hauled to surface will be deposited at the south end of the TSF where it will be rehandled by the tailing facility surface fleet for placement as structural fill for TSF construction.

See Figure 16.8 for a summary of ore and waste tonnes hauled during the LOM production period.

Figure 16.8 Yearly Underground Haulage Summary



16.10.6 Backfill

The principle method of backfilling for Buriticá will be with paste backfill comprised of filtered tailing, water, and cement at varying proportions. Cemented Rock Fill (CRF) will be used as required during early mine development until the mill is running and the paste plant is commissioned. Loose Rock Fill (LRF) will be used in C&F stoping operations and to fill stope voids that do not require engineered backfill.

Paste Backfill

MineFill Services Inc. (MFS) verified that paste fill can be produced with site materials with the strength requirements which meet geomechanical design criteria. The paste backfill plant is designed as a continuous mix plant with a capacity capable of processing 100% of the tailing solids produced by the mill (3,000 t/d), and an operating capacity which will be typically 60 to 70% of the design capacity. The lower operating rate allows the paste plant to catch up in the event that backfilling falls behind due to bottlenecks in the mine. The Veta Sur portal location (elevation 1,716 masl) was selected for the paste plant due to proximity to existing and future mine workings and the use of gravity to deliver the paste. Other advantages of this location included proximity to the highway for cement deliveries and to the existing power infrastructure. Locating the paste plant close to the source of tailing at a lower elevation was investigated but was determined not viable due primarily to requirements for pumping paste backfill long vertical distances.

The paste delivery network was designed with two independent borehole paste distribution systems, one each for Yaraguá and Veta Sur. Automated paste diverter valves were designed into the delivery system. Piping on levels will be connected to paste delivery boreholes for distribution to stopes on or below that level.

Cemented Rock Fill

Prior to having the complete paste plant and tram transport system commissioned, CRF will be used. CRF is a mixture of mine development rock, cement and water that will be produced underground using a LHD to mix the components in a muck bay then tramming the mixed CRF to the mined stope.

Loose Rock Fill

Development waste will be used as Loose Rock Fill (LRF), especially in C&F mining areas. This development waste rock can also be used for filling longhole stopes that do not require engineered backfill.

16.11 Mine Equipment

All underground mine equipment required to meet the life of mine plan is summarized in Table 16.5.

Table 16.5 Underground Mobile Equipment Fleet (average number of units)

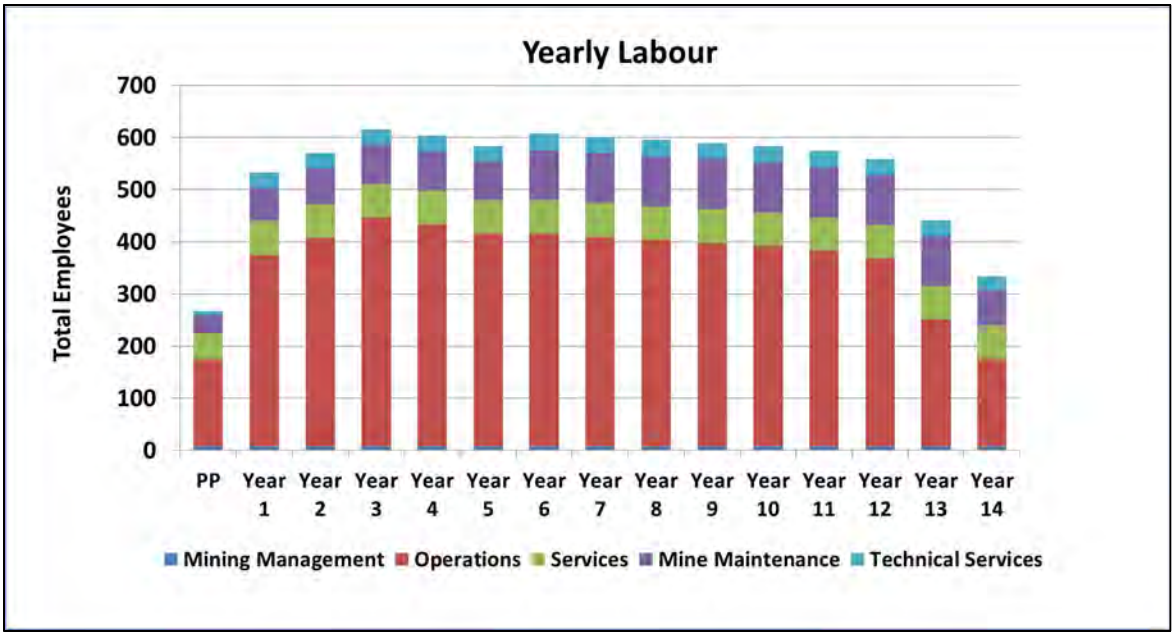
	YEAR															
EQUIPMENT TYPE	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Jumbo 2 Boom	3	3	3	3	4	4	4	4	4	4	3	3	2	2	1	1
Jumbo 1 Boom	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long Tom Twin Boom Drill	0	5	8	8	8	8	8	8	8	8	8	8	8	7	3	1
Longhole Drill	0	2	3	4	4	4	4	4	4	4	4	3	3	3	3	2
LHD (4t/2.6yd)	1	4	8	10	11	13	13	13	12	12	12	12	12	12	9	6
LHD (10t/6yd)	1	2	5	5	6	6	6	6	5	5	5	5	5	5	3	2
LHD (14t/7.5yd)	2	2	3	3	3	2	2	2	2	2	2	2	2	2	1	1
40 Tonne Haul Truck	3	4	4	4	3	3	2	2	2	2	2	2	2	1	1	1
30 Tonne Haul Truck	1	4	10	10	12	12	12	12	12	12	12	12	12	10	8	5
Bolter	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2	2
Motor Grader	1	1	2	2	3	3	3	3	3	3	3	3	3	3	3	3
Scissor Lift	1	4	5	6	6	6	6	6	6	6	6	6	5	5	2	2
ANFO Loader	2	4	6	6	6	6	6	6	6	6	6	6	6	6	5	3
Boom Truck	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Fuel/Lube Truck	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Mechanic Truck	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Boom Truck	1	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3
Personnel Carrier	3	4	6	7	7	7	7	7	6	6	6	6	6	6	4	3
Utility Vehicle	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Shotcrete Machine	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1
Transmixer	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Backhoe with Rock Breaker	0	0	0	2	2	2	4	4	4	4	4	4	4	4	4	4
Telehandler	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Light Vehicle - Various Users	17	17	17	18	18	18	18	18	18	18	18	18	18	18	18	18

Source: JDS, 2016

16.12 Mine Personnel

Life of mine personnel requirements are summarized in Figure 16.9.

Figure 16.9 Mine Labour by Year



Source: JDS, 2016

Table 16.6 to Table 16.11 show minimum and maximum numbers of personnel planned for the life of mine for Mine Management, Operations, Mine Services, Mine Maintenance, and Technical Services, respectively.

Table 16.6 Mine Management

Position	Minimum	Maximum
Mining Manager	1	1
Mine Superintendent	1	1
Maintenance Manager	1	1
Technical Services Manager	1	1
Yaraguá Mine Captain	2	2
Veta Sur Mine Captain	2	2
Mine Clerk	2	2
Sub-Total	10	10

Source: JDS, 2016

Table 16.7 Mine Operations

Position	Minimum	Maximum
Yaraguá Shift Supervisor	3	3
Veta Sur Shift Supervisor	3	3
Blasting/Powder Crew Supervisor	3	3
Blasting/Powder Crew - Miner II	6	18
Blasting/Powder Crew Helper - Auxiliary Miner	6	18
Development Lead Miner - Miner I	6	24
Ore Production Lead Miner - Miner I	3	6
Jumbo Operator - Contractor Trainer	0	6
Jumbo Operator - Miner I	9	12
Jumbo Operator - Miner II	9	12
Longhole Drill & Blast Operator - Contractor	0	12
Longhole Drill Operator - Miner I	9	12
Longhole Drill Operator - Miner II	9	12
Long Tom Drill Operator - Miner I	21	24
Long Tom Drill Operator - Miner II	21	24
Scooptram Operator - Miner I	18	27
Scooptram Operator - Miner II	24	39
Haul Truck Operator - Miner II	39	45
Bolter Operator - Miner I	3	9
Bolter Operator - Miner II	3	9
Jackleg Operator - Miner II	9	48
Jackleg Operator - Miner III	9	48
Grader Operator - Miner II	6	9
Backhoe Operator - Miner II	6	12
Nipper - Miner III	6	9
Grizzly Attendant - Auxiliary Miner	6	12
Sub-Total	237	456

Source: JDS, 2016

Table 16.8 Mine Services

Position	Minimum	Maximum
Mine Services Supervisor	3	3
Backfill Superintendent	1	1
Backfill Supervisor	3	3
Backfill Crew - Miner II (LHD)	6	6
Backfill Crew - Miner III	6	6
Backfill Crew - Auxiliary Miner	6	6
Ventilation - Auxiliary Miner	3	3
Compressed Air - Auxiliary Miner	3	3
Mine Water - Auxiliary Miner	3	3
Services Ground Support - Miner I	3	3
Services Ground Support - Miner II	3	3
Pump Station Attendant	3	3
Mine Electrician	3	3
Telehandler Operator - Miner II	12	12
Transmixer Operator - Miner II	3	3
Sub-Total	61	61

Source: JDS, 2016

Table 16.9 Mine Maintenance

Position	Minimum	Maximum
Maintenance Supervisor	3	3
Lead Mechanic	6	13
Heavy Equipment Mechanic I	3	9
Heavy Equipment Mechanic II	3	9
Heavy Equipment Mechanic III	3	9
Mechanic Helper - Auxiliary	12	18
Electric/Hydraulic Mechanic I	6	9
Electric/Hydraulic Mechanic II	6	9
Pneumatic Machine Mechanic II	12	18
Sub-Total	54	97

Source: JDS, 2016

Table 16.10 Technical Services

Position	Minimum	Maximum
Chief Engineer	1	1
Geotechnical Engineer	1	1
Chief Geologist	1	1
Chief Surveyor	1	1
Ventilation Engineer	1	1
Mine Surveyor	2	2
Surveyor Helper	4	4
Sr Geologist	1	1
Jr Geologist	1	1
Sampler	9	12
Sr. Mine Engineer	1	1
Jr. Mine engineer	1	1
Projects Engineer - surface & U/G	1	1
Short Term Mine Planner	1	1
Medium Term Mine Planner	1	1
Long-Term Mine Planner	1	1
Draftsman	1	1
Resource Modeller	1	1
Sub-Total	30	33

Source: JDS, 2016

Table 16.11 Total Mine Workforce

Department	Minimum	Maximum
Management	10	10
Mine Operations	237	456
Mine Services	61	61
Mine Maintenance	54	97
Technical Services	30	33
Total	392	657

Source: JDS, 2016

Modern, large scale underground hard rock mining is new to Colombia, and for this reason, several key positions will be filled with expatriate professionals. Skilled expatriate miners will also be included in early years of mine life as trainers and operators.

16.13 Mine Production Schedule

The Buriticá underground mine schedule was optimized using Minemax™ iGantt schedule optimizer software. To produce a balanced schedule, inputs and constraints that represent the design, mining productivities and unit operations were included in the optimization process. See Table 16.12 for maximum daily development rates used.

Table 16.12 Development Productivities

Single Headings	Advance Rate (m/d)
Portal Rehab/construction	0.65
Critical Infrastructure – Ramp slashing and rehab, Ramps, Footwalls, connections, vent access	6
Level Access, connection (unless already at 6 m/d)	5
All other development and ramps below Higabra (expected water inflow)	3.5
Multiple Headings where Development is Grouped into Levels	
More than 1,400 m required on level	20
1,000 to 1,400 m required on level	15
500 to 1,000 m required on level	10
Less than 500 m required on level	5

Source: JDS, 2016

Development and production ramp-up were modelled using initial periods of reduced productivities. Pre-production scheduling guidelines were established to:

- Ensure sufficient development to sustain ore production when plant construction and commissioning is complete;
- Include only development that was required for pre-production; and
- Adequate longhole stope preparation and initiation of longhole mining in selected locations, and
- Provide a development ore stockpile for plant commissioning.

The maximum ore mining rate was capped at 3,000 t/d and the minimum ounces mined was set to achieve early high ounce production for the constraints set. A number of schedule iterations and manual adjustments to the sequence were made in order to produce a robust, sensible, and realistic schedule.

Table 16.13 and Table 16.14 show single stope productivity constraints and production tonnage per sublevel constraints included in the plan.

Table 16.13 Single Stope Productivities

Mining Method	Ore Tonnes/Day
Longhole	170
C&F	65
Shrinkage	55

Source: JDS, 2016

Table 16.14 Stoping Productivities by Tonnes per Level

Mining Method	Tonnes per Level	# of Working Stopes	Ore Tonnes/Day
Longhole	Less than 6,000	1	170
	6,000 – 15,000	2	340
	15,000 – 30,000	3	510
	30,000 – 110,000	5	850
	More than 110,000	6	1,020
C&F	Less than 5,000	2	130
	5,000 – 7,000	3	195
	7,000 – 9,000	5	325
	9,000 – 13,000	6	390
	More than 13,000	7	455
Shrinkage		1	55
		2	110

Source: JDS, 2016

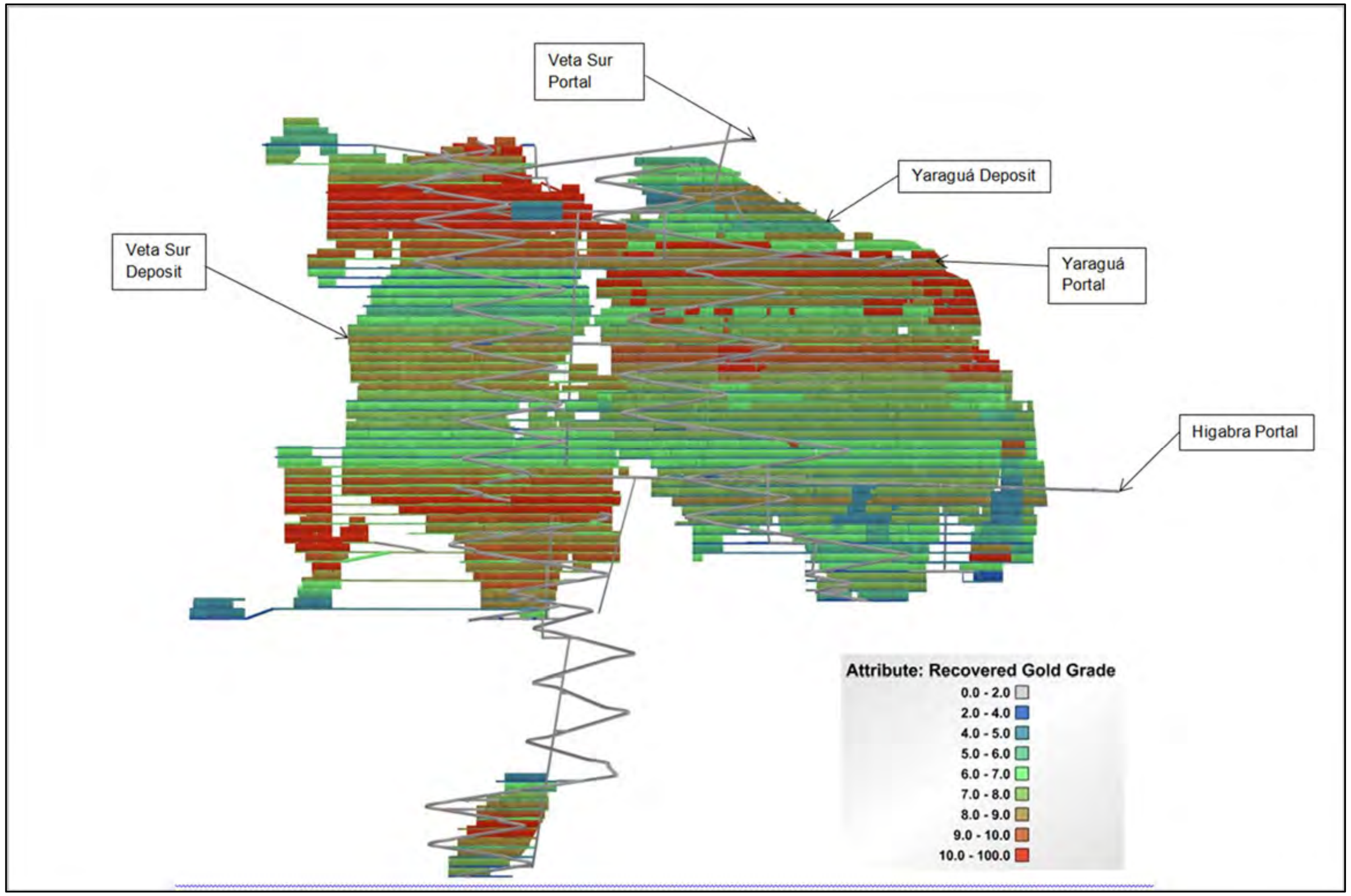
The schedule targets the highest grade areas of Veta Sur and Yaraguá early in the mine life, with a maximum of four and minimum of two mining areas active at any one time. Mining areas will be comprised of 3 to 4 levels each to focus available resources and share mine infrastructure as much as possible. Production mining will begin at the lowest level of each mining area and follows a logical ascending sequence.

Final results of the iGantt schedule were organized such that physical metres, tonnes and ounces were broken down into different categories for direct use in the cost model. From the final schedule, cost model requirements including items such as the mining fleet, manpower, consumables, ventilation, pumping, and power were determined and used to develop costs from first principals. Reports were generated by month from the start of development (pre-production) through to the first two years of production, quarterly for years 3 and 4, and annually thereafter. See Table 16.15 for a summary of mine schedule results, and Figure 16.9 to Figure 16.11 for mine development and ore extraction sequenc.

Table 16.15 Summary Mine Schedule Results

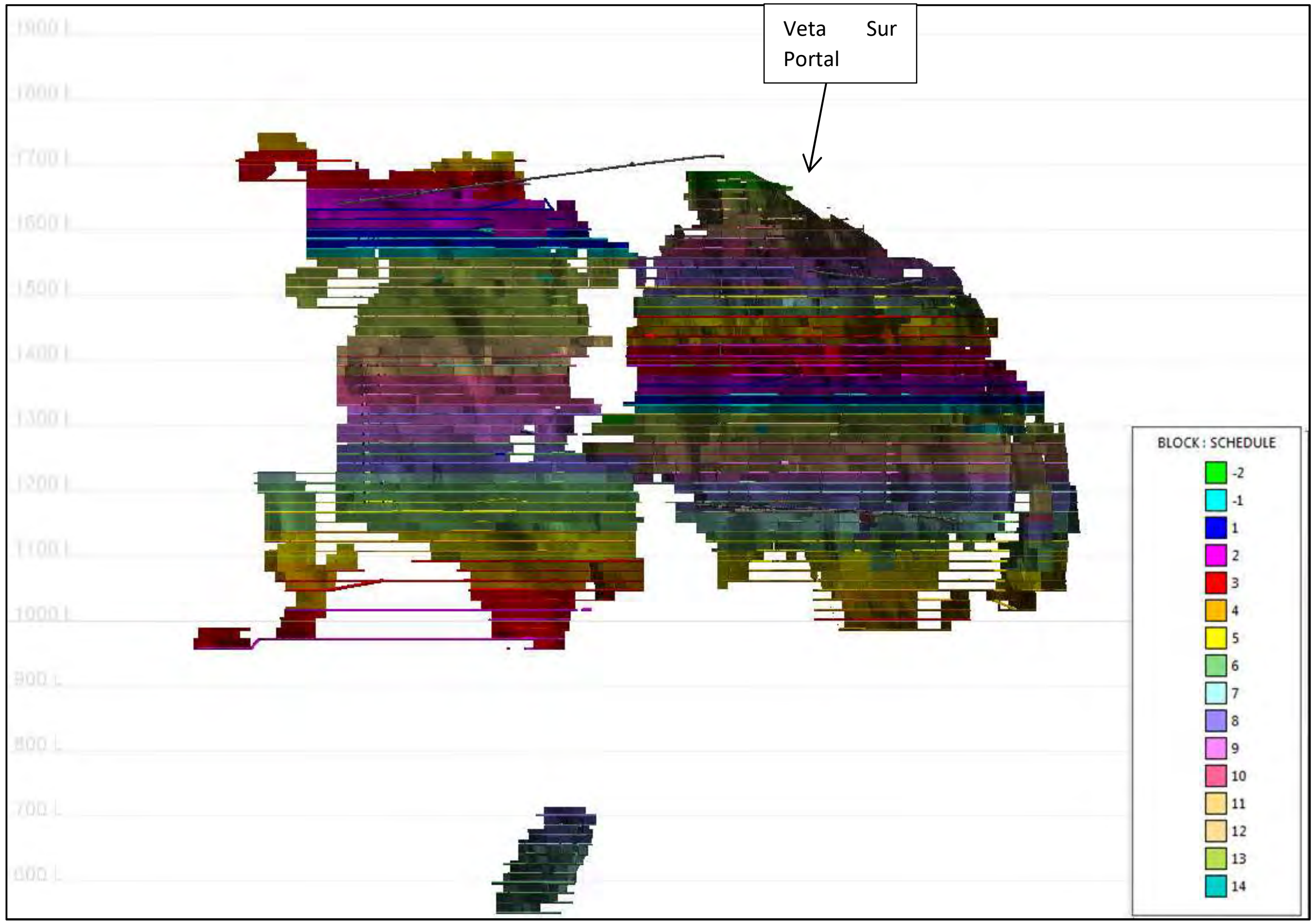
Mine Plan Quantities	Unit	Pre-Prod	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Total
Total Stoping Ore	ktonnes	20.6	527.5	568.8	815	804.4	813.7	781.1	826.2	886.3	819.8	686.7	867.2	823	819.7	352.9	10,413.00
Total Development Ore	ktonnes	76.6	286.7	270.8	263.7	263.2	288.9	289.3	277.3	217.5	282.9	303.4	239.2	237.9	6.3	-	3,303.80
Grand Total Ore Mined	ktonnes	97.2	814.1	839.6	1,078.70	1,067.60	1,102.50	1,070.40	1,103.60	1,103.90	1,102.70	990.2	1,106.40	1,060.90	826	352.9	13,716.80
Mined Au Grade	g/t	6.94	12.16	11.81	8.56	7.74	8.81	8.31	8.07	8.07	7.61	7.64	7.51	6.96	7.54	8.83	
Mined Ag Grade	g/t	22.48	37.14	34.72	27.95	21.36	22.2	22.64	23.01	24.23	22.02	21.5	20.79	20.33	22.86	25.51	
Veta Sur Waste	ktonnes	292.4	361.8	119.1	140	120.7	104.6	105.7	58.6	164.3	76.9	75.9	90.9	133.8	10.5	1.8	1,857.00
Yaraguá Waste	ktonnes	377	171.8	339.3	346.5	394.3	340.3	358.7	298.6	233.1	211.6	174	124.4	129.6	16.5	2.4	3,518.20
Total Waste	ktonnes	669.4	533.6	458.4	486.4	515.1	444.9	464.5	357.2	397.4	288.5	249.9	215.3	263.4	27	4.1	5,375.20
Lateral Waste Development	metres	14,735	12,037	11,635	13,690	13,480	11,511	12,402	10,456	9,954	8,884	7,981	6,601	8,126	259	-	141,752
Lateral Ore Development	metres	4,289	12,796	13,443	12,411	13,520	15,489	14,598	13,304	11,586	12,791	13,709	11,691	12,124	294	-	162,043
Total Lateral Development	metres	19,024	24,834	25,078	26,100	27,000	27,000	27,000	23,760	21,540	21,675	21,690	18,291	20,250	554	-	303,796

Figure 16.10 Mined Grade Distribution



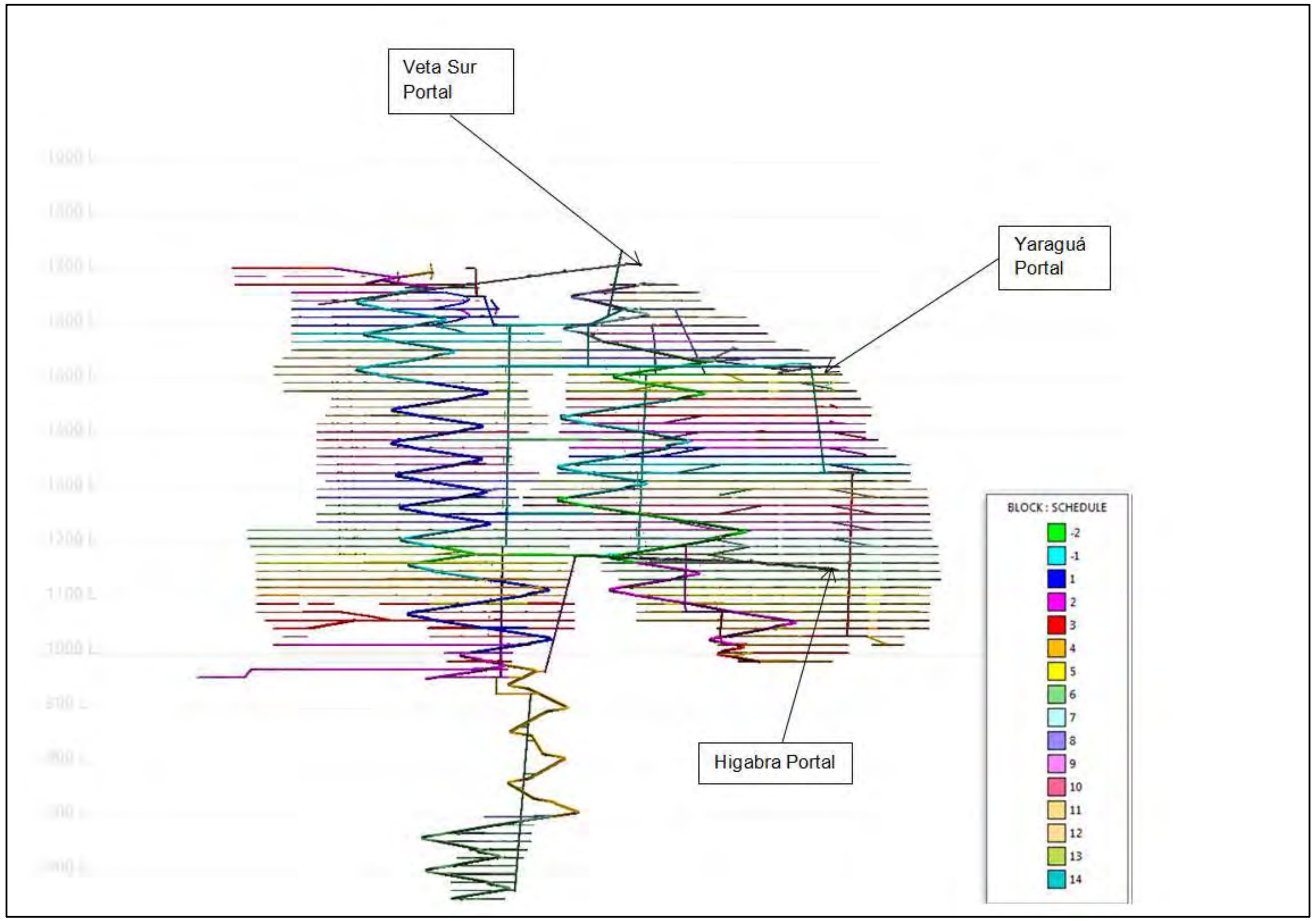
Source: JDS, 2016

Figure 16.11 Life of Mine Ore Extraction Sequence - Composite Long Section Looking North



Source: JDS, 2016

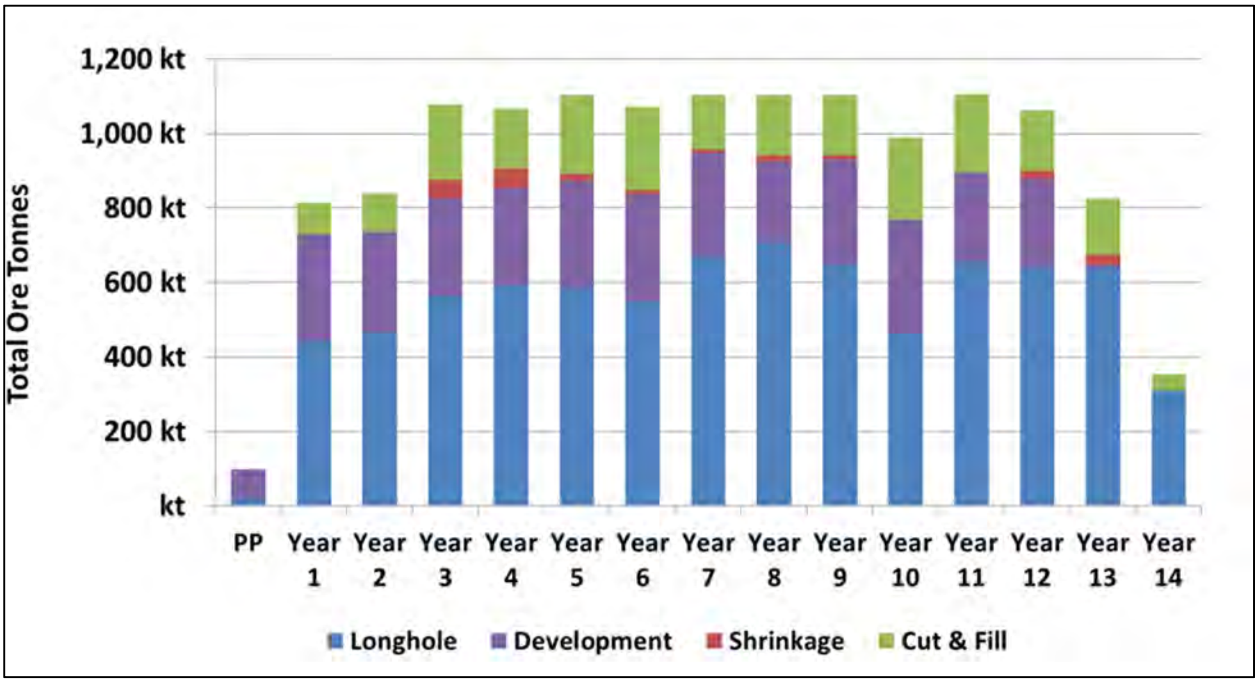
Figure 16.12 Life of Mine Development Sequence - Composite Long Section Looking North



Source: JDS, 2016

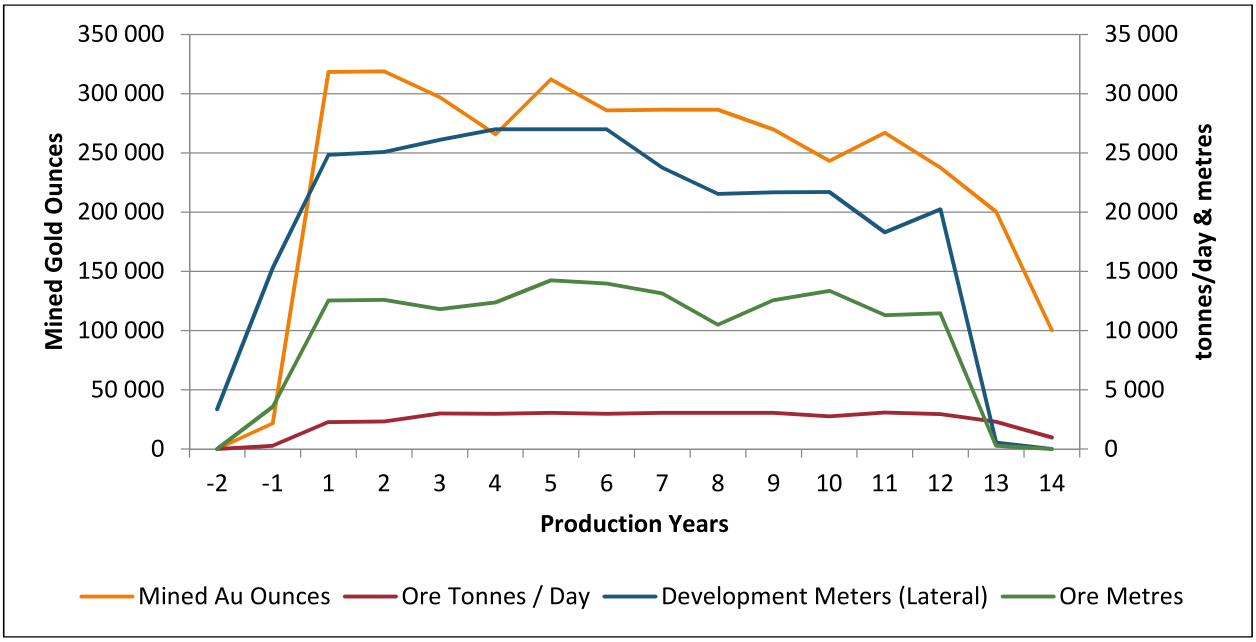
Figure 16.12 shows yearly ore production by mining method, and Figure 16.13 shows LOM primary production metrics.

Figure 16.13 Yearly Ore Production by Mining Method



Source: JDS, 2016

Figure 16.14 Life of Mine Production Metrics



Source: JDS, 2016

Mined gold ounces will average slightly over 300,000 oz/year for years 1 to 5, and then decrease gradually for the remaining mine life.

Total lateral development advance rates will average 65 metres/day during years 1 to13. This average rate is achievable due to multiple mining areas and headings simultaneously under development.

A total of 303,400 m lateral development and 7,360 m vertical development are planned. Raise bores of differing diameters account for 4,520 m vertical development, 800 m of raise will be developed using a raise climber, and the balance of 2,050 m is estimated for internal drop raises for ore and waste handling between levels.

Approximately 1,920 m of service boreholes covering the vertical extents of Yaraguá and Veta Sur will be drilled using large diameter raise bore pilot hole drilling equipment.

17 PROCESS DESCRIPTION/RECOVERY METHODS

17.1 DISCLOSURE

The information contained in this report referring to Recovery Methods was derived from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016.

No new metallurgical testing work has been completed since the 2016 Feasibility Study, thus the process plant design developed from results of metallurgical testing and mine production schedule from the Feasibility Study is unchanged. The 2019 resource estimate is based on the same deposits that were the focus of the 2016 Feasibility Study and the majority of additional drilling information incorporated into the 2019 resource estimate was infill drilling in the same general areas included for mining in the Feasibility Study.

17.2 INTRODUCTION

The key points of this section are:

- The proposed flowsheet is based on interpretation of test work completed to date by metallurgical consultant as described in Section 13;
- The process design follows these steps: Crushing > Grinding > Gravity Concentration > Cyanide Leach > Counter-Current Decantation (CCD) > Merrill Crowe > On-site refining to doré bars;
- Tailing will be dewatered by filtering prior to disposal;
- The process plant utilizes conventional technology and equipment which are standard to the industry;
- The process plant is designed to process 3,000 tonnes per day, or 1,095,000 tonnes per year at 91% availability, operating for 365 days per year; and
- Process water is recycled and thus minimizes water consumed by process.

17.3 PLANT DESIGN CRITERIA

Table 17.1 is a summary of the main components of the process design criteria used for the study. More detailed design criteria have been produced for internal use.

Table 17.1 Process Design Criteria

Description	Unit	Design
Mineral Characteristics		
Maximum mine-run mineral size, mm	mm	357
Mineral specific gravity (process design)		2.79
Mineral bulk density, (weight) t/m^3, design	t/m^3	1.6
Mineral Moisture Content		
Design	%	7
Range	%	3 to 7
Mineral Assay (Average)		
Gold assay, g/t	g/t	8.5
Silver assay, g/t	g/t	24.2
Mineral abrasion index, Bond, (Ai)	g	0.185
Mineral Work Index, kWh/t		
Crushing (Cwi)	Whr/t	13.6
Rod mill (Bwi) 75th percentile	Whr/t	19.54
Ball mill (Bwi) 75th percentile	Whr/t	17.2
Production Schedule		
Mineral Crushing and Milling Rate, average, dry t/a	t/a	1,095,000
Mineral Crushing and Milling Rate, average, dry t/d	t/d	3,000
Production Schedule		
Crushing		
Days per year		365
Hours per day, @3000 t/d	t/d	12
Shifts per day, @3000 t/d	t/d	1
Hours per shift		12
Shifts per week		7
% Availability (excluding start up)	%	75
Mineral crushing rate, design, dry t/h	t/h	333
Grinding, Gravity, Leaching		
Days per year		365
Hours per day		24
Shifts per day		2
Hours per shift		12
Shifts per week		14
% Availability (excluding start-up)	%	91
Milling rate, design, dry t/h	t/h	137
Merrill Crowe		
Days per year		365

Description	Unit	Design
Hours per day		24
Shifts per day		2
Hours per shift		12
Shifts per week		14
% Availability (excluding start-up)	%	99
Refinery		
Days per year		260
Hours per day		12
Shifts per day		1
Hours per shift		12
Shifts per week		5
% Availability (excluding start-up)	%	99
Tailing Filter Plant		
Days per year		365
Hours per day		24
Shifts per day		2
Hours per shift		12
Shifts per week		14
% Availability (excluding start-up)	%	80

Source: M3, 2016

The process mass balance was developed for the Buriticá process using MetSim. The process simulation assumed the following recoveries and grades based on completed test work (see Table 17.2).

Table 17.2 Metal Production Schedule

Parameter	Unit	Au	Ag
Mine Head Grades	g/t	8.5	24.2
Gravity Recovery	%	40 to 90	9
Leach Extraction	%	90	56
CCD Wash Efficiency	%	99	99
Merrill Crowe Extraction	%	99	99
Overall Extraction	%	96	60
Soluble Loss	%	0.5	0.5
Overall Plant Recovery	%	95	59
Metal Production	kg/d	24	43
Metal Production	Troy oz/y	284,000	503,000

Note: Recovery information provided by metallurgical consultant.
Source: M3, 2016

17.4 Plant Design

This section presents the process design that will govern the design of the mineral processing facility including crushing, milling, gravity concentration, agitation leaching, counter-current decantation CCD, Merrill Crowe zinc precipitation, cyanide oxidation, and tailing. The process plant designed for the Buriticá Project utilizes processes and equipment which are standard for the industry. This includes cyanide leach followed by CCD, and utilizing filtered tailing for disposal.

The design basis for the processing facility is 3,000 dry metric tonnes per day (t/d) or 1,200,000 dry metric tonnes per year (t/a) at 91% mill availability.

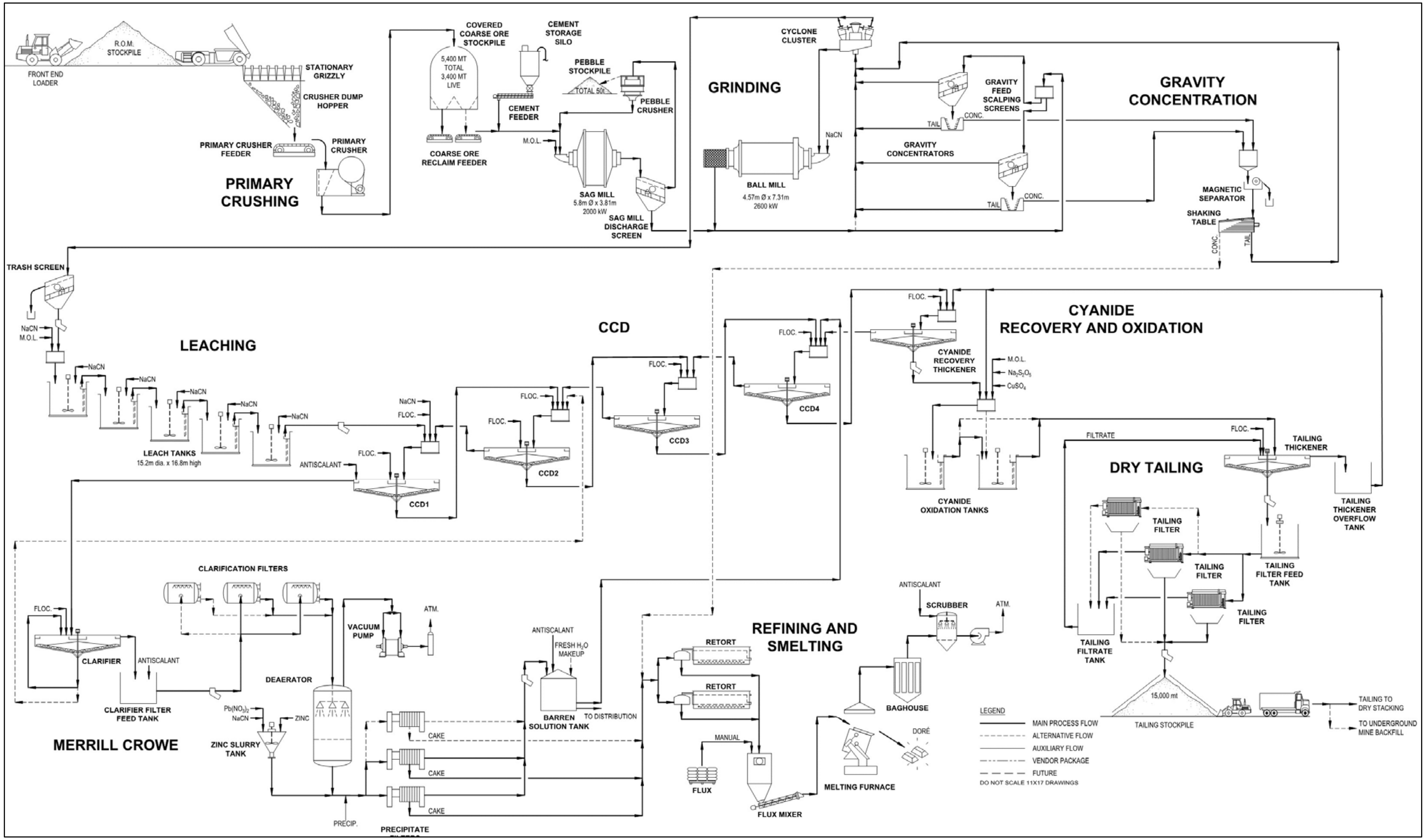
The following items summarize the process operations required to extract gold and silver from the Buriticá mineralized material.

- Size reduction of the mineral by a primary jaw crusher to reduce the ore size from run-of-mine (ROM) to P80 minus 150 mm;
- Storing primary crushed material in a covered stock pile and then reclaiming by feeder and conveyor belt;
- The crushed material will be conveyed to a grinding circuit to liberate gold and silver minerals. The grinding circuit consists of a wet semi-autogenous (SAG) grinding mill and a ball mill. The SAG mill will be operated in closed circuit with a screen and a pebble crushing circuit. The ball mill will be operated in closed circuit with hydro-cyclones to produce a cyclone overflow product with the desired grinding product size of 80% passing 74 µ. The SAG and ball mill discharge will be treated in a gravity circuit;
- The gravity circuit will consist of two high capacity, continuous centrifugal concentrators followed by a magnetic separator and a concentrating table. The gold concentrate will be upgraded to a concentrate that may be refined directly. Concentrate table tailing will be returned to the grinding circuit;
- The cyclone overflow will pass over a trash screen ahead of the leach tanks;
- Cyanide leaching of the slurry in agitated tanks with oxygen addition;
- Liquid/solid separation using a four stage CCD circuit;
- Recovery of gold and silver from the pregnant leach solution in a Merrill Crowe plant;
- Melting the zinc precipitate and gravity concentrate with fluxes to produce a gold-silver doré bar which is the final product of the mineral processing facility;
- Partial recovery of the cyanide in a thickener;
- Oxidation of residual cyanide in the leach tailing stream using a sulphur compound and oxygen. Copper catalyst addition is not expected to be required due to sufficient level of soluble copper in the leach tails;
- Thickening and filtering of oxidized slurry to recycle water to the process;
- Filtered tailing will be placed in a lined TSF; and
- Water from tailing dewatering is recycled for reuse in process. Plant water stream types include: process water, fresh water, and domestic water.

17.4.1 Storage, Preparation and Distribution of Reagents to be used in the Process

Reagents which require handling, mixing storage and distribution include: sodium cyanide, caustic soda, cement, calcium hydroxide, lead nitrate, flocculant, antiscalant, sodium metabisulfite, copper sulphate pentahydrate, diatomaceous earth, metallic zinc dust, and refinery fluxes. A simplified schematic of the overall process of the proposed processing plant is presented in Figure 17.1.

Figure 17.1 Overall Process Flow Diagram of the Proposed Processing Plant



Source: M3, 2016

17.5 PROCESSING PLANT Description

17.5.1 Crushing

ROM mineralized material will be trucked from the underground mines by 30 and 40-tonne rear dump haul trucks to stockpiles to be blended as needed prior to feeding primary crusher. The ROM mineral stockpile will be designed to contain 14,000 t. A front-end loader (FEL) will feed a stationary grizzly over the crusher dump hopper. Alternatively the trucks may dump directly into the dump hopper. A mobile hydraulic rock breaker will be provided to break oversize ROM material at the stockpile, the stationary grizzly, and at the crusher dump pocket.

An apron feeder will discharge the scalped ROM material directly into a jaw crusher, where it will be reduced from a size of F100 = 357 mm to a product size of P80 = 150 mm. The jaw crusher product will discharge onto the crusher discharge conveyor. The crusher discharge conveyor will discharge to the covered coarse ore stockpile. A belt weigh scale mounted on the crusher discharge conveyor will measure the feed to the coarse mineralized material storage.

The primary crushing facility will be equipped with an air compressor for maintenance equipment such as air tools. A self-cleaning electric magnet will be installed over the discharge of the stockpile feed conveyor to remove tramp metal.

A “wet spray” system will be installed to suppress dust in the mineral feed steams, transfer points and dump pockets.

17.5.2 Coarse Mineralized Material Stockpile and Reclaim

The covered coarse ore stockpile will have a 3,400 t live capacity and a 5,400 t total capacity. A bulldozer and/or a front-end loader will recover dead storage. There will be a concrete tunnel containing two draw points below the crushed material stockpile that will provide material to two reclaim feeders, one operating and one standby, which will discharge onto a mill feed conveyor. Each feeder will have a capacity of 137 t/h nominal (250 t/h maximum). Reclaim feeders will be variable speed and controlled to maintain a set point mineral feed rate to optimize the grinding circuit. The mill feed conveyor will transport the crushed mineral from the stockpile to the SAG mill.

A belt weigh scale mounted on the mill feed conveyor will measure the new feed to the SAG mill providing a signal for adjusting the reclaim feeders speed, makeup water addition, and cement addition. Cement will be fed dry to the SAG feed conveyor to provide alkalinity for the leach reaction.

A dust collector will be installed to collect dust around the discharge of the reclaim feeders. Collected dust will discharge onto the mill feed conveyor.

SAG grinding balls will be loaded using a ball loading system onto the mill feed conveyor.

17.5.3 Grinding

The grinding circuit will process an average of 3000 t/d, at 91% availability, operating 24 hours per day, 365 days per year. A SAG mill will reduce crushed mineralized material from F80 = 150,000 µm to T80 2000 µm and a ball mill will further reduce the mineral to P80 = 74 µm.

A SAG mill measuring 5.8 m diameter and 4.2 m long (3.8 m effective grinding length), powered by a 2000 kW variable speed motor will perform primary grinding of the material in closed circuit with a vibrating screen. The undersize material will pass through the vibrating screen into a gravity feed box, where it will combine with ball mill discharge.

Oversize material will be transferred to a SAG mill oversize conveyor and will be crushed in pebble crusher and returned to the SAG mill. Ball chips will be removed prior to the crusher using a self-cleaning electric magnet. Combined SAG and ball mill discharge slurry will be pumped using variable speed horizontal centrifugal slurry pumps to a splitter box ahead of the gravity circuit. Slurry will be split to feed two bowl concentrators each preceded by a scalping screen to remove oversize from the bowl concentrator feed. Scalping screen oversize will flow by gravity to the cyclone feed box. Gravity tailing will flow by gravity to the cyclone feed box.

Slurry will be pumped from the cyclone feed box to hydro-cyclones. The underflow of the hydro-cyclones will flow by gravity to a ball mill measuring 4.6 m diameter and 7.5 m long (7.2 m effective grinding length), powered by a 2600 kW motor. The ball mill will discharge over a trommel screen. The trommel product will be washed by process solution sprays and ball chips will be rejected out the end of the trommel into a tote bin. Trommel undersize will be combined with SAG mill discharge screen undersize. Cyclone overflow (final grinding circuit product) is directed to the leach circuit.

Cyanide solution may be added to the ball mill feed and/or to the gravity feed box. Barren solution will be used as dilution water in both the SAG mill and ball mill circuits.

Concentrate from the centrifugal gravity concentrators will feed a magnetic separator to remove grinding media and then to a cleaner gravity table. Concentrate from the cleaner table will be recycled and upgraded to produce a gravity concentrate that can be refined directly. Cleaner gravity tailing will be returned to the cyclone feed sump. Space has been left for installation of equipment to leach gravity concentrate if required in the future.

17.5.4 Leaching and CCD Plant

The hydro-cyclone overflow will flow by gravity to a trash screen for removal of tramp material. Trash screen oversize will discharge into a tote bin to be periodically removed for disposal. The trash screen undersize will report to the leach feed pump box.

The leach circuit will consist of five agitated tanks. Each tank will have a working volume of approximately 2,758 m2 providing approximately 48 hours of retention time at 38% solids for 3,000 t/d. Cyanide solution may be added to the tanks as required to maintain desired free cyanide levels. Oxygen from the pressure swing adsorption (PSA) oxygen plant will be piped to all tanks and sparged under the agitator impeller to maintain the desired dissolved oxygen level in each tank. Milk of lime will be added to maintain pH. Space has been left at the head of the leach circuit for pre-leach thickener or an additional leach tank if required in the future.

Slurry will advance by gravity from leach tank to leach tank, exiting the last leach tank and reporting by gravity flow to the CCD feed sampler. The CCD feed sampler discharge will gravity flow to a series of four high rate 17 m diameter CCD thickeners for washing and solid-liquid separation. Flocculant will be added as needed to the thickeners feed to aid in settling.

The leach residue is washed in CCD to remove soluble gold and silver. Slurry, at 60% solids, will be advanced by pumping from thickener to thickener, exiting the last tank and reporting to the cyanide recovery thickener ahead of cyanide oxidation. Barren solution, used as wash water, is introduced into the final CCD thickener (CCD No. 4). Space has been left for an additional stage of CCD or cyanide wash if required in the future.

Solution is advanced by gravity counter-current to the solids. Overflow from CCD Thickener No. 1 (pregnant solution) will be pumped to a clarifier ahead of Merrill Crowe.

17.5.5 Cyanide Recovery Thickener and Cyanide Destruction

Underflow from the last stage of CCD will report to a high rate 17 m diameter cyanide recovery thickener. Flocculant will be added as needed to the thickener feed to aid in settling.

The withdrawal rate of settled solids will be controlled by a variable speed, thickener underflow pump to maintain either thickener underflow density or thickener solids loading. The cyanide recovery thickener underflow will be pumped to the oxidation circuit.

Overflow from the cyanide recovery thickener will gravity flow to the CCD Thickener No. 4 dilution box.

The cyanide recovery thickener underflow is sampled in the cyanide recovery tailing sampler. Underflow from the cyanide recovery thickener will be diluted to approximately 35% solids using tailing thickener overflow in the cyanide oxidation feed box. There are two cyanide oxidation tanks that may be operated in parallel or in series. In the cyanide oxidation tanks, Weak Acid Dissociable (WAD) residual cyanide will be oxidized to the relatively non-toxic form of cyanate by a process using sodium metabisulfite and oxygen, with copper sulphate as a catalyst when needed. Milk of lime will also be added to maintain a slurry pH of 8.0 to 9.0. The more stable iron cyanides are precipitated from solution as an insoluble ferrocyanide compound. The cyanide levels in the tailing slurry are thereby reduced. Copper catalyst addition is not expected to be required due to sufficient level of soluble copper in the leach tails. Each cyanide oxidation tank will provide a residence time of approximately two hours based on the test work.

Slurry discharged from the oxidation circuit will be pumped to the tailing thickener feedbox.

A concrete containment slab on grade and containment walls will contain rain runoff and process spills. A sump pump will transfer the spills back to the process.

17.5.6 Reagents

Reagent storage, mixing, and pumping facilities will be provided for all of the reagents used in the processing circuits. Table 17.3 below is a summary of reagents used in the process plant.

Table 17.3 Process Reagents and Consumption Rates

Reagent	Consumption (kg/t)
Sodium cyanide (NaCN)	1
Sodium Hydroxide (NaOH)	0.1
Cement	2.5
Calcium Hydroxide	0.6
Lead Nitrate ($PbNO_3$)	0.1
Sodium Metabisulfite ($Na_2S_2O_5$)	1.4
Zinc Dust	0.04
Diatomaceous Earth (DE)	0.15
Flocculant	0.12
Antiscalant	0.07
Copper Sulphate Pentahydrate ($CuSO_4$*$5H_2O$)	
Refinery Fluxes	0.05
Grinding Balls – 125 mm	0.8
Grinding Balls – 50 mm	1.1
Crusher Liners	0.007
Mill Liners	1.9

Source: M3, 2016

17.5.7 Merrill Crowe Precipitation

Gold, silver and mercury will be recovered from the pregnant solution by adding fine metallic zinc dust to precipitate the metal ions. The precipitate will be filtered out in filter presses and then retorted to remove trace levels of mercury. The dried precipitate is blended with fluxes and smelted for production of doré bars containing silver and gold.

The process of recovering silver and gold by the Merrill Crowe process includes:

- Clarification and filtering of pregnant solution to remove suspended solids;
- De-aeration of pregnant solution to reduce dissolved oxygen;
- Precipitating gold and silver metal by addition of metallic zinc dust;
- Filtering and air drying of precipitate;
- Heating the precipitate in a vacuum chamber to remove mercury; and
- Melting the precious metal precipitate in a crucible furnace to produce doré bars.

Pregnant solution from the CCD thickener No. 1 overflow tank will be pumped to a clarifier. Solution will be processed through the clarifier to remove solids prior to being pumped to the Merrill Crowe area. Pregnant solution from the clarified filter feed tank will be pumped using a horizontal centrifugal pump, to three self-cleaning pressure leaf clarifier filters. The clarifier filter will be leaf type with an automated leaf wash sequence that will activate as needed based on pressure or time. The operating filters will be pre-coated using DE as a filter aid, and in addition, has a continuous body feed addition of DE to assist filtering as needed.

For these purposes, a pre-coat tank and a body feed tank will be provided with the filter units. The clarifier pre-coat pump will be a horizontal centrifugal pump. The clarifier body feed pump will be a peristaltic type pump which will pump filter aid in to the filter feed stream. Pressure for filter operations will be provided by the clarifier filter feed pump. Filtrate, clarified solution, will discharge directly into the deaerator tower via a spray nozzle within the tower.

Clarified solution will be passed through the deaerator tower to remove dissolved oxygen to less than 0.2 ppm prior to zinc dust addition. The deaerator will be maintained at close to an absolute vacuum by a vacuum pump. The deaerator internals will include a packed bed that serves to distribute the clarified solution into a series of thin films. The deaerator level control valve will be submerged in barren solution to ensure that no air leaks into the lines via the valve seals or flanges. Dissolved oxygen level will be monitored using an installed sensor.

The clarified and deaerated pregnant solution will be withdrawn from the bottom of the deaerator tower by a single-stage, vertical, in-line, centrifugal pump, submerged in barren solution to prevent re-entry of air through the pump gland. The pump will discharge through the precipitation filter presses. Just prior to the filter press feed pump an emulsion of zinc dust and barren solution will be added to the deaerated solution to precipitate the silver and gold.

Zinc dust will be hand loaded into a zinc feeder hopper and will discharge via a feeder into a zinc dust mixing system which will emulsify the zinc dust with barren solution. DE may be pumped using a peristaltic type pump to the zinc slurry tank as body feed as required, to extend the filter cycle. The slurry tank will be continuously supplied with barren solution via a constant head tank to prevent air from entering the process. The slurry is then pumped to three plate and frame filter presses, where the precipitated precious metals are collected. The operating filters are pre-coated using DE as a filter aid. The precipitate pre-coat pump will be a horizontal centrifugal pump. The plate and frame press is air blown to remove solution, and manually opened and cleaned with precipitate being collected in carts.

Barren solution (filtrate) exiting the Merrill Crowe circuit will be pumped to the barren solution tank using vertical, in-line, centrifugal pumps. A recirculation loop will be provided to allow high barrens occurring after press changes to be recirculated and retreated. Barren solution will be distributed to the grinding area, gravity concentration circuit, concentration leach, cyclone overflow trash screen as spray water, CCD dilution boxes, pre-coat and body feed tanks, zinc slurry tank, cyanide mix tank, caustic mix tank, lead nitrate mix tank, as gland water, and to the filter press feed pump water box. Excess barren solution will be sent to the oxidation circuit as needed.

Pregnant solution is sampled ahead of the unclarified solution tank. Barren solution is sampled ahead of the barren solution tank.

17.5.8 Refinery

The refinery unit operations will be batch operations. The frequency of the batch operation will be varied to accommodate anticipated grade variations. Zinc precipitate will be loaded into retort boats, or trays, for treatment in a retort. The retort will heat precipitate/concentrate to 650°C to vaporize mercury, which may be present in low concentrations. Retort vapor will be withdrawn from the retort by a vacuum pump, which will pull the vapor through a condenser where the mercury will condense and flow into a mercury collection tank. Mercury will be recovered from the tank periodically. Exhaust from the retort vacuum pump will pass through a sulphur impregnated carbon (SIC) filter before venting to atmosphere.

The retort, mercury condenser system, mercury collection tank, vacuum pump, and carbon filter will be supplied as a complete packaged system ready for utility hook-up and operation.

Following the retort cool down cycle, the dry precipitate and/or the concentrate will be mixed with fluxing materials and will be charged to a diesel fired, indirect fired crucible melting furnace and brought to the melting temperature. When it is fully molten, the charge separates into two distinct layers: slag (on the top) and metal (on the bottom). The slag layer, containing most of the impurities, is poured off first into a conical slag pot. The metal layer, containing the gold and silver and minor impurities, is poured off next into bar molds. Doré will be sampled using vacuum tubes during pouring.

Doré bars will be the final product of the operation. Slag will be collected and returned to the mill circuit. Fumes from the melting furnace will be collected through ductwork and cleaned in a high temperature material baghouse and then with a wet scrubber with caustic addition before discharging a clean off-gas to the atmosphere.

The refining building will be constructed as a secure building.

17.5.9 Tailing Dewatering and Disposal

Oxidized slurry will be pumped to a 17 m diameter tailing thickener. Flocculant will be added as needed to aid in settling. The withdrawal rate of settled solids from the tail thickener will be controlled by two variable speed thickener underflow pumps to maintain either thickener underflow density or thickener solids loading. Tailing thickener underflow will be pumped to an agitated tailing filter feed tank. Tailing thickener overflow will be pumped using two horizontal variable speed centrifugal pumps back to the cyanide recovery circuit and to the oxidation circuit for dilution water.

Slurry from the filter feed tank will be pumped using variable speed horizontal centrifugal pumps to three tailing filters. The filter cake will fall onto a discharge conveyor. Filtered tailing at approximately 14.3% moisture (by weight) will be transferred to a covered tailing stockpile with a 15,000 t tailing capacity using a transfer conveyor. A belt scale will be used to maintain an accurate metallurgical balance. A sweep type sampler will be installed over the tailing transfer conveyor to collect samples for moisture analysis. Filtrate will discharge into a tailing filtrate tank and be pumped using fixed speed horizontal centrifugal pumps back to the tailing thickener feedbox.

17.5.10 Water Management and Requirement

A water balance for the process plant at a production rate of 3,000 t/d was developed for the Buriticá Project using MetSim modelling. The Buriticá process plant is projected to require approximately 24.6 m^3/h of fresh water makeup to sustain its operation. This is equivalent to 0.2 m^3 of water per tonne of mineral processed, which is within typical operating ranges for plants with filtered tailing.

Fresh water for the Buriticá Project will be supplied from wells and surface water. Water will be pumped from three operating wells to the fresh/fire water tank.

The fresh/fire water tank will supply the requirements for domestic water following treatment, various plant requirements, and fire water reserves in the event of an emergency. Fresh water system will be designed to prevent contamination with cyanide containing solutions.

Fresh water will be treated by a filter/chlorinator process, the treated water will be discharged into the domestic water tank. The domestic water will flow by gravity to the personnel and mill facilities.

17.5.11 Mill Power Consumption

The power consumption in the process plant for a typical year is shown in Table 17.4, with a total consumption of Megawatt hours per year (MWhr/a).

Table 17.4 Summary of Process Area Power Consumption

Code and Area Description	Average* Annual Power (MWh/y)	Average* Power / Tonne Processed (kWh/tonne)
AREA 100 — PRIMARY CRUSHING	583	0.59
AREA 200 — STOCKPILE AND RECLAIM	415	0.42
AREA 300 — GRINDING	29,079	29.68
AREA 310 — GRAVITY CONCENTRATION AND INTENSIVE LEACHING	972	0.99
AREA 315 — GRAVITY TABLE	245	0.25
AREA 400 — CONCENTRATE LEACH	2,995	3.06
AREA 450 — CCD	959	0.98
AREA 500 — MERRILL CROWE	4,135	4.22
AREA 510 — REFINERY	538	0.55
AREA 600 — WATER AND TAILING	5,220	5.33
AREA 630 — CYANIDE OXIDATION	507	0.52
AREA 650 — FRESH WATER SYSTEM	890	0.91
AREA 800 — REAGENTS	526	0.54
AREA 900 & 911 — ANCILLARIES AND BUILDINGS, MILL MAINTENANCE BLDG	3,188	3.25
AREA 906 — TRUCK SHOP BUILDING	197	0.20
AREA 909 — LABORATORY	132	0.13
Total	50,580	51.62

Average based on 14.0 years.

Source: M3, 2016

18 PROJECT INFRASTRUCTURE AND SERVICES

18.1 DISCLOSURE

The information contained in this report referring to Project Infrastructure and Services was derived, with the exception of Section 18.6, from the 2016 Buriticá Feasibility Study (JDS, 2016), effective February 24, 2016 and dated March 29, 2016. Section 18.6 on Power has been updated to reflect the current status of the planned Power Infrastructure.

18.2 INTRODUCTION

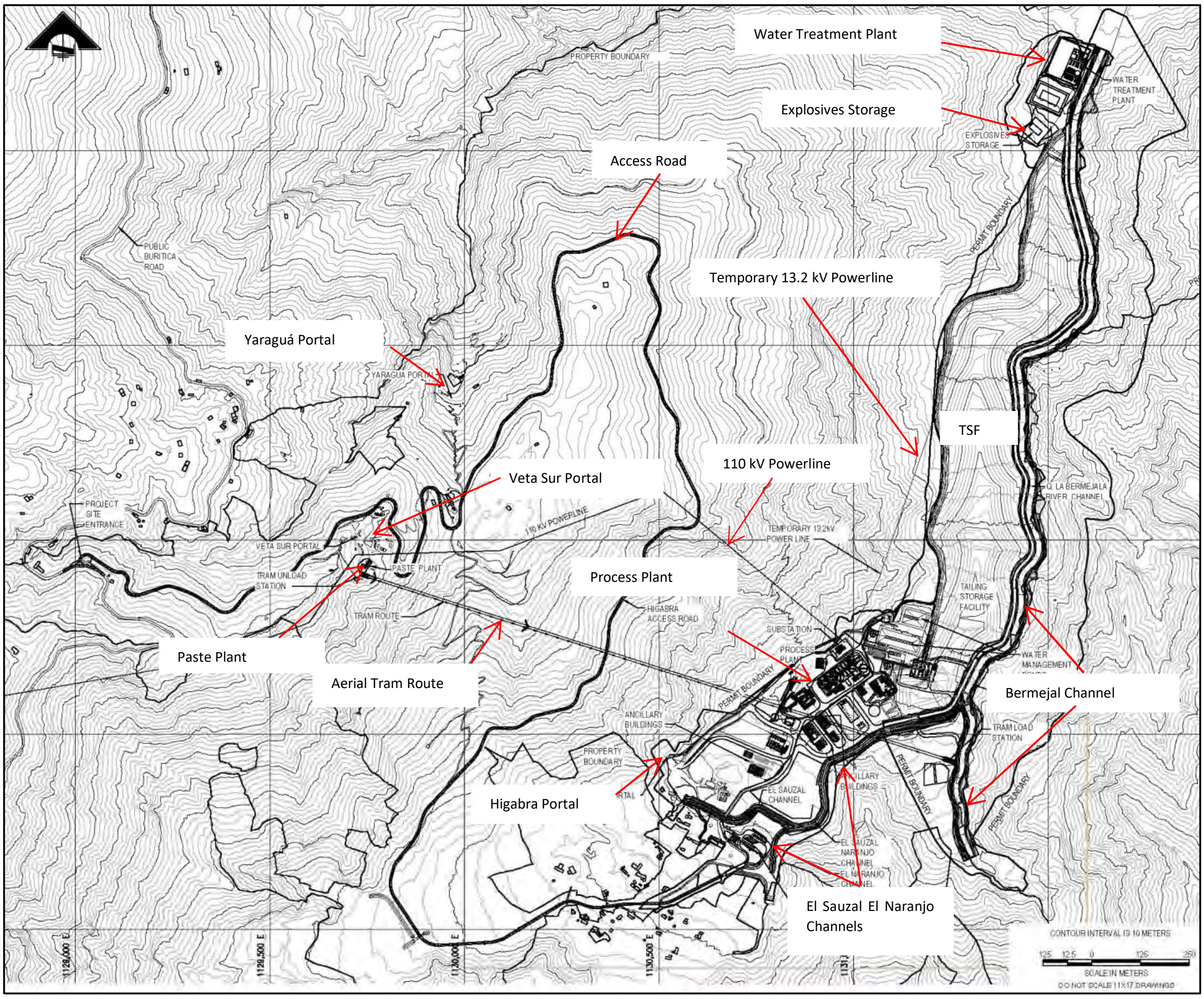
The Buriticá Project infrastructure and services are designed to support the operation of a 3,000 t/d mine and processing plant, operating on a 24 hour per day, 7 day per week basis. It is designed for the local conditions and rugged topography.

The main infrastructure for the Project consists of the following facilities:

- A 5.9 km access road between the existing property entrance and the Higabra Valley, originating at the paved road leading to Buriticá;
- Gold and silver processing plant with security, administration, and personnel facilities;
- Paste backfill plant for providing cemented paste to the underground workings;
- Aerial Tram for transporting tailing from the process plant to the paste backfill plant;
- Mine support facilities including mobile equipment maintenance, mine personnel facilities, and shotcrete mixing plant;
- Explosive storage facility;
- Utility infrastructure for the site: water, sewer, fire protection and communications;
- 13.2 kV grid power supply for the pre-production phase;
- 110 kV power transmission line connected to the EPM national electricity grid;
- Mine water sediment settling ponds and water treatment plant;
- Surface water handling infrastructure to manage local streams and runoff from the facilities; and
- Tailing Storage Facility (TSF).

The overall site layout is shown in Figure 18.1.

Figure 18.1 Overall Site Layout



Source: M3, 2015

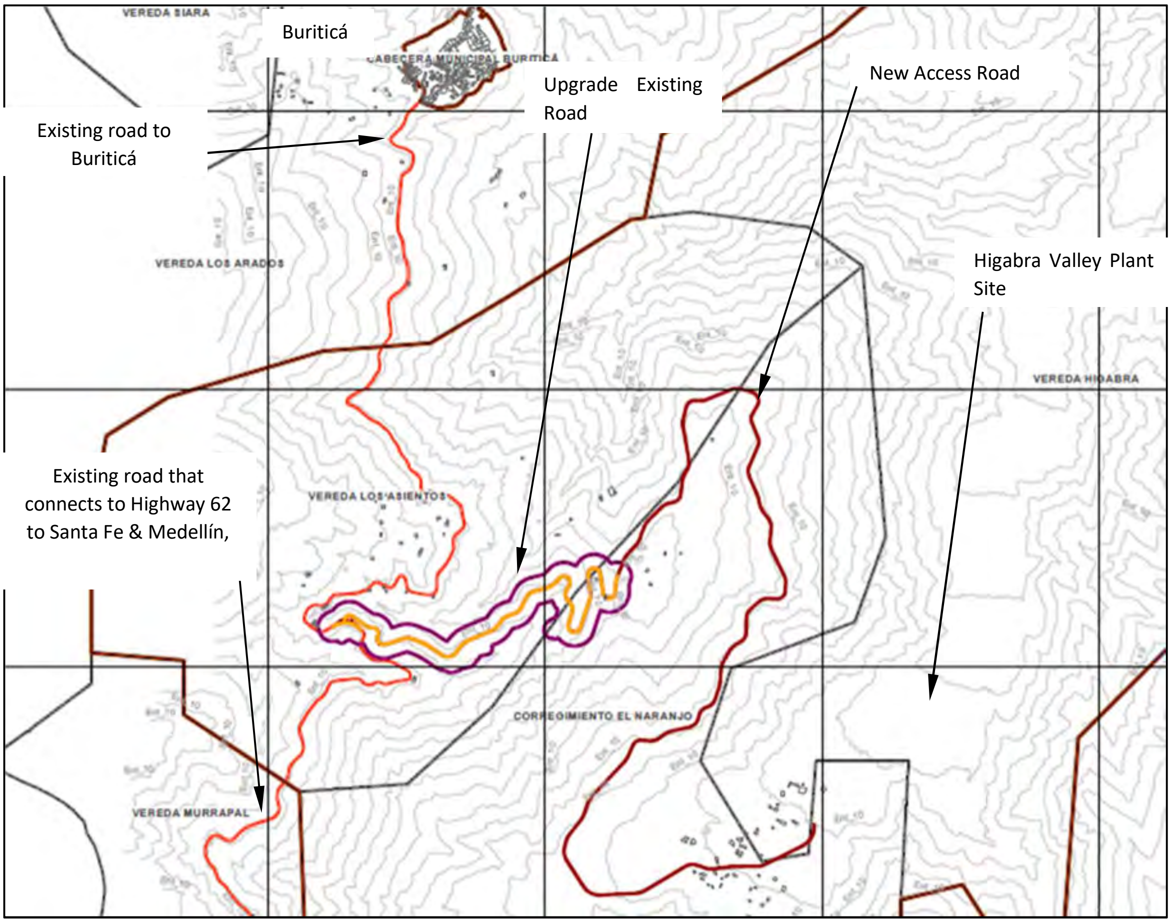
18.3 Access Road

18.3.1 Background and Description

The Project site is accessible via the highway network linking Medellín to Buriticá after turning northward towards Buriticá on a minor paved road. The project access road connects the existing main entrance to the operation at minor paved road leading to Buriticá to the Higabra Valley plant and TSF site. The road, which is designed for deliveries of equipment and supplies during construction and operation, has been developed to a detail engineering level by INTEGRAL Ingenieros Consultores S.A. (Colombia). The EIA for the road was approved by Corantioquia on August 30, 2012, and permits to construct the road have been granted.

The access road alignment is shown in Figure 18.2.

Figure 18.2 Access Road Map



Source: Integral, 2012

18.3.2 Design and Construction

The road will be built in three phases to provide the level of access needed as the Project develops while minimizing capital expenditures.

- Phase 1: Initial pioneering road to allow passage of construction machinery and semi-loads of equipment, using construction equipment assistance where necessary. Phase 1, which has already been completed, provides access to the valley in order to start construction and is scheduled to start in Q4 2016 and be completed in Q1 2017. This stage has already been bid for construction.
- Phase 2: Widening corners and reducing grades to allow highway tractor trailer traffic access for equipment deliveries; scheduled completion August 2017. Phase 2 includes gravel surfacing, slope stabilization and hydro-seeding.
- Phase 3: Completion to final specification and paving of this road, remaining slope stabilization work and hydro-seeding; scheduled completion in year two of operations.

The designs are based on:

- Colombian Norms for Road Design from INVIAS (National Road Institute); and
- A Policy on Geometric Design of Highways and Streets, 2011, AASHTO.

18.4 SITE GEOTECHNICAL CONDITIONS

The plant and TSF site geotechnical conditions have been investigated to a level sufficient for Feasibility Study. The existing site investigations comprise reports by Integral, 2014, Integral, 2015, geophysical seismic refraction data, site geologic mapping and reconnaissance investigations by SVS 2012. The materials of the upper 20 m to 35 m consist of a heterogeneous mix of gravels and cobbles (to boulders) in predominantly clayey silt to silty sand matrix down to more distinct gravel, cobbles and boulder layers (consistent with slope wash, colluvium and alluvial deposition). The natural fill material is underlain by bedrock.

18.4.1 Infrastructure Foundation Requirements

Prior to detailed design, additional valley floor site characterization will be conducted in the plant site area to provide information for major structures and building foundation designs.

Facilities and building site pads will be built on cut surfaces, compacted and topped with coarse gravel. Areas of fill will be used primarily for storage and laydown areas. Side slopes of pads will be limited at 1.5:1, and where greater slope is required, gabion baskets or concrete retaining walls will be used. The concrete foundations are designed as raft slabs due to poor basement soils susceptible to differential setting; the area is a relatively high seismic zone.

18.5 On-Site Infrastructure

On-site infrastructure will be located as close to the process plant as possible to make efficient use of the space.

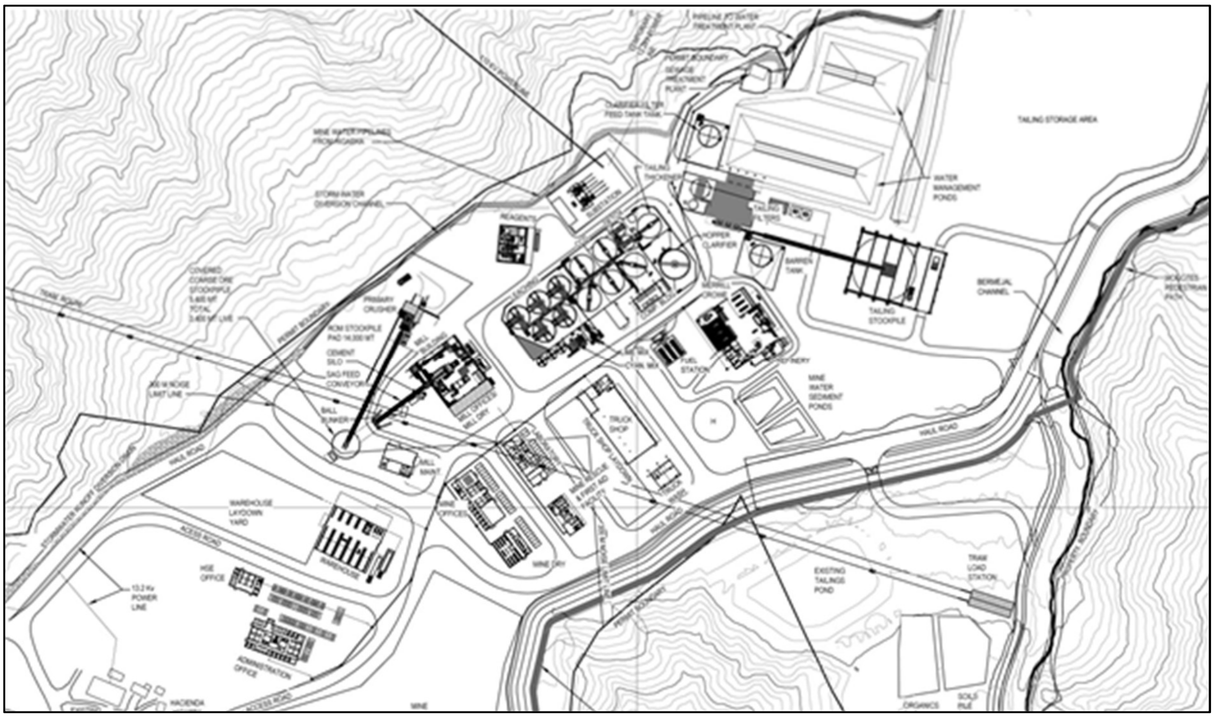
18.5.1 Process Plant

The primary process facilities include:

- ROM Stockpile pad of 14,000 Mt capacity;
- Primary crusher installation housed in structural steel, metal clad building;
- Coarse ore stockpile and reclaim, covered with concrete dome;
- Grinding and gravity area in a structural steel, metal clad building;
- Leaching and CCD tanks and thickeners on concrete pad with concrete walled containment;
- Merrill Crowe plant and gold refinery in a structural steel, metal clad building;
- Tailing filters in structural steel, metal clad building; and
- Tailing stockpile of 15,000 Mt capacity in a covered structure.

The process plant layout and facilities are shown in Figure 18.3.

Figure 18.3 Site Plan



Source: M3, 2015

18.5.2 Site Security

Site security facilities will include a main entrance security building, site fencing and guard posts at entrances to the property. The main entrance at the Buriticá road, and at the plant entrance in the valley will be controlled as checkpoints for vehicles and pedestrians entering the site. The entire site will be fenced with chain-link fencing, and any potential access points from local community trails will have provisions for access control.

18.5.3 Administration and Office Buildings

There are two single story buildings, one for general administration, and a second for health, safety and environmental departments. The office space allocated is sufficient for the planned staff and will be optimized in the detail design phase.

18.5.4 Warehouse and Laydown Areas

A steel building will warehouse parts and consumables that need protection from the elements. The building will include light vehicle access doors at each end, and a concrete slab floor for forklifts and pallet rack shelving; two offices with cataloging/receiving area will be included. A concrete receiving pad will be included for offloading highway tractor trailers.

The warehouse will also have a laydown yard for mine and process plant equipment and spare parts storage. This yard is approximately 75 m by 100 m, and enclosed with a security fence.

A separate laydown yard is provide for materials, consumables, and other supplies used in the mine, process plant and surface operations (approximately 16,500 m^2).

18.5.5 Process Plant Maintenance

The process plant maintenance will be in a structural steel building (approximately 220 m^2 working area) including a 10 Mt bridge crane. The building will include a tool crib, supervision and planning offices, and personnel facilities.

18.5.6 Assay Laboratory

The assay laboratory is equipped with the necessary analytical equipment to perform all routine assays for the mine, the process facility, and the environmental departments, as well as metallurgical testing and sample preparation equipment for core and rock samples. The building will be a single story structure equipped with ventilation, dust collectors, temperature and climate controls.

18.5.7 Mine Office and Mine Dry Facilities

The mine office building will house the mine planning and engineering staff, and include a lunch area for staff. It will also be equipped with a large training and orientation room.

A mine dry building has provisions for men's and women's change room showers.

18.5.8 Truck Shop – Vehicle Maintenance

The truck shop complex is designed for repair and maintenance of mobile equipment and light vehicles. A drive-through wash station will be near the truck shop on a separate concrete slab. An upper office area will house the maintenance staff.

The truck shop layout area breakdown is provided in Table 18.1.

Table 18.1 Truck Shop/Wash Bay Floor Areas

Description	Area (m^2)	Comments
Service Bays	900	five equipment bays, one oil change bay, each 6 m wide by 25 m deep
Work Bays	300	one weld bay and one workshop bay
Tool Storage/Consumables	400	Tool crib, tool storage, consumables and lube storage
Wash Bay	136	8 m wide by 17 m deep

Source: JDS, 2016

18.5.9 Mine Explosives Storage

The explosive storage facility will be located at the north end of the Project site on a 50 m by 50 m pad. The explosive storage building will be a reinforced concrete constructed facility with a roof that is steel framed and cladded assembly; capacity is 200 t explosive storage. A separate detonator building will have capacity for approximately 60,000 nonels. There will be a concrete wall or earthen berm separating the two buildings.

18.5.10 Paste Backfill Plant

A paste plant for controlled mixing and distribution of backfill to the underground is located near the Veta Sur portal. The plant is sized to process up to 3,000 t/d tailing and will typically operate at 60% to 70% design capacity. The paste plant will include three main components: tailing feeder, paste preparation building, and binder silo. The paste preparation building will have two floors. In the main building, the lower floor will house the paste pumps and hydraulic power packs, while the second floor will house the paste mixer, the control room, and electrical room. The layout of these facilities has been arranged to make best use of the existing topography with a minimum of earthworks.

18.5.11 Shotcrete Mixing Facility

A shotcrete mixing facility will be adjacent to the paste plant at the Veta Sur portal. It consists of a binder silo and cement blower, cement unloading station, aggregate and sand storage, and shotcrete mixer. A single storage silo will supply both the paste plant and shotcrete mixer. A blower will transfer the cement from this silo to a dedicated paste plant silo. Shotcrete will be mixed and delivered to the mine via truck.

18.5.12 Medical Clinic and Mine Rescue Facility

The medical clinic and mine rescue facility will be housed in two separate buildings with emergency vehicle parking in a sheltered breezeway in between. The medical clinic includes provisions for an emergency first aid station, consultation offices, and pharmaceutical storage. The mine rescue section includes provisions for mine rescue equipment storage, a mine rescue training facility, and offices for mine rescue staff and records.

18.5.13 Fuel Storage

Diesel fuel storage capacity will consist of three 50,000 litre double walled horizontal fuel tanks inside containment units, mounted on a single concrete pad. A fuel dispensing station will provide for vehicle fueling, and the entire installation will be protected with concrete bollards.

18.5.14 Utilities

Sewage Treatment

Sewage will be treated in a standard sanitary waste water treatment plant. The treatment plant includes primary separation basin, two aeration basins, settling basin with skimmer, aerobic sludge digester with aeration, chlorine contact chamber, gas chlorinator and blowers.

Fresh and Fire Water

Fresh water is drawn from three shallow wells located at the upper end of the Project site in the Higabra Valley. The fresh water is pumped to the fresh/Fire Water Tank, which will include the fire water reserve. Fresh water is pumped from this tank to the potable water treatment plant and miscellaneous points such as hose stations. The fire water is pumped into the ring main via the fire water pump skid located by the tank.

Potable water

Water will be pumped from the fresh and fire water tank to a potable water filter/chlorinator system. The treated water will be stored in potable water storage tank and distributed for use on site.

Fire Protection systems

The Buriticá site facilities will include fire protection in accordance with applicable codes and standards. The fire alarm system will consist of manual pull stations at building exits and audible and visual notification devices throughout the work areas. The firewater distribution will feed from a fire water tank and modularized pump unit. The fire water pump system will include a main pump and jockey pump which are electrically powered, and a diesel-driven standby pump. A fire truck will provide supplemental protection.

All surface mobile equipment will be fitted with fire extinguishers. The fleet of underground mining equipment will also contain fire suppression systems.

All buildings and conveyors will have fire extinguishers and some will have standpipe systems and fire truck connections.

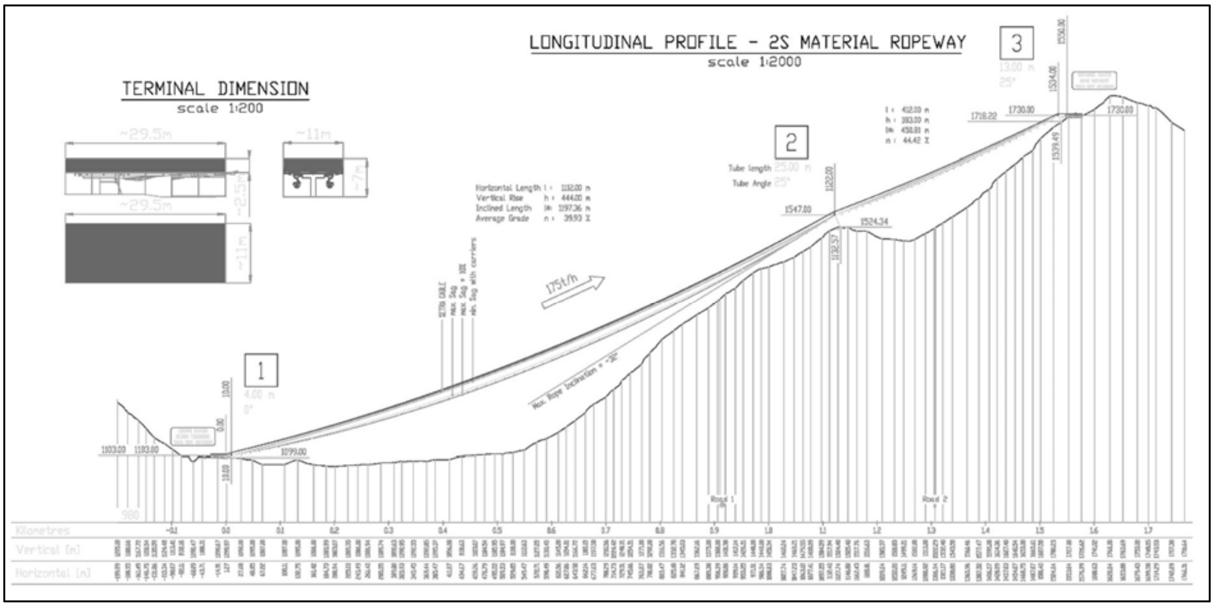
Communication systems

Site-wide communications design will incorporate reliable communications systems to ensure that personnel at the mine site have adequate voice, data, and other communication channels available. A number of integrated systems will be provided for on- and off-site communication at Buriticá, including at the processing plant. On-site communications will be facilitated by Voice Over Internet Protocol (VoIP) phones, optical fibre cable network, a wireless network, and a leaky feeder for the underground mines. A trunked radio system consisting of hand-held, mobile and base digital radios will provide wide-area communications coverage VHF radio.

18.5.15 Aerial Tram

An aerial tram system will be used to deliver tailing from the Higabra Valley plant site to the paste plant located at the Veta Sur portal area. Tailing will be delivered to the load station by truck from the tailing stockpile, and will be carried to the unload station in material transport buckets designed for tailing. The buckets will transport tailing at a rate of 175 t/hr at a tram speed of 6 m/s to the paste plant, where they are unloaded directly into the feeder. The tram profile is shown in Figure 18.4, and the plan view alignment is shown in Figure 18.1.

Figure 18.4 Tram Profile



Source: Doppelmayr, 2015

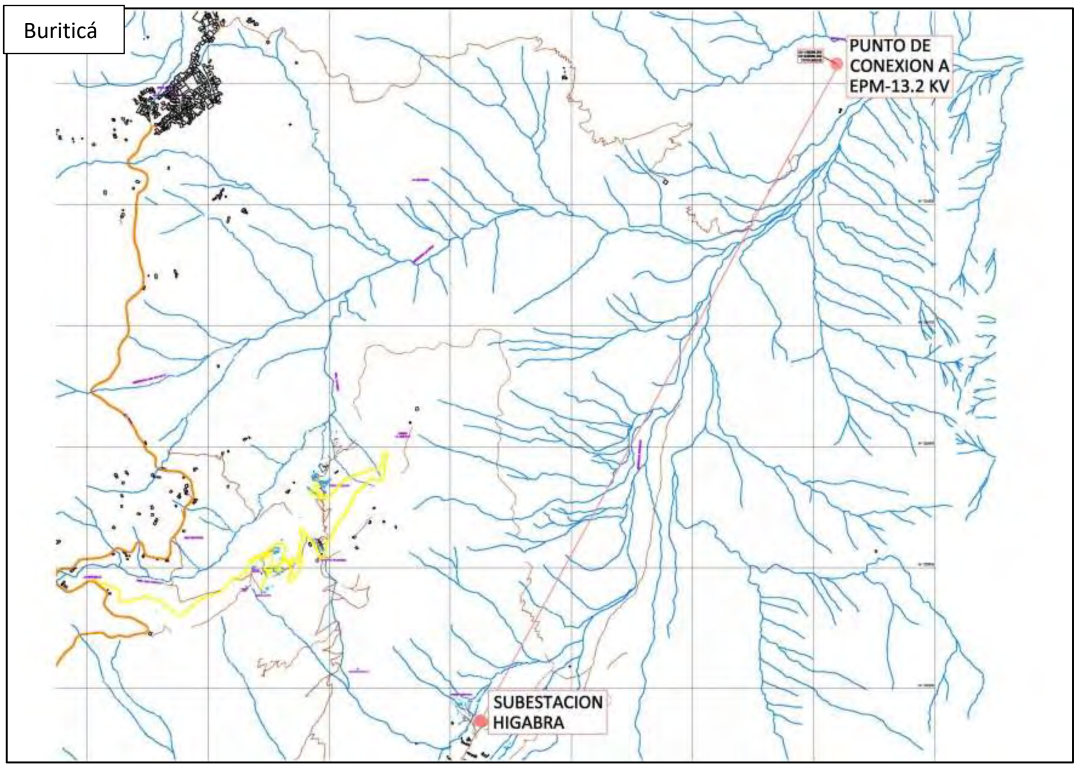
18.6 POWER

18.6.1 Existing 13.2 kV Power from EPM Grid

The Project was originally supplied power from the EPM 13.2 kV grid, which is connected to the power line from Chorodó and services the Buriticá village. The power available in 2015 was 4 MVA. There is dedicated power of 1.2 MVA for the existing operations which currently has on-site distribution to the Yaraguá portal and mill, Veta Sur and a line running to the Higabra Valley feeding an existing substation near the Higabra Valley portal. This substation steps down the power from 13.5 kV to 480 V for the Higabra portal supply.

Another 13.2 kV power line was constructed in 2016 to supply 2.5 MVA of additional power and is connected to the Higabra Valley substation from the EPM grid approximately 3.5 km down the Higabra Valley. The main connection and termination points for this line are shown on the map in Figure 18.5.

Figure 18.5 Map of Connection Points for 13.2 kV Temporary Powerline



Source: CGI, 2015

18.6.2 110 kV Power Supply

Power will be supplied for the life of mine through a 32 km 110 kV overhead transmission line connected to the EPM grid. It will start at the existing EPM Chorodó electrical substation and end in the Higabra Valley connecting to a new Project substation. Environmental license for the construction & operation of the line was obtained in July 2016 by means of resolution 0841 issue by the regional environmental authority Corpouraba.

Engineering was developed by HMV Ingenieros Ltda. (Colombia), leaders in project development of overhead transmission lines in Colombia, Peru, Chile and Brazil.

Chorodó Substation Design

Three additional bays are being constructed at the Chorodó substation to facilitate the connection to the busbar. The design and construction is due for completion in Q3, 2019, and includes the installation of the following equipment:

- Voltage transformer;
- Lightning arrestor;
- Disconnect switch with ground connection;
- Current transformer;
- Three phase circuit breaker;
- Disconnect switch; and
- Control and protection cabinet.

110 kV Overhead Transmission Line

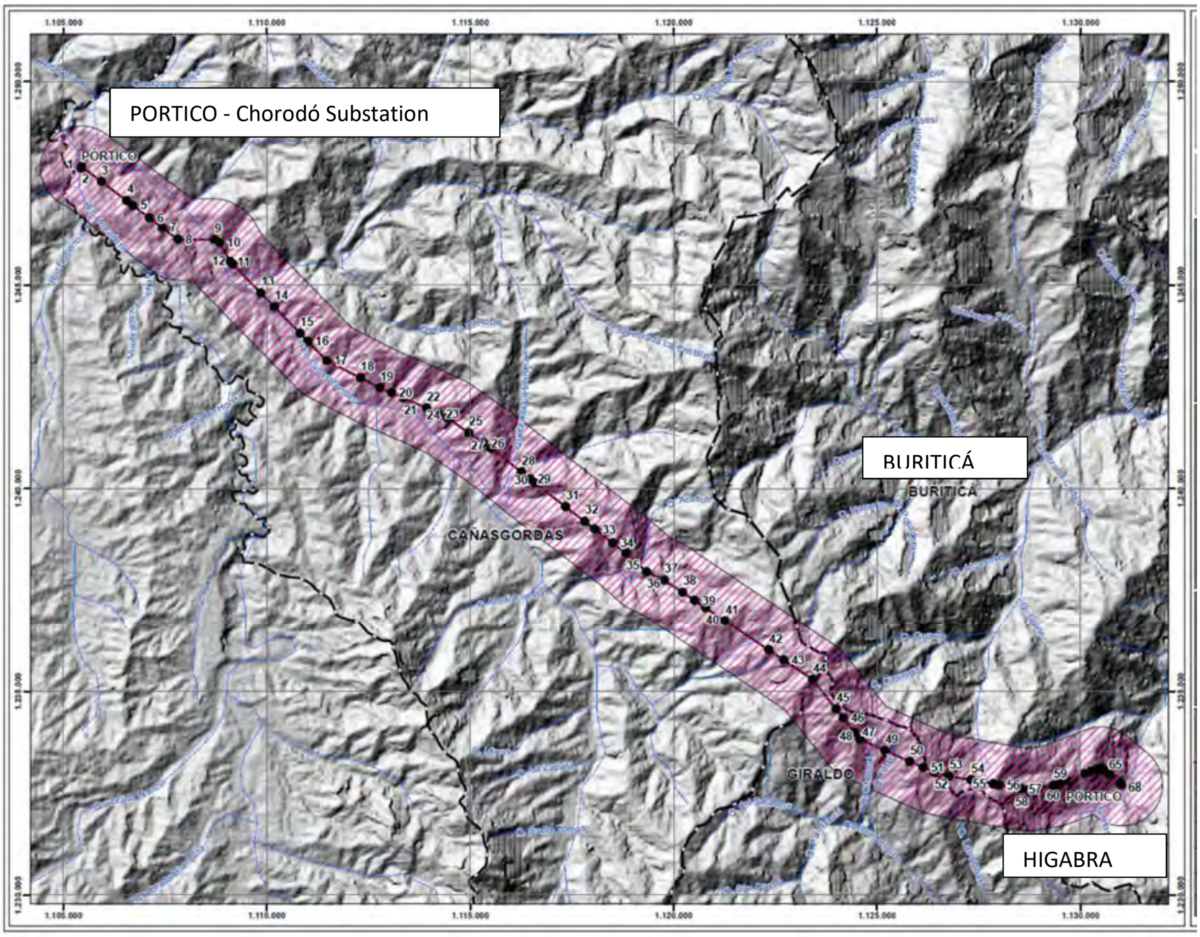
The HMV design of the 110 kV transmission route was chosen based on a study of three alternative routes taking into account environmental considerations, property taxes, technical, and economic aspects. The following criteria were used to determine the Buriticá Project route and design:

- Low environmental impact, to facilitate environmental authority license approval;
- Low environmental cost, to reduce execution time and cost;
- Avoid population areas;

- Tower site accessibility;
- Minimized number of vertices, to facilitate the construction and reduce costs;
- Constructability, to reduce execution time and cost; and
- Transmission line length.

The selected route is shown in Figure 18.6.

Figure 18.6 110 KV Powerline Route



Source: HMV Ingenieros, 2015

The route from the connection point to the mine site goes through the municipalities of Cañasgordas, Buriticá, and Giraldo in the Department of Antioquia. The total line length is approximately 32 km.

The following engineering activities were conducted for the design:

- Topographic surveys through an airborne LiDAR with a Global Positioning System (GPS) and Inertial Measurement Unit (IMU);
- Land surface mapping;
- Conductor wire size and type selection;
- Tower location selection at suitable topographic sites;
- Geotechnical Study for Tower Foundation Design;
- Shielded design using local lightning density criteria; and
- Technical specifications for supplies, construction and erection, work quantities and project budget.

Construction of the 110 KV power line commenced at end-November 2018 with forestry activities. The line and associated infrastructure are expected to be completed in Q3, 2019.

On-Site Power Distribution

On-site power will be distributed from a 56 MW rated substation, connected to the 110 kV transmission line. The substation will have two 26.6 MVA transformers, one operating and one on standby, stepping down the 110 kV to 13.8 kV. Power from the substation will be distributed on site primarily at 13.8 kV on overhead lines to the site facilities and mine portals. Smaller secondary substation transformers will be located at the distribution endpoints to provide power at 4,160, 600, or 480 V, depending on the service requirements.

Emergency Back-Up Power

A back-up 3 MW generator will be connected to the on-site power distribution to provide emergency power during line power outages. The emergency power is designed to be sufficient to run mine ventilation, provide emergency lighting, and operate slurry agitators to maintain agitation in process plant tanks.

18.7 Water Management Plan

18.7.1 Water Management Overview and Strategy

This section describes the infrastructure planned for the water conveyance, storage and treatment. The water management plan is described in Section 20.4.2.

Water and Load Balance

A water and load balance model was developed using a GoldSim model to optimize the water management strategy and evaluate water treatment needs during pre-production, operations, closure and post-closure in order to meet water quality guidelines. The water and load balance model is based on mass balance principles, available hydrology inputs, water management plans, the mine schedule, and the best available water chemistry inputs. The GoldSim model was developed by Montgomery and Associates, and peer reviewed by Tierra Group International.

The water management infrastructure designs prepared for this study are used in the water balance, and therefore, have been validated as suitable.

Water Management Infrastructure

The water management infrastructure consists of the structures designed to handle contact water for delivery to the water treatment plant (WTP), and to non-contact water diverted around the facilities. All water from the mine goes to the WTP surge pond; however, there are two different types of mine water (see Section 16). The sediment laden mine water goes to sediment settling ponds prior to the WTP surge pond, and the clear mine water, piped directly from underground drain hole sources, goes to the WTP surge pond.

Contact Water Management Infrastructure

The contact water handling structures are designed to prevent mine and contact water from discharge to the natural environment, and to delivery for treatment to meet Colombian discharge standards prior to discharge. The contact water infrastructure includes:

- Pipeline from Higabra portal to sediment settling ponds;
- Mine water sediment settling ponds, one operating and one standby;
- Pipeline from mine water settling ponds to WTP surge pond;
- Pipeline from Higabra portal to the WTP surge pond for clear mine water;
- WTP surge pond; and
- Water Treatment Plant.

The contact water ponds are lined with a High density polyethylene (HDPE) layer in contact with the water, and secondary HDPE and geotextile liners underneath the top layer. All ponds include a concrete ramp for clean out using surface equipment.

Non- Contact Water Management Infrastructure

The non-contact water structures are designed to prevent natural water, including runoff and valley stream flows, from coming into contact with the facilities (e.g., ore, waste and mineral processing plant).

The non-contact water infrastructure includes:

- Plant site surface ditches and diversion structures to direct water into the solids settling pond;
- Site rainwater settling pond;
- Environmental control pond;
- Diversion channel #1 to divert water from the North side of the valley around the plant site;
- El Sauzal and El Naranjo diversions channels around the plant site;
- West side channel; and
- Bermejal channel.

The natural streams in the valley are all diverted in channels around the facilities. Each channel is designed for a 100-year event. The channels are shown in Figure 18.1, and are listed in Table 18.2.

Table 18.2 Diversion Channels

Name	Length (m)	Construction
Diversion Channel #1	400	Concrete ditch
El Sauzal	400	Hydrotex articulated block lining – concrete filled bags
El Naranjo	170	Hydrotex articulated block lining – concrete filled bags
El Sauzal / El Naranjo	610	Hydrotex articulated block lining – concrete filled bags
Bermejal Channel	2,310	Natural alluvial – with topsoil stripped off
West Side Channel	1,620	Natural alluvial – with topsoil stripped off

Source: JDS, 2016

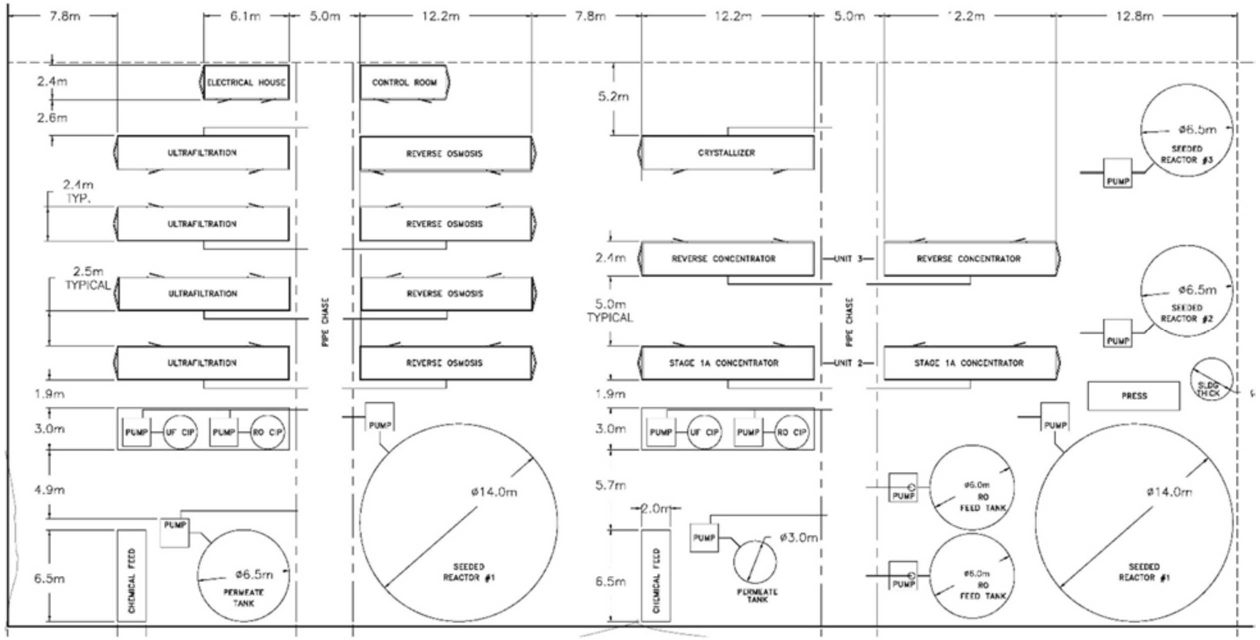
The non-contact rainwater is collected in ditches and directed to the sediment settling pond, which overflows into the environment control pond, before releasing into the diversion channel #1. The environmental control pond will have a sampling location for testing prior to release into the local stream. Depending on quality, water from this pond will be designed to go to the WTP if necessary.

Water Treatment Plant

The water treatment plant is designed using membrane technology. The majority of the equipment will be assembled and housed into 40-ft shipping containers. The initial plant installation includes (See Figure 18.7 for layout).

- 3 +1 Reserve Ultra-filtration (UF) systems, with Back-wash, pre-filtration and clean-in-place (CIP) skids;
- 3 + 1 Reserve Reverse Osmosis (RO) systems, CIP, Pre-filter and Transfer Pump Skids;
- 1 HDS Clarifier Package System with Filter Press Wesco or equivalent;
- 1 UF post Clarifier;
- 1 +1 Reserve High Pressure Concentrator RO;
- Membrane skids individually pre-piped and pre-wired; and
- 1 Brine Concentrator.

Figure 18.7 110 KV Powerline Route



Source: MDS 2016

Membrane technology is an absolute filter for most multivalent heavy metals, and removal rates > 99% can be achieved. For this reason, and based on treatment requirements, this method was selected rather than conventional lime precipitation.

The system will separate the water into two streams; 75% of the flow is clean water suitable for discharge, and 25% of the flow is a concentrate with the heavy metals. This concentrate will be further processed and filtered down to a brine concentrate. The plant includes a crystallizer system that will then evaporate the brine concentrate to produce a solid for disposal.

Because the membrane trains are containerized and utilize a modular design, water plant capacity can be expanded as the mine discharge volume changes.

18.8 Tailing Management Facility

The TSF will be constructed, operated and reclaimed in phases as mining proceeds. Initially, before the start of tailing production, part of the ultimate TSF footprint will be used for construction laydown and ore stockpile (lined as required). Pre-mining waste rock will be used to construct the truck loading area and first TSF operating cell. While the first cell is being filled, a second cell will be constructed. This sequential phasing of cell construction and tailing deposition will continue throughout the mine life.

Once the first cell is filled with tailing, it will be reclaimed and a cover constructed to provide progressive TSF reclamation throughout the mine life. The progressive reclamation will reduce the contact water volumes even as the TSF is enlarged.

The geochemical characterization of the tailing material and waste rock are covered in Section 20.4.1.

18.8.1 Geotechnical Characterization

TSF Site Geotechnical

The site geotechnical conditions are described in section 18.4. Existing conditions will provide a suitable TSF foundation with some acceptable static settlement during and concurrent with tailing placement.

Tailing Material Geotechnical

The TSF is designed to receive a range of tailing composition, gradations, and moisture content. The tailing will generally be slightly clayey to silty, fine sand to silt with 80 percent finer than 75 microns. The tailing moisture content delivered from the filter press to the TSF is designed to be 14 percent. The actual moisture content will vary depending on the tailing gradation and the filter press operation.

Mine Waste Rock Geotechnical

For the design, it has been assumed that the rock has zero cohesion and a friction angle of 37º. The compacted density is anticipated to be between 18 and 20 kN/m^3.

Site Clearing Materials

During site clearing and TSF foundation preparation, materials will be removed, processed, and stockpiled. The very thin layer of roots and topsoil will be separated and stockpiled for use as the cover material, to the extent possible. Excavated foundation will be separated and screened into sizes, including boulders for rip rap, gravels for drains, sand and silt for filters, and clay for bedding. No gradation curves for the in-situ material are available, but visual observations indicate that sufficient material quantities will be available from screening.

Generally, the materials are good quality and suitable for TSF construction.

18.8.2 TSF Layout and Cross Section

Compliance with Standards and Good Practice

The TSF is designed and will be constructed, operated, and closed to comply with Colombian, and meet or exceed international standards.

Good practice for tailing management includes:

- Eliminate surface water from the impoundment;
- Promote unsaturated condition in the tailing with drainage provisions; and

- Achieve dilatant (density) conditions throughout the tailing deposit by adequate moisture control, placement and compaction.

The TSF design meets these good practice principles. The TSF includes compacted rockfill embankments, compacted filter-pressed tailing, and strong foundation soils that are not liquefiable. To promote chemical stability, the TSF includes basal liners, drains, and a compacted cover that will minimize infiltration.

Location

The TSF is located in the Higabra Valley downstream of the mine's primary underground access portal and the process plant (see Figure 18.1).

Production and Mine Life

In the period before full production, approximately 315,000 m^3 waste rock from the mine development will be hauled to surface. This rock will be used to construct the working decks and the initial perimeter berms of Cell 1. In subsequent years the annual volume of waste rock will decline from about 200,000 m^3 in year one to less than about 100,000 m^3 by year seven. This waste rock will be used for perimeter berm construction of subsequent cells. The estimated life of mine waste rock volume is 1.4 Mm^3. Any waste rock volume deficit will be supplemented with alluvial material excavated within the TSF footprint.

The volume of tailing deposited at the TSF will increase from about 300,000 m^3 per year to a maximum of about 420,000 m^3 per year. The estimated life of mine tailing volume for surface storage is 4.9 Mm^3. The remainder of the tailing will be placed underground as paste fill.

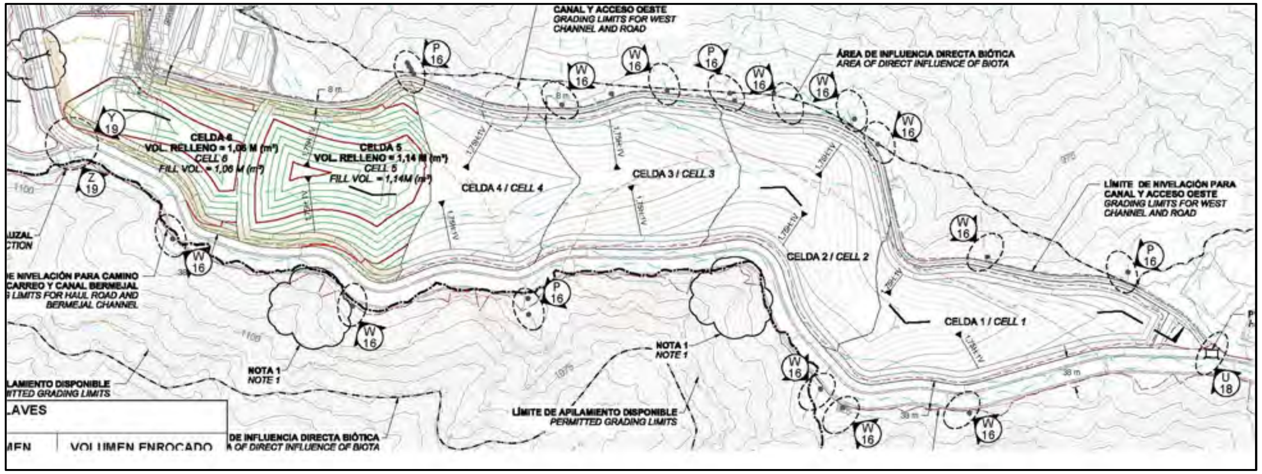
On the basis of these estimated volumes, the TSF required capacity is approximately 6.5 Mm^3.

Facility Layout and Design

The TSF layout is shown in Figure 18.8 Key design considerations:

- Maximum use of the central valley and maintaining the existing Eastern Bermejal natural drainage course;
- Avoids tailing placement against or immediately below the steep native hillside slopes;
- Least contributory area for surface water run-on to the tailing - only direct precipitation falling on an active cell becomes contact water;
- No requirement to excavate or blast up-slope diversion channels into the steep hillsides above the TSF fills;
- Optimum surface water runoff management from the valley and the tributary drainages; in essence, such waters continue to flow un-intercepted in natural channels between the hillsides and the facility.

Figure 18.8 Detailed Layout of the TSF



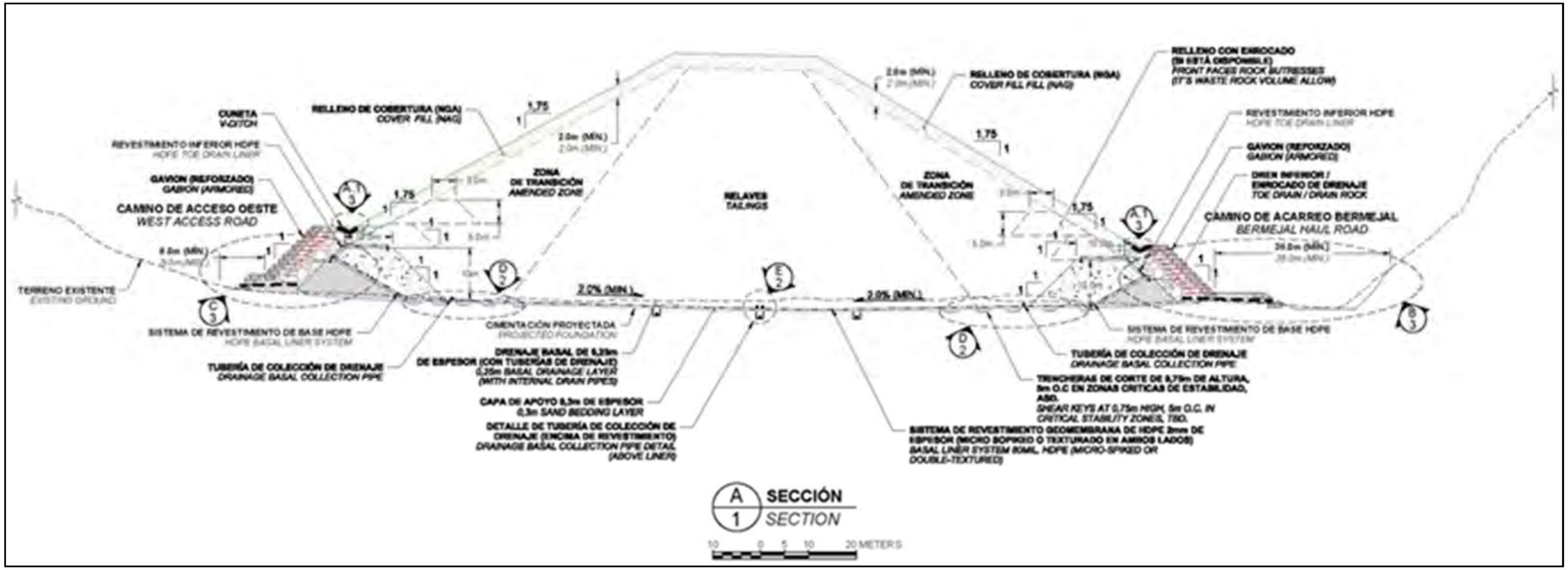
Source: RGC, 2015

TSF Cross Section

The main TSF components include (see Figure 18.9):

- Foundations;
- Subsurface drains – to prevent groundwater from affecting the foundations;
- Basal liner – HDPE liner to isolate the tailing material from the natural ground;
- Basal drain – to water treatment plant;
- Perimeter buttresses – rock fill berms and gabion baskets;
- Subsequent perimeter berms – waste rock;
- Tailing – inner zone is tailing with no binder; outer zones amended with binder as required;
- Rockfill interim layers; and
- Inclined drainage layer.

Figure 18.9 Typical Cross Section of the TSF Looking North



Source: RGC, 2015

18.8.3 Phased Construction and Operation

Cell Numbers

The construction, operation, and closure of the TSF involves sequential construction from North to South, such that reclamation of each cell can follow closely behind active deposition.

TSF Support Facilities

Preparation and delivery of tailing to the TSF is done via the following:

- Dewatered tailing conveyed from the filter press plant to the filtered tailing stockpile;
- Tailing loaded at the stockpile using a front-end loader into trucks for transport to the active placement cell deck area;
- The east access road used to transport tailing from the stockpile to the placement area; and
- A west maintenance access road will provide access along the west perimeter channel/western TSF toe.

Surface Water Management

The layout includes the features for surface water management for the TSF:

- On the east side of the TSF, a wide corridor is used for the main (east) Bermejal channel and access road;
- On the west side of the TSF, a narrower corridor is used for the west drainage channel; and
- Engineered (rock check dam) inlets and energy dissipation structures to accommodate tributary stream confluences with the main channels.

TSF Contact Water Management

The TSF design includes the following features for contact water management:

- A basal liner consisting of a composite geosynthetic clay layer (GCL) sandwiched between two textured (double-textured or micro-spiked) HDPE geomembranes to prevent seepage of drainage from the tailing and waste rock to groundwater;
- Over the basal liner there will be a drainage layer that collects seepage from the tailing and waste rock and directs it to collection points at the perimeter toe;
- A sediment pond will be included in the detailed design phase to collect rainwater contacting exposed tailing and waste rock during operations; and
- Piping from the collection points and the sediment pond will direct the contact water to the WTP surge pond.

19 MARKET STUDIES AND CONTRACTS

19.1 MARKET STUDIES

Market studies for gold doré sales included obtaining indicative refining and payable terms from a leading-industry entity. CGI currently has contractual arrangements for shipping and refining doré produced at the Yaraguá pilot facility.

Table 19.1 shows the terms used in the economic analysis.

Table 19.1 NSR Assumptions Used in the Economic Analysis

Assumptions	Unit	Value Au	Value Ag
Payable	%	99.9	99.7
Refining Charge	$/oz	$0.83	
Insurance	% of payable value	0.006	
Transport Cost	$/oz	$0.62	

Source: JDS, 2016

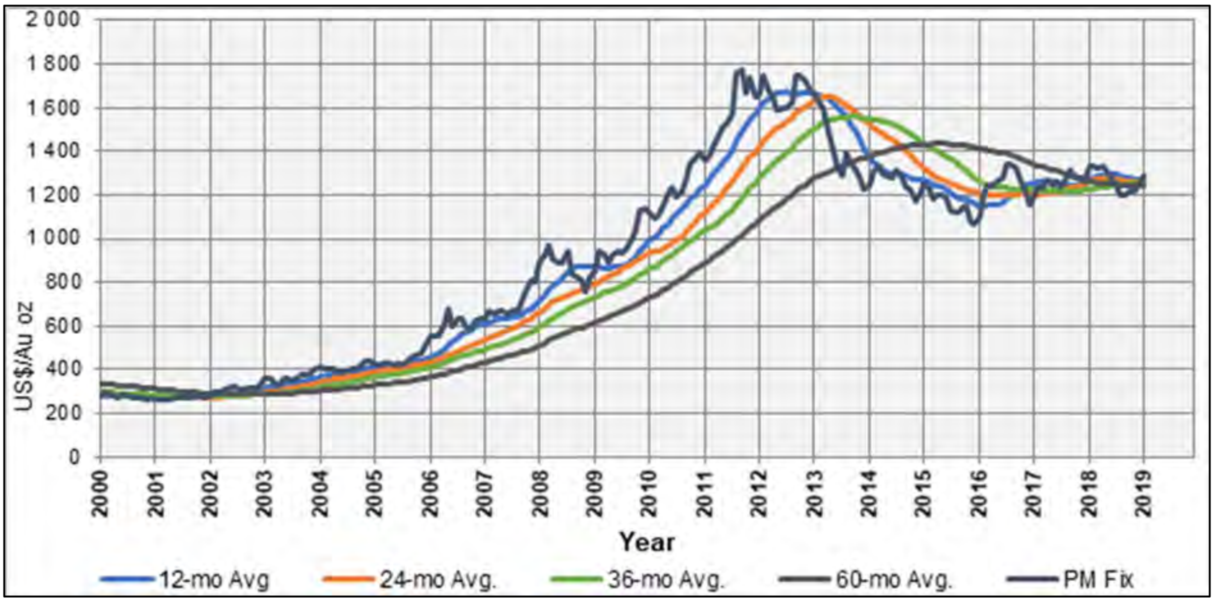
19.2 ROYALTIES

Royalty payments are calculated at 3.20% of the recovered metal value to doré; the life of mine royalty payments are estimated to be $137 M.

19.3 METAL PRICES

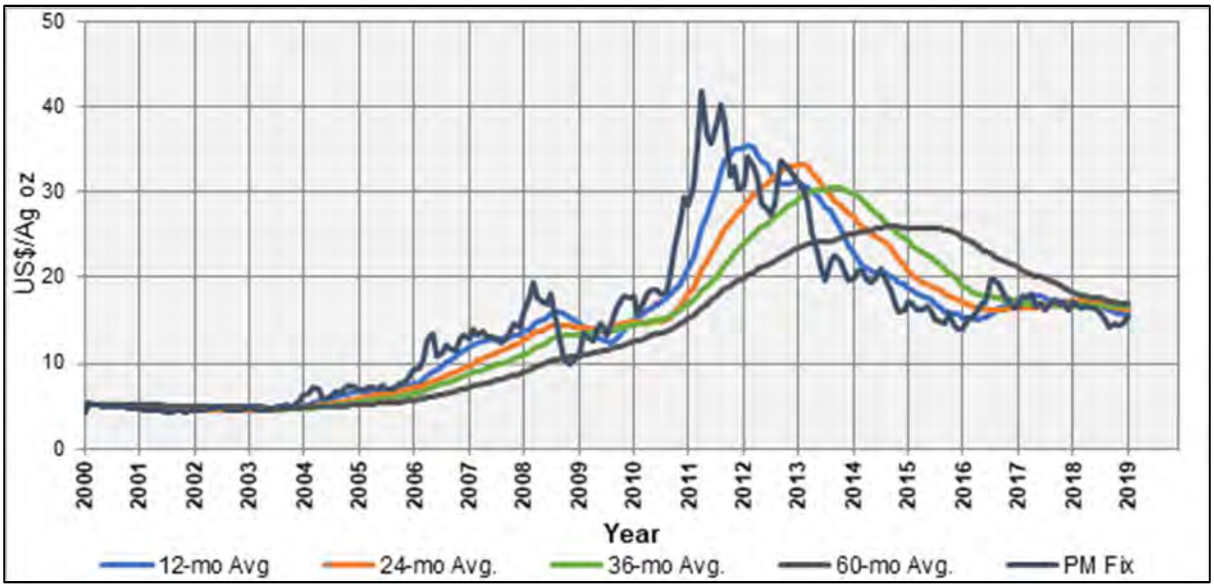
The precious metal markets are highly liquid and benefit from terminal markets around the world (e.g., London, New York, Tokyo, and Hong Kong). Historical gold prices are shown in Figure 19.1 and indicate the change in metal prices from 2000 to *2019*. Historical silver prices and average COP:$ exchange rates are shown in Figure 19.2, and Figure 19.3, respectively. *Since original publication of the Feasibility Study in 2016, gold prices have increased to $1,267 per oz, and Silver to $15.59 per oz using the same methodology. Colombian currency has lost ground to the $ with a current 6-month average of 3,100 COP:$.*

Figure 19.1 Gold Price History



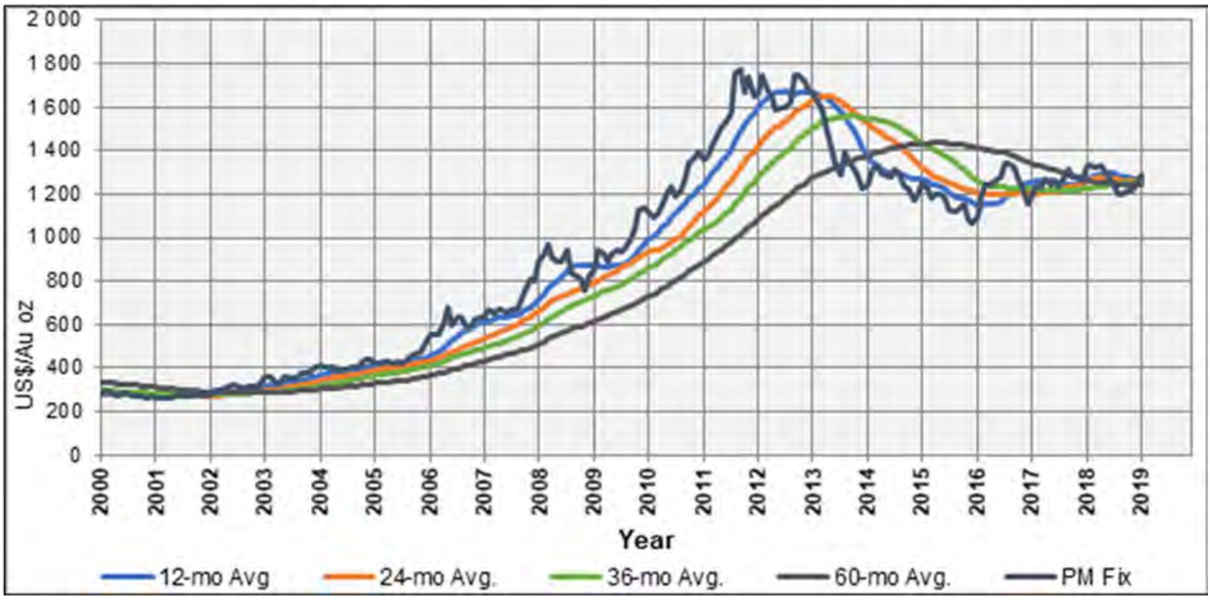
Source: JDS, 2019

Figure 19.2 Silver Price History



Source: JDS, 2019

Figure 19.3 Monthly Average COP:$ Exchange Rate



Source: JDS, 2019

The silver and gold prices used in the *2016 Feasibility Study* economic analysis are based on the lesser of spot price for January 2016 and the 6-month average sourced from Kitco Metals Inc. The COP:$ exchange rate estimate used in the economic analysis is based on the January 2016 6-month average price sourced from the International Monetary Fund and recognizing the current sustained lows being experienced against the $. A sensitivity analysis to metal prices and exchange rate was completed as part of the overall economic analysis; the results of this are discussed in Section 23. Table 19.2 shows the metal price and exchange rate used in the economic analysis.

Table 19.2 Metal Price and Exchange Rate used in the Economic Analysis

Assumptions	Unit	Value
Au Price	$/oz	1,200
Ag Price	$/oz	15.00
Exchange Rate	COP:$	2,850

Source: JDS, 2016

20 Environmental Studies, Permitting, and Social or Community Impact

20.1 Environmental Studies and Background Information

CGI operates the Yaraguá Mine, located in the municipality of Buriticá and operating in the same area as the proposed Buriticá project. The Yaraguá mine includes a small underground mine and 35 t/d mill. The initial environmental licensing of the operation Resolution No. 130HX-3826 dated, October 06, 2008 was modified into a global environmental license granted by Regional Autonomous Corporation of Central Antioquia (Corantioquia) Resolution No. 130 HX-1208-5963 dated August 28, 2012, for the Comprehensive Mining Concession Contract No. 7495 dated September 14, 2011, registered with the National Mining Agency on March 20, 2013. The environmental license has been partially amended by means of Administrative Resolutions No 130 HX-1311-6886 dated November 13, 2013 and Resolution 130HX-1405-7222 dated May 22, 2014. Global environmental licenses involve the use of all renewable natural resources, such as water concessions and discharge permits, without need for separate filing.

The environmental license has been modified by the National Environment Authority (ANLA) by Resolution 1443 dated November 30, 2016 and Resolution 1685 dated December 21, 2017 to authorize the increase of the exploitation volumes

(3,200 t/d) and build new infrastructure for mineral processing and tailing management in line with the approved PTO (Works & Investment Plan; the mine plan) approved by the Secretary of Mines by means of Resolution 2016060095092 on 30 November 2016.

Environmental baseline studies began in 2010 and hydrogeological studies in 2011 and 2012 (phases I, II, and III). In August 2012, Corantioquia granted a modification to the original environmental license for underground development and road construction at the Buriticá Project, and work began in Q4 2012. Between October 2012 and December 2013, CGI completed an Environmental Impact Assessment (Estudio de Impacto Ambiental - EIA) in accordance with Terms of Reference issued by Corantioquia. In the EIA, CGI requested Corantioquia to modify the existing Environmental License to include the new additional explorations tunnels and a modification of the road in the first 1.7 km of the alignment.

Between May 2014 and May 2016, CGI completed an Environmental Impact Assessment (Estudio de Impacto Ambiental - EIA) in accordance with Terms of Reference issued by ANLA in the EIA. CGI subsequently submitted an application to modify the existing Environmental License to ANLA requesting inclusion of the new mining development and construction of a 3,200 t/d mill, along with remediation, reclamation, and closure measures.

On November 30, 2016, ANLA granted an amendment to the environmental license (Resolution 1443) authorizing the increase of the mining production up to 3,200 t/d, the footprint expansion for the processing of mineral, tailing & waste rock management, water treatment plant and runoff and non-contacted water management (channels) among other permits for the use and disturbance of natural resources.

The latest amendment of the environmental license was granted by ANLA on December 21, 2017 by means of resolution 1685. This included an update of the footprint of the processing plant, pipeline for treated industrial water to the Cauca River, a tram from the processing plant to the paste plant to transport tailing for use as mine backfill, and permits for natural resources uses.

20.2 MAIN PROJECT AREA ENVIRONMENTAL CHARACTERISTICS

20.2.1 Climate and Meteorology

Annual precipitation in the Buriticá Project area ranges from 1,050 mm/year to 1,450 mm/year. Precipitation in the project area shows bimodal seasonality, with maximums in May (173 mm) and October (197 mm). January and February show the least amount of rainfall, and months with no rainfall are infrequent. Maximum 24-hour precipitation is highly variable ranging from 80 mm/day to 150 mm/day for a 100-year return period. Annual average daily temperatures range from 21°C to 18°C.

20.2.2 Hydrology

There are two principle drainage basins: 1) Quebrada La Mina (approximately 5.8 km^2); and 2) Quebrada Bermejal (approximately 12.3 km^2). These streams combine to form Quebrada La Tesorero (area 18.3 km^2), which discharges to the Cauca River.

20.2.3 Water Quality

Surface Water

Data have been collected for baseline water quality in both the dry and wet seasons. In areas where other third party mining activities take place, which is in the upper section of Quebrada La Mina and more recently Quebrada El Sauzal, until 2016 the majority of the evaluated water quality parameters exceed Colombian surface water discharge limits presumably because said third-party mining activities may not be employing adequate environmental control measures.

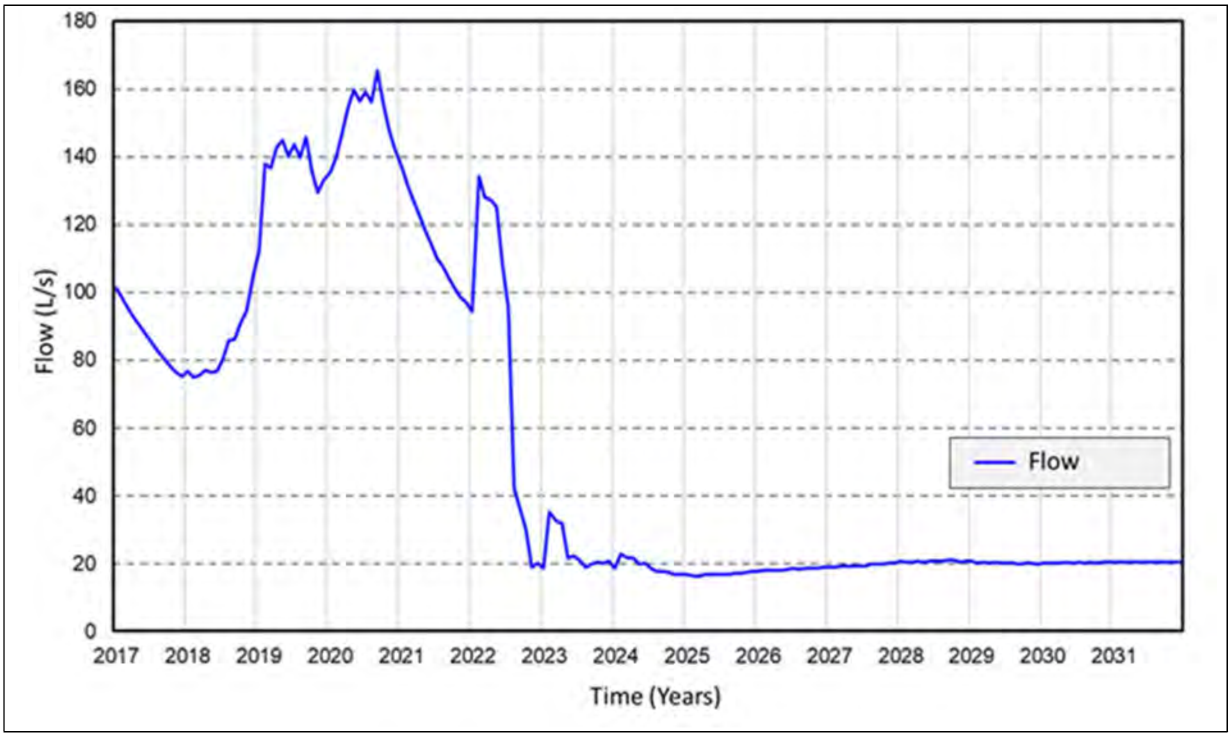
Unfiltered water samples taken by the Company in two locations along Quebrada El Sauzal show elevated concentrations of mercury, likely from third party gold processing activities upstream of the project. Water samples for dissolved metal concentrations were taken in October 2015 at the same two locations and both results returned mercury concentrations below US EPA drinking water standards for mercury. These results indicate that the elevated levels were from metallic mercury in the sediments.

Despite the base line results for water quality between 2013 to 2016, an improvement of the water quality has been shown after the government controls against the third-party mining activities conducted since Q2 of 2016. The water quality of the main creeks of the La Mina and Bermejal basins shows a positive recovery of the physic-chemical parameters and the hydrobiological communities that have been sampled between 2016 and 2019. These results have a positive impact upon the community’s perspective regarding legal mining activities since legal mining protects water resources, and therefore addresses one of the main concerns of the local community. In the Quebrada Bermejal and Quebrada Tesorero, the majority of water quality test results meet surface water discharge standards. Surface water quality limits became more stringent with implementation of Colombia Resolution 631, 2015 in effect as of January 1, 2018 and as the Project moves into production. These new standards were used for water management system designs.

Underground Mine Water

In 2016, Montgomery and Associates updated the estimated mine water inflows with a numerical model which included regulated flows using valved drains. These drains were incorporated in the Environmental Impact Assessment approved by ANLA (Resolution 1443) Monthly flows ranged from a low of 20 l/s to a high of 165 l/s and as shown in Figure 20.1.

Figure 20.1 Groundwater Flows (Dewatering)



Sources: CGI Environmental Impact Assessment, 2016

Contact water quality for the underground mine was estimated using static and kinetic Humidity Cell Test (HCT) results from Schlumberger Water Services. Geochemical modelling of the chemistry of water passing through the mine openings has been undertaken using estimated rates of groundwater ingress derived from the numerical groundwater model by Montgomery and Associates (December 2015, updated in 2016). The modelling work has been used to quantify both the flow rates and potential solute ranges over the mine life. These results were used for water treatment design criteria.

Geochemical water chemistry modelling under active and passive dewatering scenarios was performed using (a) stope wall rock (notably alteration) classification and (b) the early stage of kinetic test results. The modelling results indicate that mine water will remain near neutral pH throughout LOM, with only arsenic and occasionally sulfate, exceeding Colombian "Limites Máximos Permisibles" (LMP) thresholds. Kinetic tests results will continue to be monitored in order to verify any other parameters increasing in concentration. It is also reasonable to expect that both NO_3 and NH3-N will be present in mine contact water from explosives use. These parameters are not currently subject to regulation within the Colombian LMP framework.

Once mine operation begins, all mine water discharges will be collected for treatment to meet Colombian discharge limits.

20.2.4 Hydrogeology

There are four identified hydro-stratigraphic units:

- Relatively high permeable alluvial aquifer unit;
- Highly fractured hard rock with medium to high permeability, associated with intensely fractured and mineralized intrusive and volcanic rocks;
- Fractured rock aquifer with low to medium permeability; and
- Cretaceous metasediments with very low permeability.

The Tonusco Fault, immediately east of the deposit, is considered a low permeability feature based on monitoring data and field observations. Aquifer recharge appears directly related to rainwater infiltration, and is controlled by the vertical permeability of the geologic structures.

Alluvium deposits occur primarily as valley fill with limited vertical extent. Based on field observations, alluvial deposits seem to be hydraulically connected to the overlying stream channels. Rock fragments in Quebrada La Bermejal alluvium reach meter sizes; this, in addition to the channel dimensions (25 m to 30 m), indicates frequent repeated flooding and deposition of alluvial material. Drill results have established variable thickness; reaching 60 m. Permeabilities range from moderate to high mainly due to the inter-granular primary porosity of the unconsolidated, poorly sorted alluvial materials and their corresponding thicknesses.

The rock units consist of andesitic rocks, basalts (Barroso volcanic complex), tonalites, and metasediments. Groundwater flow and storage in these units is predominantly within fractures. As such, these are fracture controlled systems that are discrete to each rock unit.

In June of 2017, Tierra Group International (TGI) performed a hydraulic test on a water well in the Higabra valley that showed a high potential for groundwater use with flows averaging about 20 l/s.

ANLA in the last environmental license modification, has authorized 5 l/s of flow to be pumped from this water well.

20.2.5 Vegetation

Forestry surveys to identify species of concern have been conducted. No anticipated impacts from construction or operations beyond those mitigated by conventional measures, nor sensitive ecosystems have been identified. The Project area vegetation cover is mainly comprised of a mosaic of crops, pastures, and natural spaces (23,42%), riparian forest (16.91 %), secondary vegetation (26,72%) and other grasslands (32,95%). Special permits for intervention of species classified as vulnerable (epiphytes) have been obtained from the environmental ministry

20.2.6 Land Use and Social Aspects

The CGI industrial site is located in the Higabra Valley, which gave its name to a rural district (vereda) comprised of a settlement of approximately 275 inhabitants; 65 families of close kinship among themselves and the neighboring communities. There are certain traditional access rights that must be maintained which do not impact development of the project. Nevertheless, in the event access rights may overlap with the project development, the company is entitled with legal measures to adequately structure rights of way.

The communities in the area where the Buriticá Project is located have traditionally been mestizo farmers devoted to agricultural activities based on coffee and subsistence farming. The Mogotes community, located in the Higabra valley about 2.7 km downstream of the northern project boundary, is the exception, as it is a community of artisanal miners who have made a living mainly from small-scale mining (barequeo) along the Cauca River beaches and banks.

The situation of this rural district in 2010 was not very promising from an economic and demographic perspective. It was facing demographic deceleration due to young people migrating to Medellín. The families that remained made their living from temporary employment or working in subsistence agriculture on small properties not larger than 5 ha. Farmed produce was mostly shared or exchanged with their neighboring relatives. Currently the local economy has regained dynamism as a result of initiatives to provide services to project contractors as well as the hiring of residents for work activities being carried out by Continental.

A social concern has been the development of artisanal mining activities, which has impacted the community at all levels because there has been no planning to accommodate these activities. Ongoing problems include environmental contamination as well as associated social problems and criminal activity.

The main areas where Artisanal mining has been developed are as follows:

- Mogotes rural district: artisanal miners conducting placer gold extraction on the banks of the Cauca River;
- Higabra rural district: Hardrock artisanal mining in this rural district not characterized as having an artisanal mining tradition; and
- Los Asientos rural district: A primary centre of hardrock artisanal mining growth with a considerable influx of miners.

20.3 PERMITTING

20.3.1 Environmental License

The permitting process for obtaining environmental licenses for mining projects in Colombia is set out in Law 99, 1993, and is detailed and governed by Decree 1076 of 2015, Section 2, article 2.2.2.3.2.2, which establishes that the Ministry of Environment and Sustainable Development has the authority for granting or denying an environmental license for the mining of metallic minerals and precious and semi-precious stones for projects involving removal of useful and waste material of 2,000,000 t/a or more. According to said provisions, regional autonomous corporations (CAR) are the authority for granting environmental licenses for projects involving removal of useful and waste material under the aforementioned threshold.

CGL reviewed and updated its mining plan and including the exploration/exploitation of construction materials in the Higabra valley, and with the combined exploitation rates of gold and construction materials, as well as the size of the construction materials operations, the relevant competent authority became ANLA by law.

Work & Investment Program as well of the Environmental impact assessment are updated and lodged before ANLA on July 12, 2016 and approval form ANLA is obtained on 30 November 2016 by means of resolution 1443, 2016

Since the Resolution 1443 of 2016 (Env. License) was granted by ANLA, all activities and infrastructure associated to the project were integrated in one single environmental instrument. This license was modified in 2017 by Resolution 1685 of 2017

The list below details the approved infrastructures and activities for the project to date:

- The exploration & exploitation of precious metals, copper, zinc, lead, etc.
- The increase of the mining rate from 35 tpd up to 3,000 – 3,200 tpd.
- The mining & use of alluvial material to be used for construction purposes. Use of rock crusher.
- The construction & operation of the mine including Plant, ancillary buildings, offices, water treatment plant, etc.
- The construction & operation of the Paste Plant.
- Construction and deviation channels for the superficial creeks to be intervened (Sauzal, Naranjo, Bermejal).
- TSF construction.
- Main road (Las Estrella – Higabra), Internal roads, sedimentation ponds, water treatments plant, water intake structures.
- Higabra road deposit
- Platanal and Rampa Sur waste rock deposits.
- Molinares Farm campsite area (Platanal)
- Tram to Paste Plant.
- Discharge Pipe to Cauca River.
- Exploration in the mining title 7495.

Figure 20.2 General project footprint

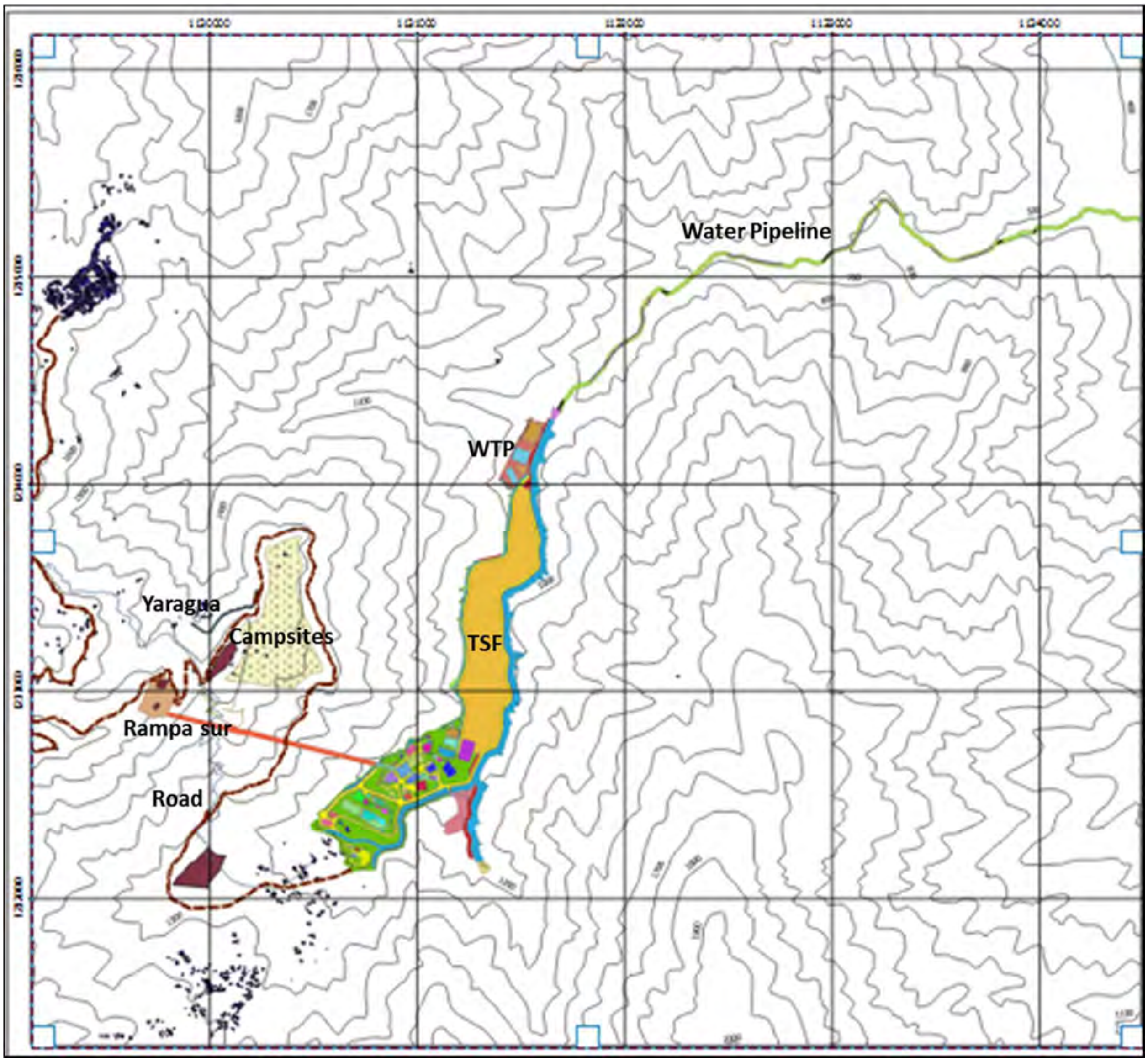
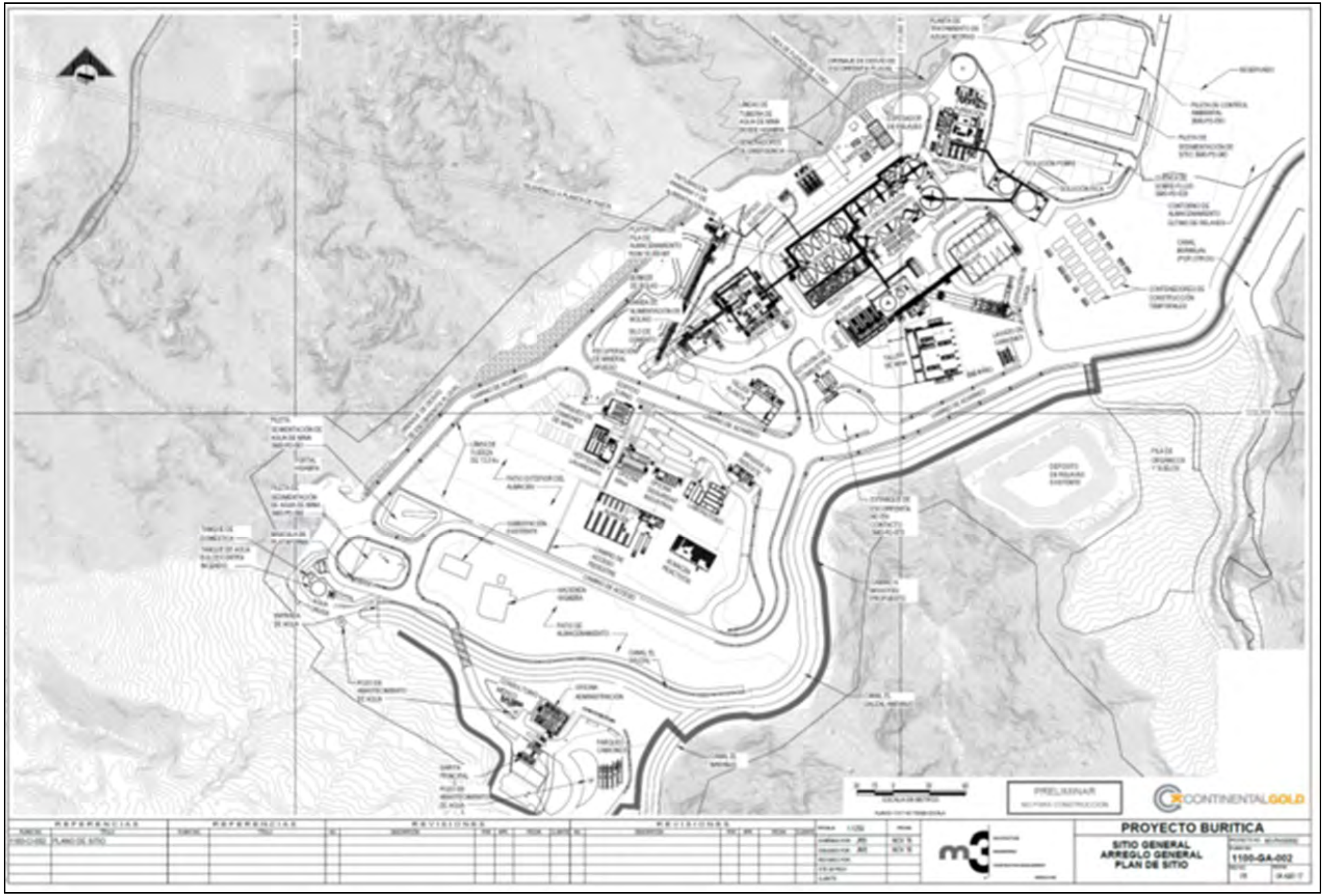


Figure 20.3 Plant GA submitted to ANLA (2017). Resolution 1685 of 2017



20.3.2 Other Environmental Permits

Unless a global environmental license is issued, in addition to the Environmental License to operate a mining project, a number of other environmental permits are required. Additional permits required to work on the facilities include permits for water usage and discharge, atmospheric emissions, forestry clearance and land access. For the Buriticá Project, permits for water usage and discharge were initially granted in February 2009 and valid for 10 years. Nevertheless, in November 2016, water permits were validated by ANLA for the entire term of the currently approved Environmental License, as a global environmental license.

In Colombia, the Global Environmental License encompasses all the permits, authorizations, and/or concessions for the use and/or exploitation of the renewable natural resources that are necessary over the life of the Buriticá Project, work or activity.

Ordinary solid waste, hazardous waste, and recyclable waste will be managed by third party companies having the necessary environmental permits and licenses for such purposes.

All the environmental permits related to water use, discharge, forestry and creeks occupancy are shown in Table 20.1 through Table 20.4, and Figure 20.4 and Figure 20.5. The Tables and Figures, clarify the project limits and values that cannot be exceeded.

Table 20.1 Water use permits

Source	Location	Use	Limit (l/s)	Validity
Sauzal Creek.	X: 798.749 Y: 1´232.464 Z: 1179 m.s.n.m	DOMESTIC – during construction	3,6	May – December Minimum flow 22 l/s
		INDUSTRIAL	6,64	Life of Project
Sauzal Creek.	X: 798.749 Y: 1´232.464 Z: 1179 m.s.n.m	DOMESTIC – INDUSTRIAL	5	January - April Minimum flow 15.93 l/s Life of Project
Underground water	Higabra Tunnel	INDUSTRIAL: Paste plant, drilling, washing, Processing, losses 10%	20	Life of Project
Underground water	Water Well #1 X=1130537,43, Y=1232326,54	Industrial	5	Life of Project

Table 20.2 Wastewater discharge permits

Discharge source	Location	Type	Limit (l/s)	Validity
La mina creek	x:798.229 - Y:1.233.571 - X:1.500 m.s.n.m	DOMESTIC Septic tank and ascendant filtering	0,428	Life of Project
Tesorero Creek	From: E 1131790 N1234391 To: E 1131816 N 1234421	DOMESTIC - WTP	1,6	Life of Project
Cauca River	From: E 1134513 N 1235266 To: E 1134512 N 1235284	INDUSTRIAL (workshops, tunnel infiltration, processing plant, TSF)	200	Life of Project

Table 20.3 River Bed Intervention

Activity	Location	Size	Type
HIGABRA 3200 TON PROJECT	Channel Sauzal. Channel Naranjo. Channel Bermejal. Sauzal Channel - Bridges. Processing plant. Naranjo Channel – Bridge 5 Structures Bermejal Channel	According to license	Channels, bridges

Table 20.4 Forestry intervention permits

Activity	Approved	Status
HIGABRA 3200ton PROJECT	Volume: 1308,19 m^3 - Area:52,84 Ha	Completed
HIGABRA 3200ton EXPANSION	Volume: 1034,8 m^3 - Area: 21,7 Ha	Completed

Figure 20.4 Authorize forestry intervention area

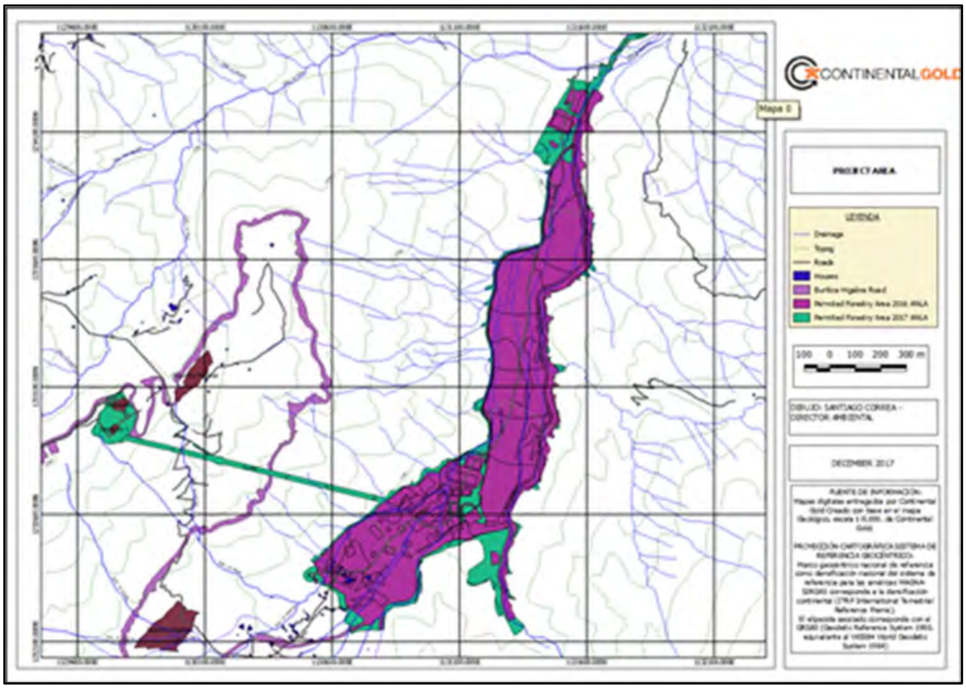
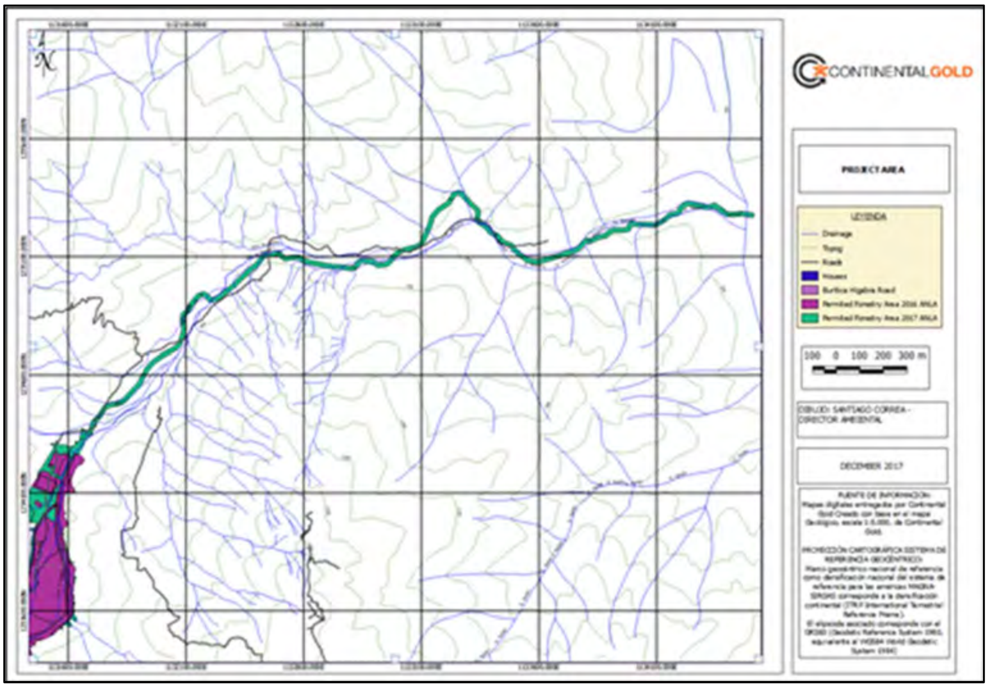


Figure 20.5 Authorize forestry intervention area



20.4 Environmental Management

The Environmental Management Plan programs approved by ANLA are summarized in Table 20.5.

Table 20.5 Environmental Management Plan

Component	Impact Considerations
Water	Domestic waste water Industrial waste water Water use for construction, exploitation, processing and auxiliary areas ARD management Surface runoff water, water from stream channel diversion, and rainwater Groundwater management
Air and Noise Quality	Air and noise impacts Vibrations management
Domestic and Industrial Waste	Solid waste handling Hazardous and special waste handling
Mine Waste	Tailing and waste rock handling
Chemical Substances and Supplies	Fuel, chemical substance and explosive handling Cyanide management
Soil	Erosion control and slope stabilization measures, Surface soil management Dismantling and closure program Excavation and construction material management
Vegetation	Vegetal cover management and removal Remnant forest conservation
Fauna	Endangered species identification and mitigation Terrestrial fauna management (birds, mammals, reptiles, and amphibians) Strategies for the conservation of the Leopardus tigrinus species (Oncillia, or little spotted cat)
Social and Cultural	Community information and participation program Environmental education program - workers and community Vehicular traffic management Hacienda Higabra as Historical and Architectural Heritage Cultural memory and patrimony program Third-party impacts program Social compensation and mitigation program Institutional strengthening Mitigation program by mobility interruption. Temporary Enabling of the Alternative Path Controlled Access around the mine site

Source: CGI environmental management plan. Approved by ANLA, 2017

20.4.1 Tailing and Waste Rock Disposal Environmental Management

The Tailing Storage Facility (TSF) is planned to store the filtered tail material produced by the process plant and for the waste rock removed from the mine.

To establish the optimum TSF location, a risk assessment including environmental considerations was completed for several alternatives to identify a suitable location, to avoid the most sensitive areas, and to minimize environmental impacts. Locations were constrained due to topography and land ownership.

The TSF has been divided into multiple cells to contain a total of 6.5 Mm^3 of material over the project life; 3,5 Mm^3 of tailing and 3 Mm^3 of waste rock supplemented with local alluvial materials. The TSF will be constructed, operated, and reclaimed in phases as mining proceeds. Once the first cell is filled, it will be covered and reclaimed. In this way reclamation will be ongoing throughout the mine life.

Mine waste rock and locally excavated alluvial material are integral to supporting mine production in that they will be used to construct perimeter berms, embankments, and buttresses for the cells. The TSF will be a co-disposal facility for all materials produced and not used for mine backfill. Approximately 50% of the tailing produced in the mill will be used as mine backfill

The TSF will be underlain by a composite (GCL sandwiched between two textured (double-textured or micro-spiked) HDPE geomembranes. The liner system will use shear keys to increase geotechnical stability. The facility will incorporate drainage for zones both above and below the basal liner.

Over the basal liner there will be a drainage layer that collects seepage from the tailing and waste rock to the perimeter where the water will be directed to the water treatment facility. A bedding layer will be placed over the drain and liner to protect it from puncture by waste rock or construction activities.

A series of French drains will be installed beneath the facility to eliminate pore pressure buildup in the alluvium beneath the facility. These drains are anticipated to be trenches approximately 300 mm by 300 mm, lined with geotextile, and gravel filled.

Geotechnical

The geotechnical design for the TSF is included in Section 18.6.

Geochemical Summary

Based on the results of geochemical modelling performed for the Buriticá TSF, the following key considerations are of relevance to the process of contact water management system design. GoldSim model results provided by Montgomery and Associates indicate that under all modelled scenarios at least 50% of water generated from active TSF cells is tailing contact runoff. The modelling results showed:

- Average volumes of tailing seepage are expected to be very low, except for short periods while tailing material is placed and being compacted. This is due to the very low unsaturated hydraulic conductivity of the tailing when compacted. Outer faces of the TSF containment berms will be lined to their final elevation and runoff will not contact any contained potentially acid generating (PAG) waste rock.
- Runoff from tailing surfaces is expected to be weakly alkaline with solute concentrations compliant with Colombian surface water quality discharge standards.
- Runoff from the soil cover is expected to have near-neutral pH and solute concentrations in compliance with Colombian Surface water discharge standards.
- Modelling results of PAG waste rock seepage and runoff indicate that runoff is likely to have alkaline pH of about pH 8.4 and compliant solute concentrations.

It should also be noted that at very low flow rates, It is possible that waste rock runoff and/or seepage flows could have acidic pH and/or non-compliant sulphate and iron concentrations. These flows will be sampled to determine if water treatment will be required. If the results are in compliance, the flows will be discharged. If not, the flows will be treated prior to discharge.

Compliance with Standards

The TSF is designed and will be constructed, operated, and closed to comply with Colombian regulations, and meet or exceed international standards (see Section 18.6).

20.4.2 Water Management

The Water Management Plan has been designed to optimize water resource use, which will be minimized through the use of a filtered tailing system and best management practices.

Based on current test information, naturally occurring clear groundwater encountered in the mine will need to be treated to meet Colombian surface water discharge standards for precious metal mines as defined in Colombian Resolution 631, 2015. Once the development phase of mining begins, mine water discharges will be collected for treatment prior to discharge.

Non-contact surface water will be diverted with channels designed and constructed to minimize contact with the facilities. Runoff that will contact ore materials will be collected in a sediment settling pond and outflow water directed to the WTP.

Domestic water will be supplied from shallow groundwater wells located upstream of the process facility in the El Sauzal drainage. A reverse osmosis water treatment plant will be used to treat the water to make it suitable for domestic potable water usage.

Sewage wastewater will be treated in a plant of modified activated sludge design. A small amount of sludge will be generated, and by virtue of the treatment method, can be used as fertilizer for TSF revegetation.

20.4.3 Water Treatment Facility

Water for treatment will come from two main sources; groundwater from the mine, and meteoric contact and process water. Over 90% of the water treated will be from the mine with the remainder from the TSF, ore stockpile and process areas.

The WTP design, consisting of containerized modules, allows flexibility for capacity changes. It will be designed to treat dissolved metals, sulfates and chlorides, and expected TDS levels. A membrane treatment system will be used to remove greater than 99% of multivalent heavy metals. Constituents removed from the water will be recovered in a brine solution that will be processed through a crystallizer to produce a solid product. Calcium sulfate will also be recovered from the high density sludge system.

20.4.4 Monitoring Plan

Monitoring plan programs approved by ANLA are summarized in Table 20.6.

Table 20.6 Monitoring Plan

Component	Area Monitored
Water	Receiving Stream Quality- Domestic water discharges
	Receiving Stream Quality – industrial water discharges
	Sludge Generated at the Domestic Waste Water Treatment Plant
	Sediment and Fluvial Dynamics
	Groundwater Level and Quality
	Hydrological Surface Water Follow-Up.
Atmospheric Emissions and Noise	Noise and Vibration
	Atmospheric Emission
Waste	Solid Waste
Chemical substances	Cyanide monitoring program
Flora and Vegetation	Vegetal Cover
Fauna	Terrestrial Fauna Management
Social	Programs for Environmental Management Plans for Socioeconomics
Facilities	Stabilization of Slopes, Facilities and Mining Areas

Source: CGI environmental monitoring plan. Approved by ANLA, 2017.

20.5 SOCIAL OR COMMUNITY IMPACT

The Buriticá Project is located in the Higabra Valley, in which resides a settlement of approximately 275 inhabitants and 65 families of close kinship among both themselves and the communities in the neighbouring rural districts. These are farming communities that had been facing demographic deceleration as described in Section 20.2.6

Informational meetings were held with communities in both the direct and indirect influence areas during EIA preparation. Topics addressed with the direct-influence area communities of Mogotes, El Naranjo, Higabra, Asientos and Buriticá Village included EIA socialization and the Environmental Management Plan.

Residents generally realized the potential of formal job creation in the area as well as the potential improvements for transportation resulting from the Project. Also, residents saw the operation as a welcome alternative to certain third-party mining, which has been creating environmental and social concerns including criminal activity. Residents had many questions concerning interruption to established community paths and mitigation measures being implemented for the Project.

Ongoing dialog with both residents and Environmental and Municipal representatives will continue and be part of the social management plan.

A concern for residents is illegal mining, which involves primarily people from outside the Buriticá area. As well, residents display environmental and social concerns and unease due to criminal activity and challenges to the respect for the rule-of-law. Another serious concern is lack of safety and a noticeable increase in illegal mining accidents. In 2013, the local government authority (Gobernación) implemented a mine closure plan by first controlling access into the area for those that weren't long-term residents and further closing of illegal operations. Subsequently, the Government of Antioquia, the Municipality of Buriticá, the Ministry of Mines and Energy through the National Mining Agency – Mining Formalization Area – and CGI, met and implemented a pilot program, unprecedented at a national level, to legitimize several credible associates in a mining formalization program. A benefit to this initiative was implementation of environmental management plans for each formalized mining area.

In January 2016, national and regional authorities in Antioquia began another initiative to close illegal mining operations in the area. The National Mining Agency has ordered local authorities, with the participation of CGI as the legal title holder in the area, to formally close down those illegal operations as a preventative measure due to danger from potential internal collapsing of mine openings in areas of illegal activity. A Security Council, led by the Buriticá Mayor and the regional police commander, has issued the corresponding closure orders to remove the miners from several illegal mines in the area.

The 2016 effort of the Regional Government is an on-going process to date, which has contributed to lessening the impact of illegal mining in the region.

20.6 Closure

Mine closure requirements are regulated by decree 1076 of 2015. Article 2.2.2.3.9.2 describes the steps to be taken. In summary they are:

Three months prior to the finalization of exploitation, the company is to provide a study to the environmental authority which addresses the following:

- Identify site environmental impacts at the time of closure;
- Demolition plan;
- Drawings and plans showing the location of infrastructure for closure;
- All obligations to be fulfilled and work to be completed; and
- The closure plan costs including pending compliance items.

The environmental authority has one month to comment on the closure plan.

When the closure plan is initiated, the company must post an insurance bond to cover the closure costs for the closure period, and for three years following closure completion.

20.6.1 Objectives

The following objectives have been considered for closure planning:

- Compliance with current environmental legislation in the country, adopting environmental protection standards;
- Focus on protecting affected areas after closure, restoring them to a condition similar to pre-mining conditions;
- Environmental protection using techniques and technologies designed for risk control, land stabilization, and physical and chemical discharge containment, with a focus on degradation prevention;
- Public health and safety protection as well as the environment from physical and chemical impacts in the area of influence;
- Closure incorporating new technologies that improve environmental reclamation and closure performance; and
- Social management standards compliance for the social, economic, and institutional development of the Buriticá Project area.

20.6.2 Design Standards

The key closure design standards include the following:

- Safety: Dismantling or removing infrastructure and installations that create risk for personal safety. All remaining supplies will be removed from the site, and hazardous waste disposed in accordance with applicable regulations;
- Physical Stability: Topography reconfigured to integrate the terrain and surface drainage with the area, and ensure physical stability of remaining facilities;
- Geochemical Stability: Covers reducing infiltration will be used to minimize seepage from reclaimed facilities and to protect the receiving waters. Ongoing water quality monitoring will ensure chemical parameters meet the water quality requirements; and
- Future Land Use: Facilities will be reclaimed and left in a condition to facilitate future planned use for the area.

At the end of the Buriticá Project's useful life, morphological reconfiguration of the affected land will be carried out as well as installation of the necessary infrastructure ensuring land stability and landscape reclamation.

Based on the social and demographic dynamics verified during the course of the Buriticá Project's useful life, the potential uses of the intervened area will be jointly defined with the community.

20.6.3 Closure Components

Final and permanent closure costs by major facility are summarized below:

Underground Mine

- Mine surface facilities salvage and demolition except for the water treatment plant and related facilities;
- Underground mine equipment salvage;
- Sealing mine entrances to prevent unauthorized access; and
- Hydraulic plug installation in the Higabra tunnel to allow mine flooding and reduce water discharge to minimal seepage flow.

Filtered Tailing and Waste Rock Storage Facility:

The TSF will be constructed in sequential cells as a series of expansions, and reclamation will occur concurrently with operations. Therefore, most of reclamation activities costs will be realized during the operating period.

Water Treatment Plant

Continued operation of a reduced-capacity WTP is planned to treat remaining mine flows and TSF waters post site closure.

Other

- Retention of roads, bridges, fences, and paths being used by local communities; and
- Disturbed surface area regrading and revegetation.

Geochemical studies have been carried out and include kinetic testing and seepage studies for the TSF estimated flows and water chemistry. It has been determined that both tailing and waste material could have long-term acid drainage generation potential, and therefore seepage will be collected and monitored during closure and post-closure. The closure plan calls for total cover of the TSF to prevent water infiltration and seepage. Seepage not meeting discharge standards would be routed to the WTP prior to discharge. It is expected that the volume of water would be minimal, if any.

Main closure activities considered for the Project are summarized below.

Table 20.7 Summary of Closure Activities

Facility	Activity
PROGRESSIVE CLOSURE	
Underground Mine	The longhole stoping and cut & fill methods will be utilized; therefore, the majority of stopes will be backfilled during operations. Gradual access closure to prevent access, or for ventilation control as mining progress.
Tailing and Waste Rock Storage Facility	Runoff water ditch maintenance and monitoring. Progressive covering with soil material and re-vegetation. Maintenance of drainage structures for collection, and treatment. Maintaining diversion structures. Facility physical stability monitoring.
FINAL CLOSURE	
Underground Mine	Facility and infrastructure dismantling. Mine entrance closure with concrete plugs with drainage pipes. Higabra tunnel closure includes non-draining hydraulic plug. Surface opening closure including raises as required using concrete plugs. Warning and cautionary sign posting.
Beneficiation Plant	Removal of material to waste disposal facility or TSF. Facility wash down and water treatment. Empty and neutralize tanks and equipment that may have contained industrial material such as cyanide or acid solutions. Processing facility dismantling. Concrete foundation and structure demolition. Land reclamation and re-vegetation.
Tailing Storage Facility	WTP to be maintained during post-reclamation period until acceptable water quality is achieved. Diversion and contour channels will be maintained for storm-water diversion. Cover: Soil cover and revegetation. Maintain facility drainage mechanisms until seepage stops. Surge and Collection Ponds: Maintain contact water collection ponds Slope Movement Protection: Closure design to protect against potential slope instability. Access route closure without impeding established travel routes used by local communities. Warning and cautionary sign posting.
Water Management Facilities	Mine Water Management: Maintain mine water drainage facilities until discharge flows subside or water standards can be met. Process Water Management: Remove all beneficiation plant structures.

Facility	Activity
	Contact Water Management: Maintain collecting facilities and handle TSF contact water until there are no drainage flows or water standards can be met. Rainwater and Runoff Water Management: Diversion and collection ditches for rainwater and surface runoff remain during closure and are maintained during post-closure. Ditches collecting storm water runoff from facilities may also be removed if not required during closure or pot-closure.
Electrical Supply	Dismantling by an authorized company. Substations, electrical power lines, and fittings will be dismantled using procedures and specific electrical industry regulations.
Ancillary Facilities	Cleaning and decontamination of facilities and equipment; prevent chemical, fuel or oil spillage. Dismantling: Concrete foundation and infrastructure demolition. Land reclamation: Land grading and revegetation.
POST-CLOSURE	
Underground Mine	Preventive Sign Maintenance Mine Entrance and Drift Closures Inspection and Maintenance Drainage water management and monitoring: Treatment as required, or discharged to a receiving body.
Tailing Storage Facility	Channel maintenance. Preventive Sign Maintenance. Water Treatment: Water quality must be monitored and treated as required prior to discharge. The pond must be monitored until discharge stops or water standards can be met.
Water Management Facilities	Facility must be maintained.
Maintenance Programs	Physical Maintenance: Maintain physical slope stability at TSF, and all other active facilities. Geochemical Maintenance: The condition of covers in TSF will be maintained and performing according to design. Hydrological Maintenance: Periodical maintenance and cleaning of runoff water drainage system, including runoff ditches around the TSF, to prevent erosion and sediment accumulation.
Monitoring Programs	Physical Stability Monitoring: Evaluation of the geotechnical stability of the rehabilitated facilities. Geochemical Stability Monitoring: Inspection of covers and condition of closed facilities; surface and groundwater monitoring according to post-closure plan. Hydrological Stability Monitoring: Drainage works inspection and maintenance during post-closure, including diversion channels, contour channels, drainages, control ponds, and collection ponds. Biological Monitoring: Ongoing inspection and monitoring of wild flora and fauna species in reclaimed and natural areas within the mine operational site. Groundwater monitoring: Downstream of the TSF during post closure.

Source: CGI closure plan approved by ANLA, 2017

21 CAPITAL COST ESTIMATE

21.1 DISCLOSURE

The project is currently in the midst of capital development thus some feasibility cost estimates can be replaced by actual costs and the remainder is forecast. These forecast costs are not the same level of engineering as those used for the Feasibility study, therefore caution must be exercised on using forecast numbers instead of engineering estimates. Completed tasks and those which resulted from a change in scope are certainly relevant however and are considered actual costs. Significant variances in the pre-production capital phase are noted in their respective sections below, however the total sustaining capital for the project has not been adjusted and will be updated using the proper level of engineering to support these adjustments.

21.2 INTRODUCTION & ESTIMATE RESULTS

Feasibility Study project capital costs totalled \$662 M, consisting of \$389 M in initial capital costs and \$273 M in sustaining capital costs:

- Initial Capital Costs – includes all costs to develop the project to a 2,100 tonnes per day production. Feasibility Study capital costs totaled \$389 M expended over a 35-month pre-production construction and commissioning period. *Current forecast for this initial capital phase is \$512 M.*
- Sustaining Capital Costs – includes all costs related to the acquisition, replacement, or major overhaul of assets during the mine life required to sustain operations. Feasibility Study sustaining capital costs total \$273 M expended in operating years 1 through 13. *An updated estimate of sustaining capital costs has not been completed.*

The capital cost estimate was compiled utilizing input from engineers, contractors, and suppliers with experience delivering projects in Latin America. Wherever possible, bottom-up first principle estimates were developed and benchmarked against other projects of similar size and site conditions.

Table 21.1 presents the level 1[1] capital estimate details for both initial and sustaining capital costs in Q1 2016 dollars with no escalation.

Table 21.1 Level 1 Capital Estimate Detail

WBS	Description	Initial Capital Feasibility Estimate (\$ M)	*Initial Capital Current Forecast (\$ M)*	Sustaining Capital Feasibility Estimate (\$ M)	*Total Capital Current Forecast (\$ M)*
1000	Site Development	10.9	20.9	-	20.9
2000	Underground Mining	86.5	114.3	178.3	292.6
3000	Processing Facilities	97.6	101.1	11.6	112.7
4000	Tailing & Waste Rock Management	7.7	14.0	16.1	30.1
5000	Off-Site Infrastructure	10.0	22.6	12.7	35.3
6000	On-Site Infrastructure	45.3	84.2	18.7	102.9
7000	Project Indirect Costs	28.5	29.7	9.1	38.8
8000	Engineering & EPCM	27.8	36.4	0.6	37.0
9000	Owners Costs	21.8	59.0	4.3	63.3
9800	Taxes	17.7	18.6	14.0	32.6
9900	Contingency	35.4	10.8	7.0	17.8
	Grand Total	389.2	511.6	272.3	784.0

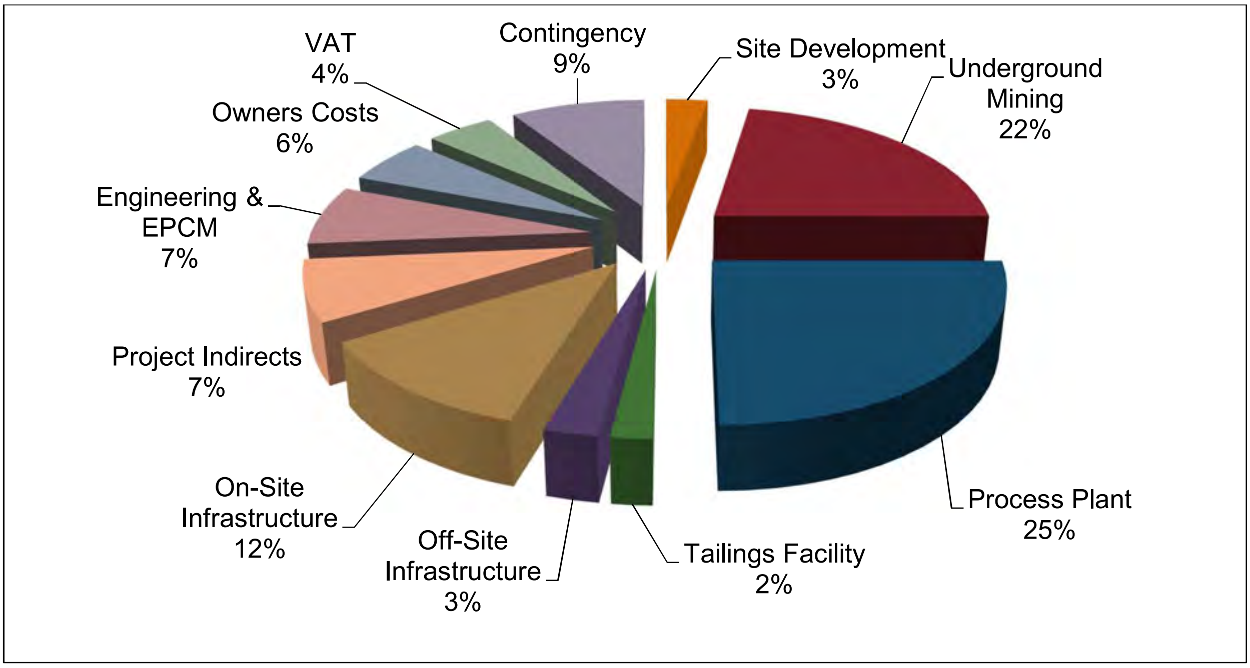
[1] Level 1 refers to the level of detail within the Project Work Breakdown Structure ("WBS"). For example, area 2000 is the first level of breakdown or "Level 1".

Note: Subtotals/totals may not match due to rounding

Source: JDS, 2019

It should be noted that $28.1 M of the $31.7 M Value-Added Tax (VAT) cost is recovered as tax credits within the income tax build-up of the *Feasibility Study* economic model. Refer to Section 23 for additional details.

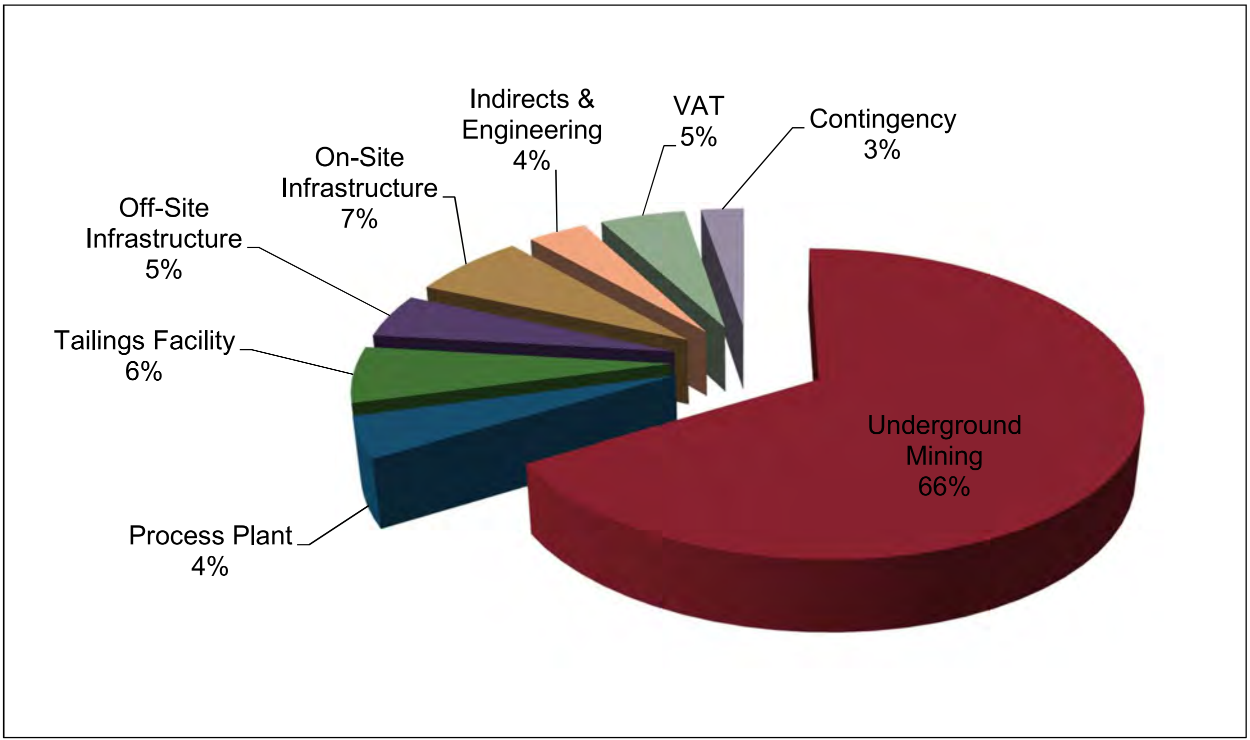
Figure 21.1 Distribution of Initial Capital Costs



Source: JDS, 2016

The majority of sustaining capital costs relate to underground lateral and vertical development.

Figure 21.2 Distribution of Sustaining Capital Costs

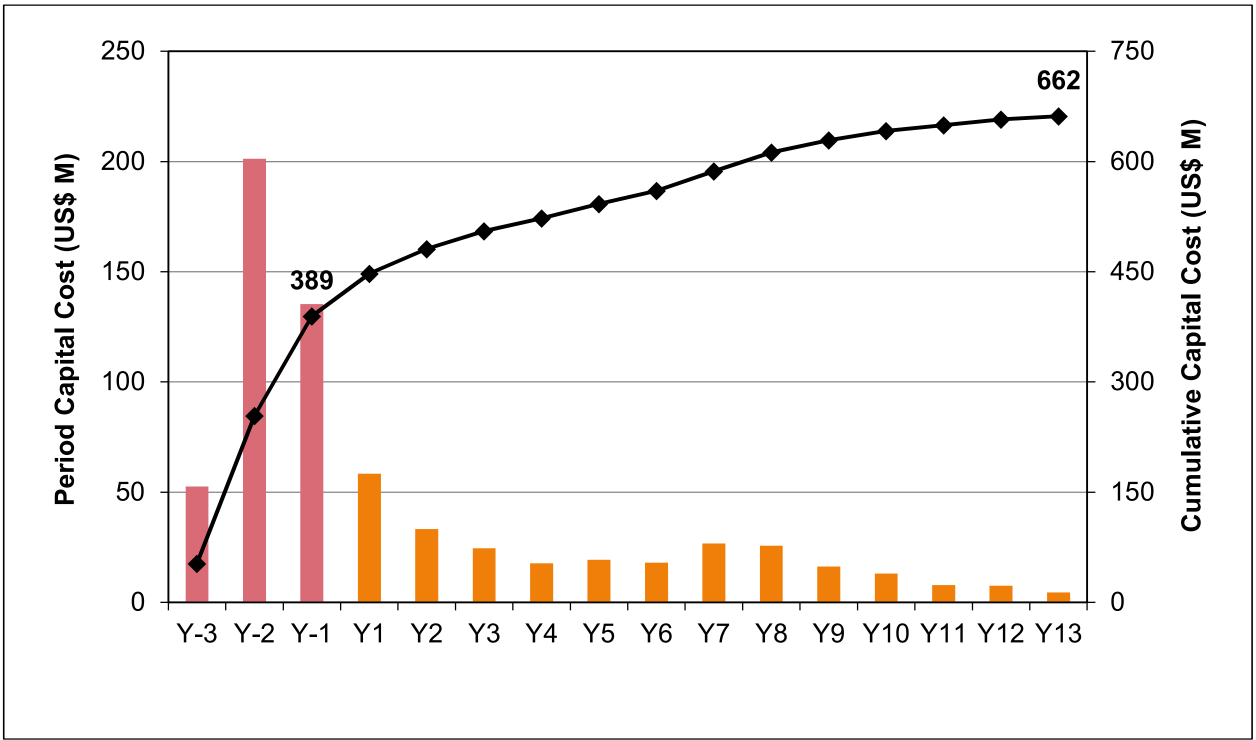


Source: JDS, 2016

21.3 Capital Cost Profile

All Feasibility Study capital cost expenditures were included in the economic cash flow model according to the development schedule. Figure 21.3 presents an annual life of mine capital cost profile.

Figure 21.3 Life of Mine Capital Cost Profile



Source: JDS, 2016

21.4 Basis of Capital Estimate

21.4.1 Scope of Estimate

The Buriticá capital estimates include all costs to develop and sustain the Project at a commercially operable status.

Initial capital costs include all construction costs incurred until the declaration of commercial production (2,100 tpd). Costs related to the operation of the mine and process plant between first ore introduction and commercial production (a period of 60 days) are included as operating costs occurring in the pre-production phase, and as such, are not included in the capital cost buildups. Refer to Section 22 for details of the project operating costs.

The capital costs do not include the costs related to operating consumables inventory purchased before commercial production; these costs are considered within the working capital estimate described in Section 23.

Sunk Costs and Owners Reserve accounts are not considered in the Feasibility Study estimates or economic cash flows.

21.4.2 Key Estimate Assumptions

The following key assumptions were made during development of the capital estimate:

- The capital estimate is based on the contracting strategy, execution strategy, and key dates described within the Project Execution Plan in Section 25 of this report;
- Underground mine development activities will be performed by the owner's forces; and
- All surface construction (including earthworks) will be performed by contractors.

21.4.3 Key Estimate Parameters

The following key parameters apply to the capital estimates:

- **Estimate Class:** The capital cost estimates are considered Class 3[2] feasibility cost estimates (-15%/+20%). The overall project definition is estimated at 30%.
- **Estimate Base Date:** The base date of the capital estimate is January 1st, 2016. No escalation has been applied to the capital estimate for costs occurring in the future. Proposals and quotations supporting the Feasibility Study Estimate were received in Q3 2015 and are generally valid for a period of sixty (60) to ninety (90) days.
- **Units of Measure:** The International System of units (SI) is used throughout the capital estimate.
- **Currency:** All capital costs are expressed in United States Dollars ($). Table 21.2 presents the exchange rates used for costs estimated in foreign currencies.

Table 21.2 Estimate Exchange Rates

Currency	Code	X : $
Colombian Peso	COP	2,850
Canadian Dollar	CAD	0.75
Euro	EUR	1.10

Source: JDS, 2016

21.4.4 Estimate Responsibility Matrix

A responsibility matrix has been developed as a part of the basis of estimate. JDS is responsible for the overall management, development, assembly, and accuracy of the overall capital cost estimate with input from other companies.

21.4.5 Labour Rates

Contract Labour Rates

Contractor labour rates were built up by applying appropriate burdens to base labour rates provided by Colombian labour providers to determine all-in commodity unit labour rates.

Table 21.3 Contract Labour Rates

Category	Civil	Conc.	Struct.	Arch.	Mech.	Pipe	Elec.	Control
Direct Rate (1)	7.63	8.90	9.41	9.28	9.41	9.28	9.28	9.41
Transportation & Facilities	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Warehouse & Tool Crib	-	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Tools/PPE/Consumables	1.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Training & Awards	0.60	0.60	0.60	0.60	1.10	1.10	1.10	1.10
Supervision	1.08	1.43	1.48	1.46	1.53	1.51	1.51	1.53
Non-Productive Time	1.08	1.43	1.48	1.46	1.53	1.51	1.51	1.53
Overhead & Profit	3.24	4.28	4.43	4.39	4.58	4.54	4.54	4.58
All-in Rate	**16.18**	**21.39**	**22.15**	**21.96**	**22.90**	**22.71**	**22.71**	**22.90**

Note 1: Direct rate includes payroll and social burdens, and shift premiums

Source: JDS, 2016

[2] ACEE defines a Class 3 estimate as a budget authorization estimate based on 10% to 40% project definition, semi-detailed unit costs with assembly level line items, and an accuracy of between -20%/+30% and -10%/+10%.

Operational (Owner) Labour Rates

Operational labour rates were built up from first principles, in consultation with CGI human resources and legal resources. Base rates are based on current CGI salaries for similar positions, and legal and union premiums and benefits were built up to create all-in rates. Operational labour rates and staffing levels are described further within Section 22.

21.4.6 Fuel & Energy Supply

Fuel

Fuel consumption is based on the engineered estimates within the various direct WBS areas of the estimate. Fuel pricing of $0.67/L, inclusive of delivery to site, is based on firm quotations received by CGI supply chain personnel.

Electricity Supply

Permanent power costs are based on the estimated demands for underground and surface facilities, and a budgetary utility cost of $0.11/kWh.

21.4.7 Site Development

Current Site Development forecast is $10 M over FS estimates with 60% already committed.

Site development includes all costs to develop the plant site area, including:

- Bulk cut/fill, rough, and final grading for all roads & pads;
- Water management structures, including surface drainage features and water storage ponds;
- Earthen liners (ROM stockpile & ponds);
- Mechanically stabilized (MSE) retaining walls and other slope stabilization;
- Concrete water diversion channels, including all bridge structures;
- Underground & surface utilities, including HDPE piping to water treatment plant;
- Water supply well drilling;
- Site fencing; and
- Process area lighting.

Concrete retaining walls are integral to foundation works of the various plant areas, and are thus included the concrete estimates of the process sub-areas.

Earthworks quantities were developed from a 3D civil model. Other earthworks and site development quantities were developed based on site layouts and requirements typical of similar projects. Engineering quantity allowances were added for overbuild, spillage, and wastage. Database unit pricing was applied to the engineered quantities.

It is assumed that all site earthworks will be performed by a contractor, with no Owner supplied construction or support equipment provided.

21.4.8 Underground Mining

The Current forecast for underground mining preproduction capital is $27.8 M over FS estimates. An early start to development mining has added cost but addressed the risk of training a local work force as efficient miners.

Underground infrastructure, Capital development and Capitalized operating cost are above FS estimates. Updates to the mine plan and development schedule based on the resource update are required to determine the specific impact to project economics.

Underground Mobile Equipment

Underground mining equipment quantities and costs were determined through buildup of mine plan quantities and associated equipment utilization requirements. Budgetary quotes were received and applied to the required quantities.

An allowance for a major overhaul at 60% of the initial equipment purchase price is allowed half-way through the usable life of the equipment.

Underground Infrastructure

Design requirements for underground infrastructure were determined from calculations by engineers with specialized knowledge of ventilation, dewatering, paste backfill, and material handling design.

Budgetary quotations were received for major infrastructure components. Allowances have been made for miscellaneous items, such as initial PPE, radios, water supply, refuge stations, and geotechnical investigations. Acquisition of underground infrastructure is timed to support the mine plan requirements.

Capital Development

Capital development includes the labour, fuel, equipment usage, power, and consumables costs for lateral and vertical development required for underground access to stopes, and underground infrastructure.

- It is assumed that all lateral development and conventional raises will be performed by CGI staff, and that Alimak raises will be performed by a contractor.
- Lateral development fuel, equipment usage, power, and consumables requirements were developed based on the mine plan requirements. Manufacturer database equipment usage rates were applied to the required operating hours. Quotations were obtained by CGI for consumables and the rates described in Section 21.4.6 were applied for fuel and power.
- Lateral development labour requirements were determined by the required equipment fleet in operation. Supervision and support services were estimated, based on requirements for similar operations. Operational labour rates were applied as described in 21.4.5.
- Budgetary quotations for Alimak raises were obtained from a contractor and applied to the mine plan quantities.

Capitalized Development Costs

Capitalized development costs are defined as mine operating expenses (operating development, ore extraction, mine maintenance, and mine general costs) incurred prior to the introduction of ore to the processing facilities and the commencement of project revenues. They are included as a pre-production capital cost.

The basis of these costs is described in Section 22, Operating Costs, as they are estimated in the same manner. Capitalized development costs are included in the asset value of the mine development and are depreciated over the mine life within the financial model.

21.4.9 Surface Construction (Plant & Site Infrastructure)

Current updates to the ore process plant and facilities is $3.5 M above the FS Estimate.

Other site infrastructure is projected to be $36.3 M above FS estimates including the Water treatment plant and Tailing Aerial Tram described in the following sections.

Table 21.4 presents a summary of the basis on which the processing facilities and surface infrastructure elements for the Project have been estimated.

Table 21.4 Surface Construction Basis of Estimate

Commodity	Estimate Basis
Equipment	
Major Equipment	Budget quotations were solicited from qualified suppliers for the major equipment identified in the flowsheets and equipment register. A proposal accuracy of +/- 15% was requested from suppliers.
Minor Equipment	In-house data (firm and budgetary quotations from recent projects) was used for minor or low value equipment.
Installation (Labour & Materials)	
Site Preparation	Quantities have been developed from 3D models. Database unit pricing from similar projects used, with the exception of the Main Access Road, where averaged competitively bid unit rates were utilized. All surface civil works is assumed to be performed by contractors.
Concrete	Quantities have been developed from 3D model layouts and design calculations. Allowances were made for lean concrete. Database unit pricing from similar projects used for material costs and installation man-hours.
Structural Steelwork	Quantities have been determined from 3D models, design calculations and general arrangement drawings, with factored considerations for minor steel and connections. Database unit pricing from similar projects used for detailing, supply, fabrication, and erection costs.
Mechanical Bins and Chutes	Quantities for plate work, abrasion resistant ducting, and other mechanical plate work were developed based on general arrangement ("GA") drawings and expertise with similar operations. Database unit pricing from similar projects used for supply, fabrication, and installation costs.
Process Piping and Valves	General piping quantities were developed, based on line lists developed from process and instrumentation diagrams ("P&IDs"), and rough lengths determined from GA drawings. Database unit pricing from similar projects used for spool detailing, supply, fabrication, and installation costs.
Electrical	Electrical quantity take-offs are based on initial equipment lists and single line diagrams. Database unit pricing for materials and installation man-hours.
Electrical	Quantities have been based on preliminary P&IDs Database unit pricing for materials and installation man-hours.
Construction Equipment	
Capital Equipment Overhauls	Construction equipment costs are included according to the tasks performed and the crew hours involved. Construction equipment is included as a direct cost at $8.50/hour. This account is used for rentals and any purchase of commonly shared equipment (such as cranes and forklifts that are eventually turned over to the owner), scaffolding, and subcontractor equipment charges.
Permanent Equipment Upgrades & Overhauls	
Capital Equipment Overhauls	A sustaining capital allowance of $1 M per year (inclusive of VAT & contingency) has been allowed in years 1 through 13 for the overhaul or improvements to processing facilities. This capital allowance is pro-rated among the process areas by initial capital cost.

Source: JDS, 2016

Water Treatment Plant

Enhancement of the water treatment process plant and related infrastructure to meet new Colombian water discharge regulations resulted in a $15.5 M projected increase of the FS estimate. Water volumes requiring treatment have also been less than those predicted in the FS estimate. It remains to be seen if $7.3 M of sustaining capex estimated in the FS will be spent to expand the WTP to treat predicted increased water volumes.

The WTP is constructed in four phases throughout the life of the Project, coinciding with treatment capacity requirements. The water treatment plant design and equipment list were developed by a specialty contractor.

A budgetary design/supply quotation was obtained from a specialized WTP vendor. Installation costs were estimated as described in Section 18. Table 21.5 presents the time phasing and total direct costs of the water treatment plant.

Table 21.5 Water Treatment Plant Installation Phases

Phase	Description	Year	Direct Cost ($ M)
1	Initial build, including pads & ponds	-3	11.5
2	One additional UF/RO train	3	1.8
3	One additional HDS, 2nd stage UF/RO, and crystalizer	5	3.6
4	One additional UF/RO train	7	1.8
	Total		18.8

Note: Direct costs only – indirect costs, VAT, and contingency are included elsewhere in the estimate.

Source: JDS, 2016

Aerial Tailing Tram

It was determined that the Aerial Tailing Tram would be installed during the preproduction period instead of as sustaining capex spent in production year 1 of the project. As well, the forecast for installation is $12.1 M, which is $3.9 M above the FS estimate.

The tailing tram is purchased in Year 1 of operations and installed in Year 2 (after a 12-month equipment lead time). A preliminary tram design was performed by a specialist consultant to determine the tram layout and tower requirements.

A budgetary design/supply quotation was obtained from an aerial tram supplier. Mechanical installation costs were estimated leveraging experience from tram specialists that have worked on similar installations. Civil and concrete costs were estimated as described in Section 21.3.7. Allowances were made for the following inter-discipline interfaces:

- Access road to tram tower
- Electrical supply and tie-ins
- Instrumentation/automation and tie-in to plant control system

Costs for the haulage of tailing material on the Main Access Road to the paste plant during the transition from construction to production are included as an operating expense for mining until the tailing tram is constructed.

21.4.10 Tailing Storage Facility

The current forecast is $6.3 M over the FS estimate, primarily because the initial excavated volume was increased to produce construction fill for other mill and infrastructure earthworks.

Tailing Storage Facility Construction

Earthworks quantities were developed from engineering drawings by the design engineer. Database unit pricing was applied to the engineered quantities.

It is assumed that TSF construction will be performed by a contractor, during both the construction and operations phase.

Progressive closure of the TSF (a rock and soil cover) is included within the closure costs, described in Section 23.

Pre-Production Surface Waste Rock Handling

Costs to handle underground waste rock, on surface, from the waste rock staging area (the south lobe of the TSF) or the Yaraguá portal to the TSF containment cell (north lobe) are included in the initial capital costs. Costs for surface haulage of waste rock and dried tailing during operations are included as operating costs for processing.

The basis of estimate assumes an owner procured and operated equipment fleet. Material quantities, schedule, and corresponding equipment utilizations have been defined by the mine plan. Equipment acquisition costs are described in Section 21.4.12. Database equipment usage rates have been applied for parts, fuel, and consumables. Operational labour rates for technical, supervision, and operations personnel have been applied, as described in Section 21.4.5.

21.4.11 Off-Site Infrastructure

The current forecast is $12.6 M over FS estimates.

- *The planned access road construction phase is complete at $1.2 M over estimate.*
- *Environmental permit required treated water to be piped directly to the Cauca river, the capital cost of which is projected to be $2.6 M (not in the FS study scope).*
- *The major contributor to the total increase however, was the decision to pay for the construction of the 110 kV power line upfront at a cost of $8.1 M including engineering plus $0.6 M for the Choradó substation, to forgo unfavorable financing terms (resulting in a savings of 11.5 M in associated sustaining capital).*

Site Access Road

Main access road quantities are based on "issued-for-bid" designs performed by engineering.

Main access road construction is performed in three phases:

- Phase 1: Initial pioneering road to allow construction machinery and semi-loads of equipment, using construction equipment assistance, access to the valley in order to start earthworks and facilities installations.
- Phase 2: Widening of corners and reduction of grades to allow highway tractor trailer traffic access for equipment deliveries. Phase 2 includes gravel surfacing, and slope stabilization and hydro-seeding.
- Phase 3: Completion & paving, performed in Year 2, includes costs for gravel sub-base, asphalt paving, and the remaining slope stabilization and hydro-seeding.

Unit costs and contractor indirect costs for the access road are based on the average of three competitive bids received by CGI in Q2 2015 for Phase 1 of the road. Database unit rates were used for activities not included in the tender documents (such as paving).

Table 21.6 Site Access Road Construction Phases

Phase	Description	Year	Direct Cost ($ M)
1/2	Gravel surfaced access and 80% of ground support	-3	9.9
3	Paving and completion of ground support	2	1.2

Note: Direct costs only – indirect costs, VAT, and contingency are included elsewhere in the estimate.

Source: JDS, 2016

Low-Voltage (13.8 kV) Power Transmission Line

A budgetary quotation from a local contractor was received for constructing the 13.8 kV power transmission line.

High-Voltage (110 kV) Power Transmission Line

The 110 kV power line design, supply, and installation requirements and costs were developed by a Colombian engineering group specializing in power line designs.

Although the 110 kV power line is constructed in Year -2, the power line costs are amortized over ten years (Year 1 through 10) as a facility fee to the project. An annual interest rate of 15.9% is applied against the design/build cost of the line and paid in equal instalments (classified as sustaining capital) in the first 10 years of the mine life. Table 21.7 presents the financing cost buildup.

Table 21.7 110kV Power Line Costs

Parameter	Unit	Value
Design/build cost of 110kV line	$ M	7.3
Amortization Period	Years	10
Annual Interest Rate	%	15.9
Annual Payments	$ M	1.9
Total Payments Made	$ M	18.9
Cost of Borrowing	$ M	11.6

Note: Financed costs include all indirect costs, engineering, Owners costs, VAT, and contingency associated with the power line installation

Source: JDS, 2016

21.4.12 Surface Equipment Fleet

The cost of the surface equipment fleet which is 70% committed is $2.6 M above FS estimates.

Surface equipment fleet requirements are determined based on material movement requirements and experience at similar operations, and considering site conditions specific to the Project. Waste rock/tailing handling equipment requirements are based on equipment utilization requirements for the haulage operations. No equipment replacements are anticipated for the surface equipment fleet, with the exception of light vehicles, which are all replaced in Year 7. Used equipment acquisition has been considered for low utilization equipment.

Database unit pricing has been applied to the surface equipment fleet quantities.

21.4.13 Indirect Costs

Project indirect costs are projected to be $1.2 M above FS estimates.

Construction Support Contracts

During the construction phase, capital costs have been included for the following support contracts:

- General construction services: Crew of ten personnel for 24 months during the bulk of construction activities to provide miscellaneous support beyond the capacity of CGI's Site Services group.
- First aid and medical services: Full time medical coverage, on both day and night shift.
- Solid waste management: Allowance for supply of solid waste bins, and costs for waste pickup.
- Janitorial services: Labour for cleaning of temporary and permanent offices and public areas.

These contracts (with the exception of general construction services) will continue into the operations phase, and are included as an operating expense under the general and administration sector.

Temporary Facilities

Capital cost provisions have been made for the following general site indirect costs related to temporary facilities:

- Temporary Offices: Allowances for the provision (rental or purchase) of office and lunchroom trailers for EPCM and contractor personnel.
- Temporary communications: Allowances for temporary communications systems and networking until permanent systems are established.
- Miscellaneous field procurement: A total of $1M ($40 k by 27 months) has been allowed for field procurement for general site consumables not related to specific contractor scopes, such as bulk lumber, maintenance parts for temporary facilities, safety program supplies, site services supplies, and short term equipment rentals.

Construction Power

Although permanent (grid) power will be available to the Project early in the development schedule, It is anticipated that several diesel power generators will be required during the plant site and ancillary area construction activities; larger, central generators for construction facilities and construction power at the main plant work faces, and smaller generators to support ancillary area construction (such as the water treatment plant).

The acquisition costs for diesel generators are included in surface equipment fleet, and fuel and maintenance costs are included in the project indirect costs. Allowances have been made in the indirect costs for temporary power distribution, including power distribution panels surrounding the various work faces.

Small generators (less than 50 kW) will be provided by contractors and are included in the construction equipment costs.

Contractors Indirect Cost

The following contractor indirect costs are burdened within the labour crew rates described in Section 21.4.5:

- Transportation & Facilities;
- Warehouse & Tool Crib;
- Tools/PPE/Consumables;
- Training & Awards;
- Supervision;
- Non-Productive Time; and
- Overhead & Profit.

Above the contractor indirect rates identified above, deterministic estimates have been included in the estimate for contractor mobilization and scaffolding materials. Scaffolding erection and maintenance is included in the direct hours.

Passenger Transportation (Bussing)

Costs are included within the estimate for the provision of passenger bussing services between Santa Fe and the Project site. Bussing requirements (quantities) were developed based on the following parameters:

- The total site man-days required for the Project, and distribution of personnel working day and night shift. Since the majority of personnel work dayshift only during construction, 70% of passenger busses will travel empty one-way;
- A passenger bus capacity of 25 persons; and
- An assumed 25% of personnel will reside in Buriticá, and therefore will not require bussing services, during the construction phase.

Freight

Freight costs during the construction phase have been developed based on the estimated number of loads. A total of 1,200 cargo loads is estimated (exclusive of fuel and explosives), at an average cost of approximately $6,600/load. Freight costs include customs fees, brokerage, and temporary warehousing.

Freight costs for the operations phase (sustaining capital) have been estimated in the following manner:

- 10% allowance of purchase price for underground and surface mobile equipment acquisitions and replacements;
- 5% allowance of purchase price for underground mining infrastructure and equipment rebuild materials;
- First principles estimate for the aerial tram and mill maintenance building components; and
- 10% allowance of purchase price for water treatment plant and mill maintenance facility equipment.

Fuel and cement commodity pricing includes delivery to site, and is thus excluded from the freight costs.

Commissioning & Spare Parts

Commissioning activities have been estimated on the basis that the EPCM and construction contractors will complete all pre-commissioning activities up to the introduction of first ore, at which time, CGI's processing staff will assume care, custody, and control of the plant and begin process commissioning and ramp-up.

Spare parts, first fills, and vendor assistance costs have been factored based on similar projects.

21.4.14 Engineering & EPCM

Engineering is projected to be $8.0 M above FS estimates, driven by engineering and procurement of process facilities and infrastructure.

Detailed Engineering

Engineering costs within the estimate are based on budgetary quotations received from entities involved in the development of the Feasibility Study.

Project & Construction Management

Project and construction management costs are built up based on experience with similar sized projects. A detailed schedule of rates was applied against a staffing plan aligned with the Project schedule.

- Expatriate wages were used for contract project management (PM) personnel within the Project and construction management cost buildup; and
- Mine management and operations, field procurement, environmental, and some safety and administrative positions integral to the overall construction management effort will be provided by CGI. The costs for these positions are included in the mining costs for mining positions and the Owners costs for G&A positions.

21.4.15 Owner's Costs

Owner's costs are items that are included within the operating costs during production. These items are included in the initial capital costs during the construction phase and capitalized. The cost elements described below are described in more detail within Section 22.

Owner's costs are projected to be $37.2 M above FS estimates driven by the following:

- *WTP operating costs* *$6.5 M*
- *Process Plant Operations* *$4.2 M*
- *Mining/Tech Services* *$8.4 M*
- *Owners Project Management* *$12.3 M*
- *Other* *$5.8 M*

Water Treatment Plant Operation

The following cost elements are included in the initial capital costs for operation of the water treatment plant for twenty-one months:

- Technical and operations labour;
- Power supply; and
- Reagents, parts, and third party services.

Process Plant Operations

The following processing related costs are included in the initial capital:

- Management, technical, operations, and maintenance labour employed during the construction phase;
- Energy costs for power consumed during process commissioning and ramp-up activities; and
- Equipment usage costs related to the process plant (feed loader, dozer, etc.).

Pre-Production G&A - Labour

Costs for general and administrative labour are included for the following sectors:

- Management & Administration;
- Accounting;
- Human Resources;
- Community Relations;
- It & Communications;
- Procurement & Logistics;
- Health & Safety;
- Environmental;
- Security; and
- Surface Infrastructure & Maintenance.

Pre-Production G&A - Equipment

Costs for CGI owned site support equipment usage are included for the following sectors:

- Site Services;
- Warehouse/Material Management;
- Security;
- Health, Safety, & Environment; and
- Admin/Management.

Pre-Production G&A – Expenses & Services

Costs for general and administrative expenses and fees are included for the following sectors:

- Power line maintenance;
- Business travel;
- Safety and medical items;
- Environmental costs;
- Security & military support cost;
- Engineering support;
- Information management & communications;
- Office expenses;
- Human resources;
- Titles and associations;
- Insurance; and
- Socio-economic costs.

Owner's Project Management Team

Costs for the CGI Project Team are built up from a staffing plan aligned with the project schedule, and application of CGI provided rates. Costs are based on utilizing 80% expatriate labour for the Project Team.

21.4.16 Taxes

Value-added tax (VAT or IVA) applies to goods and services provided in Colombia.

VAT is applied to the initial capital estimate as follows:

- 16% applied to permanent and mobile equipment acquisitions; and
- 16% of an estimated 10% contractor profit (net 1.6%) applied to labour, materials, equipment usage, and all other misc. costs.

VAT is not applied to the following items

- Owner labour;
- Capital mine development;
- Capitalized mine production costs; and
- Electricity supply.

21.4.17 Contingency

Contingency is projected to result in a $24.6 M reduction from FS estimates.

Contingency is a provision for project costs that will likely occur, but cannot be accurately defined or estimated. Including project contingency in a capital cost estimate is necessary to determine the most likely project cost.

A quantitative risk analysis (QRA) was completed for the Project to determine the capital risk profiles. A blended contingency was applied to the estimate through constructing and executing a probability analysis model. Costs were logically grouped by type and the P10 and P90[3] variations were defined for both quantity and unit price risk. The model utilized Monte-Carlo

[3] P_{10} and P_{90} refer to that confidence level for a given estimate. By definition, a P_{90} refers to a 90% level of confidence that the value (estimate) *will not* be exceeded, and P10 refers to a 90% level of confidence that the value (estimate) *will* be exceeded.

sampling (5,000 iterations) to determine the contingency amounts. The analysis excluded any risks related to escalation and foreign exchange.

The selected contingency for pre-production is $35.4 M or 10% which represents a P75 level of confidence.

The project contingency currently included in the estimate does not include provisions for management reserve.

21.4.18 Exclusions

The following items have been excluded from the capital cost estimate:

- Finance and interest charges;
- Operating spare parts;
- Working or deferred capital (included in the financial model);
- Financing costs;
- Currency fluctuations;
- Lost time due to severe weather conditions;
- Lost time due to force majeure;
- Additional costs for accelerated or decelerated deliveries of equipment, materials or services resultant from a change in project schedule;
- Warehouse inventories, other than those supplied in initial fills, capital spares, or commissioning spares;
- Any project sunk costs (studies, exploration programs, etc.); and
- Escalation cost.

22 Operating Costs Estimate

22.1 Disclosure

The updated mineral resource is not expected to materially affect operating costs which were estimated in the Feasibility Study. Mining methods, extraction and ore processing methods, G&A and Corporate fees are not affected by the new resource. Work on an updated mine plan, ore development redesign, stope scheduling and mine sustaining capital and operating cost estimates is currently in progress and is expected to result in an updated mineral reserves statement once the work has been completed.

22.2 Introduction & Estimate Results

Life of mine (LOM) operating costs for the Project average $100.50/tonne processed. This includes the following sectors:

- Underground mining;
- Mineral processing;
- General & administration; and
- Corporate management fee.

The operating costs exclude off-site costs (such as shipping and refining costs), taxes, and government royalties. These cost elements are used to determine the net smelter return (NSR) in the economic model, and are discussed in Section 23.

The following section is taken directly from the 2016 feasibility study.

Table 22.1 presents a summary of the LOM operating costs, expressed in United States Dollars ($) with no escalation. Figure 22.1 illustrates the distribution of operating costs among the cost sectors.

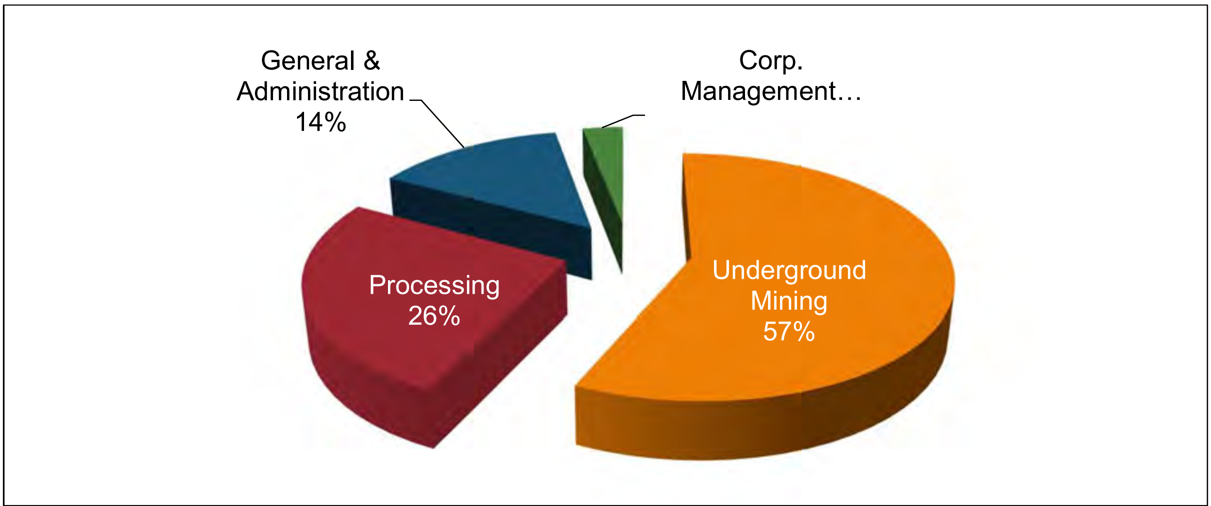
The P_{75} confidence chosen for the capital contingency refers to a 75% confidence that the contingency provisions will not be exceeded.

Table 22.1 Operating Cost Summary

Sector	Average $ M/year	Life of Mine $ M	$/t processed
Underground Mining	56.3	784.7	57.21
Processing	25.8	358.8	26.16
General & Administration	13.9	193.8	14.13
Corporate Management Fee	3.0	41.3	3.01
Total Mine Operating Costs	99.0	1,378.6	100.50

Source: JDS, 2016

Figure 22.1 Distribution of Operating Costs



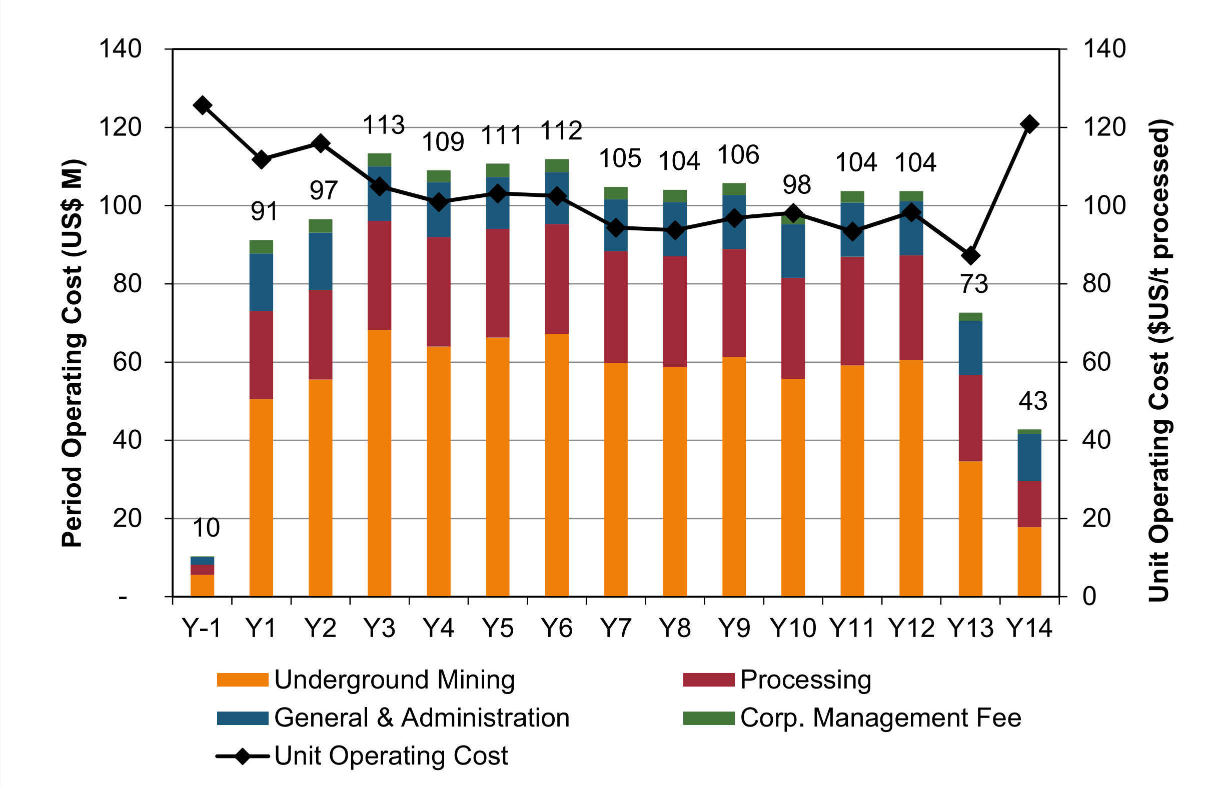
Source: JDS, 2016

The operating cost estimate was compiled utilizing input from engineers, contractors, and suppliers with experience operating projects in Latin America. Wherever possible, bottom-up first principle estimates were developed and benchmarked against other projects of similar size with similar site conditions.

22.3 Operating Cost Profile

All operating costs have been included in the economic cash flow model according to the development schedule. Figure 22.2 presents an annual life of mine operating cost profile.

Figure 22.2 Life of Mine Operating Cost Profile



Source: JDS, 2016

22.4 Operational Labour Rate Buildup

Operational staff labour rates have been built up by applying legal and discretionary burdens against base labour rates. Eleven wage scales were defined, and applied to the various operational positions based on skill level and expected salary. CGI legal and human resources personnel were involved in the buildup and verification of the operational labour rates.

22.5 Mine Operating Costs

The mine operating costs include the following functional areas:

- Underground Mining:
  - Waste development – costs of main ramps, raises, drifts and attack ramps including drilling, blasting, mucking, and hauling;
  - Production – ore extraction costs including drilling, blasting, mucking, and hauling;
  - Backfill – backfill operating costs including the paste plant;
  - Mine Maintenance – maintenance labour costs that support all other sectors; and
  - Mine General – costs for mine support activities, such as technical services, shared infrastructure, support equipment, and definition drilling.
- Tailing Transportation:
  - Surface Tailing Haulage – transport costs of filtered tailing from the process plant to the paste plant prior to tram commissioning;
  - Aerial Tailing Tram – aerial tailing tram operating costs.

Table 22.2 Mining Operating Cost Summary

Area	Average $ M/year	Life of Mine $ M	$/t processed
Underground Mining	55.8	777.8	56.70
Waste Development	12.9	179.7	13.10
Production	30.1	419.5	30.59
Backfill	4.6	63.4	4.62
Mine Maintenance	1.5	21.3	1.56
Mine General	6.7	93.9	6.84
Tailing Transportation	0.5	6.9	0.50
Surface Tailing Haulage	0.1	0.9	0.07
Aerial Tailing Tram	0.4	5.9	0.43
Total	56.3	784.7	57.21

Source: JDS, 2016

22.5.1 Underground Mining

Underground Mining Labour

Underground mining staffing levels related to production activities are built up based on the productivities (man-hours) required for mining activities occurring within a given time period. As such, mining manpower changes during the mine life. Mining labour rates are based on a mix of expatriate and local hire labour.

Mine labour (including supervision and support) related to development drifting is distributed between capital development (sustaining capital costs) and operating development (operating costs), based on the activities being performed within a given time period. As such, only a portion of the mine staffing is allocated within the mining operating costs.

Table 22.3 Underground Mining Labour Costs

Area	Average LOM Staff	Average $ M/year	Life of Mine $ M	$/t processed
Lateral Waste Development	254	3.6	50.7	3.70
Production	66	1.4	19.4	1.41
Backfill	22	0.4	5.0	0.36
Mine Maintenance	84	1.5	20.3	1.48
Mine General	30	0.9	12.3	0.90
Total	456	7.7	107.7	7.85

Note: Staffing levels and costs include only operating costs. Balance of mine staffing costs are included within the sustaining capital costs

Source: JDS, 2016

Underground Mining Fuel Consumption

Underground mining fuel consumption has been built up based on the required equipment operating hours dictated by the mine plan for development or production based equipment, and annual allowances for support or fixed infrastructure equipment, based on experience at similar operations.

The unit fuel price used in the estimate is $0.67/litre, which includes $0.10/litre for delivery to site.

Table 22.4 Underground Mining Fuel Costs

Area	Average $ M/year	Life of Mine $ M	$/t processed
Lateral Waste Development	0.6	8.5	0.62
Production	2.0	28.2	2.05
Backfill	0.6	8.5	0.62
Total Mine Consumables Costs	3.2	344.4	3.30

Source: JDS, 2016

Underground Mining Equipment Operations

Underground mining equipment usage costs are based on the equipment operating hours required for the life of mine plan. Equipment usage costs include unit costs ($/hr) for the following elements:

- Maintenance parts;
- Tires;
- Lubricants; and
- Boxes, buckets, and ground engaging tools.

Unit costs for the elements above have been obtained from equipment manufacturers databases. Equipment replacements and major (mid-life) overhauls are included in the sustaining capital costs.

Table 22.5 Underground Equipment Costs

Area	Average $ M/year	Life of Mine $ M	$/t processed
Lateral Waste Development	2.9	39.7	2.90
Production	9.7	135.0	9.84
Mine General	0.9	13.0	0.95
Total	13.5	187.7	13.68

Source: JDS, 2016

Underground Mining Power

Electrical power consumption has been based on the equipment connected loads, discounted for operating time and the anticipated operating load level.

Electricity unit cost is based on a budgetary rate of $0.11/kWh.

Table 22.6 Underground Mining Power Costs

Area	Average $ M/year	Life of Mine $ M	$/t processed
Lateral Waste Development	0.5	7.0	0.51
Production	1.8	25.7	1.87
Backfill	0.3	4.0	0.29
Mine General	0.3	3.7	0.27
Total Mine Consumables Costs	2.9	40.4	2.95

Source: JDS, 2016

Underground Mining Consumables

Mining consumable usage rates are built up based on the mine plan quantities for development and production activities.

Unit costs are typically based on budgetary quotations. Minor item costs are based on catalog or database values. Seven percent of the base quoted or database pricing for consumables has been added within the commodity pricing for delivery (freight) to site.

Table 22.7 Mining Consumable Costs

Area	Average $ M/year	Life of Mine $ M	$/t processed
Lateral Waste Development	5.3	73.7	5.37
Production	15.2	211.3	15.40
Backfill	3.9	54.4	3.97
Mine Maintenance	0.1	1.0	0.07
Mine General	0.3	4.1	0.30
Total Mine Consumables Costs	24.7	344.4	25.11

Source: JDS, 2016

Definition Drilling

An all-in quoted budgetary rate of $119.75/m has been applied to the definition drilling quantities within the life of mine plan. This equates to a total LOM cost of $52.2 M or $3.81/tonne processed.

22.5.2 Tailing Delivery to Paste Plant

The tailing delivery area of the operating cost estimate includes the costs related to transportation of dried process tailing from the processing facilities, located in the Higabra Valley to the paste plant, located at the Veta Sur portal. Material will initially be trucked on surface, and then transported by an aerial tailing tram once it is constructed. A budgetary all-in contract rate of $4/t has been applied to the paste fill tailing quantities for the surface haulage requirements.

Aerial tailing tram operating parameters and costs have been estimated by a lift and tram specialist consultant in conjunction with a tram line manufacturer. It is assumed that the mine maintenance staff will also provide maintenance labour to perform maintenance activities on the aerial tram.

Table 22.8 Tailing Delivery Cost Summary

Sector	Life of Mine $ M	$/t processed
Surface Tailing Haulage	0.9	0.07
Surface Tailing Haulage	0.9	0.07
Aerial Tailing Tram	5.9	0.43
Labour	1.6	0.11
Power	2.3	0.17
Maintenance Materials	2.1	0.15
Total	6.9	0.50

Source: JDS, 2016

22.6 Process Operating Costs

The process operating costs can be separated into three distinct areas: mineral processing, water treatment, and TSF. Table 22.9 presents a summary of the process operating costs by area. The subsections below provide the buildups of each area.

Table 22.9 Processing Operating Cost Summary

Area	Average $ M/year	Life of Mine $ M	$/t processed
Mineral Processing Plant	21.0	293.1	21.37
Mill General	0.6	7.7	0.56
Primary Crushing & Reclaim	0.8	11.3	0.83
Grinding & Gravity Concentration	8.5	118.8	8.66
Concentrate Leach & CCD	4.5	62.8	4.58
Merrill Crowe and Refinery	1.4	20.0	1.46
Tailing and Cyanide Oxidation	2.8	38.8	2.83
Ancillaries	1.2	17.2	1.25
Process Maintenance	1.2	16.5	1.20
Water Treatment Plant	1.1	15.0	1.10
Tailing Storage Facility	3.6	50.7	3.70
Total	25.8	358.8	26.16

Source: JDS, 2016

22.6.1 Mineral Processing

Mineral Processing Labour

Milling operations and maintenance staffing levels have been built up based on experience at similar operations. Labour costs are based on fully burdened staffing wage bandings, as described in Section 22.4.

Mineral Processing Power

Electrical power consumption has been based on the equipment connected loads, discounted for operating time and the anticipated operating load level.

Electricity unit cost is based on a budgetary rate of $0.11/kWh.

Table 22.10 Mineral Processing Unit Power Consumption & Cost

Area	Unit Consumption (kWh/tonne)	Power Cost ($/kWh)	$/t processed
Primary Crushing & Reclaim	1.02	0.11	0.11
Grinding & Gravity Concentration	30.92	0.11	3.40
Concentrate Leach & CCD	4.04	0.11	0.44
Merrill Crowe and Refinery	4.77	0.11	0.52
Tailing and Cyanide Oxidation	6.75	0.11	0.74
Ancillaries	5.16	0.11	0.57
Total	52.66		5.79

Source: JDS, 2016

Mineral Processing Reagents

Milling reagent consumption rates have been determined from the metallurgical test data or experience from other operations (when test data was not available). Unit pricing is based on budgetary quotations obtained by CGI supply chain.

Other Mineral Processing Costs

Maintenance parts costs have been factored, based on the direct capital costs of the equipment within each area. An allowance of 10% of the maintenance parts costs has been included for maintenance services. Annual allowances have been included for lubricant consumption, outside services, and miscellaneous supplies/tools.

Grinding media and liners have been estimated on a kilogram/tonne basis, based on experience at similar operations.

Table 22.11 Other Processing Costs

Group / Item	Average $ M/year	Life of Mine $ M	$/t processed
Maintenance Parts	2.2	30.3	2.21
Maintenance Services	0.2	3.0	0.22
Lubricants	0.1	1.1	0.08
Outside Services	0.1	1.5	0.11
Supplies/Tools	0.4	5.2	0.38
Liners	0.5	6.8	0.50
Grinding Media	2.9	40.8	2.98
Mobile Equipment Consumables	0.4	4.9	0.36
Total	6.7	93.7	6.83

Source: JDS, 2016

22.6.2 Water Treatment Plant

The water treatment plant sector includes all costs related to the operation of the water treatment plant. It is assumed that the mineral processing management and maintenance staff will also carry responsibility for the supervision and maintenance of the water treatment plant, respectively.

Table 22.12 Water Treatment Operating Cost

Item	Average $ M/year	Life of Mine $ M	$/t Processed
Labour	0.1	1.4	0.10
Power	0.5	6.9	0.51
Chemicals & Consumables	0.2	3.2	0.24
Maintenance Parts & Services	0.3	3.3	0.25
Total	1.1	15.0	1.10

Source: JDS, 2016

22.6.3 Tailing Storage Facility

TSF operating costs include the costs to perform the following activities:

- Load, transport, place, and compact dried tailing material from the tailing stockpile building to the TSF using articulated surface haul trucks;
- Load, transport, place, and compact waste rock (dumped by underground mine haul trucks) from a staging stockpile (near the tailing stockpile building) to the TSF using articulated surface haul trucks;
- Blend binder into the processed tailing stream, as required for strength; and
- Manage the above activities (supervision and technical staff).

Table 22.13 Tailing Storage Facility Operating Cost

Area	Average $ M/year	Life of Mine $ M	$/t Processed
Labour	0.5	7.1	0.52
Equipment Operations	2.5	34.3	2.50
Tailing Binder	0.7	9.3	0.68
Total	**3.6**	**50.7**	**3.70**

Source: JDS, 2016

22.7 GENERAL & ADMINISTRATION OPERATING COSTS

Table 22.14 outlines the G&A operating costs that are considered in the economic model. They are broken out into the following categories:

- Labour; and
- Services & Expenses.

Table 22.14 General & Administration Operating Cost Summary

Sector	Average $ M/year	Life of Mine $ M	$/t processed
G&A Labour	2.9	41.0	2.99
G&A Labour	2.9	41.0	2.99
G&A Services & Expenses	11.0	152.8	11.14
Off-Site Contract Services	0.2	2.1	0.15
On-Site Contract Services	0.5	6.8	0.50
Logistics & Freight	1.0	14.0	1.02
Surface Infrastructure	0.7	9.7	0.71
Mobile Equipment Operation	1.3	17.5	1.27
Safety & Medical	0.5	6.9	0.50
Environmental	0.8	10.8	0.79
Security	1.0	14.6	1.06
Engineering	1.1	14.7	1.07
IT & Communications	0.3	4.2	0.31
Office Expenses	0.2	2.1	0.16
Human Resources	0.1	1.2	0.09
Titles & Associations	0.1	0.6	0.05
Insurance	2.4	33.6	2.45
Socio-Economics	1.0	13.9	1.01
Total	13.9	193.8	14.13

Source: JDS, 2016

22.7.1 G&A Labour

G&A staffing levels have been built up based on experience at similar operations. Labour costs are based on fully burdened staffing wage bandings. Expatriate wage scales are included for high level managerial positions.

22.7.2 G&A Services & Expenses

G&A services and expenses have been estimated in consultation with current CGI area managers, and considering other similar operations. Major items (logistics, mobile equipment, and insurance) are built up from first principles. Minor items are factored, based on other estimate parameters (such as number of staff) or are general allowances.

22.8 Corporate Management Fee

An allowance of 1% of the annual net smelter return has been allowed for the provision of corporate services to the Project, including legal, finance, treasury, and other support services. This is equivalent to $3.0 M or $3.01/t processed.

22.9 Taxes

Value-added tax (VAT or IVA) applies to goods and services provided in Colombia; however, IVA is fully refundable for operating expenses. As such, no provisions for IVA are included in the operating cost estimates.

22.10 Contingency

No operating cost contingency provision has been included in the estimate.

23 Economic analysis

23.1 Disclosure

Changes to the resource are not expected to significantly affect the project development plan and thus, the original FS study economic model remains valid as a tool to estimate project performance. Updates to project inputs can be evaluated by sensitivity analysis, since projected changes fall within the sensitivity envelope of the project as modelled. Using this methodology, Project NPV5 using current projections of increased project pre-production capex are mostly offset by increases to metal prices and exchange rate. However, the IRR would show a larger percentage decrease since capital changes are only projected for the pre-production period. High level sensitivity analysis using graphs in Figure 23.3 and Figure 23.4 shows a current project after tax NPV5 of 855MM, and IRR of 27% using gross percentage changes in capex along with increased metal prices.

Any significant changes to the mining and project development plan, driven by the 2019 resource estimate will necessitate updated cost estimates at the appropriate level of engineering, at which time the financial model can be updated to a level of confidence comparable to that contained in the existing feasibility study.

23.2 Introduction

An engineering economic model has been used to collate the study results in order to estimate and evaluate project cash flows and economic viability.

The financial evaluation presents results for Net Present Value (NPV), Internal Rate of Return (IRR), and payback. The economic model allows sensitivity evaluations for changes in metal prices, grades, exchange rates, operating costs, and capital costs to determine their relative importance for evaluating investment decisions.

Section 23.3 summarizes the economic results, Section 23.4 provides the results of an economic sensitivity analysis, and *Section 23.5 provides additional details relating to the various key inputs within the economic model.*

23.3 Economic Results

Based on the findings of the FS, it can be concluded that the Project is economically viable with an after-tax IRR of 31.2% and an NPV of $860.2 M at a 5% discount rate. Table 23.1 presents the results of the evaluated scenario.

Table 23.1 Summary of Economic Results

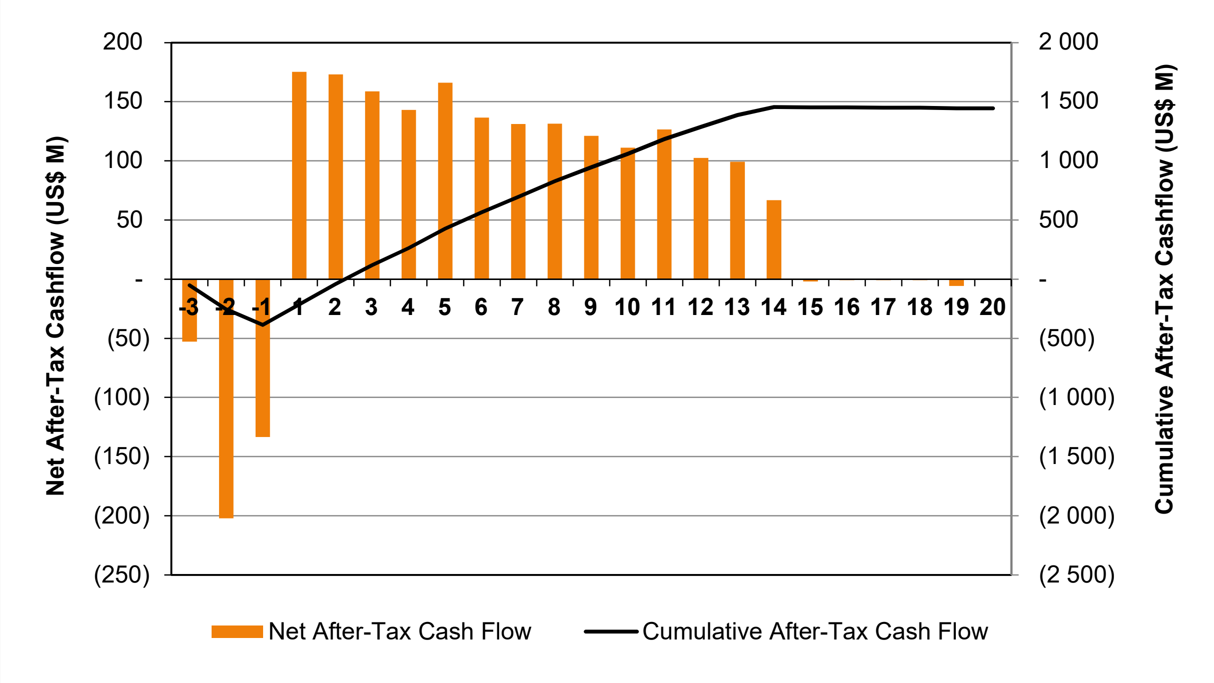
Parameter	Unit	Value
Gold Price	$/oz	1,200
Silver Price	$/oz	15.00
Exchange Rate	COP:US	2,850
Net Revenues	$ M	4,130.9
Operating Costs	$ M	1,378.6
Cash Flow from Operations	$ M	2,752.3
Capital Costs	$ M	661.7
Closure Cost (net of Salvage Value)	$ M	10.0
Net Pre-Tax Cash flow	$ M	2,081.0
Pre-Tax $NPV_{5\%}$	$ M	1,263.3
Pre-Tax IRR	%	38.0
Pre-Tax Payback	years	1.9
Total Taxes	$ M	636.2
Effective Tax Rate	%	33
After-Tax $NPV_{5\%}$	$ M	860.2
After-Tax IRR	%	31.2
After-Tax Payback	years	2.3
Break-Even After-Tax Gold Price	$/oz	634

Payback is calculated on annual cash flows without considering discount rates or inflation.

Source: JDS, 2016

Figure 23.1 illustrates the projected after-tax cash flows, undiscounted.

Figure 23.1 Annual and Cumulative After Tax Cash Flows



Source: JDS, 2016

Table 23.2 provides a LOM cost summary, and includes unit cash-costs for comparative purposes.

Table 23.2 Cash Cost Summary

Item	Parameter	LOM Cost ($)	Unit Cost ($/Payable Au Oz)
A	Pre-Production Capital Costs	389.2	111.6
B	Life of Mine Sustaining Capital Costs	272.5	78.1
C	Closure Cost (net of Salvage Value)	10.0	2.9
D	Operating Costs	1,378.6	395.1
E	Refining and Transportation	14.9	4.3
F	Royalties	137.2	39.3
G	Silver Credits	(96.1)	(27.5)
	Total Cash Cost, net Ag Credits (D+E+F+G)	1,434.6	411.2
	All-in Sustaining Cost, net Ag Credits (B+C+D+E+F+G)	1,717.1	492.1
	All-in Sustaining & Construction Costs, net Ag Credits (A+B+C+D+E+F+G)	2,106.3	603.7

Source: JDS, 2016

Table 23.3 presents a condensed annual cash flow model for the evaluated scenario.

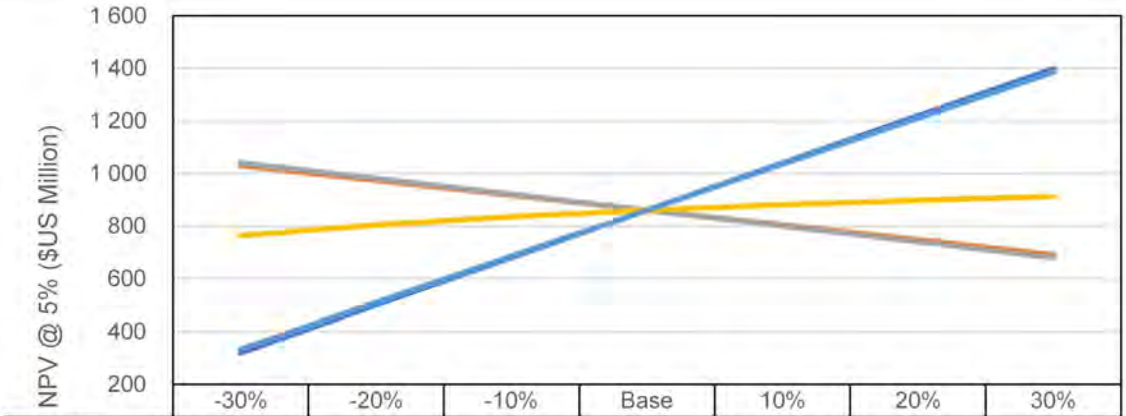
Table 23.3 Condensed Annual Cash Flow Model

Item	Unit	Pre-Production	Production	Life of Mine	Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15-20
Mine Schedule																						
Total Ore Mined	k tonne	97.2	13,619.5	13,716.8	-	-	97.2	814.1	839.6	1,078.7	1,067.6	1,102.5	1,070.4	1,103.6	1,103.9	1,102.7	990.2	1,106.4	1,061.0	826.0	352.9	-
Au Grade	g/t	6.9	8.4	8.4	-	-	6.9	12.2	11.8	8.6	7.7	8.8	8.3	8.1	8.1	7.6	7.6	7.5	7.0	7.5	8.8	-
Ag Grade	g/t	22.5	24.3	24.3	-	-	22.5	37.1	34.7	28.0	21.4	22.2	22.6	23.0	24.2	22.0	21.5	20.8	20.3	22.9	25.5	-
Processing Schedule																						
Total Ore Processed	k tonne	82.5	13,634.3	13,716.8	-	-	82.5	816.0	832.5	1,080.0	1,080.0	1,073.0	1,091.5	1,110.0	1,110.0	1,091.5	999.0	1,110.0	1,054.5	832.5	353.8	-
Au Recovery	%	94%	94%	94%	-	-	94%	92%	93%	94%	94%	95%	95%	95%	95%	94%	94%	94%	94%	94%	93%	-
Ag Recovery	%	60%	60%	60%	-	-	60%	48%	52%	59%	63%	63%	62%	64%	63%	62%	62%	63%	63%	62%	57%	-
Recovered Au	k oz	17.4	3,474.2	3,491.5	-	-	17.4	291.5	295.6	281.6	253.4	287.2	276.9	273.7	273.0	251.9	230.8	252.7	222.5	189.9	93.5	-
Recovered Ag	k oz	35.6	6,389.5	6,425.2	-	-	35.6	468.5	481.8	573.5	465.9	482.3	494.9	525.6	543.7	482.2	425.1	467.6	434.3	378.1	166.1	-
Net Smelter Return																						
Au Payable	$ M	20.8	4,166.1	4,186.9	-	-	20.8	349.6	354.5	337.7	303.8	344.4	332.0	328.2	327.4	302.0	276.8	303.0	266.8	227.7	112.2	-
Ag Payable	$ M	0.5	95.6	96.1	-	-	0.5	7.0	7.2	8.6	7.0	7.2	7.4	7.9	8.1	7.2	6.4	7.0	6.5	5.7	2.5	-
Refining & Assay Costs	$ M	(0.0)	(9.0)	(9.0)	-	-	(0.0)	(0.7)	(0.7)	(0.8)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.7)	(0.6)	(0.7)	(0.6)	(0.5)	(0.2)	-
Transportation & Insurance	$ M	(0.0)	(5.9)	(5.9)	-	-	(0.0)	(0.5)	(0.5)	(0.5)	(0.4)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.2)	-
Royalties	$ M	(0.7)	(136.5)	(137.2)	-	-	(0.7)	(11.4)	(11.6)	(11.1)	(10.0)	(11.3)	(10.9)	(10.8)	(10.7)	(9.9)	(9.1)	(9.9)	(8.8)	(7.5)	(3.7)	-
Net Smelter Return	**$ M**	**20.6**	**4,110.3**	**4,130.9**	**-**	**-**	**20.6**	**344.0**	**349.0**	**333.9**	**299.8**	**339.2**	**327.4**	**324.1**	**323.6**	**298.2**	**273.1**	**299.0**	**263.6**	**225.0**	**110.5**	**-**
Operating Costs																						
Underground Mining	$/t	67.21	57.14	57.21	-	-	67.21	61.83	66.70	63.15	59.20	61.77	61.55	53.87	52.92	56.18	55.79	53.27	57.37	41.53	50.18	-
	$ M	(5.5)	(779.1)	(784.7)	-	-	(5.5)	(50.5)	(55.5)	(68.2)	(63.9)	(66.3)	(67.2)	(59.8)	(58.7)	(61.3)	(55.7)	(59.1)	(60.5)	(34.6)	(17.8)	-
Processing	$/t	31.99	26.12	26.16	-	-	31.99	27.71	27.54	25.82	25.97	25.90	25.79	25.72	25.46	25.30	25.82	25.08	25.41	26.57	33.27	-
	$ M	(2.6)	(356.2)	(358.8)	-	-	(2.6)	(22.6)	(22.9)	(27.9)	(28.0)	(27.8)	(28.2)	(28.5)	(28.3)	(27.6)	(25.8)	(27.8)	(26.8)	(22.1)	(11.8)	-
General & Administration	$/t	23.98	14.07	14.13	-	-	23.98	18.04	17.53	12.88	12.98	12.35	12.14	11.91	12.45	12.66	13.80	12.41	13.06	16.47	34.34	-
	$ M	(2.0)	(191.8)	(193.8)	-	-	(2.0)	(14.7)	(14.6)	(13.9)	(14.0)	(13.3)	(13.3)	(13.2)	(13.8)	(13.8)	(13.8)	(13.8)	(13.8)	(13.7)	(12.2)	-
Management Fee	$/t	2.50	3.01	3.01	-	-	2.50	4.22	4.19	3.09	2.78	3.16	3.00	2.92	2.91	2.73	2.73	2.69	2.50	2.70	3.12	-
	$ M	(0.2)	(41.1)	(41.3)	-	-	(0.2)	(3.4)	(3.5)	(3.3)	(3.0)	(3.4)	(3.3)	(3.2)	(3.2)	(3.0)	(2.7)	(3.0)	(2.6)	(2.2)	(1.1)	-
Total Operating Costs	**$/t**	**125.68**	**100.35**	**100.50**	**-**	**-**	**125.68**	**111.80**	**115.96**	**104.94**	**100.92**	**103.18**	**102.48**	**94.43**	**93.74**	**96.88**	**98.15**	**93.46**	**98.34**	**87.28**	**120.92**	**-**
	$ M	**(10.4)**	**(1,368.2)**	**(1,378.6)**	**-**	**-**	**(10.4)**	**(91.2)**	**(96.5)**	**(113.3)**	**(109.0)**	**(110.7)**	**(111.9)**	**(104.8)**	**(104.1)**	**(105.7)**	**(98.0)**	**(103.7)**	**(103.7)**	**(72.7)**	**(42.8)**	**-**
Production Income																						
Operating Income	**$/t**	**123.9**	**201.1**	**200.7**	**-**	**-**	**123.9**	**309.8**	**303.2**	**204.2**	**176.6**	**213.0**	**197.5**	**197.6**	**197.8**	**176.3**	**175.2**	**175.9**	**151.6**	**183.0**	**191.5**	**-**
	$ M	**10.2**	**2,742.1**	**2,752.3**	**-**	**-**	**10.2**	**252.8**	**252.4**	**220.6**	**190.8**	**228.5**	**215.5**	**219.3**	**219.5**	**192.5**	**175.0**	**195.3**	**159.9**	**152.3**	**67.8**	**-**
Capital Expenditures																						
Site Development	$ M	(10.9)	-	(10.9)	(4.5)	(6.3)	(0.1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Underground Mining	$ M	(86.5)	(178.3)	(264.8)	-	(35.5)	(51.0)	(42.8)	(18.2)	(15.8)	(12.5)	(9.1)	(12.5)	(15.1)	(18.4)	(9.9)	(8.9)	(6.2)	(6.0)	(2.9)	(0.0)	-
Processing Plant	$ M	(97.6)	(11.6)	(109.2)	(3.2)	(59.4)	(35.0)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)	-	-
Tailing & Waste Rock	$ M	(7.7)	(16.1)	(23.8)	(2.2)	(3.5)	(1.9)	(1.9)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)	-	-	-	-	-	-
Off-Site Infrastructure	$ M	(10.0)	(12.7)	(22.7)	(10.0)	-	-	(1.2)	(2.4)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)	-	-	-	-	-
On-Site Infrastructure	$ M	(45.3)	(18.7)	(64.0)	(12.6)	(27.2)	(5.5)	(4.2)	(5.8)	(1.8)	-	(3.6)	-	(3.3)	-	-	-	-	-	-	-	-
Project Indirect Costs	$ M	(28.5)	(9.1)	(37.5)	(2.8)	(14.6)	(11.1)	(2.3)	(1.0)	(0.7)	(0.2)	(0.6)	(0.3)	(1.3)	(0.9)	(0.6)	(0.5)	(0.3)	(0.2)	(0.2)	(0.0)	-
Engineering & EPCM	$ M	(27.8)	(0.6)	(28.4)	(7.5)	(15.1)	(5.3)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	-	-	-	-	-
Owners Costs	$ M	(21.8)	(4.3)	(26.1)	(2.1)	(10.0)	(9.7)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	-	-	-	-	-
Taxes (VAT/IVA)	$ M	(17.7)	(14.0)	(31.7)	(2.9)	(11.3)	(3.5)	(3.6)	(1.4)	(1.1)	(0.3)	(0.7)	(0.4)	(1.9)	(1.5)	(1.0)	(0.8)	(0.5)	(0.3)	(0.4)	(0.0)	-
Contingency	$ M	(35.4)	(7.0)	(42.4)	(4.8)	(18.3)	(12.3)	(1.0)	(1.3)	(0.7)	(0.4)	(0.9)	(0.4)	(0.9)	(0.4)	(0.4)	(0.3)	(0.1)	(0.1)	(0.1)	-	-
Total Capital Costs	**$ M**	**(389.2)**	**(272.5)**	**(661.7)**	**(52.6)**	**(201.3)**	**(135.3)**	**(58.3)**	**(33.2)**	**(24.5)**	**(17.7)**	**(19.3)**	**(17.9)**	**(26.8)**	**(25.6)**	**(16.3)**	**(13.0)**	**(7.8)**	**(7.5)**	**(4.5)**	**(0.0)**	**-**
Closure Costs																						
Salvage Value	$ M	-	7.5	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	3.7
Closure & Monitoring	$ M	-	(17.5)	(17.5)	-	-	-	-	-	-	-	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(3.1)	(13.7)
Closure Costs Net Salvage	**$ M**	**-**	**(10.0)**	**(10.0)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**	**0.6**	**(10.0)**
Working Capital																						
Working Capital	$ M	(7.6)	7.6	-	-	-	(7.6)	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	-
Cash Flows																						
Net Pre-Tax Cashflow	**$ M**	**(386.6)**	**2,467.2**	**2,080.6**	**(52.6)**	**(201.3)**	**(132.7)**	**194.5**	**219.2**	**196.1**	**173.1**	**209.1**	**197.5**	**192.5**	**193.8**	**176.1**	**161.9**	**187.3**	**152.3**	**147.8**	**76.0**	**(10.0)**
Cum. Pre-Tax Cashflow	$ M				(52.6)	(253.9)	(386.6)	(192.2)	27.0	223.1	396.2	605.3	802.9	995.3	1,189.2	1,365.3	1,527.2	1,714.5	1,866.8	2,014.6	2,090.6	2,080.6
Taxes	$ M	(2.0)	(634.2)	(636.2)	(0.3)	(0.9)	(0.8)	(19.1)	(46.2)	(37.4)	(30.1)	(43.1)	(60.9)	(61.2)	(62.5)	(54.9)	(50.7)	(60.7)	(49.9)	(48.4)	(9.1)	-
Net After-Tax Cashflow	**$ M**	**(388.6)**	**1,833.0**	**1,444.4**	**(52.9)**	**(202.2)**	**(133.5)**	**175.4**	**173.0**	**158.7**	**143.0**	**166.0**	**136.6**	**131.2**	**131.3**	**121.2**	**111.3**	**126.6**	**102.4**	**99.4**	**66.9**	**(10.0)**
Cum. After-Tax Cashflow	$ M				(52.9)	(255.1)	(388.6)	(213.2)	(40.2)	118.5	261.4	427.4	564.0	695.3	826.6	947.8	1,059.1	1,185.7	1,288.1	1,387.5	1,454.4	1,444.4

23.4 ECONOMIC SENSITIVITIES

To assess Project value drivers, sensitivity analyses were performed for the NPV and IRR. The results of this analysis are shown in Figure 23.2 and Figure 23.3. The Project proved to be most sensitive to changes in the metal pricing and gold grades, and least sensitive to changes in exchange rate.

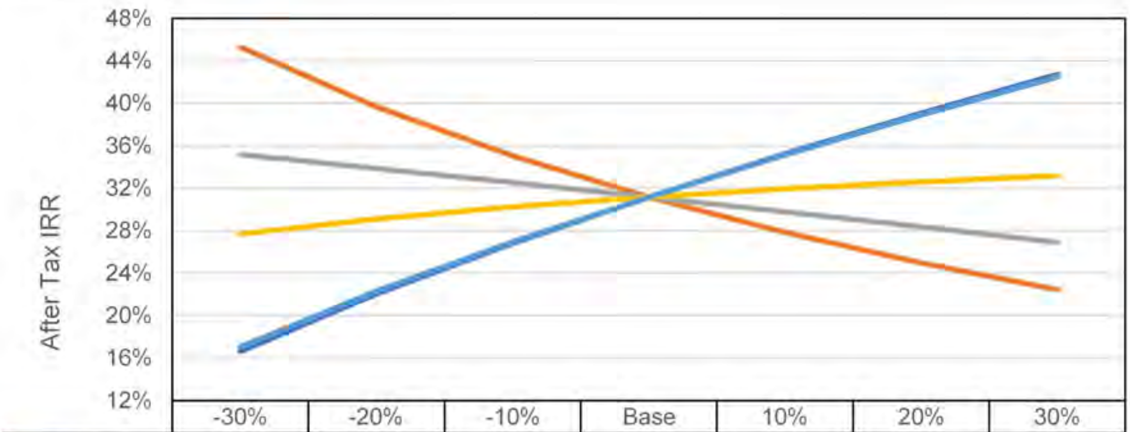
Figure 23.2 After-Tax NPV5% Sensitivities



	-30%	-20%	-10%	Base	10%	20%	30%
Price	320	501	681	860	1 040	1 219	1 398
CAPEX	1 030	974	917	860	804	747	690
OPEX	1 041	981	920	860	800	740	680
FX	764	804	835	860	881	898	912
Au Grade	333	510	685	860	1 035	1 211	1 386

Source: JDS, 2016

Figure 23.3 After-Tax IRR Sensitivities

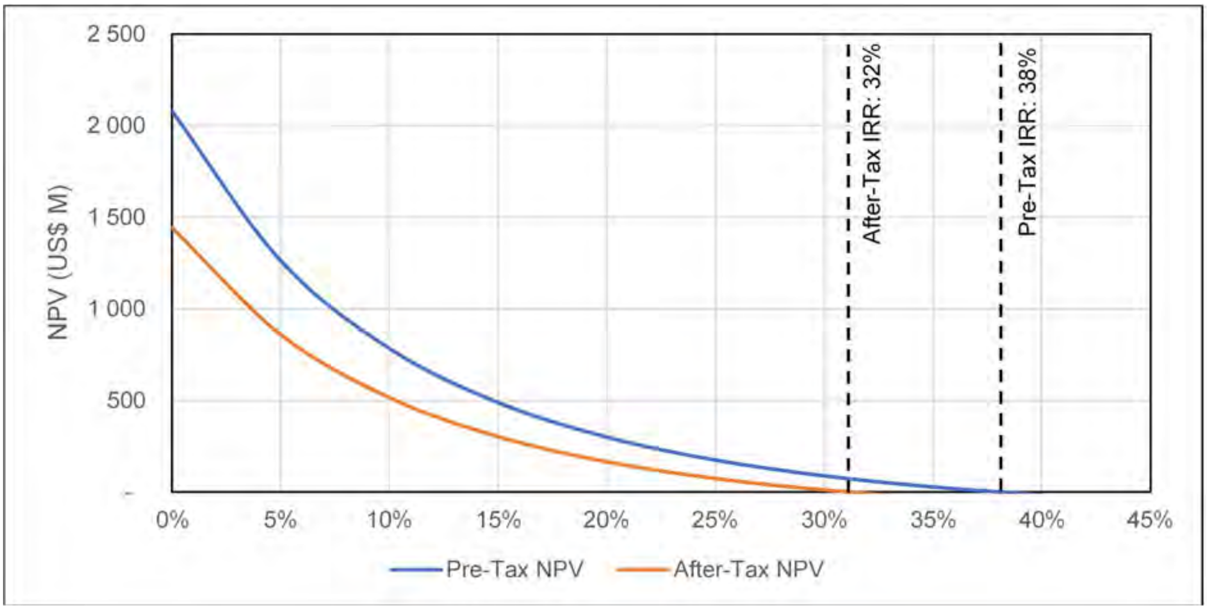


	-30%	-20%	-10%	Base	10%	20%	30%
Price	16,6%	22,0%	26,8%	31,2%	35,2%	39,1%	42,7%
CAPEX	45,3%	39,7%	35,0%	31,2%	27,8%	25,0%	22,4%
OPEX	35,2%	33,9%	32,5%	31,2%	29,8%	28,3%	26,9%
FX	27,7%	29,1%	30,2%	31,2%	31,9%	32,6%	33,2%
Au Grade	17,0%	22,3%	26,9%	31,2%	35,1%	38,9%	42,5%

Source: JDS, 2016

Figure 23.4 presents the pre-tax and after-tax NPV profile for the Project, showing the sensitivity of discount rates against the NPV.

Figure 23.4 Discount Rate Sensitivity on NPV



Source: JDS, 2016

23.5 Economic Model Inputs

23.5.1 Mine Production

Gold and silver bearing ore will be mined from two distinct zones: Veta Sur and Yaraguá.

Table 23.4 Mine Production Summary

Parameter	Unit	Zona Veta Sur	Zona Yaraguá	Combined
Mine Life	years	13.8	13.8	13.8
Extracted Ore	tonnes	4,887,000	8,829,000	13,717,000
Contained Gold	troy ounce	1,524,000	2,186,000	3,710,000
Contained Silver	troy ounce	4,420,000	6,299,000	10,719,000
Average Gold Grade	grams/tonne	9.7	7.7	8.4
Average Silver Grade	grams/tonne	28.1	22.2	24.3

23.5.2 Plant Production

The mineral processing plant employs a common process design of crushing, grinding, gravity concentration, cyanide leach, counter-current decanting, Merrill-Crowe and on-site refining to produce doré bars.

Recovery inputs are based on test-work performed, gold and silver grades, and relationships to associated metals. As such, metal recoveries vary through the mine life as different zones are mined and processed.

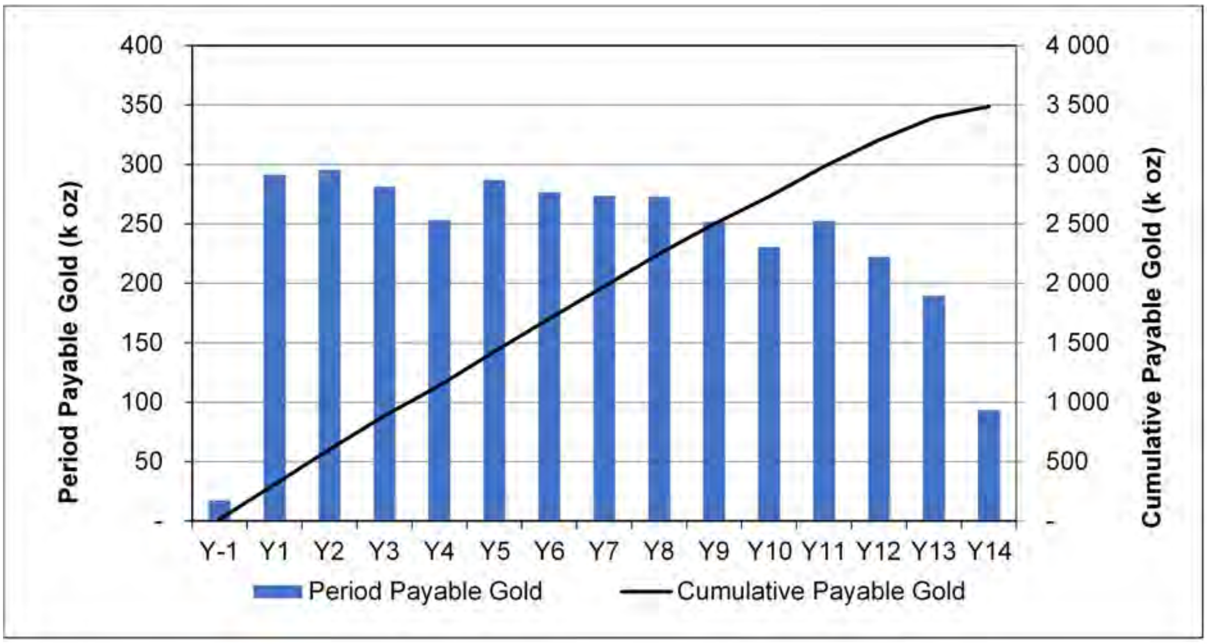
Table 23.5 presents the key plant production parameters, and resulting recovered metals.

Table 23.5 Plant Production Summary

Parameter	Unit	Value
Ore Processed	tonnes	13,717,000
Gold Processed	troy ounce	3,710,000
Silver Processed	troy ounce	10,719,000
Average LOM Gold Recovery	%	94
Average LOM Silver Recovery	%	60
Gold Recovered	**troy ounce**	**3,492,000**
Silver Recovered	troy ounce	6,425,000
Non-Precious Metals Produced	troy ounce	712,000

The processing plant will initially operate at a rate of 2,100 tonnes per day, increasing to 3,000 tonnes per day by Year 3. The process plant is initially constructed to achieve a 3,000 tonne per day throughput (there is no requirement for a plant expansion during operations). Plant throughput early in the mine life is limited by the underground mine production; however, higher than average grades are mined early in the mine life, so gold recovery is highest in Year 1 and 2, despite the lower processing rate.

Figure 23.5 Gold Production Schedule



Source: JDS, 2016

23.5.3 Revenues and NSR Parameters

Revenues

Annual revenue is determined by applying estimated metal prices to the annual payable metals estimated for each operating year. Sales prices have been applied to life of mine production without escalation or hedging. The revenue is the gross value of payable metals before refining charges and transportation charges. Metal sales prices used in the base case evaluation are $1,200/ounce for gold and $15.00/ounce for silver.

NSR Parameters

Table 23.4 presents the NSR parameters used in the model. As mentioned in Section 19, no contractual arrangements for shipping or refining exist at this time; however, the refining terms have been validated by third party subject area experts and deemed appropriate.

Table 23.6 Smelter Terms

Parameter	Unit	Value
Payable Gold	%	99.9
Payable Silver	%	99.7
Refining Charge	$/ounce	0.83
Assay Charges	$/shipment	604
Transportation Costs		
Assumed Shipments per Year	# shipments	24
Basic Shipment Charge	$/shipment	1,830
Helicopter Charge	$/shipment	2,043
Weight Charge	$/kg	9
Customs Fees	$/shipment	564
Insurance Costs		
Insurance & Safekeeping	$/$1000	0.34

Source: JDS, 2016

23.5.4 Royalties

The Project is subject to royalty payments, which have been considered in the economic evaluation. Royalty payments are calculated at 3.20% of the value of the recovered metal; the life of mine royalty payments are estimated to be $137.2 M.

23.5.5 Capital Costs

Section 21 of the FS report presents the details and basis of the initial and sustaining cost estimatesTable 23.7 summarizes the capital costs within the model. Pre-production capital costs occur over a 35 month period prior to commercial production; sustaining capital occurs during Year 1 through 14 of operations

Table 23.7 Capital Cost Summary

Parameter	Pre-Production ($)	Sustaining ($)	Total ($)
Site Development	10.9	-	10.9
Underground Mining	86.5	178.3	264.8
Processing Plant	97.6	11.6	109.2
Tailing & Waste Rock Management	7.7	16.1	23.8
Off-Site Infrastructure	10.0	12.7	22.7
On-Site Infrastructure	45.3	18.7	64.0
Project Indirect Costs	28.5	9.1	37.5
Engineering & EPCM	27.8	0.6	28.4
Owners Costs	21.8	4.3	26.1
Taxes (VAT/IVA)	17.7	14.0	31.7
Contingency	35.4	7.0	42.4
Total	389.2	272.5	661.7

All pre-development and sunk costs (i.e. exploration and resource definition costs, engineering fieldwork and studies costs, environmental baseline studies costs, etc.) are excluded from the capital cost figures; however, pre-development and sunk costs are utilized in tax calculations.

23.5.6 Operating costs

Section 22 of the FS report presents the details and basis of the operating cost estimate. Table 23.8 summarizes the operating costs within the model.

Table 23.8 Operating Cost Summary

Sector	Average $ M/year	Life of Mine $ M	$/t processed
Underground Mining	56.3	784.7	57.21
Processing	25.8	358.8	26.16
General & Administration	13.9	193.8	14.13
Corporate Management Fee	3.0	41.3	3.01
Total Mine Operating Costs	99.0	1,378.6	100.50

23.5.7 Salvage Value

Much of the capital equipment brought to site will have some resale value even at the end of mine life.

Table 23.9 presents a summary of the purchase price of the equipment and the expected resale value after considering the costs of disassembly. These costs are included as a credit to the Project at the end of the mine life (Year 14 & 15).

Table 23.9 Salvage Value Estimate

Sector	Capital Costs ($ M)	Estimated Residual Value	Cash Value ($ M)
Underground Mining Equipment	81.4	5%	4.1
Processing Equipment (1)	10.1	10%	1.0
Paste Backfill Equipment	1.8	5%	0.1
Power Generation Station	1.2	25%	0.3
Ancillary Buildings	8.0	2%	0.2
Assay Lab Equipment	0.9	10%	0.1
Effluent Treatment Plant	17.1	5%	0.9
Aerial Tram Components	7.1	5%	0.4
Surface Equipment Fleet	10.5	5%	0.5
Total	138.2		7.5

Note 1: Includes only select equipment: crushers, grinding mills, and pressure filters

Source: JDS, 2016

23.5.8 Reclamation & Closure

Reclamation and closure activities are described in Section 20. Table 23.10 summarizes the closure costs within the model. Progressive reclamation activities (the TSF soil cover) occur between Year 5 and Year 14. Demolition and closure activities occur at the end of Year 14 and into Year 15. Ongoing monitoring and maintenance activities are largely incurred between Year 15 and Year 20, with the exception of ongoing water treatment, which has been assumed to continue in perpetuity.

Table 23.10 Reclamation & Closure Cost Summary

Category	Total Cost ($ M)	%
Progressive Closure (activities occurring during operations)	0.8	5
Demolition & Closure	8.6	49
Ongoing Monitoring & Maintenance	8.0	46
Total	17.5	100

Source: JDS, 2016

Reclamation & closure Basis of Estimates

The reclamation and closure costs are based on the following key execution strategies:

- Installation of the TSF soil cover will be performed progressively, as areas of the TSF reach capacity during operations
- Demolition and re-contouring activities will take place over a five month period directly following the completion of operations
- CGI owned surface construction equipment will be used as appropriate (small excavator, haul trucks, and wheel loader); contractor equipment will be used to supplement the owner fleet with larger demolition equipment.

Contractor personnel will operate the demolition equipment.

Table 23.11 Basis of Closure Cost Estimate

Tax Category	Estimate Basis
Demolition Schedule	• The closure schedule is estimated, based on the required trucking hours to remove/dispose of demolished items, with an allowance for re-contouring and mobilization/demobilization
Equipment	• Owner equipment operating costs were estimated as per the operating cost basis of estimate. Contractor equipment costs were estimated using rates from local contractors. Fuel requirements were estimated based on operating hours and delivered fuel commodity rates from the capital estimate
Labour	• Owner labour costs were estimated as per the operating cost basis of estimate. Contract labour costs were estimated at the blended rate as calculated in the initial capital estimate
Waste Disposal/Removal	• The estimate assumes that no on-site landfill will be available • It is assumed that the value of salvageable materials will offset the cost of hauling. • An allowance of 10,000 tonnes of solid waste removal and 2,000 tonnes of hazardous waste removed is included
Portal Plugs	• Costs are included for engineering investigations/reports prior to construction • Construction and quality assurance costs are based on similar projects with similar vertical extents
Water Treatment	• Ongoing water treatment (at low flow levels) is assumed to continue forever • Annual costs of \$250k/year are applied at a 5% discount rate, equating to a lump sum cost of \$4,960k at the end of the mine life
Indirect Costs	• Costs were calculated based on the level of effort required to perform the site closure activities; estimated per the same basis of estimate parameters as the initial capital estimate
Monitoring/Maintenance	• Conservative cost allowances were used based on similar projects
Re-vegetation	• Costs were estimated using historic pricing of seed and seedlings with an assumed 50% re-seeding rate

23.5.9 Working Capital

A \$7.6 M working capital allowance for the purchase and storage of consumables inventory is assumed incurred once the Project begins processing ore (end of Year -1). This value is equivalent to approximately one month of total operating costs. Working capital is recaptured at the end of the mine life and the final value of the account is \$0.

23.5.10 Taxes

The tax calculations in the financial model are based on the current tax laws, most notably, Colombian Tax Reform Law 1739 of December 23, 2014.

Gross Income

The gross income is calculated from the pre-tax financial model as the difference between the value of payable metals, and all operating expenses (including operating, refining, transportation, and royalty costs).

Tax Deduction

Tax deductions are used to adjust the Projects gross income and determine the actual taxable income. The following items are applied to the tax model as deductions:

- A loss carry forward of COP\$81.1B (or \$28.5 M at a 2850:1 exchange rate), provided by CGI.
- 50% of the financial transactions tax paid in the same tax year.
- Excesses of presumptive income calculations from previous tax years.
- Tax depreciation.

Tax Depreciation

Tax depreciation is used to gradually charge capital assets as expenses over their useful life and reduce the taxable income reported in a period.

Existing Assets

Sunk costs are used in the depreciation calculations to offset early mine revenues for income tax calculations. Table 23.12 presents the buildup of existing assets, the assumed usable lives, and the depreciation methods employed.

Table 23.12 Depreciation of Existing Assets

Sector	Asset Value ($ M)	Usable Life (years)	Depreciation Method
Exploration & Deferred Development Costs	140.4	5	Straight line
Mining License Costs	7.3	14	Straight line
Pre-Production Construction & Buildings	1.2	16	Declining balance
Pre-Production Machinery & Equipment	3.3	6	Declining balance
Other Pre-Production	0.8	3	Straight line
Other Buildings	9.9	20	Declining balance
Other Machinery & Equipment	1.8	10	Declining balance
Total	164.6		

New Assets

Table 23.13 presents the categories of constructed capital assets, and the various treatments of the total capital costs of each within the financial model.

- A total of $28.1 M of incurred VAT is directly recovered by means of corporate income tax credits
- A total of $7.5 M is directly recovered at the end of the mine life through the salvage value calculation
- After consideration of the VAT credits and salvage value, a total of $626.2 M of residual asset value is depreciated over the life of the mine, using the methods described.

Table 23.13 Depreciation of New Assets

Sector	Capital Cost ($ M)	VAT Credits ($ M)	Salvage Value ($ M)	Net Depreciated ($ M)	Life (year)	Depreciation Method
Investments (Non-Eqp.)	307.3	-	-	307.3	5	Straight line
Mobile Equipment	116.4	14.7	4.6	97.1	5	Declining balance
Other Equipment	218.7	11.1	2.7	204.8	10	Declining balance
Buildings	19.4	2.3	0.2	16.9	20	Declining balance
Total	661.7	28.1	7.5	626.2		

Presumptive Income

Colombian law dictates that a corporation must pay a minimum amount of tax based on “Presumptive Income”, which is calculated as 3% of non-mining assets (overhead and cash).

Net Income and Taxable Income

Net income is calculated as gross income minus (or plus) tax deductions.

By Colombian tax law, taxable income is determined as the greater of the net income or the presumptive income.

Tax paid against presumptive income can be recovered in later tax years through the application of "presumptive income excesses". Presumptive income only effects the model in the pre-production years, when the operation is not producing product. All tax paid against presumptive income is then recovered in Year 1 of operations.

Tax Rates and Taxes Paid

Table 23.14 presents the basis of calculation for the various Colombian taxes, as well as the total tax paid by the Project within each category.

Table 23.14 Payable Taxes & Basis

Tax Category	Tax Rate & Basis Applied	Total Tax Paid ($ M)
Corporate Income Tax (CIT)	25.0% of taxable income Equipment VAT paid in the pre-production phase is applied as a tax credit in Year 1 Equipment VAT paid in the operation phase is applied as a tax credit in the year the equipment is purchased	454.2
Equality Tax (CREE)	9.0% of all taxable income The following CREE premiums apply for incomes above $280,000: 8.0% in Year -3 9.0% in Year -2 The CREE premium is scheduled for termination in Year -1 (2019) Tax credit carry forward (before construction) are applied as a tax credit in Year 1	173.8
Financial Transactions Tax	0.4% of all refining, OPEX, pre-production CAPEX, and sustaining CAPEX costs.	8.2
Wealth Tax	Wealth Tax is not included in the tax model, as (per Law 1739) Wealth Tax will be dissolved in 2018 (prior to the start of Operations).	-
Total Taxes Paid		636.2

Note 1: "Total Tax Paid" is net of all applicable tax credits

Source: JDS, 2016

24 ADJACENT PROPERTIES

There are no adjacent properties to those held by CGI that are considered relevant to this technical report.

25 OTHER RELEVANT DATA AND INFORMATION

25.1 PROJECT EXECUTION & DEVELOPMENT PLAN

25.1.1 Introduction

The Buriticá Project Execution Plan (PEP) includes the project development strategies that were considered for the FS capital cost estimate and project schedule, and describes the framework for organizing the engineering, procurement, and construction phases.

The PEP preparation criteria include:

- Promote safety in design, construction, and operations;
- Incorporate fit-for-purpose designs, constructions, and operations;
- Establish permanent infrastructure early, to the extent practical, to minimize costs of temporary construction facilities;
- Negotiate contracts with suppliers, contractors, and engineers with proven track records in Latin American mine developments; and,
- Eliminate surplus management overhead and project oversight.

25.1.2 Project Execution Locations

CGI currently operates a corporate office in Medellín. This office is only used as a hub for project meetings as required; project and operations management are at site. Detail design has been performed by firms specializing in engineering for mining and milling project. The work has largely been performed outside Colombia. Engineering and procurement as well as construction management contracts have been awarded to oversee engineering, procurement and construction management.

The majority of personnel are based at the Project site to avoid the need for large satellite offices. Contractor camp facilities are established within the project site to reduce outside transport and disruption to local communities.

25.1.3 Project Development Schedule Overview

A resource-loaded level 3 project schedule was developed for the Project, using the capital cost estimate as the basis for on-site man-hours to establish activity durations.

Table 25.1 presents the Buriticá Project summary (level 1) schedule.

The critical path for the Project runs through the detailed engineering and construction activities related to the processing facilities. Other critical activities include construction of Phase 1 (initial access) Main Access Road, site preparations (earthworks and temporary facilities), and the water treatment plant installation. The main access road and site preparation have been completed and the water treatment plant installation is currently in progress.

Table 25.1 Project Summary Schedule

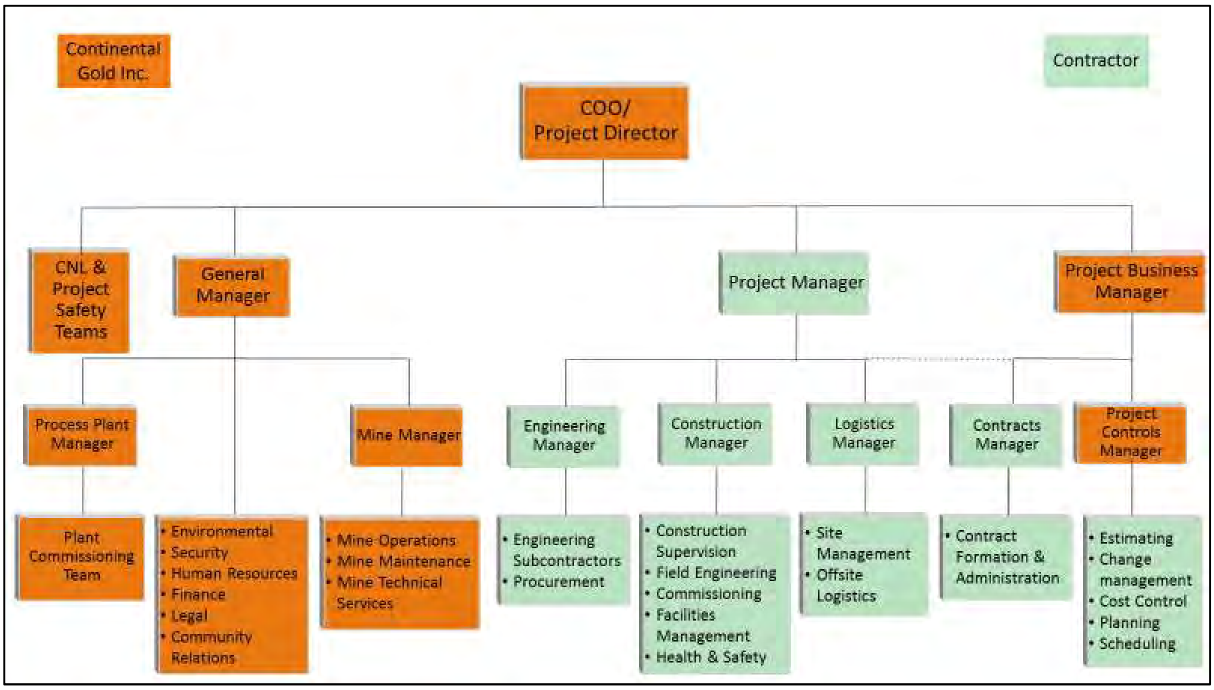
Activity	'16	2017				2018				2019				2020			
	Q4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Detailed Engineering																	
Site Earthworks & Tailing Facility																	
Mine Infrastructure																	
Process and Infrastructure																	
Major Procurement																	
Engineering Contract Formation																	
Construction Contract Formation																	
Major Equipment Procurement																	
Major Equipment Fab/Delivery																	
Construction																	
13.8kV Power Line																	
Site Access Road																	
Tailing & Waste Rock Facility																	
Contact Water Treatment Plant																	
Plant Site Earthworks																	
Ancillary Buildings																	
110kV Power Line																	
Process Facilities																	
Paste Plant																	
Underground Pre-Production Mine Development																	
Commissioning																	
Plant Commissioning & Ramp-Up																	
Commercial Production																	

25.1.4 Project Management

Organization & Responsibilities

The Project Management Team (PM Team) is an integrated team comprised of Owner's personnel, the EP & CM Contractors, and various engineering sub-contractors. The PM Team oversees and directs all engineering, procurement, and construction activities for the Project. Figure 25.1 presents a representative organization chart.

Figure 25.1 Project Management Team Organization Chart



Senior Project Management

Overall delivery of the Project to the defined metrics will be the responsibility of the CGI Project Director. The Project Director provides high-level direction to the project management (PM) Team, including EP & CM Contractors and Owner's Pre-Operational team responsible to manage and execute Project activities.

The Project Manager is responsibility for executing Project activities, including detailed engineering, procurement, logistics and construction. The Project Business Manager oversees Project Controls, and a separate commissioning team will be responsible for commissioning and start-up, and to support early production.

Owners Operations Team

A portion of the Owner's Operations team was mobilized during the Project development phase for functions required over the life of mine (i.e. not limited to construction support):

- Mining operations, including maintenance;
- Environmental;
- Security;
- Accounting;
- Community Relations;
- Human Resources;
- Site Services; and
- Site Purchasing.

Engineering Team

The Engineering Manager is responsible to oversee, coordinate, and integrate Engineering activities. The engineering team includes various engineering sub-contractors, who finalized detailed designs and specifications for the Project, and then transitioned to the field to provide QA, field engineering, and commissioning support.

Procurement Team

The Engineering Manager is responsible to oversee and manage Procurement activities undertaken by engineering contractors (formation and administration of engineering and construction contracts will be overseen and managed by the Contracts Manager). The procurement/logistics team used the prepared engineering design packages to obtain competitive tenders, and secure vendors and construction contractors to provide the appropriate equipment, goods and services.

Logistics Team

The Logistics/Materials Manager is responsible to oversee and coordinate all logistics activities. The logistics team will determine and coordinate the best methods for material and equipment movements, as well as people to, from, and at the Project site.

Construction Management Team

The Construction Manager is responsible to lead construction management team (CM Team) and for construction safety, progress, and quality. The CM Team coordinates and manages all site activities to ensure construction progresses on schedule and within budget.

Commissioning Team

The Commissioning Manager will oversee the commissioning team, and be responsible for the timely handover of process and infrastructure systems to the Owner once construction activities have been substantially completed. The commissioning team will be supported by discipline engineering resources to complete pre-commissioning activities and obtain technical acceptance and transfer care, custody, and control of completed systems to the Owner.

Project Controls Team

The Project Business Manager oversees the Project Controls team, and is responsible for the development, implementation, and administration of the processes and tools for project estimating, cost control, planning, scheduling, change management, progressing, and forecasting as well as contracting.

Project Procedures

A Project Procedures Manual was developed which outlines standard procedures for site construction. This document focusses on the interfacing between the Owner, the EP, CM, and engineering contractors, and addresses delegation of authority, change management, procurement workflows, quality assurance, and reporting standards.

There is no other relevant data and information to disclose that makes the Technical Report not misleading.

26 INTERPRETATION AND CONCLUSIONS

Results of the 2016 Feasibility Study demonstrated that the Buriticá Project warranted development due to its positive, robust economics.

It is the conclusion of the QPs that the FS summarized in this technical report contains adequate detail and information to support a feasibility level analysis. Standard industry practices, equipment and design methods were used in this Feasibility Study and except for those outlined in this section, the report authors are unaware of any unusual or significant risks, or uncertainties that would affect Project reliability or confidence based on the data and information made available.

For these reasons, the path going forward must continue to focus on advancing key activities that will reduce project execution time.

Risk is present in any mineral development Project. Feasibility engineering formulates design and engineering solutions to reduce that risk common to every Project such as resource uncertainty, mining recovery and dilution control, metallurgical recoveries, political risks, schedule and cost overruns, and labour sourcing.

Potential risks associated with the Buriticá Project include:

- **Environmental Permit Modification –** The Company has obtained the necessary amendments and modifications to the environmental license. This includes authorization to increase exploitation volumes to 3,200 tonnes/day, and build new infrastructure for mineral processing and tailing management consistent with the approved PTO (Works & Investment Plan; the mine plan). In the previous Technical Report (November 30, 2016), this environmental permit modification, had not yet been approved. All environmental licenses and authorizations are now completed, and no further amendments or modifications are necessary for the Company to proceed as presented within this technical report.
- **Reserve** - A potential unknown identified by the QP is the extent of unauthorized and illegal mining activities in the Yaraguá and Veta Sur areas. Unauthorized mining activities have been discovered, on occasion, adjacent to Continental's underground workings in the Yaraguá and Veta Sur deposits. In late July 2015, CGI surveyed the extent of unauthorized mine workings in areas that were accessible. These areas are excluded from the Mineral Reserves; however, the extent of impact in the upper areas of the reserve may not be fully quantified.
- **Groundwater** - Groundwater below the Higabra level has been modelled, but with some uncertainty. The extent, to which the inflow estimates are realized, required that the development plan addresses mitigating variation. Increases in the actual amount of groundwater encountered would impact development costs. Drilling for drainage, and operational definition drilling included in the mine plan will help to identify specific water bearing zones with higher than expected flows and establish control and/or management procedures. As well, initiating certain development earlier in the mine life to allow more time for dewatering may prove cost effective.
- **Stability of natural slopes** –The steep topography, high rainfall, and seismic hazard level in the Higabra Valley suggests the potential for mass movements and remnants of past events are evident. The access road, power lines, and facilities located in the valley bottom would be at risk. CGI has undertaken slope deposit mapping (based partly on ultra-high resolution LiDAR, topography and surface morphologies) and geotechnical studies throughout all areas of current planned infrastructure in the Buriticá Project and has concluded that risks from major mass movements are acceptable.
- **Comminution** – The wall rock is much harder than the vein material and it appears that increased waste rock in the metallurgical samples increases the comminution parameters. Grade control and proper mining execution when implemented will maintain minimal unplanned dilution, which would minimize potential impacts on grade, throughput, and operating costs. Continued test stoping at Yaraguá mine will help to verify dilution estimates.
- **Plant Feed Blend** - Determination of the amount of feed to the plant that contains increased levels of arsenic and other deleterious elements, including copper needs to be refined, particularly from Veta Sur where it indicates a decrease in the gold recovery. It is recommended that additional study applying the variability data to date and geometallurgical models be used to optimize mine production scheduling and blending techniques to more fully understand and possibly improve gold recovery.
- **Geomechanical Conditions –** Comprehensive studies were done to accurately estimate anticipated ground conditions. There is a risk that a larger percentage of the ore must be extracted using C&F rather than the longhole method resulting in higher costs. If this situation were to occur, the sensitivity analyses show that Buriticá Project economics continue to justify development of the mine and mill.

The FS has highlighted several opportunities to increase mine profitability and project economics, and reduce identified risks.

- **Inferred Resources** – Inferred resources are not included in the production schedule; however, a plan to infill drill specific areas could add significant value to the Mine Plan and improve the Project economics. Operational definition drilling will test inferred resources as part of the production sequence. Identification of additional resources will have a compounding positive effect in that the development per ore tonne will be decreased as well as vertical mining advance rates. Additionally, mine plans for specific areas, such as those below the Higabra level would change dramatically with the addition of resource, by allowing more methodical mining below the Higabra and reducing development and water handling costs by allocating over a larger reserve base.
- **Mine Grade Strategy** – Cut-off grade trade-off evaluations indicated that a COG higher than the 2016 Feasibility Study values of 3.8 g/t for Yaraguá and 4.0 g/t for Veta Sur could provide equal or better project economics. In-depth mine design and scheduling would be required to validate any potential benefits, and to determine if an alternative plan with higher early year COG would provide increase upfront cash flow and decrease risk without diminishing the mineable resource. The mining strategy is flexible and depending on market conditions at the time of commissioning, opportunity exists to adjust the mine plan.

- **Alternative TSF construction material** – Stability considerations require that a binder be used to increase TSF stability due to a limited supply of development waste rock. Alternative material for buttress and cover could be sourced from an optimized TSF foundation excavation design. Engineering to determine the best excavated material balance compared to binder addition may result in significant cost savings.

27 RECOMMENDATIONS

The Buriticá Project as evaluated in the 2016 Feasibility study exhibited robust economics at the estimated gold price, COP exchange rate, and consumables pricing. Project construction is estimated to be approximately 50% complete and many potential risks identified in the Feasibility Study have been addressed or mitigated during construction activities to date.

During initial project construction many of the Feasibility Study recommendations have been implemented including infill drilling and early mine development. These efforts provided additional information with which to update geologic modelling, geologic interpretation and revise resource estimation parameters. The resultant resource block models formed the basis of mineral resources as reported on January 30, 2019.

Updates and optimization of the Mine plan and ore reserve development design are underway using the 2019 resource block models.

Recommendations are as follows:

- Inferred Resources are not included in the production schedule. CGI should maintain its' efforts to improve confidence in these resources, as they could potentially add significant short-term value to the project.
- Complete the updated life of mine plan, ore reserve development design, stoping schedule, and estimate of project capital and operating costs in order to issue an updated reserves statement.
- Schedule production from the mine to minimize negative effects on metal recovery and process operating costs from elements such as copper contained in certain ore sources.
- Perform trade off studies to identify and exploit economic opportunities such as cut-off grade optimization and material handling efficiencies.
- Update the financial model and project economic analysis using results from the updated mine plan and revised capital and operating cost estimates.
- Issue an updated NI 43-101 Buriticá Mineral Reserve report that updates the projected economic performance of the Buriticá project.

28 REFERENCES

Aerne, U.M., and Kretz, P.D., 2014, Magmatic and Hydrothermal Evolution of the Buritica Carbonate Base Metal Gold Deposit, Antioquia Department, Colombia. Unpublished MSc Thesis: Swiss Institute of Earth Sciences and Technology. Zurich.

Base Metallurgical Laboratories Ltd. (BaseMet), Kamloops, Canada, January 2016, Metallurgical Testing to Support a Feasibility Study of the Buriticá Project BL0047;

Cediel, F., Shaw, R.P., and Cáceres, C., 2003, Tectonic assembly of the northern Andean block: American Association of Petroleum Geologists Memoirs, v. 79, p. 815–848.

Corbett, G.J., and Leach, T.M., 1998, Society of Economic Geologists special publication number 6, Southwest Pacific Rim Gold-Copper Systems: Structure, Alteration, and Mineralization: pp 1-236.

Correa, T., Obando, M., Zapata, J.P., Rincon, A., Ortiz, F., Rodriguez, G., Cetina, L., 2018. Geologia del Borde Occidental de la Plancha 130 Santa Fe de Antioquia. – Memoria Explicativa. Servicio Geologico Colombiano, Medellin.

Economic Geology Consulting (EGC), Reno, Nevada, July 2012, Mineralogy of Metallurgical Samples BUMM-001 through BUMM-004;

Ego, F., Sébrier, M., and Yepes, H., 1995, Is the Cauca-Patia and Romeral fault system left- or right-lateral?: Geophysical Research Letters, v. 22, p.33–36.

FLSmidth Knelson, Langley, Canada, October 2012, Gravity Modeling Report

Gekko Global Cyanide Detox Group (Gekko), Ballarat, Victoria, Australia, April 2014, Continental Gold – Buriticá Project Detox Test work Report.

Hazen Research, Inc. (Hazen), Golden, Colorado, June 2012, Comminution Testing;

Kemetco Research Inc. (Kemetco), Vancouver, Canada, November 2015, Buriticá Tails Detoxification;

JKTech Pty Ltd. (JKTech), Santiago, Chile, September 2013, JKDW & SMC Test Report

Lesage, G., Richards, J.P., Muehlenbachs, K., and Terry, L., 2013, Geochronology, Geochemistry, and Fluid Characterization of the Late Miocene Buriticá Gold Deposit, Antioquia Department, Colombia: Economic Geology, v. 108, pp. 1067–1097.

METCON Research Inc. (Metcon), Tucson, Arizona, August, 2011 Buriticá Project, Metallurgical Study (Q770-03-028.01);

Mining Associates Ltd., Independent Technical Report And Resource Estimate On The Buriticá Gold Project 2015, Buriticá Gold Project, Colombia, May 2015

McClelland Laboratories Inc. (McClelland), Sparks, Nevada, May, 2013, Report on Metallurgical Testing, Scoping Laboratory Cyanide Leach, Flotation & Gravity Test work Results;

M3, NI 43-101 Technical Report Preliminary Economic Assessment, Antioquia, Colombia, November 17, 2014

Montgomery & Associates (Montgomery and Associates (December 2015, updated in 2016)

Pocock Industrial Inc. (Pocock), Salt Lake City, Utah, March–April 2013, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration and Pressure Filtration Study for Buriticá Project.

Pocock Industrial Inc. Salt Lake City, Utah, January 2014, Sample Characterization, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration with Wash and Pressure Filtration with Wash Study for Continental Gold, Buriticá Project Leach Residue.

Pocock Industrial Inc. Salt Lake City, Utah, March 2014, Sample Characterization, Flocculant Screening, Gravity Sedimentation, Pulp Rheology, Vacuum Filtration with Wash and Pressure Filtration with Wash Study for Continental Gold, Buriticá Project Leach Fines.

SGS Mineral Services (SGS), Lima, Peru, January 2014, Report on Metallurgical Testing, Comminution, Cyanide Leach Optimization and Variability, Flotation & Gravity Test work Results.

Sillitoe, R.H., and Hedenquist, J.W., 2003, Linkages between volcanotectonic settings, ore-fluid compositions, and epithermal precious metal deposits: Society of Economic Geologists Special Publication, v. 10. p. 315-343.

Terra Mineralogical Services Inc. (Terra), Ontario, Canada, September 2015, Determination of Gold Deportment in One Metallurgical Test Leach Residue Sample from Buriticá Gravity Tail;

Transmin Metallurgical Consultants (Transmin), March 2014, TM 627 Buriticá Reporte Metalurgico, Estudio De Pre-Factibilidad PFS.

The Center for Advanced Mineral & Metallurgical Processing, Montana Tech of the University of Montana (Montana Tech), Butte, Montana, April 2014, MLA Characterization of Ore Samples from the Buriticá Project.

29 UNITS OF MEASURE, ABBREVIATIONS AND ACRONYMS

1.1 UNITS OF MEASURE, ABBREVIATIONS AND ACRONYMS

Unit of Measure, Abbreviations and Acronyms	
actual cubic feet per minute	Acfm
ampere	A
annum (year)	a
bed volumes per hour	BV/h
billion	B
billion tonnes	Bt
billion years ago	bya
billions of years	Ga
British thermal unit	BTU
centimetre	cm
centipoise	cP
cubic centimetre	cm^3
cubic feet per minute	cfm
cubic feet per second	ft^3/s
cubic foot	ft^3
cubic inch	in^3
cubic metre	m^3
cubic metres per hour	m^3/h
cubic metres per minute	m^3/m
cubic metres per second	m^3/s
cubic metres per year	m^3/a
Cubic yard	yd^3
day	d
days per week	d/wk
days per year (annum)	d/a
dead weight tonnes	DWT
decibel adjusted	dBa
decibel	dB
degree	°
degrees Celsius	°C
diameter	ø
dollar (American)	$
dollar (Canadian)	C$
dry metric tonne	dmt

Unit of Measure, Abbreviations and Acronyms	
environmental impact assessment	EIA
foot	ft
gallon (US)	gal
gallons per minute (US)	gpm
Gigajoule	GJ
Gigapascal	GPa
Gigawatt	GW
gram	g
grams per litre	g/L
grams per tonne	g/t
hectare (10,000 m^2)	ha
hertz	Hz
horsepower	hp
hour	h
hours per day	h/d
hours per week	h/wk
hours per year	h/a
hydraulic conductivity	K
inch	in
kilo (thousand)	k
kilogram	kg
kilograms per cubic metre	kg/m^3
kilograms per hour	kg/h
kilograms per square metre	kg/m^2
kilometre	km
kilometres per hour	km/h
kilopascal	kPa
kilotonne	kt
kilovolt	kV
kilovolt-ampere	kVA
kilowatt	kW
kilowatt hour	kWh
kilowatt hours per tonne	kWh/t
kilowatt hours per year	kWh/a
litre	L
litres per minute	L/min
litres per second	l/s
megabytes per second	Mb/s
megapascal	MPa

Unit of Measure, Abbreviations and Acronyms	
megavolt-ampere	MVA
megawatt	MW
Megawatt hours per year	(MWhr/a)
metre	m
metres above mean sea level	mamsl
metres above sea level	masl
metres below-ground surface	mbgs
metres below sea level	mbsl
metres per day	m/d
metres per minute	m/min
metres per percussion hour	m/hr
metres per second	m/s
microns	µm
milligram	mg
milligrams per litre	mg/L
millilitre	L
millimetre	mm
million	M
million bank cubic metres	Mbm^3
million bank cubic metres per annum	Mbm^3/a
million ounces	Moz
million tonnes	Mt
Million years	Ma
minute (plane angle)	'
minute (time)	min
month	mo
Normal cubic metres per hour	Nm^3/h
Ounce	oz
Ounce per year	Oz/yr
parts per billion	ppb
parts per million	ppm
pascal	Pa
percent	%
pounds per square inch	psi
revolutions per minute	rpm
second (plane angle)	"
second (time)	s
specific gravity	SG
square centimetre	cm^2
square foot	ft^2

Unit of Measure, Abbreviations and Acronyms	
square inch	in^2
square kilometre	km^2
square metre	m^2
standard cubic feet per minute	Scfm
tonne (1,000 kg) (metric ton)	t
tonnes per day/dry metric tons per day	t/d tpd
tonnes per hour	t/h
tonnes per year/dry metric tons per year	t/a
tonnes seconds per hour metre cubed	ts/hm^3
Troy ounce	oz
volt	V
week	wk
weight/weight	w/w
wet metric tonne	wmt
Yard	yd

1.2 General Abbreviations and Acronyms

General Abbreviations and Acronyms	
abrasion index	Ai
acid rock drainage	ARD
arsenic	As
antimony	Sb
atomic absorption spectroscopy	AAS
Bench Face Angle	BFA
Bismuth	Bi
Bond Ball Mill work index	BMWi
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
capital cost allowance	CCA
capital expenditure	CAPEX
carbon dioxide	CO_2
carbon-in-leach	CIL
carbon-in-pulp	CIP
carbon monoxide	CO
Carbonate-base metal	CBM
Certified Reference Material	CRM
Coefficient of Variation	CV
Copper	Cu
Copper sulphate	$CuSO_4$
Copper Sulphate Pentahydrate	$CuSO_4*5H_2O$
Counter Current Decantation	CCD
crushing work index	CWi
cumulative net cash flow	CNCF
cut-off grade	COG
dead weight tonnage	DWT
Diatomaceous Earth	DE
drift and fill	DF
electrowinning	EW
engineering, procurement, and construction management	EPCM
fresh air raise	FAR
field electrical centre	FEC
Footwall	FW
Geological Strength Index	GSI
Global Positioning System	GPS

General Abbreviations and Acronyms	
gold	Au
hanging wall	HW
hydrated lime	$Ca(OH)_2$
internal rate of return	IRR
International Standards Organization	ISO

1.3 ABBREVIATIONS AND ACRONYMS USED IN THIS REPORT

Abbreviations and Acronyms used in this Report	
Continental Gold Inc.	(CGI)
Ivor Jones Pty Ltd	JonesPL
JDS Energy & Mining Inc.	(JDS)
Metres above mean sea level	(mamsl)
Grupo de Bullet S.A.	(Bullet)
Feasibility Study	(FS)
Broader mineralized zones	(BMZ)
Qualified Person	(QP)
Loose rock fill	(LRF)
Cemented rock fill	(CRF)
Counter Current Decantation	(CCD)
Semi-autogenous grinding	(SAG)
Tailing Storage Facility	(TSF)
National Environmental Licensing Agency	(ANLA)
Life-of-mine	(LOM)
Net smelter return	(NSR)
Environmental Impact Assessment (Estudio de Impacto Ambiental)	(EIA)
Net Present Value	(NPV)
Internal Rate of Return	(IRR)
Light Detection and Ranging	(LiDAR)
Cut-and-fill	(C&F)
Cut-off Grade	(COG)
Capital expenditure	(CAPEX)
Operating expenditure	(OPEX)
Qualified Person	(QP)
Ministry of Mines and Energy (Ministerio de Minas y Energía),	(MME)
Plan Nacional de Desarrollo	(PND)
Minimum daily wage	(MDW)
Departamento Nacional de Planeación	(DNP)
Gran Colombia Resources Ltd	(GCR)
Buriticá Intrusive Complex	(BIC)
Carbonate base metal	(CBM)
Digital terrain models	(DTMs)
Total magnetic intensity	(TMI)
Reduce to pole	(RTP)
Analytical signal map	(ANSIG)
Diamond drilling	(DD)
Certified Reference Materials	(CRMs)

Abbreviations and Acronyms used in this Report	
quality assurance/quality control	(QA/QC)
ALS Laboratory in Lima, Peru	(ALS Peru)
ActLabs laboratory in Rionegro, Colombia	(ActLabs)
Quality Assurance	(QA)
Quality Control	(QC)
Fine Blank	(BKF)
Course Blank	(BKG)
Standard deviations	(SD)
Pre-feasibility Study	(PFS)
Kemetco Research Inc.	(Kemetco)
Base Metallurgical Laboratories Ltd.	(BaseMet)
Terra Mineralogical Services Inc.	(Terra)
METCON Research Inc.	(Metcon)
Hazen Research, Inc.	(Hazen)
Economic Geology Consulting	(EGC)
McClelland Laboratories Inc.	(McClelland)
JKTech Pty Ltd.	(JKTech)
SGS Mineral Services	(SGS)
Transmin Metallurgical Consultants	(Transmin)
Pocock Industrial Inc.	(Pocock)
Montana Tech of the University of Montana	(Montana Tech)
Gekko Global Cyanide Detox Group	(Gekko)
Mineral Liberation Analysis	(MLA)
carbon-in-leach	(CIL)
Grams per litre	(g/L)
Milligrams per litre	(Mg/L)
Crusher impact work index	(CWi)
rod mill work index	(RWi)
Ball mill work index	(BWi)
abrasion index	(Ai)
Screen Fire Assay	(SFA)
Canadian Institute of Mining	(CIM)
Longhole open stoping	(LHOS)
Ingenieria de Rocas Ltda.	(Ingeroc)
Uniaxial compressive strength	(UCS)
Triaxial compressive strength	(TCS)
Brazilian tensile strength	(BTS)
MineFill Services Inc.	(MFS)
Front-end loader	(FEL)
Pressure swing adsorption	(PSA)

Abbreviations and Acronyms used in this Report	
Weak Acid Dissociable	(WAD)
sulphur impregnated carbon	(SIC)
Voice Over Internet Protocol	(VoIP)
Global Positioning System	(GPS)
Inertial Measurement Unit	(IMU)
Water treatment plant	(WTP)
High density polyethylene	(HDPE)
Ultrafiltration	(UF)
Clean-in-place	(CIP)
Reverse Osmosis	(RO)
Geosynthetic clay layer	(GCL)
"Limites Máximos Permisibles"	(LMP)
Tierra Group International	(TGI)
Potentially Acid Generating	(PAG)
The International System of units	(SI)
Mechanically stabilized	(MSE)
Project Management	(PM)
Value Added Tax	(VAT or IVA)
Quantitative risk analysis	(QRA)
Project Execution Plan	(PEP)
Construction management team	(CM Team)
Colombian Peso	(COP)
Regional Autonomous Corporations	(CAR)
Ordinary Kriging	(OK)
diatomaceous earth	(DE)
Humidity Cell Test	(HCT)
ALS Laboratory in Colombia	(ALS Colombia)
United States Dollars	($)
Coefficient of Variation	(CV)
Corporation for the Sustainable Development of Urabá	(CORPOURABA)
Regional Autonomous Corporation of Central Antioquia	(CORANTOQUIA)

Appendix A Certificates

CERTIFICATE of QUALIFIED PERSONs

Ivor Jones Pty Ltd
16 Ringwood Crt
Robina 4226
Queensland
Australia

CERTIFICATE OF AUTHOR

I, Ivor Jones, FAusIMM, CP(Geo), P.Geo., do hereby certify that:

1. I am currently Principal Consultant of Ivor Jones Pty Ltd., 16 Ringwood Crt., Robina, Queensland.
2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc..
3. I graduated with an Honours Degree in Bachelor of Science in Geology from Macquarie University in Sydney, Australia in 1986. In 2001 I graduated with a Master of Science degree in Resource Evaluation from the University of Queensland.
4. I am a Fellow and Chartered Professional (Geology) of the Australasian Institute of Mining and Metallurgy (Member No. 111429), and licensed as a Professional Geoscientist with Engineers and Geoscientists British Columbia Metallurgy (Licence No. 197172). I have worked as a geologist continuously for approximately 35 years since my graduation from university.
5. I have been involved in mining and resource evaluation practice for approximately 35 years, including scoping studies, prefeasibility studies and feasibility studies for gold. My work with coarse gold deposits includes the evaluation of coarse gold deposits across the world, exploration, technical reviews, audits and Mineral Resource estimates.
6. I have read the definition of 'qualified person' set out in National Instrument 43-101 (the Instrument) and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements of a 'qualified person' for the purposes of the Instrument.
7. I personally inspected the Buriticá Project site that is the subject of this report from 12 December to 13 December 2018.
8. I am responsible for the preparation of Sections 1; 2; 3; 4; 5; 6; 7, 8, 9, 10, 11, 12, 14, 24; 28; and 29 of the report.
9. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the Instrument.
10. I have not had prior involvement with the property that is the subject of the Technical Report.
11. I have read the instrument, and the Technical Report has been prepared in compliance with the instrument and Form 43-101F1.
12. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

//original signed by Ivor Jones, FAusIMM, CP(Geo), P.Geo.//

Ivor Jones, FAusIMM, CP(Geo), P.Geo.

JDS Energy & Mining Inc.
Suite 900 – 999 West Hastings Street
Vancouver, BC V6C 2W2
t 604.558.6300

jdsmining.ca

CERTIFICATE OF AUTHOR

I, Gregory A. Blaylock, P.Eng. do hereby certify that:

1. I am currently employed as Project Manager with JDS Energy & Mining Inc. with an office at 14143 Denver West Pkwy, Suite 100, Golden, CO, 80401.

2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc..

3. I am a Professional Engineer, L1007 with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists.

4. I am a graduate of the University of Idaho with a Bachelor of Science Degree in Mining Engineering (1985) and a graduate of the University of the Witwatersrand with a Master's Degree in Engineering (1987). I have practiced my profession continuously since June 1, 1985 and have been involved in the evaluation, design and operation of numerous hard rock underground precious metal mining projects in the roles of operations engineering and management, corporate engineering and management and as an independent consultant.

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

6. I visited the Buriticá Project site on October 9-11, 2018 and February 11-12, 2019.

7. I am responsible for Sections 15, 16, 21.3, 22.3, 25, 26 and 27 of the Technical Report.

8. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

9. I have not had prior involvement with the property that is the subject of the Independent Technical Report;.

10. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

11. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

(original signed and sealed) "Gregory A Blaylock P.Eng."

Gregory A Blaylock, P.Eng.

Consulting Engineers and Scientists for the Mining Industry

Suite 900, 580 Hornby St., Vancouver BC, Canada V6C 3B6
Phone (778) 331-5060 Fax (604) 684-8073
www.robertsongeoconsultants.com

CERTIFICATE OF AUTHOR

I, Jack Caldwell, P.E., do hereby certify that:

1. I am currently employed as a Civil Engineer with Robertson Geoconsultants of Suite 900, 580 Hornby Street, Vancouver, BC V7J 3K3.

2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc..

3. I am a graduate of the University of the Witwatersrand, Johannesburg, South Africa.

4. I am a Professional Engineer (P.E. 58841) registered with the California Board of Professional Engineers, Land Surveyors, and Geologists. I am also a P.Eng. (12652) registered with the Association of Professional Engineers and Geoscientists of British Columbia.

5. I have been involved in mining operations and projects including technical aspects of tailings facility design, construction, operation, and closure since 1974.

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

7. I visited the Buriticá Project site in July 2015.

8. I am responsible for section of the report that pertain to the design of the tailings storage facility (Section 18.6).

9. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

10. I have not had prior involvement with the property that is the subject of the Independent Technical Report;

11. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

12. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

J A Caldwell, P.E.

Jack Caldwell, P.E.

JDS Energy & Mining Inc.
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CERTIFICATE OF AUTHOR

I, Wayne Corso, P.E., do hereby certify that:

1. I am currently employed as Vice President of Engineering with JDS Energy & Mining Inc. with an office at 4435 E Chandler Boulevard, Suite 200, Phoenix, AZ 85048.

2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc.

3. I am a graduate of the Colorado School of Mines.

4. I have been involved in mining operations and projects including technical aspects of resource estimation, mine planning, process design as well as economic analysis since 1984.

5. I am a Professional Mining Engineer (P.E. #58884) registered with the Arizona Board of Technical Registration. I am a member of the Society for Mining Metallurgy and Exploration.

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

7. I visited the Buriticá Project site on April 8-9, 2015;

8. I am responsible for Sections 18; 19; 21; 22; 23 of the Technical Report.

9. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

10. I have not had prior involvement with the property that is the subject of the Technical Report.

11. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

12. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

//original signed by Wayne Corso , P.E.//

Wayne Corso, P.E.

JDS Energy & Mining Inc.
Suite 900 – 999 West Hastings Street
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jdsmining.ca

CERTIFICATE OF AUTHOR

I, Michel Creek, P.E., do hereby certify that:

13. I am currently self-employed as Consultant, sub-contracted through JDS Energy & Mining Inc., 900-999 West Hastings Street, Vancouver Canada V6C 2W2;

14. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc.

15. I am a graduate of Montana College of Mineral Science & Technology with a BS in Mining Engineering, 1987, and an MS in Mining Engineering, 1988.

16. I have been involved in Mining since 1980. I have held management and senior technical positions at mines in the United States. I have been an independent consultant for over five years and have performed project management, mine planning, mineral processing evaluations, cost estimation, environmental management, technical due diligence reviews, and prepared technical reports for mining projects worldwide;

17. I am a Professional Engineer registered in the State of Nevada (No. 23202) in good standing the Nevada Board of Professional Engineers and Land Surveyors.

18. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101).and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and engineering and mineral processing design, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

19. I visited the Buritica project site on October 1 and 2, 2015.

20. I am responsible for Section number 20.

21. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.

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

23. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

24. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-01 and Form 43-101F1.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

//original signed by Michel Creek, P.E.//

Michel Creek, P.E., Nevada #23202

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jdsmining.ca

I, Michael Levy, P. Eng., do hereby certify that:

1. I am currently employed as Geotechnical Engineering Manager with JDS Energy & Mining Inc. with an office at Suite 100 – 14143 Denver West Parkway, Golden, Colorado, 80401.

2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc.

3. I am a Professional Civil Engineer (P.Eng. #2692) registered with the Association of Professional Engineers Yukon and Colorado (P.E. #40268). I am a current member of the International Society for Rock Mechanics (ISRM) and the American Society of Civil Engineers (ASCE).

4. I hold a bachelor's degree (B.Sc.) in Geology from the University of Iowa in 1998 and a Master of Science degree (M.Sc.) in Civil-Geotechnical Engineering from the University of Colorado in 2004. I have practiced my profession continuously since 1999 and have been involved in a numerous mining and civil geotechnical projects across the Americas.

5. I have visited the project on April 8-9, 2015 and October 23-24, 2015.

6. I was a Qualified Person for the technical report titled "Buriticá Project NI 43-101 Technical Report Feasibility Study, Antioquia, Colombia", with an effective date of February 24, 2016 and a report date of March 28, 2016.

7. I am responsible for section 16.3 of the Technical Report.

8. I have read the definition of "Qualified Person" set out in NI 43-101 and certify that by reason of my education, affiliation with a professional association, and past relevant experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

9. I am independent of the issuer and related companies as defined in Section 1.5 of NI 43-101.

10. I have read NI 43-101, and the Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.

11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

(Original signed and sealed) "Michael Levy, P.E., P. Eng."

Michael Levy, P.E., P. Eng.

MineFill Services, Inc.
International Specialists in Rock Mechanics and Mine Backfill

CERTIFICATE OF AUTHOR

I, David Stone, P.Eng., do hereby certify that:

1. I am currently employed as President of MineFill Services, Inc., that is a Washington, USA, domiciled Corporation of 21621 7th PL W., Bothell, WA USA 98021-8157.

2. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc..

3. I am a graduate of the University of British Columbia with a B.Ap.Sc in Geological Engineering, a Ph.D. in Civil Engineering from Queen's University at Kingston, Ontario, Canada, and an MBA from Queen's University at Kingston, Ontario, Canada.

4. I am a licensed Professional Engineer in Ontario (PEO #90549718) and I am licensed as a Professional Engineer in a number of other Canadian and US jurisdictions.

5. I have practiced my profession for over 30 years and have considerable experience in the preparation of engineering and financial studies for base metal and precious metal projects, including Preliminary Economic Assessments, Preliminary Feasibility Studies and Feasibility Studies.

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

7. I visited the subject property on June 10, 2014.

8. I am responsible for the report content related to the paste backfill plant (portions of Sections 16 and 18).

9. I am independent of the Issuer applying all the tests in Section 1.5 of the instrument.

10. I have had no prior involvement with the property.

11. I have read NI 43-101 and NI 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.

12. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: January 30, 2019

Signing Date: March 18, 2019

//original signed by David Stone, P.Eng.//

David Stone, P.Eng.

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ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT

CERTIFICATE of QUALIFIED PERSON

I, Laurie M. Tahija, Q.P., do hereby certify that:

1. I am currently employed as Vice President by M3 Engineering & Technology Corporation, 2051 W. Sunset Road, Ste. 101, Tucson, Arizona 85704, USA

2. This applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc.

3. I am a graduate of Montana College of Mineral Science and Technology, in Butte, Montana and received a Bachelor of Science degree in Mineral Processing Engineering in 1981.

4. I am recognized as a Qualified Professional (QP) member (#01399QP) with special expertise in Metallurgy/Processing by the Mining and Metallurgical Society of America (MMSA):

5. I have practiced mineral processing for 35 years. I have over twenty (20) years of plant operations and project management experience. I have been involved in projects from construction to startup and continuing into operation. I have worked on scoping, pre-feasibility and feasibility studies for mining projects in the United States and Latin America, as well as worked on the design and construction phases of some of these projects.

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

7. I am responsible for section 17 of the Technical Report.

8. I have not had prior involvement with the property that is the subject of the Technical Report.

9. I have visited the Buriticá project site on February 13, 2012.

10. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information required to be disclosed to make the Technical Report not misleading.

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

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

Effective Date: January 30, 2019
Signing Date: March 18, 2019

ORIGINAL SIGNED AND SEALED

//original signed by Laurie Tahija , MMSA//

Laurie Tahija, Q.P.

Print name of Qualified Person

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CERTIFICATE OF QUALIFIED PERSON

I, Kelly McLeod, P. Eng., do hereby certify that:

1. This certificate applies to the technical report titled "NI 43-101 Buriticá Mineral Resource 2019-01, Antioquia, Colombia", with an effective date of January 30, 2019 prepared for Continental Gold Inc..
2. I am currently employed as Process Engineer with JDS Energy & Mining Inc. with an office at Suite 900 – 999 West Hastings Street, Vancouver, British Columbia, V6C 2W2.
3. I am a Professional Metallurgical Engineer registered with the APEGBC, P.Eng. #15868. I am a graduate of McMaster University with a Bachelors of Engineering, Metallurgy, 1984. I have practiced my profession intermittently since 1984 and have worked for the last 12 years consulting in the mining industry in metallurgy and process design engineering.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I am independent of the issuer, vendor, property and related companies applying all of the tests in Section 1.5 of NI 43-101.
5. I have not visited the Buriticá Project site.
6. I am responsible for Section 13 of the Technical Report.
7. I am independent of the Issuer and related companies applying all of the tests in Section 1.5 of the NI 43-101.
8. I have not had prior involvement with the property that is the subject of this Technical Report.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
10. I have read NI 43-101, and the Technical Report has been prepared in accordance with NI 43-101 and Form 43-101F1.

Effective Date: January 30, 2019
Signing Date: March 18, 2019

Kelly McLeod

Kelly McLeod, P. Eng

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. S. McLEOD
15868