NI 43-101 Technical Report
Prefeasibility Study Update
Segovia Project
Colombia

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Report Prepared for

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1 Summary

This report was prepared as a prefeasibility-level Canadian National Instrument 43-101 (NI 43-101) Technical Report (Technical Report) for Gran Colombia Gold Corp. (GCG or Company) by SRK Consulting (U.S.), Inc. (SRK) on the Segovia Project, which is comprised of several areas named Providencia, El Silencio, Sandra K, Carla, and Las Verticales Veins System (Las Aves, Pomarosa and Pomarosa 2 shears). The Las Verticales Vein System is currently considered to be at the exploration stage and is therefore reported within the Mineral Resources but is excluded from the prefeasibility study due to the level of confidence at the current stage.

The metric system has been used throughout this report. Tonnes (t) are metric of 1,000 kg, or 2,204.6 lb. All currency is in U.S. dollars (US$) unless otherwise stated.

1.1 Property Description and Ownership

The Segovia Project (Segovia or the Segovia Project) is a gold mining complex located in Colombia's Segovia-Remedios mining district, Department of Antioquia, north-west Colombia approximately 180 kilometers (km) northeast of Medellín (the Department capital of Antioquia), at 74° 42' W and 7° 04' N. Within the Segovia Project area, the Company is current producing from three underground mines, Providencia, El Silencio and Sandra K.

The Carla Project (Carla, or the Carla Project) is a development stage project located approximately 10 km southeast of Segovia at approximately 7° 04' 18.0'' N, 74° 41' 55.5' W.

1.2 Geology and Mineralization

Gold mineralization at Segovia occurs in mesothermal quartz-sulfidic veins hosted by quartz diorite to granodiorite rocks of the Segovia Batholith. The well-known, partially exploited veins dip at approximately 30° to the east or north-east. There are also a number of steeply dipping shear-zones hosting quartz veins with a N40W trend in the western part of the concession, termed the Las Verticales Veins System.

The modeled vein at Providencia is broadly E-W striking and is geologically continuous along strike for approximately 2.0 km and has a confirmed down dip extent that ranges from 690 meters (m) to greater than 1.3 km, and an average thickness of 0.9 m, reaching over 5 m in areas of significant swelling or thrust duplex and less than 0.1 m where the vein pinches. Locally, the Providencia vein displays significant disruption by faulting, pinch and swell structures, fault brecciation and fault gouge. The sample data for Sandra K and El Silencio, both striking broadly N-S, confirms geological continuity along strike for 1.2 km and 2.2 km respectively and indicates down-dip extents of up to 900 m, with thicknesses and structural complexities that are comparable to the Providencia vein. The mineralized structures show a close spatial relationship with mafic dikes, which are interpreted as pre-dating the gold mineralization.

Although currently less well defined by sampling, the Las Verticales Veins System, which is broadly NW-SE striking, appears geologically continuous along strike for more than 3.0 km, and has an average thickness of 0.5 m, reaching over 2.0 m in areas of vein swelling. The Carla Project is located on a separate license located approximately 10 km south of the Segovia town.

Gold mineralization at the Carla Project also occurs in mesothermal quartz-sulfide veins hosted by quartz diorite to granodiorite of the Segovia Batholith. The Carla vein dips at approximately 35° to the east and is offset by three broadly NW-SE trending, steeply dipping faults, which reflect a dominantly strike-slip sinistral sense of movement. As at Segovia, the mineralized structure at Carla shows a close spatial relationship with mafic dikes, which are interpreted as pre-dating the gold mineralization.

The modelled structure at Carla is geologically continuous along strike for approximately 900 m and has a confirmed down-dip extent that ranges from 400 m to greater than 750 m, and an average thickness of 0.8 m, reaching over 3.5 m in areas of significant swelling and less than 0.1 m where the vein pinches.

1.3 Status of Exploration, Development and Operations

It is understood that the previous owners of the Segovia Project, Frontino Gold Mines (FGM), did not complete any regional surface geological mapping, geochemistry, or surface or airborne geophysics. Historical exploration data is mainly limited to underground mapping, sampling and drilling for resource development.

The historical underground channel sampling database made available to SRK consists of more than 130,000 samples split between three mining operations and is understood to incorporate data from the past 30 years. The database provided is largely restricted to vein samples only, with the hangingwall, footwall and face 'composite' data stored separately. SRK completed a validation exercise on the electronic database provided. Where potentially erroneous data exists in the database SRK has accounted for these areas during the classification process. SRK has reviewed all quality assurance/quality control (QA/QC) information available and has deemed the assay database to be in line with accepted industry best practice and therefore deemed it acceptable for the determination of Mineral Resource estimates.

SRK previously made a number of recommendations for improvement in terms of verification of the historic underground database and, as such, the Company has continued with verification channel sampling programs between 2013 and 2019 at all three operating mines.

Between 2015 and 2019, the Company has been completing infill drilling at Providencia using underground drill rigs, with the aim of infill drilling via fan drilling to approximately 20 m x 20 m spacing. Additionally, in 2019 drilling has focused on targeting down dip extensions of known higher grade mineralization. Drilling is completed using industry-standard underground rigs using NQ core diameter which is consistent with the surface drilling.

At the mines (Providencia, Sandra K and El Silencio), channel samples have been taken at regular intervals vertically across the vein. The channel sample database represents the accumulation of grade control data for the underground mines for approximately the past 30 years.

All historical underground samples were sent to the mine laboratory for sample preparation and analysis. GCG has also completed a separate exploration channel sampling program, using a diamond saw to produce improved quality sampling. Between 2012 and 2016 exploration channel samples were sent to the SGS sample preparation in Medellín for analysis, which have been treated with the same sample procedures and analysis as diamond core samples. GCG commissioned an onsite laboratory in 2016 which was built by SGS (Medellín) is run by GCG and been used for all mine and exploration channel sampling since this date. SRK has visited the site on numerous occasions between 2017 and 2019.

During 2019, GCG continued the routine infill underground drilling programs designed to confirm and increase the confidence in the grade distribution at the mines. The program consisted of 402 holes drilled for a total of 43,968 m of additional sampling information in the databases provided. All diamond core has been logged and sent for preparation to the SGS (Colombia) facility in Medellín. Additionally, 7,100 channel samples totaling some 5,869 m in length have been completed.

1.4 Mineral Processing and Metallurgical Testing

GCG ore is processed through the Maria Dama process plant utilizing a process flowsheet that includes crushing, grinding, gravity concentration, gold flotation, concentrate regrinding, concentrate cyanidation, Merrill-Crowe zinc precipitation and refining of both the zinc precipitate and gravity concentrate to produce a final gold/silver doré product.

The Maria Dama process plant has been in production for many years and the metallurgical requirements for processing ore from the Providencia, El Silencio and Sandra K mines are well understood. GCG is now planning to mine and process ore from the Carla vein, which is part of the Segovia complex and has conducted metallurgical testwork at SGS Canada (SGS) on a single test composite that was formulated from selected drill holes and intervals from the Carla vein. The metallurgical program included rougher flotation followed by cyanidation of the reground rougher concentrate using process conditions currently practiced at GCG's Maria Dama process plant. In addition, whole-ore cyanidation and Bond ball mill work index (BWI) tests were conducted. The results of this testwork demonstrated that the gold contained in ore from the Carla vein is highly recoverable using the process conditions currently in use at the Maria Dama process plant. Gold and silver recoveries were reported at about 95% and 77%, respectively. SRK has reduced the reported laboratory recoveries by 2% in order to account for inherent plant inefficiencies. As such, overall gold and silver recoveries from Carla ore are projected at 93% and 75%, respectively.

1.5 Mineral Resource Estimate

At Providencia, El Silencio and Sandra K, updated Mineral Resources have been defined based on the revised database provided by GCG. The Mineral Resource model prepared by SRK utilizes some 1,542 diamond drillholes for a combined length of 197,686 m, 38,063 underground channel samples (as part of the routine sampling and verification programs), and a further 101,273 historical samples contained in the databases.

SRK is satisfied with the quality of the laboratories used for the latest program and based on the quality control investigations considers that there is no evidence of bias within the current database which would materially impact on the estimate. Based on the validation work completed by SRK, the database has been accepted as provided by GCG's Resource Geologist

The SRK resource evaluation work was completed by Mr. Benjamin Parsons, MAusIMM (CP#222568). The effective date of the Mineral Resource statement is December 31, 2019 which is the cut-off date for the sampling on the assays provided to SRK.

SRK has been supplied with an export of the geological database and preliminary interpretations of the main faults and veins in DXF format by the Company. The database used to estimate the Mineral Resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for gold mineralization and that the assay data are sufficiently reliable to support Mineral Resource estimation.

The Mineral Resource estimation process was a collaborative effort between SRK and GCG staff. GCG provided to SRK an exploration database with flags of the main veins as interpreted by GCG. In addition to the database, GCG also supplied a geological interpretation comprising preliminary three-dimensional (3D) digital files (DXF) through the areas investigated by core drilling for each of the main veins.

SRK imported the geological information into Seequent Leapfrog® Geo (Leapfrog®) software to complete the geological model. Leapfrog® was selected due to the ability to create rapid, accurate geological interpretations, which interact with a series of geological conditions.

Statistical analysis and visual validation indicated the presence of two sample populations (medium and high grade), at El Silencio and Providencia (and to a limited extent at Sandra K). SRK considers that the application of internal high-grade domains (orientated to the northeast) should continue to be required at both these mines and has introduced the same procedures at Sandra K within the northern fault block where the majority of the channel sampling has been completed to date. SRK completed an estimation domain analysis and worked with GCG and the mine to aid the definition of the high-grade domains at the two main mines.

SRK has produced block models using Datamine™ Studio RM software (Datamine™). The procedure involved construction of wireframe models for the fault networks, veins, definition of resource domains (high-grade sub-domains), data conditioning (compositing and capping) for statistical analysis, geostatistical analysis, variography, block modeling and grade interpolation followed by validation. Grade estimation has been based on parent block dimensions of 5 m x 5 m x 5 m, for the updated models. The block size reflects that the majority of the estimates are supported via underground channel sampling and spacing ranging from 2 to 5 m. Sub-blocking has been utilized to enable accurate modelling of the tonnage with a minimum block size of 1 m x 1 m x Z dimensions, were the z dimension flexible to fit the vertical width of the vein

Datamine™ was used to domain assay data for statistical and geostatistical analysis, construct the block model, estimate metal grades and tabulate the resultant Mineral Resources. Phinar X10 Geo was used to conduct the capping analysis with Snowden Supervisor software used for geostatistical analysis, variography and statistical validation of the grade estimates. All samples have been capped and composited based on the statistical review with a default composite of 3 m, selected in an attempt to model a single composite across the width of the vein, given the varying widths of the veins. A minimum composite length of 0.2 m has been used.

SRK has not updated the Mineral Resource models for the Carla and Las Verticales areas as no new information is currently available and therefore the last estimate remains valid.

Gold grades have been interpolated using nested three pass approaches within Datamine™, using an Ordinary Kriging (OK) routine for the main veins. In the cases of Providencia and El Silencio, where minor veins or splays off the main structure exist, SRK has used Inverse Distance weighted squared (ID2). The search ellipses follow the typical orientation of the mineralized structures, and where appropriate, were aligned along higher-grade plunging features within the mineralized veins.

The classification is based on standards as defined by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards - For Mineral Resources and Mineral Reserves, prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 14, 2014. The Mineral Resources at the Project have been classified as Measured, Indicated and Inferred at Providencia. At El Silencio and Sandra K, only Indicated and Inferred Mineral Resources have been defined. SRK has limited the Indicated Mineral Resources to the lower portion of the mine (previously flooded), where the depletion limits are considered more accurate due to a lack of mining activity over prolonged periods of time by contractor mining.

SRK has evaluated the Mineral Resources to confirm that there is reasonable potential for economic extraction. To determine the potential for economic extraction SRK has assumed a metallurgical recovery for gold of 90.5% based on the current performance of the operating plant. The gold price was assumed to be US$1,400/oz and an average mining cost was applied. SRK has limited the Mineral Resources based on a cut-off grade of 3 grams per tonne (g/t) Au over a (minimum mining) width of 1.0 m.

The classified Mineral Resource is sub-divided into material within the remaining pillars and the long-term resource material (LTR) outside of the previously mined areas, with the classification for the pillars considered separately given the uncertainty of the extent of remnant pillar mining currently being undertaken by Company-organized co-operative miners.

The Mineral Resource statement for the Project is shown in Table 1-1.

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Table 1-1: SRK Mineral Resource Statement for the Segovia and Carla Projects Dated December 31, 2019 – SRK Consulting (U.S.), Inc.

Project	Deposit	Type	Measured			Indicated			Measured and Indicated			Inferred		
			Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)
Segovia	Providencia	LTR	118	15.9	60	296	13.0	124	414	13.8	184	315	8.3	84
		Pillars	108	26.1	90	116	12.1	45	224	18.8	135	389	20	249
	Sandra K	LTR				385	10.3	128	385	10.3	128	315	8.6	87
		Pillars				152	10.9	53	152	10.9	53	0	6.8	0
	El Silencio	LTR				824	11.5	304	824	11.5	304	1,736	8.3	462
		Pillars				1,459	10.7	504	1,459	10.7	504	395	12.1	154
	Verticales	LTR										771	7.1	176
	Subtotal Segovia Project	LTR	118	15.9	60	1,504	11.5	555	1,623	11.8	616	3,136	8.0	809
		Pillars	108	26.1	90	1,727	10.8	602	1,835	11.7	692	784	16.0	403
Carla	Subtotal Carla Project	LTR				154	9.7	48	154	9.7	48	178	9.3	53

Source: SRK, 2020

The Mineral Resources are reported at an in situ cut-off grade of 3.0 g/t Au over a 1.0 m mining width, which has been derived using a gold price of US$1,400 per ounce and technical and economic parameters for the existing underground mining and conventional gold mineralized material processing using a gold recovery of 90.5%. Each of the mining areas have been sub-divided into Pillar areas ("Pillars"), which represent the areas within the current mining development, and long-term resources ("LTR"), which lie along strike or down dip of the current mining development. Mineral Resources are reported inclusive of the Mineral Reserve. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

SRK considers the exploration data accumulated by the Company is generally reliable, and suitable for this Mineral Resource estimate (MRE). SRK undertook a laboratory audit of the mine laboratory during previous site inspections and has previously visited the SGS (Colombia) sample preparation and fire assay facilities in Medellín and found them to be clean, organized, with the correct equipment and procedures in place to ensure quality is maintained.

Infill drilling along with the on-going validation work of the historical database, and surveying of the underground mine works has resulted in an increase in the Mineral Resources at Segovia. It is SRK's opinion that improvements have been made from previous models but that further improvements can still be made to the geological database (namely elevations). One recommendation is that the mine geology team of Segovia should have more involvement in the geological model construction and correction of issues. There are zones in all three mines where the vein coding requires detailed review to improve the geological interpretation. SRK has highlighted any obvious misclassification of vein coding in the databases using a coding SRK_XXX_xyz, which GCG should review as a priority. Correction of the vein coding will enable an improved geological model which can aid exploration planning and identifying possible areas where parallel veins exist, which would provide additional process plant feed material within the existing infrastructure.

In relation to the required improvements to data quality, SRK recommends the following:

- Continued infill drilling using underground drill-rigs ahead of the planned mining faces to a minimum of 20 m by 20 m pattern
- Creation of a 3D interpretation of all mining development and stoped areas
- SRK recommends the Company consider the use of localized short-term estimates and planning models to improve the understanding of the short scale variation in grade and improve the potential to monitor the current estimates. These short-term models should include results from the infill underground drilling areas and adjustments to the high-grade domain boundaries and provide suitable data to undertake reconciliations.
- An area has been identified within El Silencio where the current mining is interpreted to have occurred within an un-named hangingwall vein. If correct, then potential exists for Veta Manto to remain undeveloped in the footwall. An exploration drilling (underground) program should be designed to test the footwall for possible Veta Manto mineralization. This area remains classified as Inferred in the current estimate

SRK has reviewed the current exploration potential highlighted by GCG which indicates potential to increase the current mineral resource base. The top targets considered by SRK are the extensions of Veta Manto at El Silencio below the current mining areas of the Veta Nacional. At El Silencio GCG indicates potential for 1,000 m of extension in the vein with no current exploration. This should be considered high priority for additional drilling to initially confirm the presence of the vein and then for targeting potential high-grade shoots.

Additional potential shown is on the eastern fault block at Providencia which represents an uplift in the location of the vein due to faulting. Initial drilling has encouraging results in an area where the vein has previously been considered to feather out into more discontinuous structures. This area is currently not included in the Mineral Resource, so would represent new Mineral Resources if verified with further drilling.

1.6 Mineral Reserve Estimate

Mineral Reserves stated here for the Segovia operations include four distinct areas named Providencia, El Silencio, Sandra K, and Carla. There are other mines in the vicinity, owned by GCG, however there are no Indicated resources stated outside of these four areas at this time. There are also other mines in the vicinity owned by others. The general dip of the orebodies in all four areas is 30° to 40°. The veins are narrow and range from several centimeters (cm) to over 1 m. Providencia, El Silencio, and Sandra K are actively being mined. Carla has been mined historically and is currently being rehabilitated, however it is currently not operating.

The mines are currently accessed using an apique hoisting system which approximately follows the dip of the orebody. The mining method currently in use is predominantly a room and pillar method, although some areas of Providencia are cut and fill. In the cut and fill areas, ramps are developed in waste and an attack ramp system is used to access various levels of the orebody. In room and pillar areas, access is via on-ore openings/apiques.

A 3D design has been created representing the planned reserve mining areas. The underground mine design process resulted in underground Mineral Reserves of 1.98 million tonnes (Mt) (diluted) with an average grade of 10.50 g/t Au. The Mineral Reserve statement, as of December 31, 2019, for GCG Segovia is presented in Table 1-2. Mineral Reserves were classified using the 2014 CIM Definition standards.

Table 1-2: Gran Colombia Segovia Mineral Reserves Estimate as of December 31, 2019

Segovia Mineral Reserves		**Cut-off (1):**	**3.25 - 4.24 g/t**	
Category	**Area**	**Tonnes**	**Au Grade (g/t)**	**Oz (in situ)**
Proven	Providencia	164,896	16.53	87,611
	Carla	-	-	-
	Sandra K	-	-	-
	El Silencio	-	-	-
Subtotal Proven		**164,896**	**16.53**	**87,611**
Probable	Providencia	154,606	11.95	59,392
	Carla	103,843	10.03	33,489
	Sandra K	248,531	8.85	70,713
	El Silencio	1,312,942	9.93	419,150
Subtotal Probable		**1,819,922**	**9.96**	**582,744**
Total	**Proven + Probable**	**1,984,818**	**10.50**	**670,356**

Source: SRK

(1) Ore reserves are reported using a gold cut-off grade (CoG) ranging from 3.25 to 4.24 g/t depending on mining area and mining method. The CoG calculation assumes a $1,350/oz Au price, 90.5% metallurgical recovery, $6/oz smelting and refining charges, $25/t G&A, $26/t processing cost, and mining costs ranging from $76 to $115/t. Note that costs/prices used here may be somewhat different than those in the final economic model. This is due to the need to make assumptions early on for mine planning prior to finalizing other items and using long term forecasts for the life of mine plan.

- Mining dilution is applied to a minimum mining height and to estimate overbreak (values differ by area/mining method) using a zero grade.
- All figures are rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.
- Mineral Reserves have been stated on the basis of a mine design, mine plan, and economic model.
- There are potential survey unknowns in some of the mining areas and lower extractions have been used to account for these unknowns.
- The Mineral Reserves were estimated by Fernando Rodrigues, BS Mining, MBA, MMSAQP #01405, MAusIMM #304726 of SRK, a Qualified Person.

1.7 Mining Methods

Geotechnical

SRK reviewed all geotechnical data acquired by Geomecanica del Peru Consulting (Geomecanica del Peru, 2018) and, in conjunction with the GCG geotechnical personnel, conducted a geotechnical investigation to support mine design at pre-feasibility study (PFS) level. SRK also reviewed and validated the geotechnical data collected by the Segovia exploration group and determined that data from the field geotechnical investigation is appropriate for supporting a PFS based on field observations and the work conducted by GCG. The data collection process is adequate and consistent with international standards for a PFS. More data will need to be incorporated into the PFS geotechnical model to move forward to a feasibility study (FS).

SRK considers that there is an opportunity for implementing a pillar recovery plan, which could increase the extraction ratio up to 90%. Pillar recovery is among the most complex operations in underground mining and can place workers at risk if not performed correctly. The pillar recovery plan should be reviewed in more detail by a geotechnical engineer with experience in pillar recovery and ground control practice in extreme ground conditions. A detailed plan is key to reducing the risk of overall mine instability that could jeopardize future mine plans and worker safety.

The use of timber packs and cement pillars helps to increase the extraction ratios. However, the timbers and/or cement pillars must be well designed and follow specifications. Segovia should also implement a monitoring system to identify any excessive pillar deformation that could produce room instability. SRK recommends performing first pass mining and additional pillar recovery using timber and/or cemented pillars to give an overall extraction ratio of approximately 90%. To achieve the 90% overall extraction ratio, it is recommended that GCG have a clear and detailed pillar recovery plan with the correct sequencing. The current Segovia recovery plan has not been reviewed by SRK. Therefore, SRK cannot comment on it. Notwithstanding, in SRK's opinion an acceptable pillar recovery plan should include the cement and/or timber pack design specifications, a ground support plan, safety procedures, and pillar recovery implementation protocols.

Groundwater

The mine area is in the hydrogeological regional area of Magdalena Cauca. Most of this region is comprised of igneous and metamorphic rocks with limited groundwater storage capacity and hydraulic conductivity. The fractured rocks within the Antioquia Department might host local aquifers (IDEAM, 2013). Saprolite and bedrock are the two major hydrogeological units in the mine area. The saprolite is a low conductivity unit draped on the top of the bedrock as a surficial layer and has a thickness from 5 to 45 m. The bedrock is formed primarily by the Segovia Batholith and dikes, covering almost all of the mine levels. There is a high density of fractures and cracks in this unit, an assumed consequence of the long-term mine activity. The presence of deep aquifers cannot be ignored due to the lack of piezometric and hydrological field data.

Dewatering System

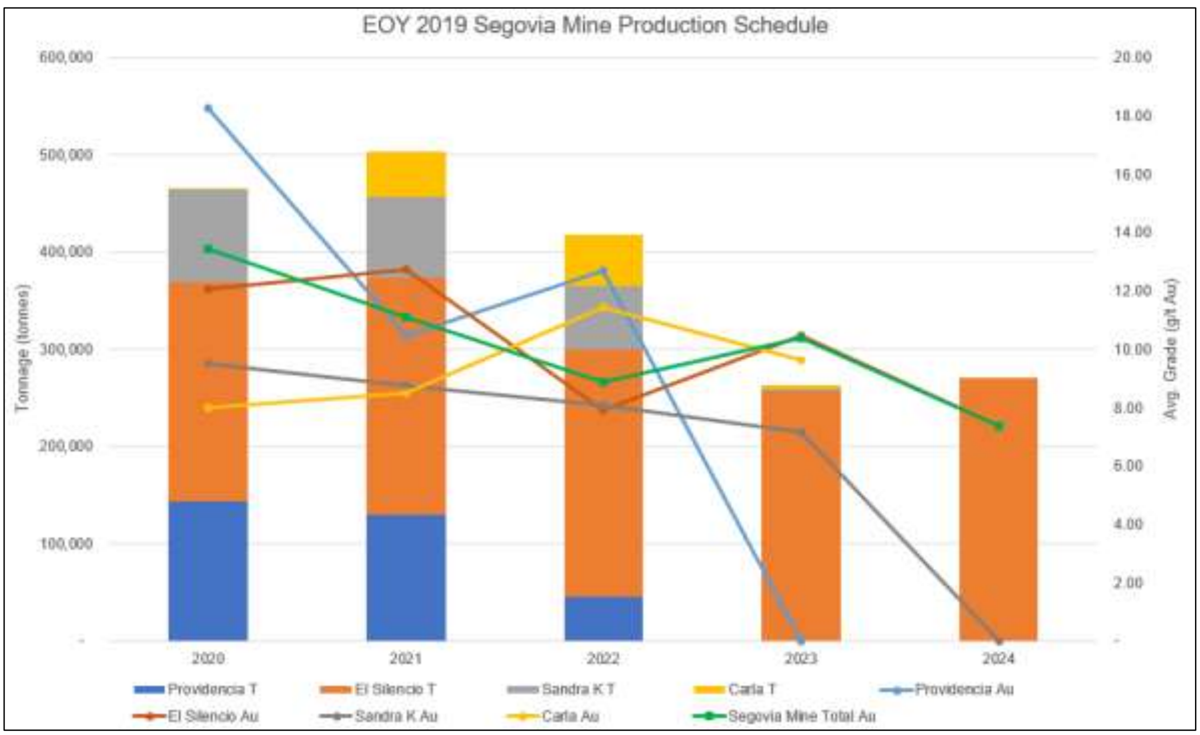
Dewatering systems are in operation at the Sandra K, Providencia and El Silencio mines, recording an average of 464, 1,068 and 1,007 gallons per minute (gpm) respectively during 2016 and 2017 and an average of 526, 1,342 and 930 gpm respectively during 2018. There are not yet completed records for 2019, however the measured dewatering rates are consistent with the historical data. This dewatering system fits the needs for the mine operations in each mine. Future mine plans however are up to 70 m deeper than the current mining levels, and this will increase the groundwater inflow into the mine as well as the lift head. The mine dewatering system will need to accommodate future development. The design should consider potential inrush flow from deep aquifers, and/or high-pressure water in the fracture/fault systems. Such a design will need to be based on drilling and hydraulic testing to estimate static heads and the potential for large inrush events from faults or fracture sets.

Mine Design

To determine minable areas, the grades in the block model were diluted to include a minimum mining height and expected overbreak dilution. The diluted grades above cut-off, based on mining method, were then displayed on the screen and polygons were drawn around minable panel areas. This was done for each individual vein (as some veins are stacked on top of each other).

Once mining areas were identified, the geologic vein triangulations were cut to the polygons giving a 3D shape showing the mining area (without dilution). Cut and fill area triangulations were further cut into 3 m high levels to provide specific tonnage/grade information for each cut. Tonnages and grades for each of the shapes was then reported based on the diluted tonnages and grades in the block model.

Existing apique systems are used/extended in most areas, with new apique systems added as necessary. New raises to surface are also included for ventilation and egress where necessary. The production and development schedules were completed using iGantt software. Figure 1-1 shows the production by area.



Source: SRK, 2020

Figure 1-1: Segovia Mine Production by Area

The mines utilize jacklegs for a large part of the underground mining. Where possible, jumbos are used for cut and fill areas and for all development. The existing diesel operated mobile equipment includes jumbos, trucks, and LHDs along with support equipment. GCG has a large number of track and air powered overshot muckers and jackleg style drills that are used for general production as well as air and electric slushers. The El Silencio mine has a mechanical workshop for diesel repairs on Level 19. At Providencia there is a diesel shop on level 12. In addition, all mines have underground workshops to repair jacklegs.

1.8 Recovery Methods

GCG processes ore from the Providencia, El Silencio and Sandra K Mines at its 1,500 t/d Maria Dama process plant which includes crushing, grinding, gravity concentration, gold flotation, cyanidation of the flotation concentrate, Merrill-Crowe zinc precipitation and refining of both the zinc precipitate and gravity concentrate to produce a final gold/silver doré product. SRK makes the following conclusions regarding GCG's processing facilities:

- Plant production for the period 2017 to 2019 increased from 293,395 t of ore at an average gold grade of 16.85 g/t Au in 2017 to 451,450 t at an average gold grade of 15.48 g/t Au during 2019.
- Overall gold recovery has ranged from 93.8 to 95.9% over the period 2017 to 2019.
- During the period 2017 to 2019 gold production increased from 149,037 to 214,036 ounces.
- Silver recovery is not monitored but is a relatively minor contributor to overall Project economics.
- Process plant cash operating costs decreased from US$29.51/t ore processed in 2017 to US$24.42/t in 2019.

1.9 Project Infrastructure

The infrastructure for Segovia is installed and fully functional. Additional work is ongoing to improve the power system and underground mine infrastructure. All major facilities are in place and have been in use for a number of years. Continued focus on the tailings storage and associated equipment (filters) will be important.

Tailings Management Area

The El Chocho tailings storage facility (TSF) has been designed as a dry stack TSF. The tailings production rate is currently around 1,500 t/d and may ultimately be increased to 1,600 t/d with a total estimated volume of current tailings storage at 1.28 Mt and future storage of 2.3 Mt to meet the life-of-mine (LoM) requirements.

The current operation features a filter plant with a single plate and frame filter press and three dehydration cells capable of treating the full tailings load of 1,500 t/d of dry solids. There is an emergency pond adjacent to the filter plant for temporary slurry tailings storage when the filter press is down for maintenance. A second filter press is planned for construction in 2021 with the goal of eliminating down time for maintenance and reaching a filtering rate of 1,600 t/d.

The current storage facility consists of existing Phases 1B and 1A and new Phase 1C, which finished construction in February 2020. There is a future Phase 2A planned for construction downstream of Phase 1C. Phase 1B was the first tailings storage facility built and was designed to accept slurry tailings. It was constructed as an earth fill embankment with a clay core and upstream chimney drain to reduce pore water pressures in the embankment. Phase 1B upper portion is currently being reclaimed by placing 1 m of growth media over the existing tailings. The lower portion of Phase 1B has an internal rockfill berm dividing the storage area which acts as a filter to decant water to the current operating pool used to recirculate water to and from the filter press.

Phase 1A was designed as interim containment measure while Phase 1C was being constructed. The Phase 1A Geotube embankment was designed by Maccafferi and was constructed by stacking Geotubes filled with tailings slurry to form an embankment approximately 15 m high. Filtered tailings are currently being placed and compacted between the Phase 1B and Phase 1A embankments.

Phase 1C and future Phase 2A were designed by Wood. Phase1C was constructed as a 15 m high rockfill starter embankment with a 0.5 m clay liner, stormwater diversion channels, underdrains and contact water collection pond. The starter embankment is constructed downstream of the existing Phase 1A Geotube embankment. The future Phase 2A embankment will be constructed downstream of Phase 1C and is designed with a 12 m high starter embankment with the same design elements as Phase 1C.

Filtered tailings are transported from the filter press by haul trucks and spread with a track dozer and compacted with vibratory smooth drum compactor to a specified lift thickness and minimum relative density. The outer 40 m of each tailings lift is compacted to a higher relative density to improve mass and erosional stability of the placed tailings.

1.10 Environmental Studies and Permitting

PMA Approval: The site Environmental Management Plan (“Plan de Manejo Ambiental” or PMA) was accepted by the Regional Environmental Authority (Corantioquia) on February 22, 2019; however, GCG appealed several of the terms and conditions of the resolution, which led to the issuance of Resolution 160ZF-RES1911-6813 on November 25, 2019, accepting several of the arguments and approving the final PMA. Throughout the application and multiple renewal processes, a number of environmental studies have been completed to satisfy Corantioquia, some of which are detailed in Section 20 of this report.

Changes to Groundwater Regime: The previous PMA application (2012; unapproved) highlighted a lack of information regarding the groundwater regime in the operating mines and suggested that changes to the groundwater levels through dewatering activities of the mines may lead to geotechnical instabilities and increase the potential for subsidence from the underground workings. This is considered to be a significant risk to the Project, given the location of residential buildings at Segovia above the workings. The recently approved PMA (2019) includes requirements to complete a conceptual hydrogeological model and a numerical model of the mining area to predict and manage changes to the hydrogeological setting. GCG anticipated initiating this hydrogeological investigation in 2019; early results from which are discussed elsewhere in this report.

Health and Safety of Contract Miners: GCG employs groups of contract miners to extract high grade run-of-mine (RoM) mill feed from the operating mines. Although each mining group is required to meet contractual health, safety and environmental standards set by the Company, historically there has not been sufficient auditing of compliance with these standards. Significant health and safety risks may be associated with uncontrolled (uncontracted and unauthorized) mining of support pillars (outside of the direct control of the Company), which may potentially lead to ground collapse and loss of life.

El Chocho Tailings Storage Facility Area: The El Chocho TSF is fully permitted and operational. Floatation tailings from the Maria Dama process plant are pumped directly to the TSF for filtration and dry stacking. A smaller secondary stream of cyanide tailings is first detoxified using H_2O_2 and $FeSO_4$, then pumped to one of several settling/holding ponds for temporary storage. The detoxified and dewatered tailings from the four settling ponds will eventually by treated through a polymetallic plant (a.k.a., cleaning plant) to remove lead (Pb) and zinc (Zn) before being transferred to the El Chocho TSF. The 'cleaning plant' is currently under construction and should be operational by the end of 2020.

Geochemistry

Over the past year GCG has made improvements to reduce environmental impacts from mining, especially in the areas of water management and tailings management. The Company has conducted additional geochemical testing to acquire data to characterize the acid rock drainage and metal leaching (ARDML) potential of tailings, ore and waste rock. New data collected in 2019 indicates that contact water with tailings and waste rock could have potential environmental impacts if not managed correctly. GCG is making good progress in this area.

Current and future tailings are the mining waste components that represent the greatest risk in terms of environmental geochemistry, and kinetic testing is underway to characterize the tailings. Current and future waste rock distributed on surface also is an environment risk that requires further work.

Closure Water Treatment

Closure scenarios may involve some form of water collection and water treatment. Thus, detailed geochemical characterization is needed to more accurately understand the potential for mining wastes to generate poor quality contact water that might persist into closure and post closure. SRK (2014) observed that the largest uncertainty regarding closure costs is the potential need for long-term water treatment from the mine workings after closure. A requirement for long-term post-closure water treatment would add significant cost to closure estimates.

1.11 Capital and Operating Costs

The Segovia Project is a currently operating underground mine. The estimate of capital costs includes only sustaining capital to maintain the equipment and all supporting infrastructure necessary to continue operations until the end of the projected production schedule.

The capital cost estimate developed for this study includes the costs associated with engineering, procurement, acquisition, construction and commissioning. The cost estimate is based on budgetary estimates prepared by GCG and reviewed by SRK. All estimates are prepared from first principles based on site specific recent actuals. The budget and estimates indicate that the Project requires sustaining capital of US$149.7 million (M) throughout the LoM based on the current production schedule/reserves.

Table 1-3 summarizes the sustaining capital estimate.

Table 1-3: Segovia Sustaining Capital Cost Estimate Summary

Description	LoM (US$000s)
Development	24,484
Exploration	35,160
Providencia	4,061
El Silencio	15,503
Sandra K	6,673
Carla	3,756
Mine Planning	282
Small Miners	198
Maria Dama Plant	12,802
Assay Lab	1,198
Maintenance	5,825
Civil	133
Logistics	171
Environment	12,558
Health and Safety	3,684
Security	855
IT	1,115
Administration	2,304
Finance	0
HR	213
Mine Asset Retirement Obligation (ARO)	11,312
TSF ARO	3,087
Carry Over (2019 Projects)	4,295
Total Capital	**$149,667**

Source: GCG/SRK, 2020

The operating cost is based on budgetary estimates from GCG, reviewed by SRK, and were modeled as entirely variable costs.

SRK and GCG prepared the estimate of operating costs for the Mineral Reserves production schedule. These costs were subdivided into the following categories:

- Mining operating expenditure
- Processing operating expenditure
- Site G&A operating expenditure

Site-specific budget estimates were used to estimate the LoM operating costs for Providencia, Sandra K, El Silencio and Carla. The mine production is also supported by contract miner operations, which operate in areas of Providencia (Masora) and El Silencio (Navar). These are paid for as cost per recovered (Mine and Plant Recovery) gold ounces, which LoM average is estimated at US$657/recovered Au-oz. Note that LoM/yearly variable operating costs vary due to this.

The resulting LoM operating cost estimate is presented in Table 1-4.

Table 1-4: Segovia Operating Costs Summary

Description	LoM (US$000s)	LoM (US$/t-Ore)	LoM (US$/oz-Au)
Mining	294,028	148.14	484.66
Process	58,190	29.32	95.92
G&A	46,546	23.45	76.72
Total Operating	**$398,765**	**$200.91**	**$657.30**

Source: GCG/SRK, 2020

The costs presented above include costs associated with both an owner mining operations and third-party operations that take place within the Mineral Reserve areas.

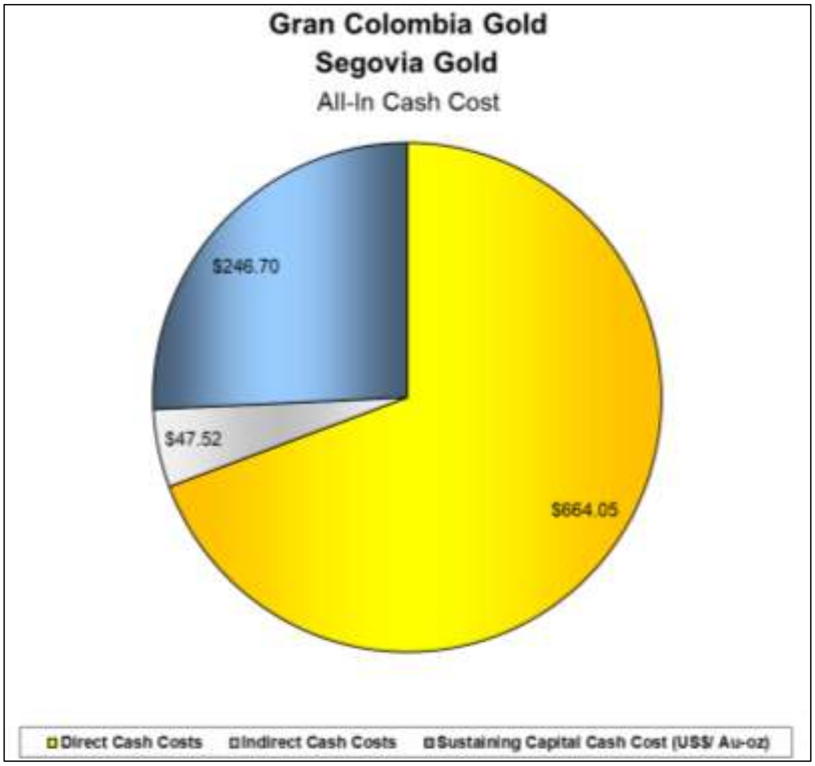
The estimated cash cost, including direct and indirect production costs, is US$712/Au-oz, while All-in Sustaining Costs (AISC), including sustaining capital, is US$958/Au-oz. Table 1-5 presents the make-up of the Segovia cash costs.

Table 1-5: Segovia Cash Costs

Cash Costs	$000's
Direct Cash Cost	
Mining Cost	294,028
Process Cost	58,190
Site G&A Cost	46,546
Smelting & Refining Charges	4,095
C1 Direct Cash Costs	**402,860**
$/t-ore	**202.97**
$/Au-oz	**664.05**
Indirect Cash Cost	
Royalties	28,829
Indirect Cash Costs	**28,829**
$/t-ore	**14.52**
$/Au-oz	**47.52**
Total Direct + Indirect Cash Costs	**431,689**
$/t-ore	**217.50**
$/Au-oz	**711.57**
Sustaining Capital Cash Cost (US$/Au-oz)	**246.70**
All-In Sustaining Costs (US$/Au-oz)	**958.27**

Source: SRK, 2020

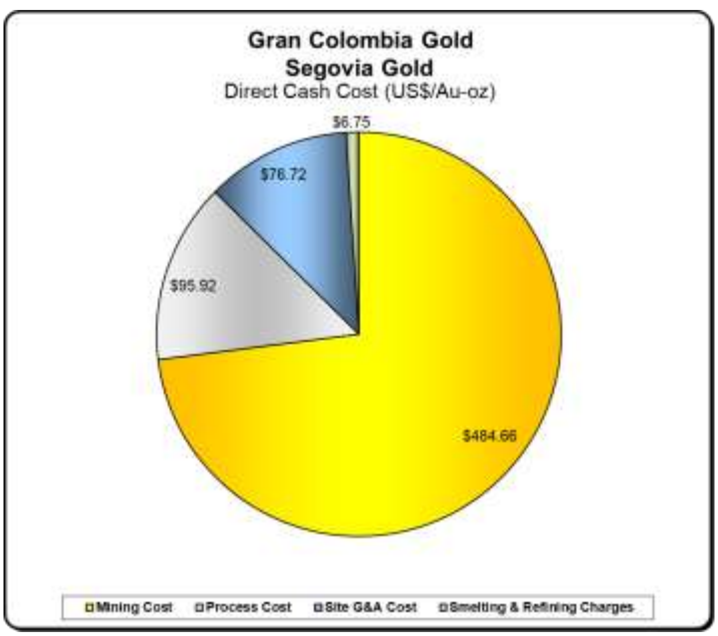
Figure 1-2 presents the breakdown of the estimated all-in sustaining cash costs associated with the Mineral Reserves. Direct cash costs are the clear majority of the AISC cash cost, while the sustaining capital is a distant second.



Source: SRK, 2020

Figure 1-2: All-In Sustaining Cash Cost Breakdown

Figure 1-3 presents the breakdown of the estimated direct cash costs associated with the Mineral Reserves. Mining costs represent the clear majority of the direct costs, while processing and general and administrative costs are about the same.

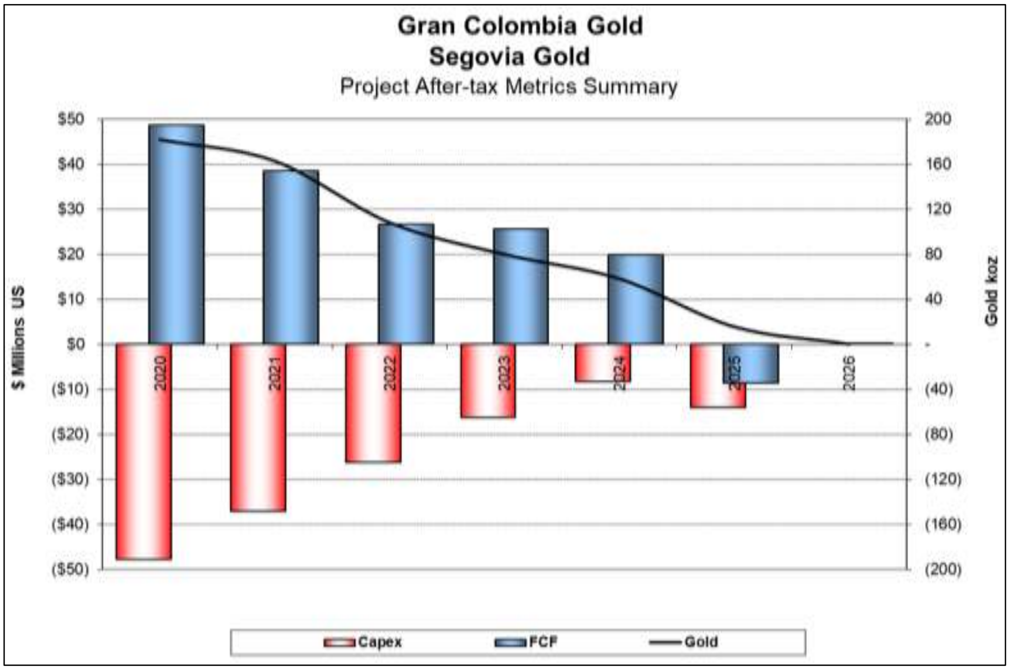


Source: SRK, 2020

Figure 1-3: Direct Cash Cost

1.12 Economic Analysis

The valuation results of the Segovia Project indicate that the Project has an after-tax Net Present Value (NPV) of approximately US$138.8 M, based on a 5% discount rate. The operation is cash flow positive except in the last year and this is related to closure cost. Revenue generation steadily decreases year over year, what is related to a decline of the gold grade. The annual free cash flow profile of the Project is presented in Figure 1-4.



Source: SRK, 20120

Figure 1-4: Segovia After-Tax Free Cash Flow, Capital and Metal Production

Indicative economic results are presented in Table 1-6. The Project is a gold operation, with gold representing 100% of the total projected revenue. The underground mining cost is the heaviest burden on the operation, followed by the sustaining capital as a distant second.

Table 1-6: Segovia Indicative Economic Results

Description	Value	Units
Market Prices		
Gold (US$/oz)	1,350	US$/oz
Estimate of Cash Flow (all values in $000s)		
Concentrate Net Return		$/oz-Au
Gold Sales	$819,008	$1,350.00
Total Revenue	**$819,008**	**$1,350.00**
Smelting and Refining Charges	($4,095)	($6.75)
Net Smelter Return	**$814,913**	
Royalties	($28,829)	($47.52)
Net Revenue	**$786,084**	
Operating Costs		
Underground Mining	($294,028)	($484.66)
Process	($58,190)	($95.92)
G&A	($46,546)	($76.72)
Total Operating	**($398,765)**	**($657.30)**
Operating Margin (EBITDA)	**$387,318**	
Initial Capital	$0	
LoM Sustaining Capital	($149,667)	
Working Capital	$2,693	
Income Tax	($89,280)	
After Tax Free Cash Flow	**$151,065**	
NPV @: 5%	**$138,836**	

Source: SRK, 2020

Silver was not included in the economic analysis, as it is not included in the resources or the reserves. It should be noted, however, that past production indicates the production of silver in the doré and its revenue could represent an addition of about 1% to 2% to the revenue presented above.

Table 1-7 shows annual production and revenue forecasts for the life of the Project. All production forecasts, material grades, plant recoveries and other productivity measures were developed by SRK and GCG.

Table 1-7: Segovia LoM Annual Production and Revenues

Period	RoM (kt)	Plant Feed (kt)	Doré. (koz)	Free Cash Flow (US$000s)	Discounted Cash Flow @ 5% (US$000s)
2020	464.91	464.91	182.03	48,871	47,736
2021	504.09	504.09	162.98	38,965	36,242
2022	417.75	417.75	108.19	27,098	24,201
2023	263.59	263.59	79.86	25,341	21,379
2024	271.53	271.53	58.19	19,448	15,592
2025	62.95	62.95	15.41	(8,251)	(6,313)
Total	**1,984.82**	**1,984.82**	**606.67**	**151,473**	**138,836**

Source: SRK, 2020

The Mineral Reserves disclosed herein are sufficient to feed the Maria Dama plant for about 5.3 years of operation.

2 Introduction

2.1 Terms of Reference and Purpose of the Report

This report was prepared as a prefeasibility-level Canadian National Instrument 43-101 (NI 43-101) Technical Report (Technical Report) for Gran Colombia Gold Corp. (GCG) by SRK Consulting (U.S.), Inc. (SRK) on the Segovia Project, which is comprised of the Providencia, El Silencio, and Sandra K mines, and the Carla Project.

The quality of information, conclusions, and estimates contained herein are consistent with the level of effort involved in SRK's services, 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. This report is intended for use by GCG subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits GCG to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other uses of this report by any third-party is at that party's sole risk. The responsibility for this disclosure remains with GCG. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

This report provides Mineral Resource and Mineral Reserve estimates, as well as a classification of resources and reserves prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014 (CIM, 2014). Mineral Resources are reported inclusive of the Mineral Reserves.

2.2 Qualifications of Consultants

The Consultants preparing this technical report are specialists in the fields of geology, exploration, Mineral Resource and Mineral Reserve estimation and classification, underground mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

None of the Consultants or any associates employed in the preparation of this report has any beneficial interest in GCG. The Consultants are not insiders, associates, or affiliates of GCG. The results of this Technical 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 GCG and the Consultants. The Consultants 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 Qualified Persons (QP) as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions. QP certificates of authors are provided in Appendix A. The QP's are responsible for specific sections as follows:

- ***Ben Parsons***, BSc, MSc, MAusIMM (CP), Practice Leader/Principal Resource Geologist, is the QP responsible for property, geology and mineral resources Sections 1.1 through 1.3, 1.5, 4 (except for 4.5), 5 (except 5.5), 6 through 12, 14, 23, 25.1 and 26.1.

- ***Eric Olin***, MSc Metallurgy, MBA, SME-RM, MAusIMM, Principal Metallurgist, is the QP responsible for mineral processing, metallurgical testing and recovery, Sections 1.4, 1.8, 5.5.6, 13, 17, 25.3 and 26.3.
- ***Cristian A. Pereira Farias***, SME-RM, Senior Hydrogeologist, is the QP responsible for hydrogeological Sections 16.5, 16.7, 26.5.3 and groundwater and dewatering portions of 1.7.
- ***David Bird***, MSc, PG, RM-SME, Associate Principal Geochemist, is the QP responsible for geochemistry Sections 16.8, 20.1.3 and 26.5.1.
- ***Fredy Henriquez***, MS Eng, SME, ISRM, Principal Consultant, Rock Mechanics, is the QP responsible for geotechnical Section 16.4.
- ***Jeff Osborn***, BEng Mining, MMSAQP, Principal Mining Engineer, is the QP responsible for infrastructure, capital and operating costs, economic analysis and general report Sections 1.9, 1.11, 1.12, 2, 3, 5.5 (except 5.5.4 and 5.5.6), 18 (except for 18.2), 19, 21, 22, 24, 25.4, 25.5, 25.6, 25.8, 26.4.1, 26.5.2, 26.7, 27, and 28.
- ***Fernando Rodrigues***, BS Mining, MBA, MAusIMM, MMSAQP, Practice Leader/Principal Mining Engineer, is the QP responsible for mining and mineral reserves Sections 1.6, 1.7 (except for groundwater and dewatering), 15, 16 (except for 16.4, 16.5, 16.7 and 16.8), 25.2, and 26.2.
- ***Joshua Sames***, PE, BEng Civil, Senior Consultant, is the QP responsible for tailings Sections 1.9, 5.5.4, 18.2, 25.5, and 26.4.2.
- ***Mark Willow***, MSc, CEM, SME-RM, Practice Leader/Principal Environmental Scientist, is the QP responsible for environmental studies, permitting and social or community impact Sections 1.10, 4.5, 20 (except 20.1.3), 25.7, and 26.6.

2.3 Details of Inspection

Table 2-1 lists the SRK team members who visited the Project site. During the various site visits, the group toured the general areas of mineralization, historic and current mining and drilling sites, reviewed existing infrastructure, observed drill core and reviewed Project data files with GCG’s technical staff.

Table 2-1: Site Visit Participants

Personnel	Company	Expertise	Date(s) of Visit	Details of Inspection
Ben Parsons	SRK	Mineral Resources	August 21 to August 23 2018	Database review and geological modeling
		Mineral Resources	April 11, 2018 to April 13, 2018	Underground site inspection, drilling station audit, mine laboratory visit, review drill core
		Mineral Resources	January 22, 2018 to January 25, 2018	Database review, and geological modeling
		Mineral Resources	February 6, 2017 to February 10, 2017	Database review, site discussions, review drill core
Fernando Rodrigues	SRK	Mining	March 11 to March 12, 2020	Operating and capital cost review and mine plan / infrastructure review
		Mining	February 19 to February 20, 2020	Cost review, mine planning discussions
		Mining	February 7 to February 8, 2019	Cost review, mine planning discussions.
		Mining	January 7 to January 10, 2019	Cost review, mine planning discussions.
		Mining	February 6 to February 8, 2018	Cost review, mine planning discussions,
		Mining	June 11 to June 14, 2018	Cost review, mine planning discussions.
		Mining	November 11 to November 21, 2018	Cost review, mine planning discussions.
		Mining	October 25 to October 27, 2017	Cost review, mine planning discussions.
		Mining	September 11, 2017	Cost review, mine planning discussions, visit underground infrastructure
		Mining	July 24, 2017	Cost review, mine planning discussions, visit underground infrastructure
		Mining	May 8, 2017	Cost review, mine planning discussions, visit underground infrastructure
		Mining	March 13 to March 15, 2017	Cost review, mine planning discussions.
Joanna Poeck	SRK	Mining	February 19 to February 20, 2020	Cost review, mine planning discussions.
		Mining	February 7 to February 8, 2019	Cost review, mine planning discussions.
		Mining	October 25 to October 27, 2017	Cost review, mine planning discussions.
Fredy Henriquez	SRK	Geotechnical	February 7 to February 8, 2019	Underground geotechnical mapping and core yard visit
Mark Willow	SRK	Environmental/ Permitting	November 29 to November 30, 2016	Project area, TSF
Eric Olin	SRK	Metallurgy/ Process	December 03 to December 04, 2019	Process Plant
Joshua Sames	SRK	Tailings	January 28 to January 29, 2020	TSF, Project area
Cristian Pereira	SRK	Hydrogeology	August 9 to August 11, 2020	Site visit to Sandra-K, Providencia and El Silencio mines

Personnel	Company	Expertise	Date(s) of Visit	Details of Inspection
Jeff Osborn	SRK	Infrastructure	March 11 to March 12, 2020	Operating and capital cost review and mine plan/infrastructure review
		Infrastructure	October 1 to October 4, 2018	Cost review, plan update discussions
		Infrastructure	February 6 to February 8, 2018	Project area, TSF

Source: SRK, 2020

2.4 Sources of Information

This report is based in part on internal Company technical reports, previous feasibility studies, maps, published government reports, Company letters and memoranda, and public information as cited throughout this report and listed in Section 27 References.

SRK has been supplied with numerous technical reports and historical technical files. SRK's report is based upon:

- Numerous technical review meetings held at GCG's offices in Medellín
- Discussions with directors, employees, and consultants of the Company
- Data collected by the Company from historical exploration on the Project
- Access to key personnel within the Company, for discussion and enquiry
- A review of data collection procedures and protocols, including the methodologies applied in determining assays and measurements
- Existing reports provided to SRK, as follows:
  - Face mapping provided by Segovia geotechnical team
  - Estudio Geomecanico y Minado, Mina Carla (2018) by Geomecanica del Peru EIRL Estudio Geomecanico y Minado, Mina El Silencio (2018) by Geomecanica del Peru EIRL
  - Estudio Geomecanico y Minado, Mina Providencia (2018) by Geomecanica del Peru EIRL
  - Estudio Geomecanico y Minado, Mina Sandra K (2018) by Geomecanica del Peru EIRL
  - Laboratory test program (2019) provided by Segovia geotechnical personnel
  - Medoro Resources Ltd., Gran Colombia Gold, S.A., Tapestry Resource Corp, NI43-101 Technical Report Frontino Gold Mines Ltd. Antioquia Colombia June 9, 2010 (SEWC);
  - Review of Exploration at the Gran Colombia Gold Mine, Municipalities of Segovia and Remedios, Department of Antioquia, Colombia, 10 July 2011 (Dr. Stewart D. Redwood);
  - Structural Review of the Zandor Capital Project Colombia, November 2011 (Telluris Consulting);
  - Structural Review of the Zandor Capital Project Colombia, January 2013 (Telluris Consulting);
  - Segovia Structural Geology Review Memorandum, August 2019 (SRK Consulting)
  - El Chocho Tailings Storage Facility, Final Design Report, prepared for Gran Colombia Gold Corp, Segovia Project, Knight Piésold, July 2012;
  - Presa El Chocho Para Almacenamiento de Lodos, Optimización del Volumen de Almacenamiento, Revision de Diseno Definitivo, prepared for Gran Colombia Gold Corp. Proyecto Pampa Verde, iConsult, February 2013;
  - Revisión Técnica del Informe de Diseño Final – Deposito de Almacenamiento de Relaves El Chocho, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales

Auríferos, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016a;
  - Análisis del Sistema de Manejo Actual de Relaves – Alterativas de Corto, Mediano, y Largo Plazo, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales Auríferos, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016b; and
  - Construction drawings provided by Gran Colombia Gold Corp for Fase IC of the El Chocho tailings storage facility prepared by Wood (dated September 2019).
  - Construction drawings provided by Gran Colombia Gold Corp for Fase 2A of the El Chocho tailings storage facility prepared by Wood (dated September 2019).
  - El Chocho Filtered Tailings Storage Facility Detailed Design Report for Phase 1C and 2A provided by Gran Colombia, prepared by Wood (Dated December 2019)
  - Maccaferri Geotube Stacking Drawings and Design Calculation Package provided by Gran Colombia (dated June 2018)
- Data files provided by the Company to SRK as follows:
  - Topographic grid data in digital format;
  - Drillhole database including collar, survey, geology, and assay;
  - QA/QC data including details on duplicates, blanks and certified reference material (CRM); and
  - DXF files, including geological interpretation, vein domain digitized two-dimensional (2D) section interpretations, stope outlines and mined depletions.

2.5 Effective Date

The effective date of this report is December 31, 2019.

2.6 Units of Measure

The metric system has been used throughout this report. Tonnes are metric of 1,000 kg, or 2,204.6 lb. All currency is in U.S. dollars (US$) unless otherwise stated.

3 Reliance on Other Experts

The Consultant's opinion contained herein is based on information provided to the Consultants by GCG throughout the course of the investigations. SRK has relied upon the work of other consultants in the project areas in support of this Technical Report.

SRK relied on GCG's legal representation to describe the:

- Geopolitical Status
- Mineral Rights
- Nature and Extent of Ownership
- Royalties, Agreements and Encumbrances

These items have not been independently reviewed by SRK, and SRK did not seek an independent legal opinion of these items.

SRK has relied on publicly available data and GCG management for information to address various Project financial aspects including:

- Information based on the standard Colombian corporate income tax (CIT) regime
- Carry forward losses
- Depreciation methods and eligible assets

These items have not been independently reviewed by SRK, and SRK did not seek an independent legal opinion of these items. The Consultants used their experience to determine if the information from previous reports was suitable for inclusion in this technical report and adjusted information that required amending. This report includes technical information, which 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 Consultants do not consider them to be material.

4 Property Description and Location

4.1 Property Location

The Segovia Project is a gold mining complex located in Colombia's Segovia-Remedios mining district, Department of Antioquia, north-west Colombia approximately 180 km northeast of Medellín (the Department capital of Antioquia), at 74° 42' W and 7° 04' N. The Carla Project is an development stage project located approximately 10 km southeast of Segovia at approximately 7° 04' 18.0'' N, 74° 41' 55.5'' W (Figure 4-1).

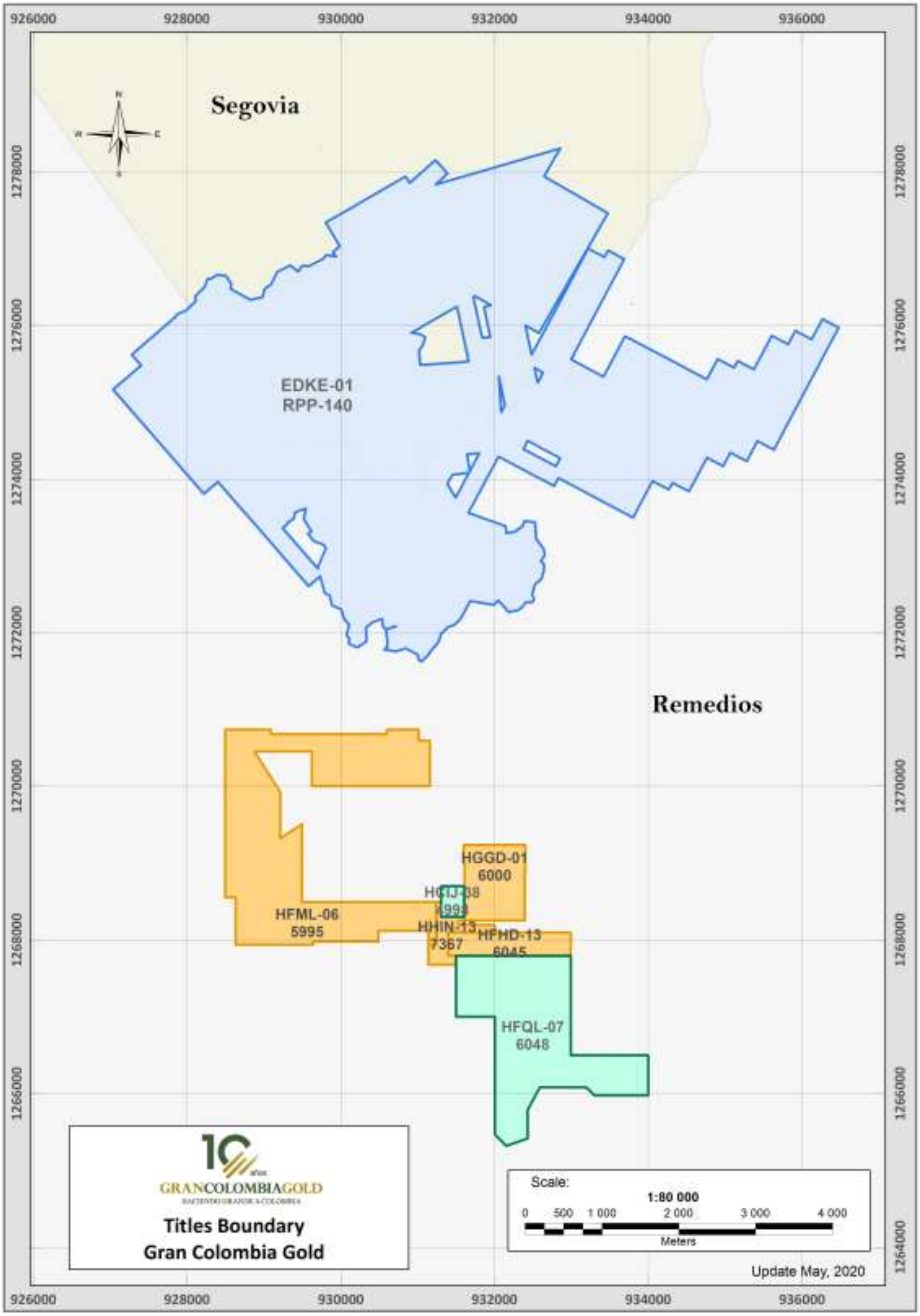
Source: SRK, 2017

Figure 4-1: Location Map of the Segovia Project

4.2 Mineral Titles

The mining rights for the Segovia Project comprise of Mining Title No. RPP 140 and two Exploration Licenses with a total area of approximately 2,906 hectares (ha), located in the municipalities of Segovia and Remedios, in the Department of Antioquia. The license was previously held by FGM but, as of August 2010, is now owned by Gran Colombia Gold Segovia Sucursal Colombia, a subsidiary of GCG. The Carla Project comprises four concessions (6045, 7367, 6000 and 5995), which have a combined area of approximately 567.24 ha, and are located largely to the south of the Segovia License.

The location of the Segovia and Carla License boundaries are shown in Figure 4-2.



Source: GCG, 2020

Figure 4-2: License Boundaries for Segovia and Carla Projects

SRK has not performed an independent verification of land title and tenure as summarized and has relied on GCG's legal advisor for land title issues.

The RPP type of contract license means Private Property Recognition of a Mining Title (Reconocimiento de Propiedad Privada or RPP) and it is not a Concession Contract. RPPs were created by Law 20 of 1969. The law respected prior mining and land rights and required that proof of mining be submitted. The RPP title is an old freehold property dating from the 19th Century. The RPP titles grant mining rights in perpetuity. Exploitation is required in order to maintain the validity of an RPP license.

The title was unified from RPP numbers 140 to 198 on March 27, 1998 by Resolution No. 700371. The original area of the mining titles was about 14,000 ha and was reduced to the present 2,871 ha due to a lack of mine production from the now relinquished area. The title was registered as RPP 140 on April 4, 1983 by Resolution No. 000410 of the Colombia Ministry of Mines and Energy. The private property of this mining title was granted to FGM in perpetuity until the depletion of mineral resources in the area covered by the title. Since RPP 140 is not a Concession Contract, the titleholder does not have to comply with the obligations imposed on Concessionaires or Licensees under Concession Contracts and Exploration or Exploitation Licenses. The main legal obligation that the titleholder of RPP 140 has is not to suspend exploitation for more than one year. The property is currently in exploitation. Other obligations such as payment of taxes (property tax, surface tax, etc.), payment of the compensation and royalties for exploited minerals and the presentation of semi-annual Basic Mining Reports and Technical Reports must be complied with but are not mandatory conditions to be met in order to retain the property of Mining Title RPP 140.

- Exploration License No. 3855 was issued to FGM on July 27, 1998 (Resolution 10397) and was registered on May 24, 2005 for a one-year term
- Exploration License No. 3854 was issued on August 3, 1998 (Resolution 10440) and was registered on June 14, 2005 for a one-year term

Within its term, FGM applied for the conversion of Exploration Licenses No. 3854 and 3855 into Concession Contracts. The Company informed SRK that the required documents for the Exploration License No. 3855 were filed on June 19, 2013, and Gran Colombia Gold Segovia Sucursal Colombia is waiting for a pronunciation from the mining authority granting the area under a concession contract. As to the case of Exploration License No. 3854, the Programa de Trabajos y Obras (PTO) was filed on 2013 and added in 2016, and Gran Colombia Gold Segovia Sucursal Colombia is waiting as well for a pronunciation from the mining authority granting the area under a concession contract. The Company is still waiting approval.

Concessions issued as per the conversion of Exploration Licenses will have a duration of 30 years from the date of registration, of which the initial one-year term of the Exploration License will be deducted.

There are also seven "Other titles" that belong to third parties surrounded by the area of RPP 140 with a total area of 35.81 ha. These are shown on Figure 4-3 and summarized in Table 4-1.

The exploration licenses and third-party titles are in gaps between the original mining titles which were unified to create RPP 140 in 1998. The area of 2,871 ha for RPP 140 is net of the exploration licenses and third-party titles.

Table 4-1: Mineral Tenure Information

Title Number	Area (ha)	Type	Date Awarded	Expiration Date
RPP 140	2,871	RPP Exploitation	May 16,1990	Granted in perpetuity
No. 3854	25.809	Exploration	June 14, 2005	13/06/2006 Undergoing conversion to concession
No. 3855	9.727	Exploration	May 24, 2005	23/05/2006 Awaiting
Total	**2,906**			
Other (7 minor licenses)	35			

Source: SRK, 2018

Source: GCG, 2019

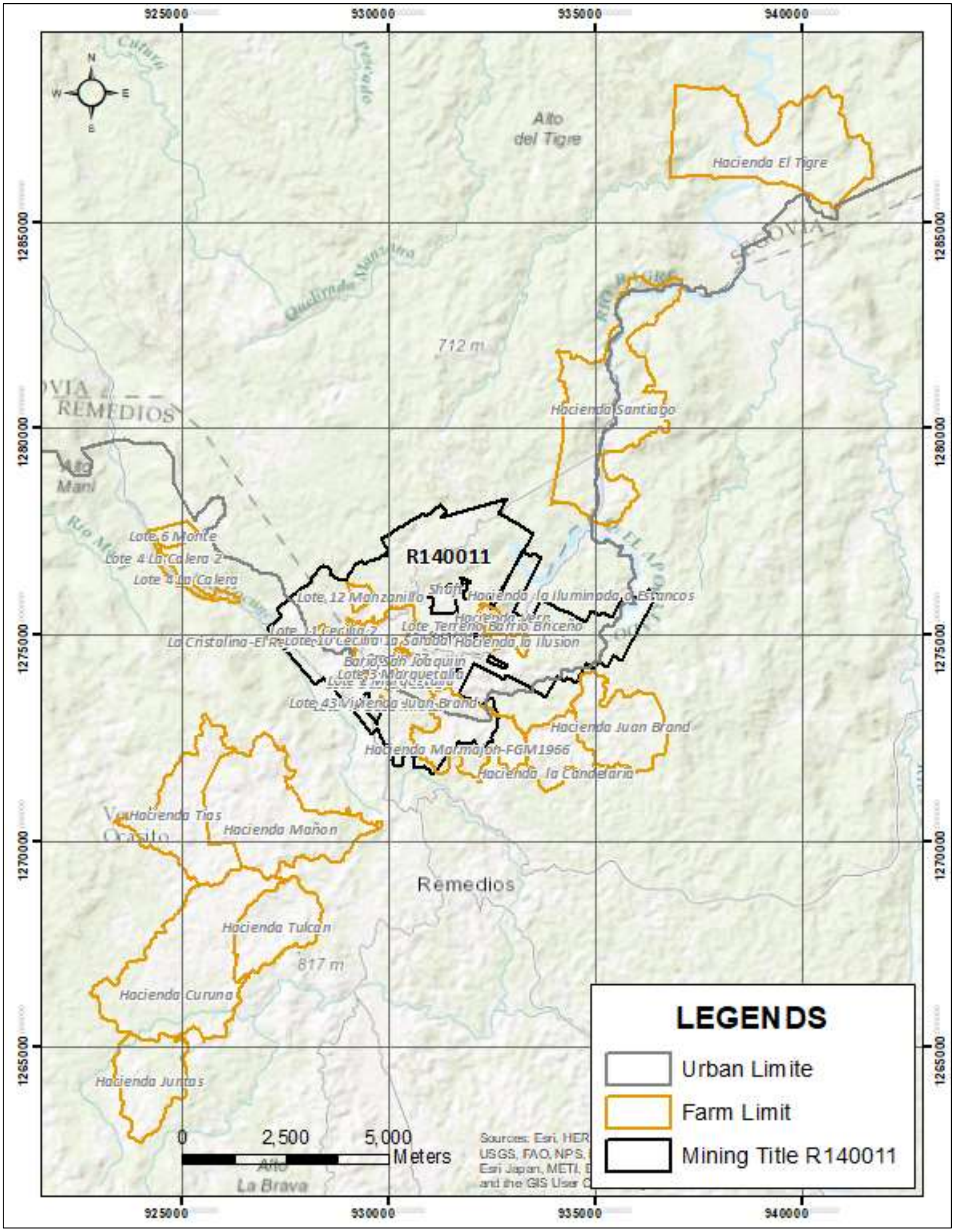
Figure 4-3: Location Map Showing Segovia License Boundary and Current Mines

4.3 Surface Land Rights

The Company owns 177 surface land properties (lots and haciendas or farms) in the municipalities of Segovia and Remedios, above and adjacent to the mining title RPP 140 and ancillary facilities such as the hydroelectric plants (Figure 4-4). These have a total area of about 6,406.8 ha. The surface land properties include essential properties and non-essential properties for the development of mining activities.

There are four surface land properties which are essential for the development of the mining activity, due to their geographic location regarding access to the mines. These properties are described as follows:

- La Salada Property (1,108 ha) – Located above the El Silencio Mine
- Marmajon Property (238 ha) – Located above the Providencia Mine
- La Iluminada Property (16.8 ha) – Located above the Sandra K Mine
- Hacienda Vera (15.3 ha) – Located above the Sandra K Mine



Source: GCG 2020

Figure 4-4: Land Tenure Map

4.4 Royalties, Agreements and Encumbrances

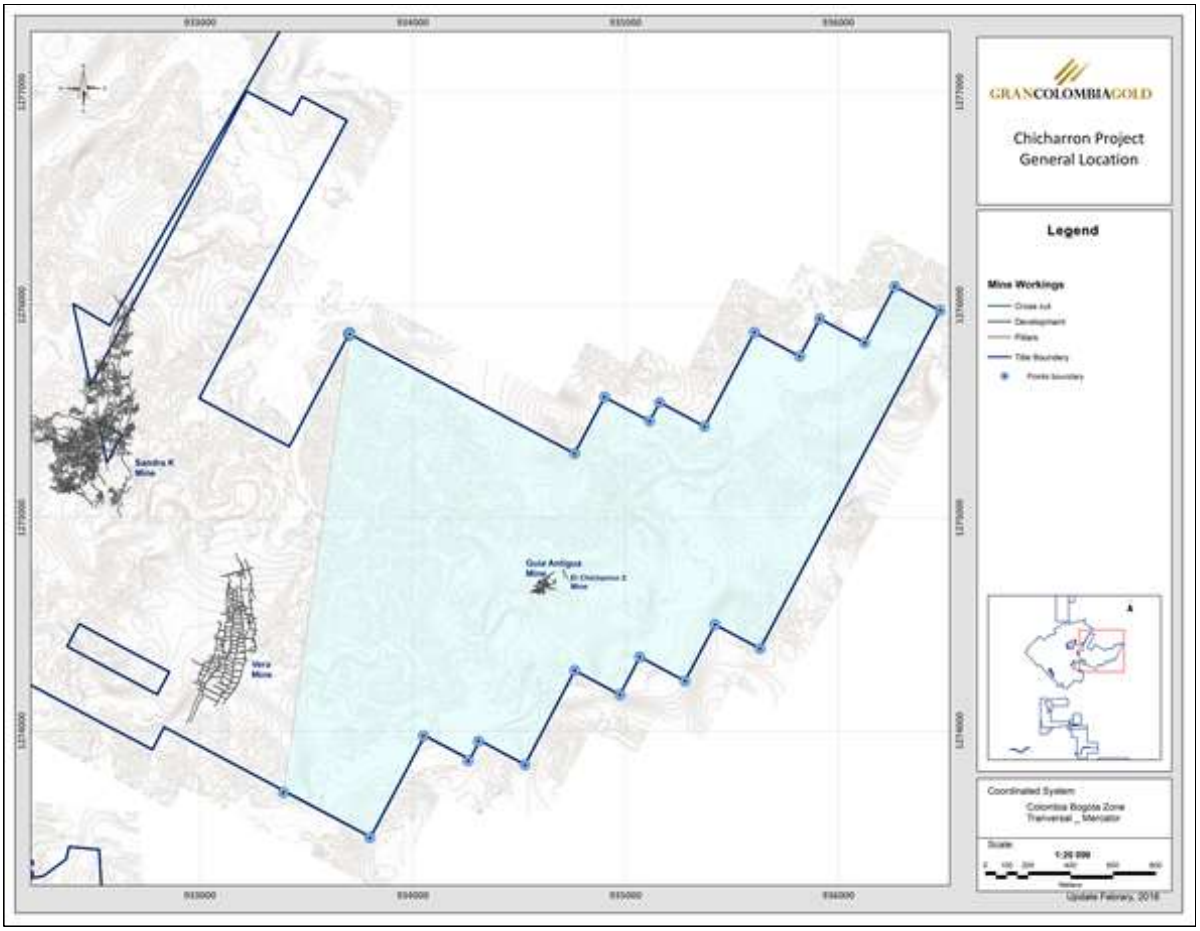
The Company has historically leased several other mines to 29 third-party operators through Mining Association Agreements (which are detailed in the June 9, 2010 NI 43-101 completed by SEWC). The Company monitors production at these operations. The agreements were initially set up on a short-term basis of typically on the order of six months, which in most cases have expired. The Company has continued some of the contracts on a rolling monthly basis, under the original terms and conditions of the contract, and, over the years, new Mining Association Agreements have been subscribed as an ongoing program for the integration of informal small miners into the supply chain, with added environmental, social and security benefits.

In November 2002, FGM entered into a Commodatum Agreement (non-remunerated mining rights) with the Municipality of Segovia to mine the Marmajito vein, which is located in the hanging wall of the Providencia Mine. The agreement was for a term of ten years and expired in Q4 2012.

In September 2003, FGM entered into a similar agreement with “Association Mutual El Cogote” to mine the El Cogote vein at the old El Cogote mine, which is north of the Providencia Mine and south of the Sandra K Mine. The agreement is for a term of ten years and expired in Q3 2013. GCG is currently in discussions with representatives of the El Cogote mine, to bring mining operations under the Company’s contract mining model, while also pursuing the legal adjudication of the mining rights back to the Company through several judicial actions.

The Company also leases sections of the Providencia and El Silencio mines to third-party artisanal contractors known as Navar y Masora. The Masora (Providencia Mine) and Navar (El Silencio Mine) contracts started in 2013. The Company buys RoM material from the contractor but SRK has not been provided with details of the annual production.

On July 26, 2018 Sandspring Resources Ltd. (TSX-V: SSP, OTCQX: SSPXF) (Sandspring) and GCG announced completion of the acquisition of the rights to a 386-hectare land package located in the Segovia Remedios mining district of Antioquia, Colombia (the Chicharron Project), which includes the historic silver-gold producing Guia Antigua Mine (Figure 4-5).



Source: GCG, 2018

Figure 4-5: Map Showing the Location and Boundaries Defining the Chicharron Project

The Chicharron Project was previously held through an unincorporated joint venture arrangement between Industrias Argentum SAS, a Colombian company, and a Colombian branch office of a subsidiary of GCG. (TSX: GCM). Sandspring has acquired control of 100% of the Chicharron Project in consideration for the issuance of 36,000,000 common shares, a cash payment of US$1 million (M) and the reimbursement of certain expenses.

4.5 Environmental Liabilities and Permitting

4.5.1 Environmental Liabilities

The Company's subsidiary, (now Gran Colombia Gold Segovia Sucursal Colombia) made an agreement dated March 29, 2010 to purchase the mining and other assets of FGM under a Promise to Sell governed by Colombian agreement, which was approved by the Liquidation Advisory Board. The sale included all assets of FGM with no associated financial liability. The assets also include RPP 140, plus several lots of land covering the location of the mines and ancillary facilities, as well as processing, power generation, accommodation and medical facilities, among others.

The 2001 Mining Code requires the concession holder to obtain an insurance policy to guarantee compliance with mining and environmental obligations which must be approved by the relevant authority, annually renewed, and remain in effect during the life of the project and for three years from the date of termination of the concession contract. The value to be insured will be calculated as follows:

- During the exploration phase of the project, the insured value under the policy must be 5% of the value of the planned annual exploration expenditures
- During the construction phase, the insured value under the policy must be 5% of the planned investment for assembly and construction
- During the exploitation phase, the insured value under the policy must be 10% of the value resulting from the estimated annual production multiplied by the pithead price established annually by the government

According to the Code, the concession holder is liable for environmental remediation and other liabilities based on actions and/or omissions occurring after the date of the concession contract, even if the actions or omissions occurred at a time when a third-party was the owner of the concession title. The owner is not responsible for environmental liabilities which occurred before the concession contract, from historical activities, or from those which result from non-regulated mining activity, as has occurred on and around the Segovia Project site.

As noted above, given the tenure of Mining Concession RPP 140, the Environmental Insurance Policy is not required for the Segovia Operation. Current liabilities at the site are generally associated with the reclamation and closure of the mining facilities and tailings disposal areas. Given the extensive impacts associated with artisanal mining in the area, a clear delineation between possible environmental liabilities attributable to the Company and those from unregulated mining activities is not possible; however, the Company has been making a concerted effort to deal with legacy environmental issues in order to better make that separation. The social issues related to mining in Colombia, especially the interactions between mining companies and artisanal operators, have been violent at times, and could continue to pose a health and safety liability for Company employees and the neighboring communities.

4.5.2 Required Permits and Status

Discussion related to mining in Colombia, the Mining and Environmental Codes, as well as the permits and authorizations necessary for mineral exploration and exploitation is provided in Section 20.3.

4.6 Other Significant Factors and Risks

SRK is not aware of any other factors or risks that affect access, title or right or ability to perform work on the property other than those stated in the above sections which SRK would expect to have a material impact on the resource statement.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Topography, Elevation and Vegetation

The Project is located in the foothills of the north-eastern part of the Central Cordillera of the Colombian Andes. The topography is a low-lying plateau or erosional surface at 600 to 850 m altitude, which is incised by valleys with a relief of less than 250 m, but with steep slopes of between 20° and 40°. The drainage pattern is dendritic.

The principal rivers in the Project area are the Pocuné, Bagre and Ité. On the west side of Segovia, the Pocuné River drains north into the Nechi River, which hosts major placer gold mining operations. The Nechi is a tributary of the Cauca River, which in turn joins the Magdalena River which flows into the Caribbean Sea at Barranquilla. The Bagre River drains the northeast part of the area and is also a tributary of the Nechi. On the east side of Segovia, the Ité River flows southeast and then northeast directly into the Magdalena River.

Vegetation in the local area in its primary state is tropical forest, but most areas have been cleared for cattle grazing with some degree of secondary forest growth.

5.2 Accessibility and Transportation to the Property

Segovia is located 180 km NE of Medellín in the Segovia-Remedios mining district, Department of Antioquia, north-western Colombia, at 74° 42’ W and 7° 04’ N.

Road access from Medellín to Segovia is 225 km, which has recently been upgraded and is now paved the entire length. Going northwards, there is a 61-km road from Segovia to Zaragoza, and a further 120 km to Caucasia, to connect with roads that lead to the Atlantic ports of Colombia (Figure 5-1).

Air access is by a 30-minute charter flight from Medellín to Otú, 15 km south of Segovia, which has an asphalt-surfaced airstrip. From Otú, it is a 20-minute drive to Segovia via the towns of Remedios and La Cruzada.

Source: SRK: 2017 (via the Colombia Ministry of Transport website)

Figure 5-1: Map Showing Road Access to Segovia Property and Major Routes through the Department of Antioquia

5.3 Climate and Length of Operating Season

Different climates can be found within the region and vary with elevation. These climates can be defined as:

- Hot (>24°C) below 1,000 m in the Cauca River valley
- Temperate (18°C to 24°C) between 1,000 and 2,000 m
- Cold above 2,000 m (12°C to 18°C)

Segovia is situated within the hot zone where the climate is tropical and wet with an annual rainfall of approximately 2,670 millimeters (mm). The town of Segovia has an average temperature of 25°C. Rainfall has a bimodal distribution with the wettest months from May to December and a dry season from December to May. A weather station at La Cruzada, Remedios recorded an annual rainfall of 2,670 mm, with an average temperature of 25°C, and a relative humidity of 70%.

5.4 Sufficiency of Surface Rights

See Section 4.3.

5.5 Infrastructure Availability and Sources

5.5.1 Power

The Project is well supplied with power from two sources. The first is a large utility company Empresas Públicas de Medellín E.S.P (EPM). EPM is a major utility, that in addition to power, supplies natural gas and water. EPM supplies about 20% of Colombia's power. The second source of power comes from Proelèctrica a smaller independent producer that operates the 8.6 million watts (MW) Doña Teresa hydroelectric project approximately 20 km from the Segovia site. Power reliability has much improved from the past with good consistency.

5.5.2 Water

The Project has water supplied from the underground dewatering efforts and rainwater. The water is stored in a pond named La Tupia lake near the Maria Dama processing facility. The plant uses approximately 100 cubic meters per hour (m^3/hr) supplied mainly by La Tupia.

5.5.3 Mining Personnel

The project has good access to skilled mining personnel as there has been mining in the area for well over 100 years. There are a large number of artesian miners in the area and GCG has a successful recruiting program when personnel are needed. A substantial number of contract miners are available for hire to supplement the GCG work force. The miners are available from Segovia, La Cruzada and the surrounding communities.

5.5.4 Potential Tailings Storage Areas

The site utilizes the El Chocho facility for long term tailings storage. The site is adequate for current life of mine (LoM) plans.

5.5.5 Potential Waste Disposal Areas

Waste is stored at the mine sites and is used productively throughout the operation. The Shaft site is being considered for additional waste rock storage. Adequate sites exist to manage the waste for the LoM. Some waste will be utilized in construction of additional cells at the El Chocho Tailings Storage Facility.

5.5.6 Potential Processing Plant Sites

The Project is utilizing the existing Maria Dama plant to process the mined ore. A second site is available if needed at the nearby Pampa Verde location where a mill construction was initiated but then halted as the gold price dropped. There are no current plans to utilize the Pampa Verde site.

6 History

In preparing these sections of this report relating to background and historical information, exploration and geological setting, SRK has relied upon previous Technical Reports by SRK, SEWC and Dr. Stewart Redwood.

Initial exploration activity began in the town of Remedios in 1560, but activity was limited due to the location and difficult terrain to access mineable areas. By the mid-18th century mining activity was almost abandoned. A second phase of gold mining began following independence and an influx of investment from Great Britain, through London-registered mining companies. Mining in the district began in large around the early 1850s, with the town of Segovia founded in 1869, a few kilometers north of the town of Remedios. Segovia was declared a separate municipality in 1885.

6.1 Prior Ownership and Ownership Changes

FGM is reported to have been founded in 1852 but was only detailed as the Frontino and Bolivia (South American) Gold Company Limited in 1864. The company mined in the Municipality of Frontino and the Bolivia Mine at Remedios. It was formed to buy and work the mines of El Silencio, Cordoba, La Salada and San Joaquin on a property of 5,000 acres.

In 1874, the operations in Frontino were floated off as a separate company, the Antioquia (Frontino) Gold Mining Co Ltd. The company then focused on the Remedios district, where it purchased additional mines, and by the late 19th century it was one of the largest companies in Colombia, with 700 employees. Gold production from the whole district was 24,666 oz in 1888 and 41,250 oz in 1893.

GCG through its subsidiary Zandor, (now Gran Colombia Gold Segovia Sucursal Colombia) made an agreement dated March 29, 2010 to purchase the mining and other assets of FGM under a Promise to Sell governed by Colombia agreement, which was approved by the Liquidation Advisory Board. The sale included all assets of FGM with no associated financial liability. The assets also included RPP 140, plus several lots of land covering the location of the mines and ancillary facilities, as well as processing, power generation, accommodation and medical facilities, among others.

The sale price was COP380,000,000,000 (approximately US$200M) net of taxes, as adjusted, with the exclusive purpose of paying FGM’s labor and pension liabilities. Zandor will have no further liabilities with respect to any historical pension liabilities, severance costs and other liabilities. The Company announced the completion of the acquisition on August 23, 2010.

In March 2010, Medoro and GCG entered into an agreement for GCG to acquire a 50% interest in Zandor and the FGM assets. This was later modified (June 8, 2010), and as part of the agreement GCG would be responsible for all the acquisition costs (approximately US$7.5M) for a 95% interest in Zandor, with Medoro retaining 5% (with the option of acquiring an additional 45% interest in Zandor). The agreement also included GCG acting as the operator at the project.

On June 13, 2011, GCG and Medoro Resources Ltd, merged to form a single company Gran Colombia Gold Corp., which is the 100% owner of Gran Colombia Gold Segovia Sucursal Colombia.

6.2 Exploration and Development Results of Previous Owners

It is understood that the previous owners of the Segovia Project (FGM) did not complete any regional surface geological mapping, geochemistry, or surface or airborne geophysics. Historical exploration data is limited to underground mapping and sampling and drilling for resource development.

In addition to the operating mines included in the current Mineral Resource a number of other mines exist within the RPP license. SRK does not consider the exploration databases to be of sufficient levels to produce a compliant Mineral Resource estimate but recommends that GCG begin the process of capturing the available information and to generate a regional model to assist in planning future exploration programs.

6.3 Historic Mineral Resource and Reserve Estimates

A number of different Mineral Resource estimates have been completed on the property during the history of the project.

In June 2010, SEWC reported a Mineral Resource estimate based on a variable cut-off reflecting different gold price assumptions (US$1,000/oz and US$850/oz) for Indicated and Inferred Mineral Resources respectively and a Probable Mineral Reserve estimate. These estimates are dated and were based on only a small sub-section of database and are therefore superseded by the on-going work completed by SRK.

On April 2, 2012, SRK produced a Mineral Resource Statement for the Carla Project, reported at a CoG of 3 g/t Au. CoG's are based on a price of US$1,400/oz of gold and gold recoveries of 85% for resources. The Carla Mineral Resource statement is presented in Table 6-1.

Table 6-1: SRK Carla Mineral Resource Statement with Effective Date of April 2, 2012 using 3 g/t Au Cut-off (1)

Carla Underground			
Category	**Quantity (t)**	**Grade (Au g/t)**	**Metal (oz)**
Measured			
Indicated	245,000	7.5	59,000
Total M&I	**245,000**	**7.5**	**59,000**
Inferred	341,000	4.9	54,000

Source: SRK

(1) Mineral Resources are reported at a cut-off grade of 3.0 g/t Au. Cut-off grades are based on a price of US$1,400 per ounce of gold and gold recoveries of 85% for resources, without considering revenues from other metals. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate. The Concession is wholly owned by and exploration is operated by the Company.

Between 2010 and 2019, SRK has produced a number of Mineral Resource estimates for the Segovia Project. The most recent Mineral Resource Statement for the Project has an effective date of December 31, 2018, which is the last date assays were provided to SRK.

The Mineral Resource estimation process was a collaborative effort between SRK and GCG staff. GCG provided SRK with an exploration database with flags of the main veins as interpreted by GCG. SRK completed a statistical analysis, including a capping and compositing analysis on the coded samples.

SRK imported the geological information into Aranz Leapfrog® Geo (Leapfrog®) to complete the geological model. Leapfrog® was selected due to the ability to create rapid, accurate geological interpretations, which interact with a series of geological conditions.

SRK has produced block models using Datamine™ Studio RM Software (Datamine™). The procedure involved construction of wireframe models for the fault networks, veins, definition of resource domains (high-grade sub-domains), data conditioning (compositing and capping) for statistical analysis, geostatistical analysis, variography, block modeling and grade interpolation followed by validation. Grade estimation has been based on block dimensions of 5 m by 5 m by 5 m, for the updated models. The block size reflects that the majority of the estimates are supported via underground channel sampling and spacing ranging from 2 to 5 m. Gold grades have been interpolated using nested three pass approaches within Datamine™, using an Ordinary Kriging (OK) routine for the main veins.

The Mineral Resources were reported in situ based on modeled geological boundaries and do not include the additional material required to be mined by the minimum stoping width. Additionally, Mineral Resources in pillars in the mined-out areas were only reported in the inferred category as the remaining volume is uncertain given artisanal mining activity.

The classification is based on standards as defined by the CIM Definition Standards - For Mineral Resources and Mineral Reserves, prepared by the CIM Standing Committee on Reserve Definitions and adopted by the CIM Council on May 14, 2014. The Resources at the Project have been classified as Measured, Indicated and Inferred at Providencia. At El Silencio and Sandra K, only Indicated and Inferred Resources have been defined. The main changes in the classification compared to the previous estimates, occurred at El Silencio where previously all material was classified as Inferred due to a lack of verification sampling or confidence in the depletion/pillar outlines. SRK limited the Indicated Mineral Resources to the lower portion of the mine (previously flooded), where the depletion limits are considered more accurate due to a lack of mining activity over prolonged periods of time by Contractor mining.

SRK reported the Mineral Resource based on a single cut-off and assumptions for potential for economic extraction using an assumed minimum mining width. An investigation into CoG's was completed by SRK as part of the previous (2014) PEA Based on a US$1,400/oz gold price and an average mining and processing costs, SRK limited the Mineral Resource using a CoG of 3.0 g/t Au over a (minimum mining) width of 1 m.

The classified Mineral Resource is sub-divided into material within the remaining pillars (pillars), and the long-term resource material (LTR) outside of the previously mined areas, with the classification for the pillars considered separately given the uncertainty of the extent of remnant pillar mining currently being undertaken by Company-organized co-operative miners. The Mineral Resource statement for the Project is shown in Table 6-2.

Table 6-2: SRK Mineral Resource Statement for the Segovia and Carla Projects with Effective Date of December 31, 2018

Project	Deposit	Type	Measured			Indicated			Measured and Indicated			Inferred		
			Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)	Tonnes (kt)	Grade (g/t)	Au Metal (koz)
Segovia	Providencia	LTR	110	16.7	59	299	16.6	159	409	16.6	218	192	10.1	63
		Pillars	108	23.5	81	107	15.8	54	215	19.7	136	380	19.9	244
	Sandra K	LTR				329	9.8	103	329	9.8	103	321	7.1	73
		Pillars				105	11.5	39	105	11.5	39	0	6.7	0
	El Silencio	LTR				853	11.1	304	853	11.1	304	1,276	9.1	374
		Pillars				1,444	10.3	480	1,444	10.3	480	442	12.3	174
	Las Verticales	LTR										771	7.1	176
	Subtotal Segovia Project	LTR	110	16.7	59	1,480	11.9	566	1,590	12.2	625	2,561	8.3	686
		Pillars	108	23.5	81	1,655	10.8	573	1,763	11.5	654	823	15.8	418
Carla	Subtotal Carla Project	LTR				154	9.7	48	154	9.7	48	178	9.3	53

Source: SRK, 2019

The Mineral Resources are reported at an in situ cut-off grade of 3.0 g/t Au over a 1.0 m mining width, which has been derived using a gold price of US$1,400/oz, and suitable benchmarked technical and economic parameters for underground mining and conventional gold mineralized material processing. Each of the mining areas have been sub-divided into Pillar areas ("Pillars"), which represent the areas within the current mining development, and LTR, which lies along strike or down dip of the current mining development. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate.

6.4 Historic Production

It has previously been reported that the historic production from FGM between 1869 and 2010, contained more than 4.6 million oz of gold.

Total gold production by the Providencia, El Silencio and Sandra K mines between 2000 and 2019 is given in Table 6-3, with the majority of production noted to be from the Providencia Mine.

Table 6-3: Summary Statistics for Total Gold Production at Providencia, El Silencio and Sandra K Mines 2000 to 2019 (1)

Year	Tonnes (t)	Gold (oz) Total	Rec (%)	Gold Grade (g/t)
2000	149,925	85,146	100.1	17.7
2001	170,135	50,996	98.0	9.7
2002	168,220	42,353	101.0	7.8
2003	144,141	42,794	88.0	9.2
2004	158,304	51,553	91.0	10.1
2005	178,528	54,858	91.0	9.6
2006	202,168	60,873	86.9	9.4
2007	218,963	40,673	94.0	5.8
2008	185,816	33,199	100.8	5.6
2009	175,230	61,136	90.3	10.9
2010	149,214	46,389	92.2	9.8
2011	173,684	64,544	93.3	6.0
2012	260,806	97,061	81.6	11.0
2013	303,131	76,461	86.7	8.8
2014	186,315	63,293	89.3	11.5
2015	145,772	82,242	90.4	18.3
2016	202,727	114,760	90.1	17.4
2017	194,143	137,339	90.5	21.2
2018	302,509	181,831	90.1	19.6
2019	451,449	214,241	90.0	16.4

Source: GCG, 2019

(1) Excludes tonnes processed, gold grade and gold ounces produced by the Company from materials sourced from contract miners operating outside of the Providencia, El Silencio and Sandra K mines.

A big contributor to the oz produced are the contract miners. Table 6-4 shows the tonnes milled, gold sales in oz, silver sales in oz, realized gold and silver prices and FX rate for the last six years.

Table 6-4: Summary Statistics for Total Production Including Contractors 2012 to 2019

Description	2013	2014	2015	2016	2017	2018	2019
Tonnes Milled							
Company operated	188,401	104,359	104,346	145,541	108,486	187,128	251,263
Contract miners	139,013	133,380	106,703	139,353	169,715	183,278	200,187
Total	**327,414**	**237,739**	**211,049**	**284,894**	**278,201**	**370,406**	**451,450**
Per day	897	651	578	778	762	1,015	1,237
Gold Sales (oz)							
Company operated	24,016	15,237	15,935	30,075	50,264	88,275	109,292
Contract miners	55,483	58,604	77,358	95,772	98,248	102,140	104,949
Total	**79,499**	**73,841**	**93,293**	**125,847**	**148,512**	**190,415**	**214,241**
Per day	218	202	256	344	407	522	587
Silver Sales (oz)	**111,173**	**86,445**	**99,236**	**144,178**	**126,384**	**158,050**	**187,820**
Realized Prices (net of refining charges) (US$ per oz)							
Gold	$1,418	$1,237	$1,125	$1,220	$1,226	$1,239	$1,396
Silver	$23	$18	$14	$14	$14	$13	$15
COP/US$ FX Rate	1,869	2,002	1,743	3,051	2,951	2,956	3,278

Source: GCG, 2020

Table 6-5 shows the production per mine for Company operated mining areas.

Table 6-5: Summary Statistics for Company-operated Production 2012 to 2019

	2013(1)	2014(1)	2015	2016	2017	2018	2019
Milling days	365	365	365	366	365	365	365
Company-Operated Mining Areas							
Mina Providencia							
Tonnes milled			27,800	49,355	44,795	77,907	94,459
Head grade (g/t)			4.51	6.60	19.6	22.6	29.5
Recovered gold (oz)			3,640	9,435	25,608	62,131	80,772
Mina Sandra K							
Tonnes milled			7,523	5,296	14,052	41,696	57,944
Head grade (g/t)			4.30	10.11	9.3	7.0	7.6
Recovered gold (oz)			938	1,551	3,786	8,436	12,801
Mina Carla							
Tonnes milled							
Head grade (g/t)							
Recovered gold (oz)							
Mina El Silencio							
Tonnes milled			69,025	90,890	49,639	67,525	98,859
Head grade (g/t)			3.30	2.58	2.3	4.7	5.5
Recovered gold (oz)			6,612	6,788	3,372	9,160	15,824
Mill Circuit Inventory Change	1,856	1,915	4,679	12,400	17,482	9,770	105.25
Total Company-Operated							
Tonnes milled	188,401	104,358	104,348	145,541	108,486	187,128	251,263
Tonnes milled per day	516	286	286	398	297	513	688
Average mill head grade	4.35	4.45	3.69	4.22	10.4	14.7	15.0
Mill Recovery (excluding mill circuit)	86.0%	89.2%	90.3%	90.1%	90.6%	90.0%	90.2%
Total Gold Production (oz)	**24,526**	**15,235**	**15,869**	**30,174**	**50,248**	**89,497**	**109,292**

Source: GCG, 2018
(1) Detailed information by mine is not available for 2013 and 2014.

Table 6-6 shows the production per mine for Contract Miner operated mining areas.

Table 6-6: Contract Miners Operated Mining Areas Summary Statistics for 2013 to 2019

	2013	2014	2015	2016	2017	2018	2019
Milling days	365	365	365	366	365	365	365
Processed at Maria Dama Plant							
Mina Providencia							
Tonnes milled	33,102	33,029	13,282	13,102	17,029	23,820	22,308
Head grade (g/t)	15.39	21.94	55.07	53.00	40.0	31.1	27.8
Recovered gold (oz)	14,294	20.786	21,289	20,119	19,802	21,506	17,938
Mina Sandra K							
Tonnes milled	15,066	11,678					0
Head grade (g/t)	11.47	11.43					0
Recovered gold (oz)	4,816	3,834					0
Mina El Silencio							
Tonnes milled	66,562	37,250	28,144	44,084	68,628	91,561	88,420
Head grade (g/t)	17.64	21.91	55.14	50.50	33.7	26.7	27.5
Recovered gold (oz)	32,825	23,438	45,086	64,467	67,289	70,828	70,366
Other							
Tonnes milled	24,283	51,423	65,277	82,168	84,058	67,897	89,460
Head grade (g/t)	5.52	7.61	5.42	4.73	4.6	5.7	6.43
Recovered gold (oz)	3,765	11,213	10,295	11,262	11,254	11,219	18,491
Total Contract Miners							
Tonnes milled	139,013	133,380	106,702	139,355	169,715	183,278	200,187
Tonnes milled per day	381	365	292	381	465	502	548
Average mill head grade	14.32	15.49	24.72	23.75	19.9	19.5	18.1
Mill Recovery	87.0%	89.2%	90.4%	90.1%	90.5%	90.1%	90.2%
Recovered gold (oz)	55,700	59,271	76,669	95,847	98,345	103,553	104,949
Processed at Contract Miner Facility (1)							
Total Gold Production (oz)			**357**	**240**	**66**		

Source: GCG, 2019

(1) Represents gold production from mill feed mined under contract by a third-party and processed at their own plant for delivery directly to the refinery on GCG's behalf. As such, tonnes, grade and recovery data are not available.

7 Geological Setting and Mineralization

The Project license boundaries are separated into a number of identified exploration prospects and operating mines, which all form part of the Segovia-Remedios gold district.

7.1 Regional Geology

The Segovia-Remedios gold district is located in and around the Municipalities of the same names within the Colombian Central Cordillera. This region is dominated by metamorphic and igneous rocks which are broadly orientated north south. The region also contains minor/localized deposits of unconsolidated alluvial material and the prevailing climatic conditions have resulted in the formation of a thick layer of yellow to brownish saprolite which may exceed 60 m in depth.

The district is hosted by the Segovia Batholith of granodiorite to diorite composition (Gonzalez, 2001; Alvarez et al, 2007) Figure 7-1. The batholith is 10 km wide at Segovia and is elongated N-S. The region is structurally controlled by a number of faults oriented north-south to 350°, most notably the Otú-Pericos, which post-dates the Nus and Bagre faults, and these are all considered to be younger than the Lower Cretaceous and form part of the regional Palestrina Fault System that bounds the Segovia Batholith to the east.

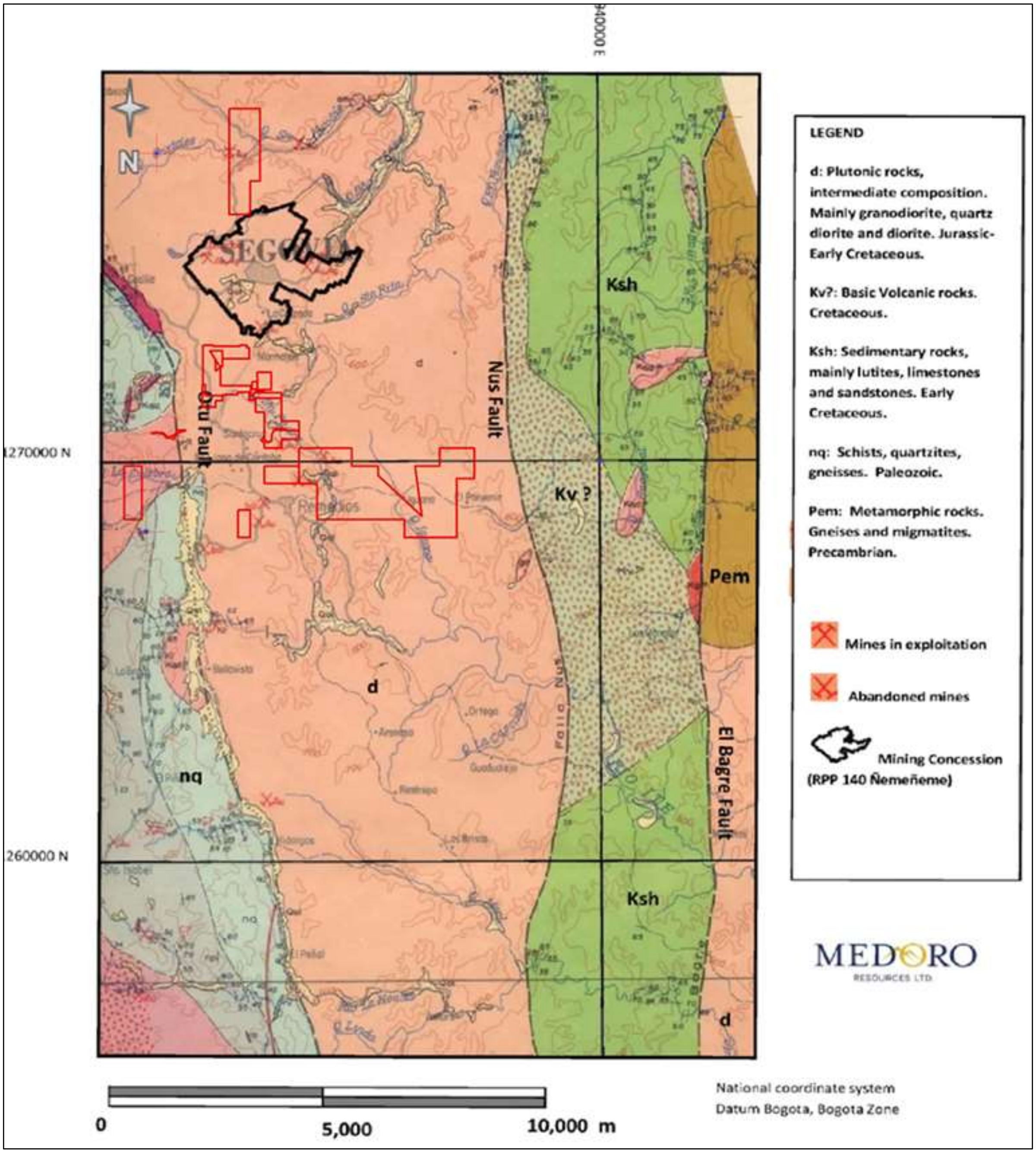
The Otú fault is steeply dipping, trends 340° and has a lateral-sinistral displacement of approximately 66 km. It defines the contact between Paleozoic rocks comprising quartz-sericite and graphitic schist, metavolcanic schist of the Cajamarca Group with felsic gneissic intercalations and the Cretaceous Antioquia Batholith and Santa Isabel Stock to the west and the Segovia Batholith, and Cretaceous basic volcanic rocks and sediments and minor Paleozoic gneiss, micaceous schist, quartzite, marble and associated calcareous rocks to the east.

The Bagre fault trends 020° in the south and 010° in the north and has a lateral sinistral displacement interpreted to be more than 50 km. The Nus fault trends 350° and was interpreted to have a steep dip and lateral dextral displacement >50 km.

The Segovia Batholith (160 ± 7 Ma K/Ar in hornblende; Feininger et al, 1972) comprises a total of some 5,600 square kilometer (km^2) orientated north-south to 030°, and predominantly comprises grey-green medium grained diorite to quartz diorite with local rapakivi textures and variations from quartz monzonite to granodiorite and gabbro (González and Londoño, 2002). It is intruded by dolerite and andesitic dikes along discontinuities that are considered to comprise one of the controls of the gold mineralization.

Faulting and fracturing within the Segovia batholith forms an important control on mineralization and is considered to comprise three sets:

- Early compression to produce 010 040º towards 030º and shallow dipping represented by diorite-andesite dikes and quartz-pyrite veins of 0.15 to 2.60 m in width that have been mined for gold mineralization associated with sphalerite, galena, chalcopyrite, and rare scheelite, pyrrhotite, with variable calcite content
- Clean fractures at 310° to 270º which dip 25° to 30º towards north
- Vertically dipping fractures which trend 325º (González and Londoño, 2002)



Source: GCG, (under previous ownership Medoro), 2012

Figure 7-1: Regional Geologic Map Illustrating the Location of the Segovia Mining Concession

7.2 Local Geology

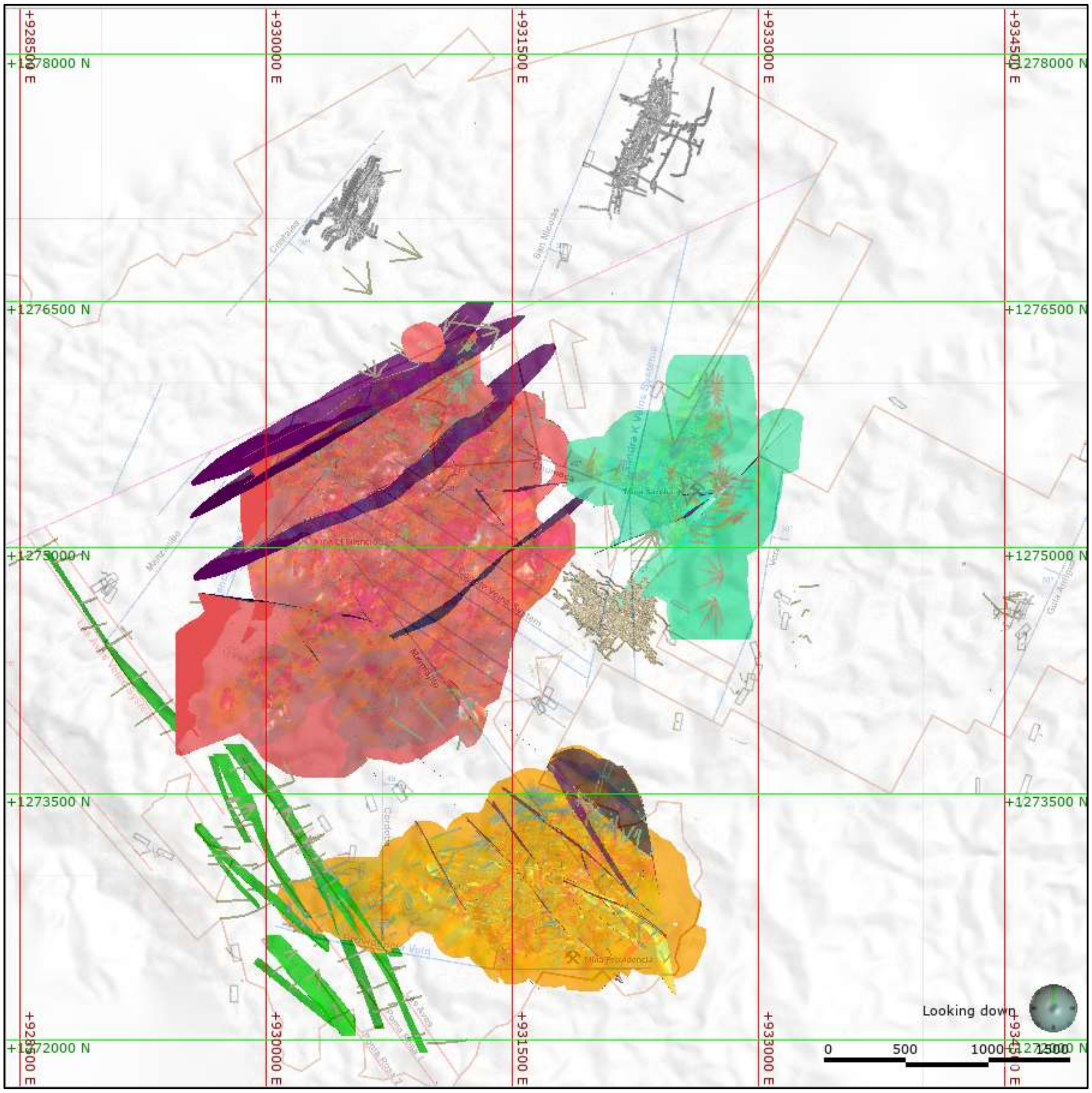
Within the current RPP property boundaries there are a number of operating mines or projects, with the main areas of interest being:

- Providencia
- El Silencio
- Sandra K
- Las Verticales

Each of the mines has been focused on one of the main vein structures, but typically have a number of minor veins or splays which are also known to have geological continuity. Figure 7-2 shows a plan of the main veins, which have been subsequently cut by late stage faulting. The known strike length of the Providencia mineralization is approximately 2 km, and El Silencio 2.7 km, while Sandra K has only been explored over 1 km in strike length. With the exception of Las Verticales each of the veins dip on average between 25° and 35°. The current known dip extension on the Providencia mineralization is approximately 1.2 km, at El Silencio it is reported at approximately 2.0 km and Sandra K is approximately 900 m within the license boundary but is known to extend beyond this limit. The Las Verticales Vein System is made up of a series of shear-zones which strike to the northwest and are considered steeply dipping (>80º).

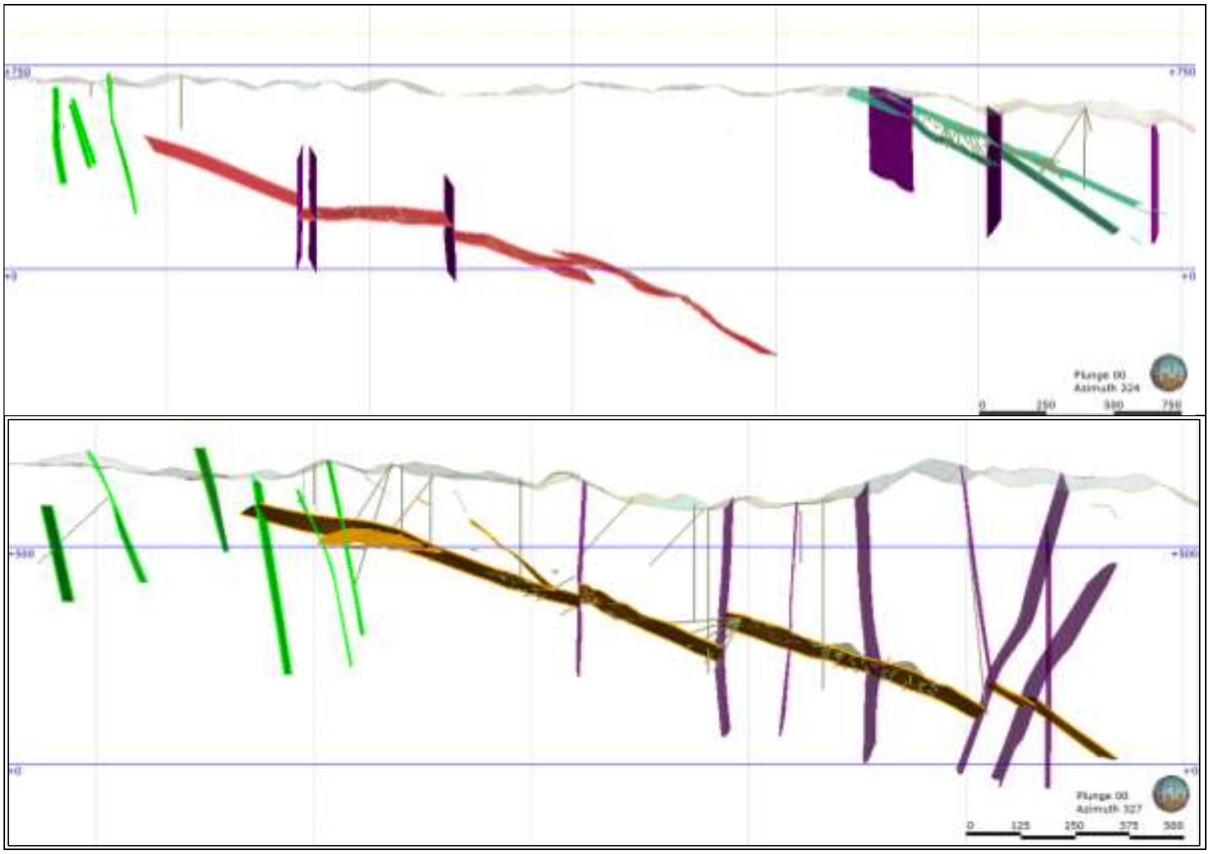
In addition to the four main projects at Segovia a number of exploration targets exist around other historical or small-scale mines within the license. These include but are not limited to the following structures:

- Vera
- Marmajito
- San Nicolas
- Cristales
- Cogote
- Chumeca



Source: SRK, 2019

Figure 7-2: Schematic Plan Showing the Main Mineralization Zones at Segovia, with Additional Mine Areas Shown in Grey



Source: SRK, 2019

Figure 7-3: Schematic Cross Section (SW-NE) Showing Example of the Mineralized Veins (a) El Silencio and Sandra K (b) Las Verticales and Providencia

7.3 Property Geology

7.3.1 Segovia RPP License

The only published description of the geology of Frontino is by Tremlett (1955) who described the structure of the mineralized veins. There are also several unpublished reports for FGM (Bonoli, 1960; Wieselmann & Galay, 1982; Castaño Gallego, 2008; Muñoz, 2008).

The Frontino mines are hosted entirely by granodiorite/granitoid rocks of the Segovia Batholith that has been recorded as being of late Jurassic age (150.25 ± 0.73 Ma) but some dating of rocks in the region suggest it may be much younger and mid- to late-Cretaceous in age (~68.4 ±5.5 Ma to 84.1 ± 5.5 Ma, Echeverry et al., 2009). The granodiorite is coarse grained (about 5 mm), equigranular and fairly dark colored with white plagioclase, quartz and dark green hornblende.

<u>Mineralization</u>

Gold mineralization at Segovia occurs in mesothermal quartz-sulfidic veins hosted by diorite to granodiorite rocks of the Segovia Batholith. The well-known, partially exploited veins dip at approximately 30° to the east or north-east. There are also a number of steeply dipping shear-zones hosting quartz veins with a N40W trend in the western part of the concession, termed the Las Verticales Veins System.

In general, the veins are formed of quartz with minor calcite and coarse-grained sulfides comprising pyrite, galena and sphalerite, and typically show a close spatial relationship with lamprophyre to adakite dikes. Gold and electrum occur as fine grains (<20 microns) and visible gold has been noted but is not common in the high-grade shoot sectors of the mines. Native silver has been reported. The wall rock alteration to the veins affects the dikes and the granodiorite in a narrow zone a few meters wide with potassic (biotite), argillic (illite) and propylitic alteration most commonly encountered along with selective mineral replacement by chlorite, epidote, pyrite and calcite.

Gold mineralization is hosted by a series of quartz-sulfide veins. The main sulfides present are pyrite, sphalerite and galena with higher grades seemingly related to high proportions of the latter two. The veins themselves exhibit three main trends:

- N-S to NE strike, with a dip of 30° E
- E-W to NW strike, with a dip 30° to N or NE
- NW strike, with a dip of 65-85° NE. These occur on the west side parallel to a NW -trending segment of the Otú Fault

The low angle veins have formed along thrust faults. These often have thrust duplex structures, resulting in pinching and swelling of the veins; these is no evidence to suggest any systematic change in grade through these pinch and swell structures. The average width of the quartz veins is 0.95 m, with a maximum width of up to 9 m. On occasion, a clear intersection lineation can be observed in the veins plunging toward 060°, sub-parallel to the plunging high-grade mineralization observed in the Mineral Resource modeling suggesting the importance of cross cutting structures.

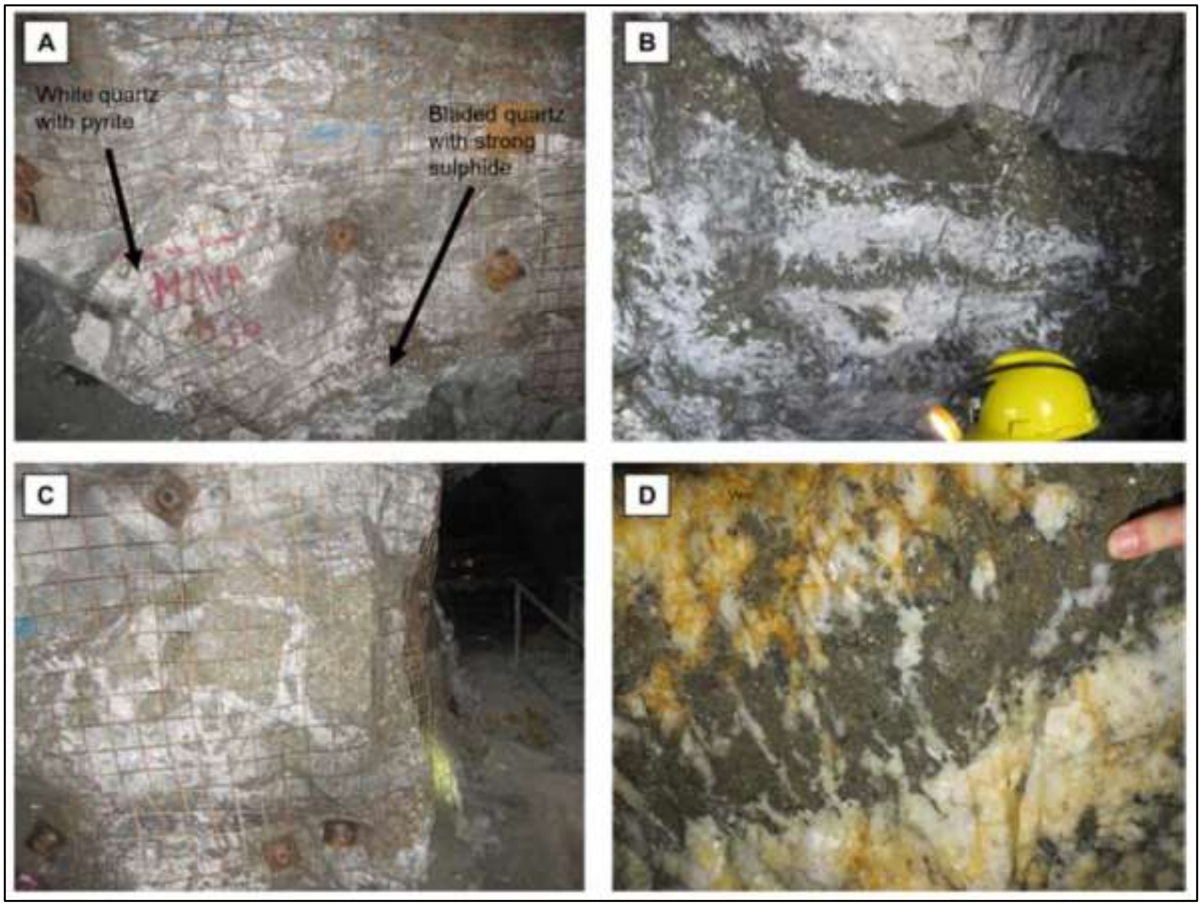
The quartz veins commonly follow dikes or sills with a width of about 2 to 3 m. These dikes can be found in the hangingwall or the footwall material, both, or in the middle of the mineralized vein. The lamprophyre dikes have very fine phenocrysts of white plagioclase in a fine grained, dark-colored matrix, whereas the adakite dikes show coarse phenocrysts (7 mm) of white plagioclase in a fine grained, light-colored matrix.

There is always a close spatial relationship between the veins and dikes, and the dikes are used as a guide to mineralized structures during exploration drilling or drifting.

SRK observed different styles of veining within the different mines which included:

- White, bull crystalline quartz veins, within limited sulfides and alteration
- Laminated, crack-seal, orogenic-gold quartz veins. These veins have well-developed laminations
- White, crystalline quartz veins, within abundant sulfides, and distinct open-space filling texture
- Brecciation of abundant sulfide mineralization, with white quartz forming the breccia matrix

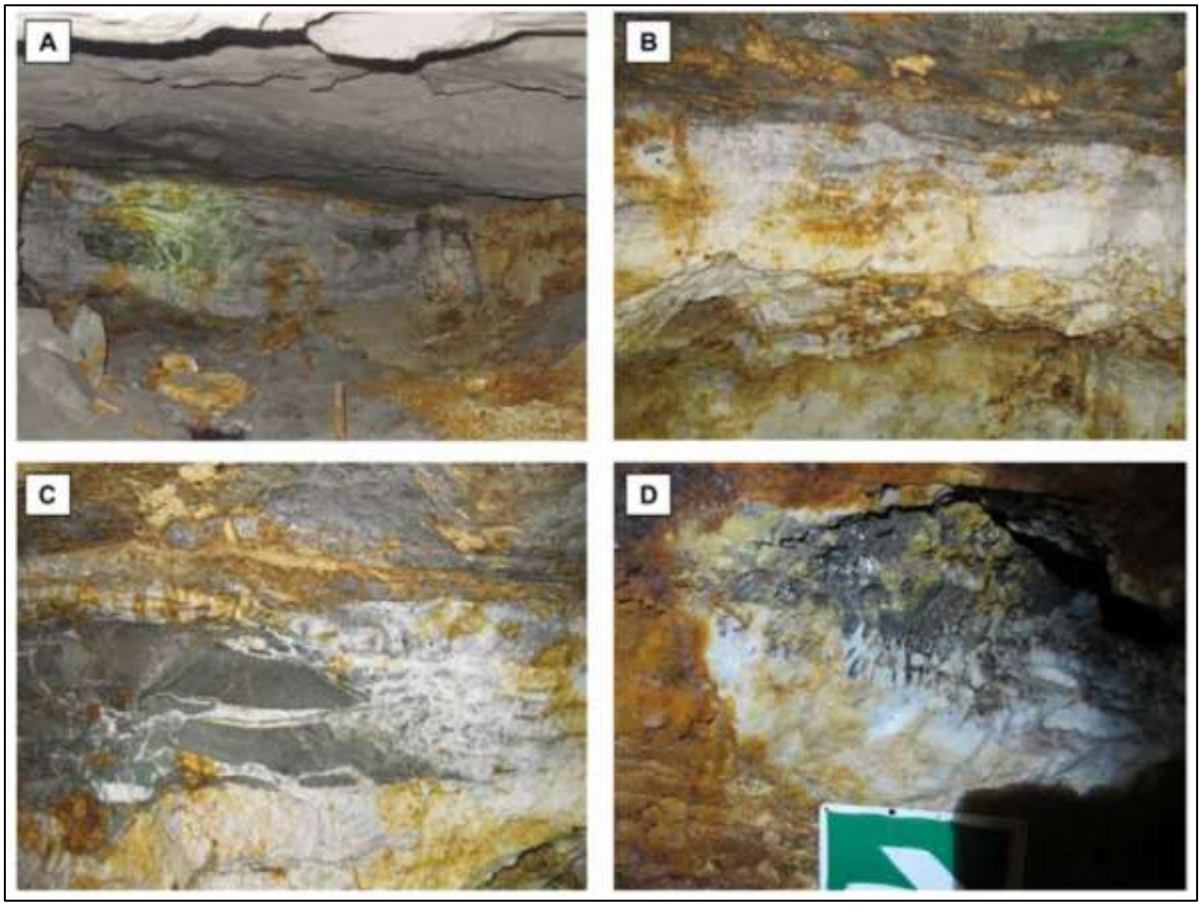
SRK understands that the white bull crystalline quartz is not associated with gold. The laminated quartz veins are associated with low-grade (less than 10 g/t) gold, and the quartz-sulfide open spaced filling veins are associated with high-grade (more than 10 g/t) gold. Examples of the vein styles completed underground are shown in Figure 7-4 and Figure 7-5.



Source: SRK, 2019

A: Two phases of veining. White quartz with pyrite, often with laminations; white bladed quartz with abundant sulfides, SEG19-010-01, 14 level. B: White bladed quartz with abundant sulfides (pyrite, galena, and sphalerite), SEG19-010-03, 14 level. C: Brecciated sulfides surrounded by white quartz, SEG19-010-05, 14 level. D: Bladed quartz, open-space filling texture, with abundant sulfide mineralization, SEG19-011-02, 15 level.

Figure 7-4: Providencia Vein Styles



Source: SRK, 2019
A: Laminated fault-fill orogenic quartz vein, SEG19-004-01, 37 level. B: White crystalline quartz vein crosscutting a grey-white laminated fault-fill orogenic quartz vein, SEG19-002-03, 33 level. C: Quartz jigsaw breccia with clasts of basalt dike, SEG19-002-04, 33 level. D: Crystalline, bladed quartz with pyrite and pyrrhotite, open-space filling vein, SEG19-002-01, 33 level.

Figure 7-5: Vein Styles in the El Silencio Vein System

The mineralized zone observed in drill core for Providencia is shown in Figure 7-6 and Figure 7-7, as photographed by SRK, and illustrated in Figure 7-8 as procedurally documented by the Company. Figure 7-9 shows the typical thickness of the Providencia and Sandra K veins as exposed in the underground workings. Figure 7-10 presents the well documented relationship between the mineralized vein and lamprophyre dikes as observed underground at El Silencio. Figure 7-10 also provides an image of the dewatered Mine Level 29 at El Silencio, and the typical thickness of the mineralized zone is illustrated.

The veins are offset vertically by more than 50 m by high angle faults which show a reverse sense of displacement. The principal fault trends are NE with dip of 65° to 85° NW, and NW with dip of 85° W to 65° E.

The geological history is summarized as follows:

- Intrusion of granodiorite
- Development of low angle fault system
- Intrusion of the dikes along the low angle faults
- Formation of quartz-sulfide veins along the low angle faults
- Late stage high angle reverse fault movement causes vertical off-sets of the quartz veins

The structural data and dating results indicate that the intrusive-related gold-rich, base metal mineralization accompanied early-Tertiary deformation related to oblique accretion of outboard terranes (D2) and was subsequently reactivated during late-Miocene post-mineralization deformation (D3, the event associated with porphyry Au-Cu mineralization in the Cauca belt).

Source: GCG, 2014

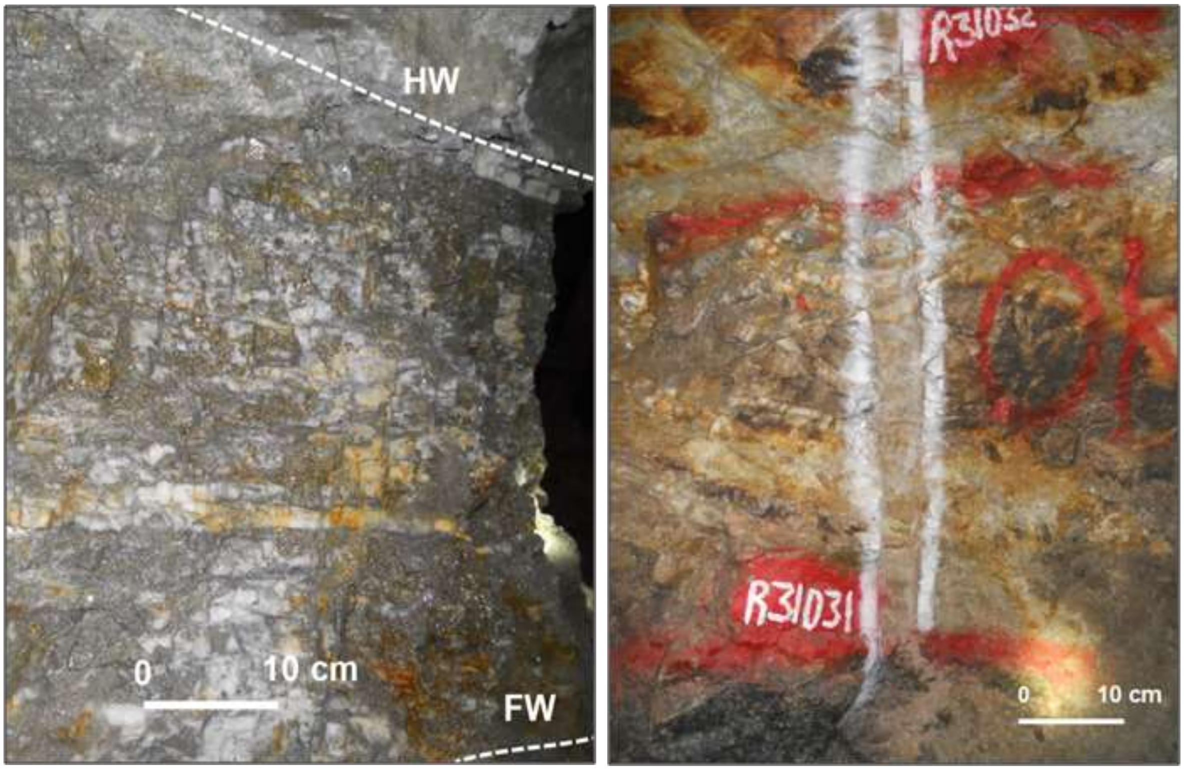
Figure 7-6: Mineralized Zone at Providencia, Intersected in Drillhole DS0089 at 453.20 m, as Observed by SRK (Highest Grade Areas Highlighted by Magenta Tags)

Source: GCG, 2014

Figure 7-7: Significant Mineralization at Providencia, Intersected in Drillhole DS0089 at 453.54 m, as Observed by SRK

Source: GCG, 2014

Figure 7-8: Procedural Core Photography for Drillhole DS0089 Completed by the Company During Data Acquisition



Source: SRK, 2014

Figure 7-9: Typical Thickness of the Providencia (left) and Sandra K (right) Veins, as Exposed in Underground Workings

Source: SRK, 2018

Figure 7-10: Vein Exposures in Underground Workings at El Silencio Showing Relationship with Dikes (left) and Typical Vein Thickness (right)

Structural Analysis

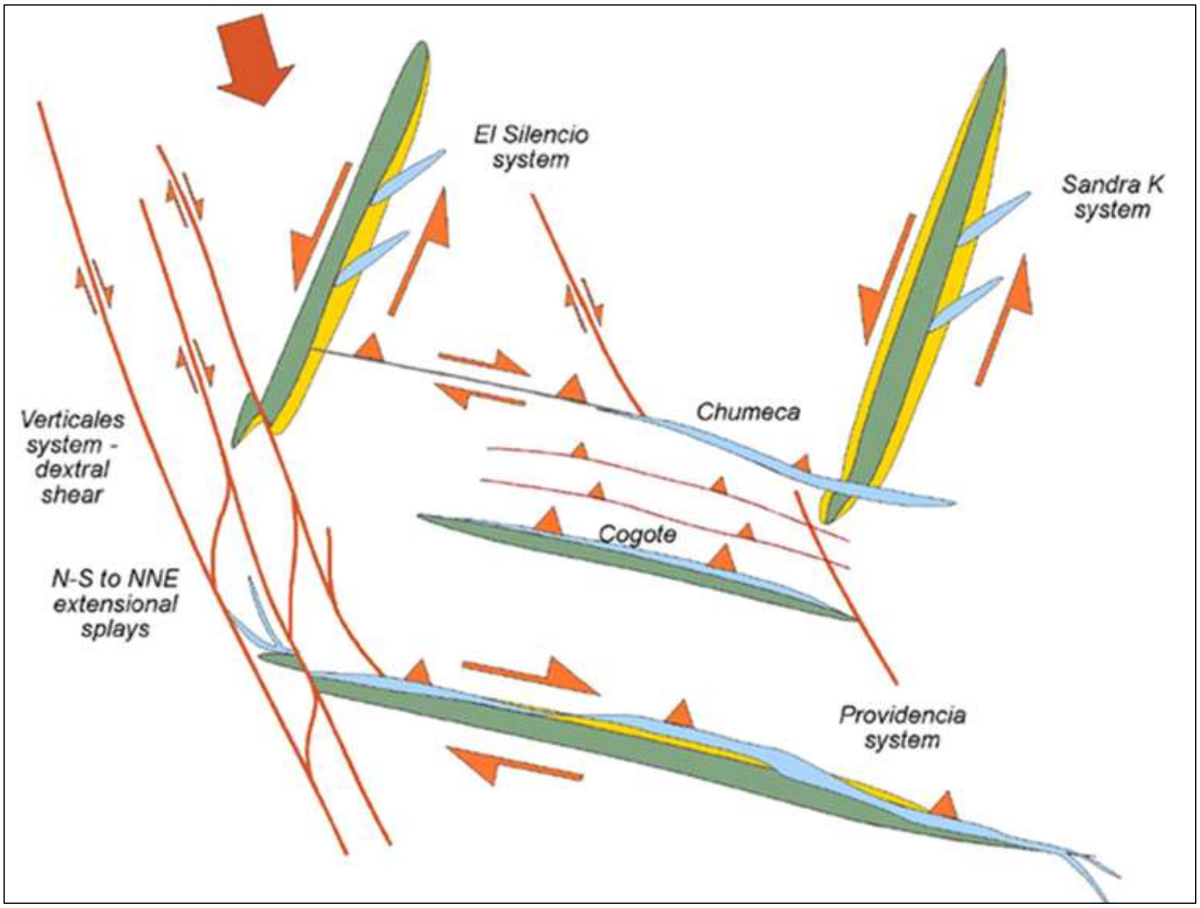
SRK notes that multiple structural analyses per mine have been completed on the Segovia project to date. Historically the review has been completed by GCG's external structural consultant (Dr. Tony Starling) in 2013. Dr Starling focused his study on the controls dike emplacement, phases of quartz veining and deformation, vein morphology and termination, and kinematic evolution of the veins. A simplified structural model is presented in Figure 7-11.

In the portion of the Segovia-Remedios district covered by the Project, three principal phases of deformation are recognized, comprising:

- An early phase of deformation associated with the emplacement of a series of both steep and shallow dipping, pre-mineralization dikes (D1)
- A stage of broadly N-S to NNE-SSW oriented compression (D2)
- A phase of E-W to WNW-ESE oriented post-mineralization compression (D3)

Dr Starling concluded that most significantly (from a grade distribution perspective), a review of the kinematic evolution of the veins within the Segovia-Remedios mining district allowed an initial understanding of and interpretation for the orientation of the high-grade shoots reflected in the close spaced sample data of mineralized structures. It is considered that the NE to ENE-trend of the high-grade shoots in the principal veins reflects the NNW-trending compression direction (relating to the activation of NNW-trending Nus fault system around the western margin of the granodiorite batholith) which, while also appearing to represent the main stage of vein formation and mineralization at Providencia, caused strong deformation of the original vein contacts. In consequence, phases of folding, shearing and thrusting occurred along the ENE corridors, orthogonal to the compression direction and hence directing hydrothermal fluid flow to form the main high-grade shoots.

Continued deformation and shearing along the Nus fault system resulted in the development of NNW-trending steep dextral faults that hosted quartz veins, relatively low grade in terms of mineralization, which form the Las Verticales Veins System.



Source: Telluris Consulting, 2013

Figure 7-11: Sketch Model for Syn-Mineralization Deformation at Segovia

SRK's Dr. James Siddorn, PGeo visited the Segovia site between June 10 to 14 2019, to review the structural model prepared by the GCG geological team and to comment on the controls on the mineralization.

Given the large gold endowment, the second, main stage of gold mineralization, associated with quartz veining and sulfides, is the most important for the economic mineralization. This phase of gold mineralization is thought to have formed during D2 north-northwest to south-southeast compression. This produced plunges with subparallel azimuths (east-northeast trending) in the El Silencio and Providencia vein systems. It is expected that this plunge azimuth of the high-grades will be common for all the vein systems at Segovia given the common structural controls during D2 (Figure 7-12).

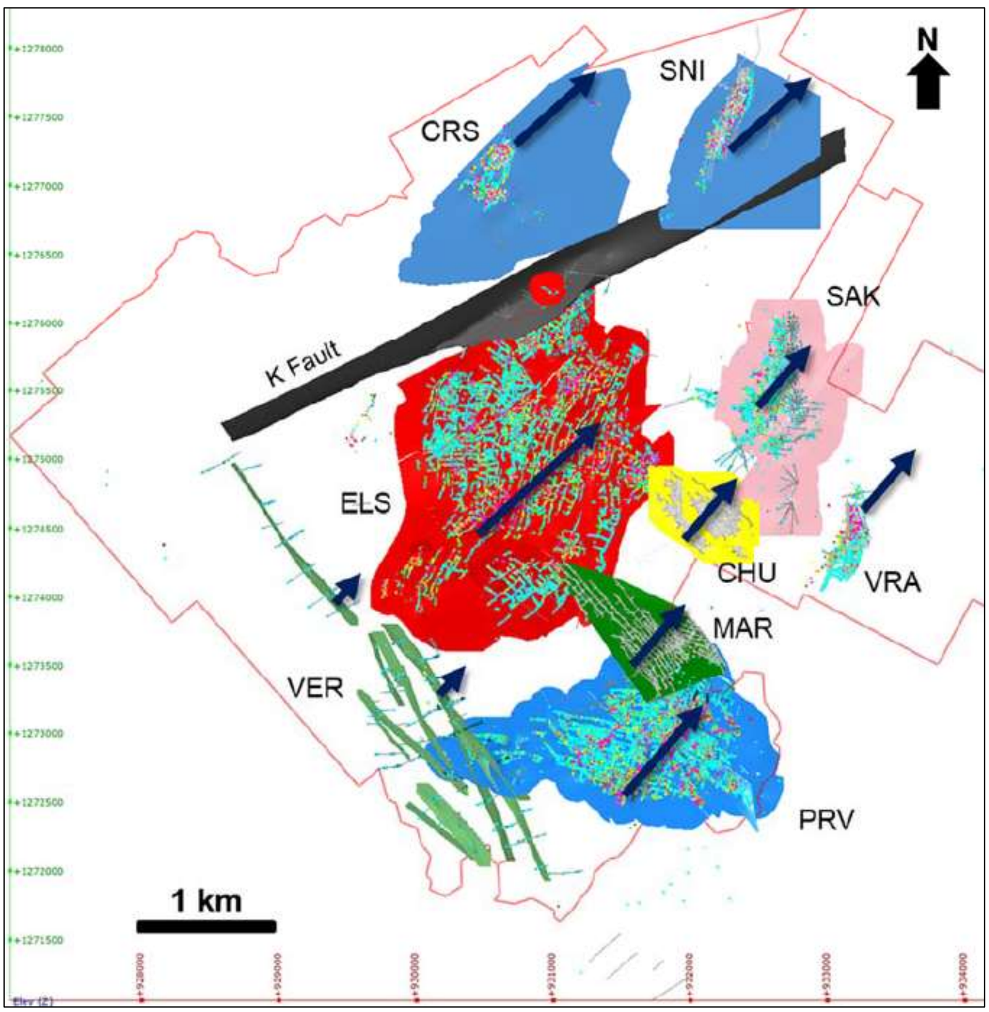
Dilation (and associated gold mineralization) within the different vein systems is most pronounced when the veins change strike, for example:

- Providencia – change in strike to northwest
- El Silencio, Sandra K – change in strike to north-south

Both changes in orientation are kinematically compatible with the D2 north-northwest compression associated with the second phase of gold mineralization. The best orientation for dilation and increased veining during D2 would be north-northwest trending vein systems, which is important when ranking targets for future exploration.

The spacing or higher-grade gold mineralization in both El Silencio and Providencia appears to be regular, with higher grade zones every 400 m in El Silencio and every 300 m in Providencia. The Providencia vein system is expected to continue at depth past the GCG mining license boundary.

In addition, the plunge of higher-grade gold zones is expected to continue along the east-northeast trend, despite the influence of cross-faulting. The same cross-faults that occur at depth in Providencia also crosscut the El Silencio vein system with limited offset.



Source: SRK, 2019

Figure 7-12: Common Plunge of Gold Mineralization in the Segovia District

The Providencia veins discussed in this report have a typical strike of 100° E dipping 30° to the NE and can be traced for around 2 km, while the Las Verticales Veins System strikes more than 3.0 km on a trend of 140° S and dip 75º to the NE. The modeled Sandra K and El Silencio veins show typical strike orientations, dips and trace lengths of 009° N, dip 29° towards E, 1.3 km (Sandra K); and 050°N, dip 27º towards E, 2.2 km (El Silencio).

7.3.2 Mineralization Relationships

SRK noted from discussions with the GCG geologists, during a review of the drill core at Sandra K that a relationship exists between the presence of galena and significantly elevated gold grades, most notably in the drilling completed down-dip, towards the east of the mine (Sandra K Fault Block), as illustrated in Figure 7-13. During the site visit, SRK investigated the relationship by reviewing a range of mineralized cores from Sandra K where galena had been logged (and where galena was absent) in the database. Analysis of the observations suggested that while gold mineralization in general is typically related to the presence of sulfides (most notably pyrite), the most significantly elevated grades in the Sandra K Fault Block are relatively consistently related to the presence of galena, whereby the greater abundance of galena tends to correlate with higher gold and silver grades.

Source: SRK, 2016

Figure 7-13: Presence of Galena Related to Elevated Gold Grades at Sandra K, in Drillhole DS0130 Showing 30 cm at 311.34 g/t gold (Free Gold Highlighted)

Given the positive outcome from the investigation, SRK has used the geological relationship between galena and gold grade to guide the orientation of a potential high-grade shoot in the Sandra K Fault Block during grade estimation.

7.3.3 Carla Licenses

Most of the Carla Licenses (including the area pertaining to this resource estimate) are hosted entirely by the Segovia Batholith and occupy land to the south of the Segovia Mining Operation.

Rocks of the batholith are largely observed as coarse-grained homogenous granodiorite containing narrow (1 to 2 m) later stage mafic dike. Some occurrences of more aplitic dikes are also noted.

The mineralized quartz-sulfide veins often occupy the same discontinuities as these dikes and form within two main orientation groups including:

- Strike 350°-010° and dip 40° to 55° towards the east
- Strike 050°-065° and dip 60° to 80° towards the southeast

The mineralization is considered to be very structurally controlled, with the main mineralized corridor being defined by the Otú fault in the west and the Nus fault in the east.

The attitude of some the veins suggest that, while a structural corridor is considered to have a sinistral movement, there has also been reactivation with an extensional/ dextral stress environment taking precedence during mineralization.

Historical exploration and mining have suggested that the ground containing the line of intersection of these two dominant vein orientations can host significant higher-grade zones within the plane of the veins. The line of intersection is a suggested plunge at 30° to 150° (SE). While no such arrangement has been noted from the Carla Licenses to date, this hypothesis exists as a notable exploration target.

Gold mineralization at the Carla Project is hosted in quartz veins that vary from a few cm to more than 3 m in thickness, with an average of 1 m and with dips varying from 30° to vertical. The host rock is largely granodiorite with occasional variations of diorite, quartz diorite and tonalite. The gangue mineral of the veins is quartz with subordinate calcite recorded in a number of localities. Accessory minerals present are pyrite, sphalerite, galena, chalcopyrite, bornite, magnetite, and traces of molybdenite. Pyrite is the most dominant sulfide.

Many of the veins exhibit an epidote/ chlorite alteration halo. This is particularly evident within the Carla Project mine exploration adit.

SRK Exploration Services Ltd (2010) has detailed at least four phases of fluid movement during the mineralization of the Carla Project. The petrogenesis of the auriferous veins is considered as follows:

- Precipitation of quartz with minor disseminated pyrite
- Influx of massive sulfide bearing fluids overprinting earlier quartz
- Deposition of gold along with secondary pyrite and galena
- Late stage minor epithermal mineralization possibly remobilizing gold mineralization

The mineralized structure located at the Carla Project mine discussed in this report has a typical strike of 002° N dipping 36° to the E and can be traced for around 900 m. Figure 7-14 provides an image of the typical form of the sulfide rich mineralized quartz vein observed in the GCG exploration adit at the Carla Project.

Source: SRK, 2012 – March 2012 site inspection

Figure 7-14: Mineralized Quartz Vein Within the Gran Colombia Exploration Adit

7.4 Significant Mineralized Zones

The modeled vein at Providencia is geologically continuous along strike for approximately 2 km and has a confirmed down dip extent that ranges from 690 m to greater than 1.3 km, and an average thickness of 0.9 m, reaching over 5 m in areas of significant swelling or thrust duplex and less than 0.1 m where the vein pinches. Locally, the Providencia vein displays significant disruption by faulting, pinch and swell structures, fault brecciation and fault gouge. The sample data for Sandra K and El Silencio confirms geological continuity along strike for 1.2 km and 2.2 km, respectively, and indicates down-dip extents of up to 900 m, with thicknesses and structural complexities that are comparable to the Providencia vein. Although currently less well defined by sampling, the Las Verticales Veins System appears geologically continuous along strike for up to 1.3 km, and has an average thickness of 0.5 m, reaching over 2 m in areas of vein swelling.

Gold mineralization at the Carla Project occurs in mesothermal quartz-sulfide veins hosted by granodiorites of the Segovia Batholith. The Carla vein dips at approximately 35° to the east and is offset by three broadly NW-SE trending, steeply dipping faults, which reflect a dominantly strike-slip sinistral sense of movement. The mineralized structure shows a close spatial relationship with mafic dikes, which are interpreted as pre-dating the gold mineralization.

The modeled structure at Carla is geologically continuous along strike for approximately 900 m and has a confirmed down dip extent that ranges from 400 m to greater than 750 m, and an average thickness of 0.8 m, reaching over 3.5 m in areas of significant swelling and less than 0.1 m where the vein pinches.

Continual exploration and underground exploration at El Silencio have identified and increased the mineralization at depth, namely within the Veta National area of the mine at the bottom of the mine. SRK completed a visit during the site inspection to confirm the presence and geological conditions within this area of the mine. Additional areas of higher grades have also been identified within the northern portions of the El Silencio mine (Veta Manto), plus confirmation of the high grades at depth within Providencia. Infill drilling at Providencia has been focused at depth which confirmed previously defined high-grade mineralization and targeting extensions across faulting present at depth.

8 Deposit Type

8.1 Mineral Deposit

Gold mineralization at Segovia occurs in mesothermal quartz-sulfide veins hosted by a batholith. They have been classified as “Oxidized Pluton-Related Gold Deposits” (Sillitoe, 2008), are thought to have formed after the cooling of the batholith and may have a genetic relationship with the batholith as well as with the regional stress regime related to the Otú fault.

The deposit bears a strong resemblance to the Pataz deposits in northern Peru. The Pataz deposits have been described as orogenic gold deposits or mesothermal gold deposits, and gold mineralization has been linked to a large-scale thermal event that occurred in a thickened collisional belt undergoing uplift tectonics, rather than related to magmatism (Haeberlin, 2002; Haeberlin et al, 2002, 2004).

Mineralization at Pataz occurs over a distance of 160 km in the Pataz Batholith. This is of granodiorite to monzonite composition of calc-alkaline affinity and Carboniferous age (330 to 327 Ma). Mineralization is dated at 314 to 312 Ma, some 18 to 15 Ma younger than the batholith. The main similarities with Frontino are mesothermal gold mineralization in quartz-sulfide veins with a low dip of 20° to 45° to the east, and the predominant N to NW-strike. The main differences are the older age of Pataz, the stronger wall-rock alteration at Pataz, and the absence of pre-mineralization basic dike along the vein structures.

Production at Pataz has been about 6 million troy ounces (Moz) of gold in 100 years from underground mines. This is similar to the production from Frontino, although at Pataz this is spread out over a much longer strike length. Most of the mines at Pataz have been developed in the past two decades. The district produced 396,371 oz gold in 2004 from three privately-owned mines which are, from north to south, the Poderosa Mine, the Parcoy Mine and the Gigante Mine.

8.2 Geological Model

The geological model described above, for the Segovia deposit is well-understood and has been verified through multiple expert opinions as well as a history of mining. SRK is of the opinion that the model is appropriate and will serve for mining purposes going forward.

At present the geological models have been treated on a mine by mine basis as data has been collected and verified. SRK considered there to be additional benefit from generating a property scale model of existing mines and fault networks along with known mineralized structures to identify potential near mine exploration targets. GCG has started this work in 2019 on generating the property scale geological model, and the process will be used to prioritize new targets, which was reviewed by SRK in 2019. SRK’s mine license scale review considered the structural components for the vein locations but also favorable structural settings for the higher-grade mineralization shoots, noted within the current mines. Additional exploration drilling will be required to identify additional material.

9 Exploration

This section summarizes the relevant exploration work completed at the Segovia project to date.

9.1 Historical Exploration

It is understood that the previous owners of the Segovia Project (FGM) did not complete any regional surface geological mapping, geochemistry, nor surface or airborne geophysics. Historical exploration data is mainly limited to underground mapping and sampling and drilling for resource development.

The historical underground channel sampling database made available to SRK consists of more than 100,000 samples and is understood to incorporate data from the past 30 years. The database provided is largely restricted to vein samples only, with the hangingwall, footwall and face ‘composite’ data stored separately.

Channel sampling was carried out by a pair of samplers instructed by the mine geologist. Samples are taken vertically across the vein at approximately 2 m intervals and extracted from both walls of the underground drive, in raises and from a proportion of the stoped areas. Samples were taken from the wall of the drive in a continuous channel by hand using a lump hammer or chisel. The sample was collected from a plastic sheet inside a wide bucket, and the sample sheet was replaced every few samples. The sample lengths/widths are then measured vertically and are therefore not true thicknesses.

The sample is then quartered by hand by separating the sample into quarters and discarding opposite quarters. Some of the larger pieces of rock are broken by a hammer during the quartering process. The sample, averaging around 1 to 2 kg is then placed into a small plastic bag with the sample number torn from a book of consecutively numbered assay tags where location and type are recorded. No geological description was made. The mine samplers filled out a daily sample sheet with sample number, sample location and sample type.

Sample locations are limited to an X and Y coordinate, plotted in reference to mine survey pegs (with X, Y and Z data) which are located in the roof of the underground development. Survey and sample data were plotted in 2D using AutoCAD. Since 2014, GCG has undertaken programs to increase the confidence in the on surveying of the underground workings and development. The improvement in the spatial location of the workings has enabled GCG and SRK to further increase the confidence in the sampling locations. SRK comments that while this work has been completed in proximity to the current workings, areas of the mines exist where further improvements can be made. SRK recommends GCG continue to validate workings via survey, and correct the elevations of the sample database, on an on-going basis.

Given the presence of thrust displacements along a number of the fault planes at Providencia, there exists in the database a proportion of overlapping data that cannot be split into upper or lower displacement surfaces as a result of a lack of elevation data. Where this occurs, GCG has completed a review of the original sample locations underground to verify the location and adjusted the elevation accordingly. SRK completed a number of technical meetings at GCG offices in Medellín and SRK offices in Denver to review the geological database, as part of the on-going validation phases.

9.2 Relevant Exploration Work

9.2.1 Gran Colombia Exploration Work

GCG exploration staff commenced an underground channel sampling program at Providencia, El Silencio and Sandra K mines, to verify historical underground data and increase the proportion of higher confidence quality control check samples in the exploration database.

Sampling has been in underground development drives; development raises and from historical pillars. Samples are taken at 5 m intervals (where possible) from the vein, hangingwall and footwall from both sides of the drive depending on the exposure of the vein (complete exposure). GCG has continued to complete on-going validation on the locations of the historical sampling, namely related to the elevation.

9.3 Sampling Methods and Sample Quality

The sampling methodology used has changed over time, but in general remains consistent in terms of sample volume.

Sampling is completed by GCG employees who, prior to conducting any sampling, complete a safety check of any working area, with the back “barred” for any potential risk of rock falls completed. Sampling is completed from floor to ceiling, avoiding contamination of the sample with the fall of splinters of rock from upper sections.

The samples are taken with maximum lengths of 1 m, bearing in mind the following guidelines:

- Minimum length of sampling is 0.3 m; if the sampled structure has a smaller length the channel sample is taken with the backing material to complete the minimum length
- Greater than 1 m structures will depart in two or more samples, in an equitable manner and always following the principle of rationalization and optimization of resources. Distribution channels and grain samples and mineralized backups
- In each sampling point shall be taken as far as possible three samples, thus distributed: footwall, mineralized structure and hangingwall. In areas where full exposure is not possible, this is noted on the sampling sheet

The initial process (which is still continued in some portions of the contractor mining) consists of marking and subsequently sampling a vertical reference line (spray paint) down and across the hangingwall, quartz vein and footwall. Samples were taken using a chisel (Figure 9-1), from the bottom of the face up to avoid contamination and collected on to a plastic sheet at the bottom of the face. Where full exposure of the vein exists, the sampling sequence involves taking the lower footwall (RI), then the structure (VT or ZC) and finally the hangingwall (RS).

In all sampling completed by the Company, a clean plastic sheet is used to collect each sample to prevent contamination. GCG guidelines state a channel of 100 cm by 5 cm by 3 cm, should be taken, with a density of rock of 2.7 grams per cubic meter (g/cm^3), (a desired weight of close to 4 kg is collected. In cases where the vein is less than 50 cm the channel is extended in the hangingwall and footwall homogeneously until a minimum total weight of approximately 4 kg is obtained.

Each sample weighs approximately 2 kg, the depth of the channel should be varied for those samples of low thickness. GCG has reported subsequently that the sample depth has been increased to obtain the desired amount of sample which is required by the laboratory. GCG has not employed any subsampling routines within the mine as testwork indicates that this results in large sampling errors.

Source: SRK, 2016

Figure 9-1: Gran Colombia Sampling Procedures 2012 to 2016

The collected samples are labelled with sample tickets attached to the bag (Figure 9-1). The bagged samples are then taken to surface where they were checked and re-labelled if required prior to dispatch to SGS (Colombia) Medellín for sample preparation and Fire Assay. Sample numbers, lengths and locations in reference to survey pegs are logged on to sample sheets which are subsequently typed into Excel in the Exploration Department and uploaded to the central database. The location of the samples has been derived for the majority of the database measured from the nearest survey point (Figure 9-1).

For every 50 samples, a hand specimen is collected for density measurements, representing different lithologies present in the work area. It is best practice that these samples are considered fresh rock and have little fracturing, so the geologist retain a length as close to 10 cm in its greatest length as possible, and do not suffer loss of fragments to be subjected to the measurement process for density. Density measurements are completed at surface using industry standard weight in air versus weight in water methodologies.

The final stage of the process is to mark the wall with all sample numbers, for any surveying requirements and for future reference which is then photographed for a digital archive and for sampling quality control Figure 9-2.

Source: SRK, 2016

Figure 9-2: Channel Sampling Final Markups by Company During Pre-2016 Sampling Program

In 2016, SRK completed a site inspection with the intent to review the current sampling procedures at Segovia. SRK visited Providencia during routine sampling by GCG at the base of the mine. An example channel sample, completed by the company in 2016, is shown in Figure 9-3. During the review SRK noted the procedures were followed in terms of safety, mark-up, logging, but noted that the chip sampling was not always fully representative of the full width of the marked samples. SRK therefore recommended GCG revise the underground sampling protocol in line with other operations run by GCG with the use of a diamond saw to cut the channels.

The revised procedure includes marking and subsequently sampling a vertical reference line (spray paint) down across the hangingwall, quartz vein and footwall (Figure 9-3). A diamond saw is then used to cut the channel initially along the edges and then at regular intervals (5 cm). Samples were then extracted using a chisel, from the bottom of the face to the top, and are collected on to a plastic sheet at the bottom of the face. SRK considers the revised process to be in line with generally accepted industry best practice for sampling this style of mineralization.

Source: SRK, 2013

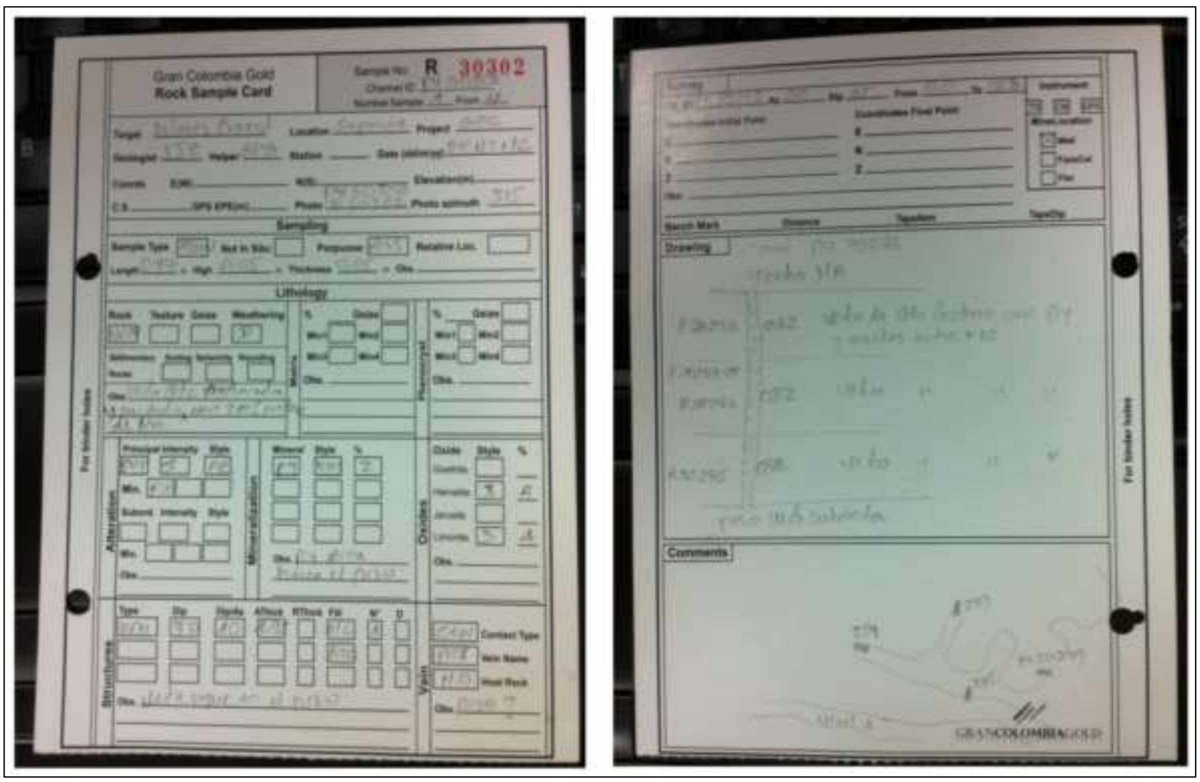
Figure 9-3: Channel Sampling Completed by GCG During 2016 Sampling Program

At the underground mines (Providencia, Sandra K and El Silencio), the channel sample database represents the accumulation of grade control data for the underground mines for approximately the past 30 years. Additionally, 5,700 channel samples totaling some 5,869 m in length have been completed.

9.4 Significant Results and Interpretation

SRK noted during an underground visit that in some cases sampling has been taken where the vein intersection is incomplete (such that the vein goes into the floor or roof of the drive). SRK highlighted the potential issues with how this material may be treated in the modeling (as the process uses the contacts as hangingwall and footwall contact points) and recommended a review of the sampling cards (Figure 9-4) which highlight under the "Observations" section if the vein is located in the roof or the floor ("*veta sigue en el piso*").

SRK recommended that GCG's review focus on samples in the database where the first or last sample are logged as vein. Using this sample list, the geologist should revisit the sampling cards to flag any samples which are not representative of the full vein width and import these flags to the database. These samples can then be highlighted during the geological modeling process to ignore either the hangingwall or footwall points to ensure false pinches out do not occur. SRK further recommends that this process be implemented on all new sampling to reduce any time loss in future updates to the model.



Source: GCG, 2017

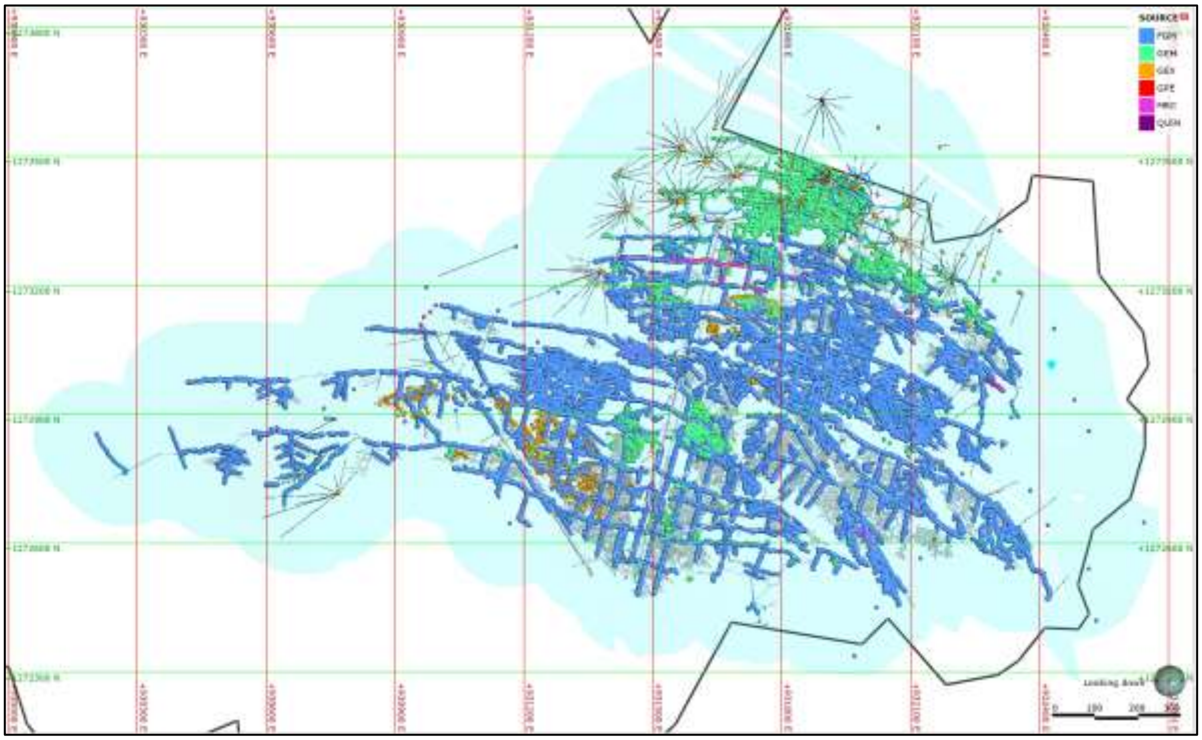
Figure 9-4: Logging Sheets Used for the Company Channel Sampling Program

The data sourced from four companies over the history of the database are summarized in Table 9-1 while mine sampling data sources by location are presented in Figure 9-5 to Figure 9-7.

Table 9-1: Summary of Sampling Sources in Exploration Database

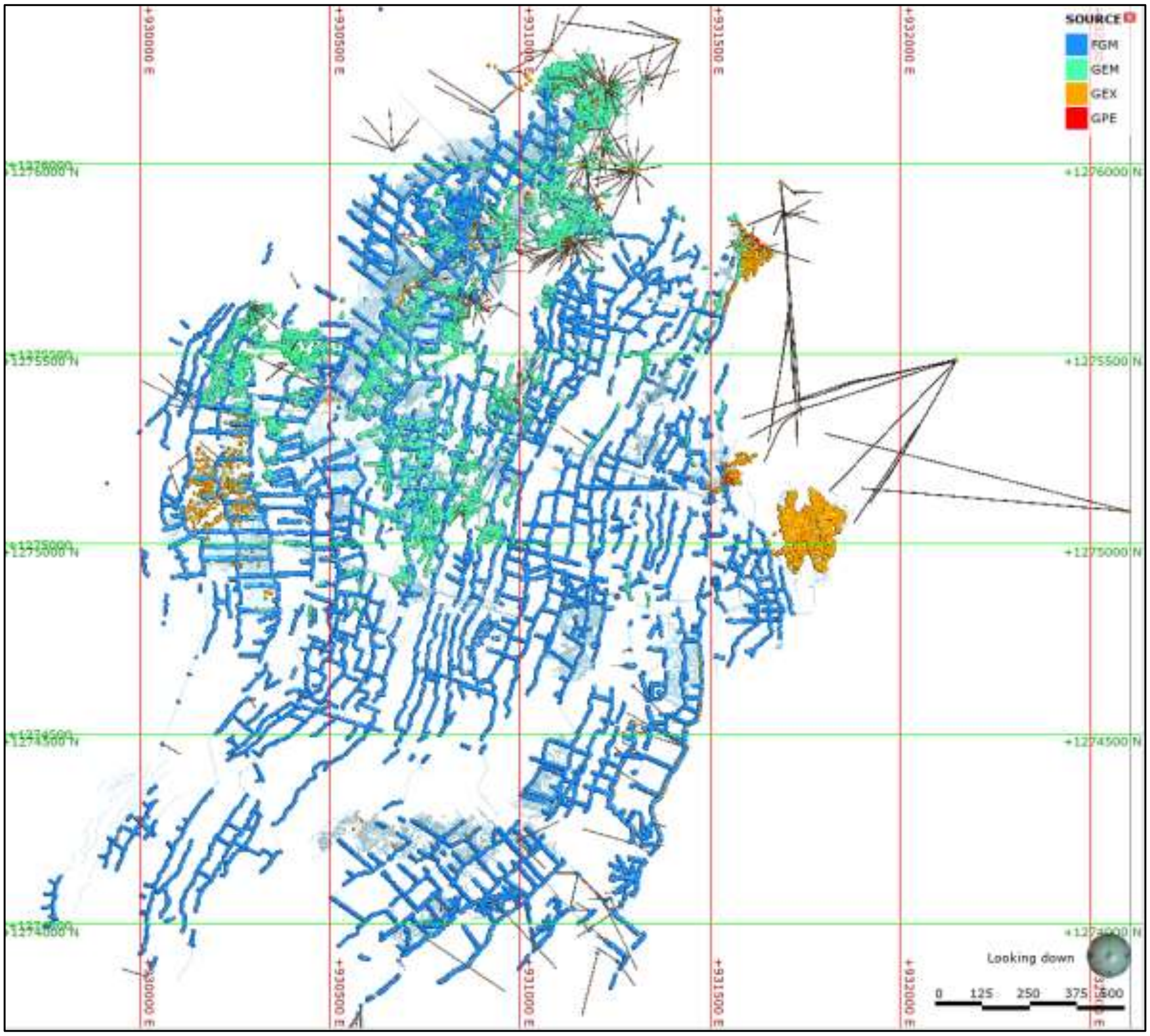
Company	Description
FGM	Frontino Gold Mine
MRC	Medoro Resources
GEM	Mine Samples (Zandor) assayed at Mine Laboratory
GEX	Gran Colombia Gold Exploration (Zandor) assayed at SGS (Colombia)
GPE	Gran Colombia (Small Mining) assayed at SGS (Colombia)
QUIN	Quintana Sampling on adjacent license shared under agreement

Source: SRK



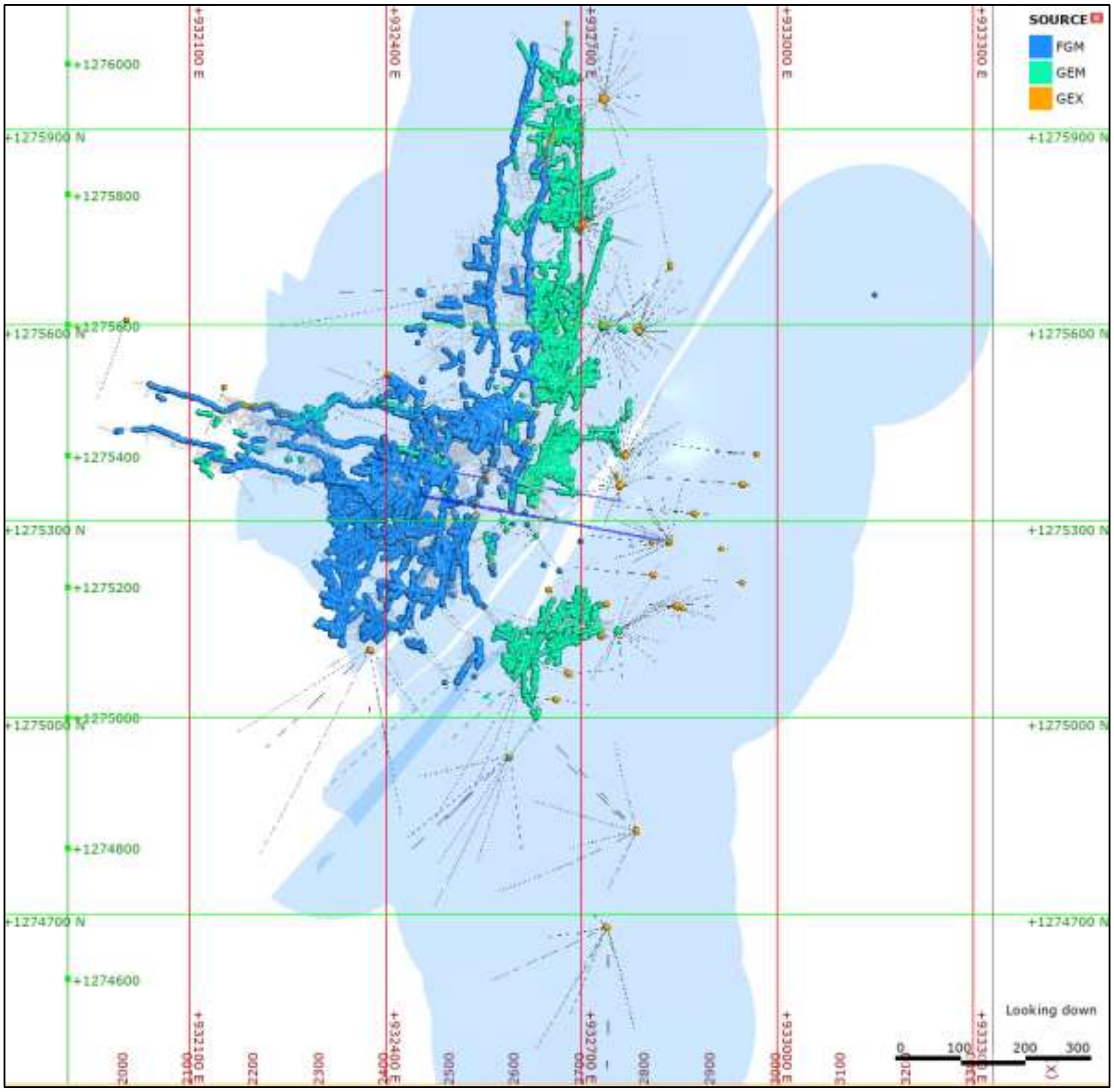
Source: SRK, 2019

Figure 9-5: Mine Sampling Split by Data Source for Providencia



Source: SRK, 2019

Figure 9-6: Mine Sampling Split by Data Source for El Silencio



Source: SRK, 2019

Figure 9-7: Mine Sampling Split by Data Source for Sandra K

Overall, SRK concludes that the underground sampling methodology does not introduce any significant bias and thus is reasonably reliable for the purposes of the data verification program. Areas which are reliant on historical sampling such as El Silencio are limited in terms of lower levels of confidence.

10 Drilling

10.1 Segovia

Historic diamond drilling on the property undertaken by FMG and Zandor consisted of surface drilling oriented broadly perpendicular to the target veins and also underground drilling completed from crosscuts and platforms on the main levels of the existing mines. GCG have incorporated all the historical drilling into the database, but a limited number of the historical holes have only been assigned lithology and assay information is not included due to validation issues.

The majority of the historical diamond drilling was carried out by FGM for resource development at the operating mines within the RPP title. Limited diamond drilling was carried out for exploration to test extensions to known veins. The main success of exploration drilling was the definition and subsequent development of the Sandra K Mine, located northeast of the Providencia Mine.

Historical surface drilling was undertaken using a Diamec 262D rig (owned by FGM) which had a 1,000 m depth capacity. The core diameters used were 36 and 46 mm. The drill used conventional diamond drilling rather than wireline, resulting in the pulling of drill rods to recover the core barrel. Core recovery was not reported to have been an issue at the time, but SRK has not been able to verify this statement. Relatively limited background procedural information has been made available to SRK in terms of the historic drilling.

Drilling programs completed by GCG are better documented and involved a combination of diamond holes collared at surface, which intersected the veins largely from the northeast and southwest orientations, and via underground drilling.

The drilling for 2011 was performed by six Longyear rigs operated by PERFOTEC Drilling and managed by the Company's geological team. SRK observed drilling during its site visit in November 2011. The 2012/2013 drilling programs were completed by two drilling contractors:

- AKD – AK Drilling International (Peruvian based drilling company)
- ENE – Energold Drilling

Drilling was predominately performed with the use of a double tube with casing progressed to around 12 m from surface. On average, HQ drilling continued to around the 200-m depth at which point they were cased-off and continued with NQ rods until their final depth.

SRK notes that core recovery is reported to be good despite the fact that triple tube drilling was not in use, although recoveries were seen to drop towards and at vein intersections. During later drilling programs, contractors used triple tube methods to improve core recovery. The change improved the overall core recoveries within the database such that the average over the mineralized zone is approximately >90%.

Core was produced in 3 m core runs with recovered core lengths measured while encased in the barrel to ensure accurate measurement of crushed material, and then placed by hand into an open V-rail or drain pipe, where the core was re-orientated if required before being transported to the drill site geologist. This geologist then inspected the core before placing the core into numbered aluminum core boxes. Cut wooden blocks were used to record core depths.

Prior to August 15, 2012 samples were sent for preparation to the SGS (Colombia) facility in Medellín, and fire assays for gold were conducted by SGS in Peru. Since August 15, 2012 all sample preparation and fire assays have been completed at the upgraded SGS (Colombia) facility in Medellín.

In 2015, the Company began completing infill drilling programs at Providencia using underground drill rigs (Figure 10-1, Boart Longyear LM30), with the aim of infill drilling via fan drilling to approximately 20 m by 20 m spacing. Drilling is completed using industry standard underground rigs using NQ core diameter which is consistent with the surface drilling.

During 2016 to March 2017, GCG completed an infill program designed to confirm and increase the confidence in the grade distribution of the eastern fault block at the Sandra K Mine. All diamond core was logged and sent for preparation and fire assay to the SGS (Colombia) facility in Medellín. In 2016 an additional, 11 underground holes were drilled in the Chumeca vein area totaling some 2,038.3 m. GCG has continued the infill drilling program since 2016 with the focus on drilling the lower levels of Providencia and El Silencio, and the northern portion of Sandra K.

GCG continued with the process of infill drilling between 2017 to 2018, in addition to the drilling GCG has continued to validate the locations of historical holes. The result is an increase in the number of drillholes of 314 holes for 32,138.9 m during the period. During this period 144 holes for 13,173 m were added at Providencia, 91 holes for 11,332.2 m were added to the El Silencio database and 79 holes for 7,633.3 m at Sandra K.

During 2019 GCG continued the routine infill underground drilling programs designed to confirm and increase the confidence in the grade distribution at the mines. The program consisted of 402 holes drilled for a total of 43,968 m of additional sampling information in the databases provided. All diamond core has been logged and sent for preparation to the SGS (Colombia) facility in Medellín.

A summary of the number of holes per mine split by GCG is shown in Table 10-1, and the drillhole and sampling plotted by location, highlighting new exploration data, are presented in Figure 10-2. Note that no new drilling or sampling has been completed at Las Verticales or Carla during the most recent time period between the previous Mineral Resource statement.

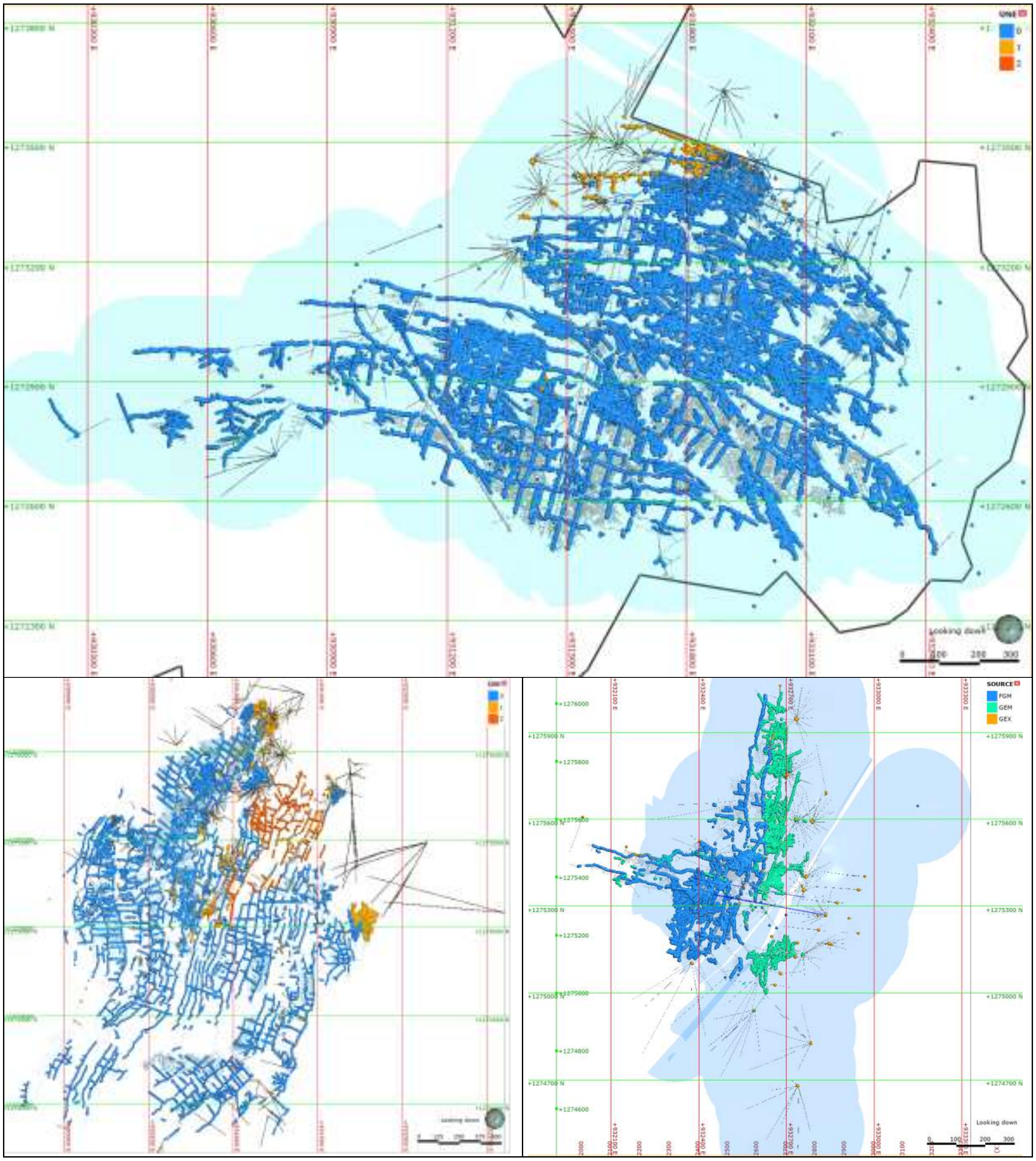
Source: GCG, 2018

Figure 10-1: Underground Drilling Rig (LM30) in Use at Providencia, and (H200) at El Silencio

Table 10-1: Summary of the Data Available per Mine by Sample Type

Sample Type	Source	Providencia		El Silencio		Sandra K		Project Total	
		Count	Sum (m)	Count	Sum (m)	Count	Sum (m)	Count	Sum (m)
Channel	FGM	3,068	2,974.9	1,586	971.8	1,574	1,434.0	6,228	5,380.6
	GEM	8,655	9,374.7	14,517	13,119.5	6,801	6,399.6	29,973	28,893.9
	GEX	615	1,061.3	2,132	3,006.7	223	434.5	2,970	4,502.5
	MRC	292	241.9					292	241.9
	Channel	**12,630**	**13,652.8**	**18,235**	**17,098.0**	**8,598**	**8,268.1**	**39,463**	**39,018.9**
Drillhole	FGM	237	26,694.1	198	13,922.5	56	4,328.9	491	44,945.5
	GEM	64	1,770.3	124	8,111.7	53	3,433.0	241	13,314.9
	GEX	324	45,538.7	171	31,009.9	285	48,892.7	780	125,441.3
	GPE	48	878.5	53	1,510.5			101	2,389.0
	QUIN	12	3,238.5					12	3,238.5
	Drillhole	**685**	**78,120.0**	**546**	**54,554.7**	**394**	**56,654.6**	**1,625**	**189,329.3**
Sample Point	SamplePoint	36,918	36,404.3	57,178	64,341.1	7,177	5,240.6	101,273	105,985.9
	FGM	**36,918**	**36,404.3**	**57,178**	**64,341.1**	**7,177**	**5,240.6**	**101,273**	**105,985.9**
Grand Total		**49,489**	**50,233**	**128,177.2**	**75,959**	**135,993.7**	**16,169**	**70,163.2**	**142,361**

Source: SRK, 2020



Source: SRK, 2020

Figure 10-2: Sampling Data at Providencia, Sandra K and El Silencio Colored by Database Phase (Orange indicates New Data)

10.2 Carla

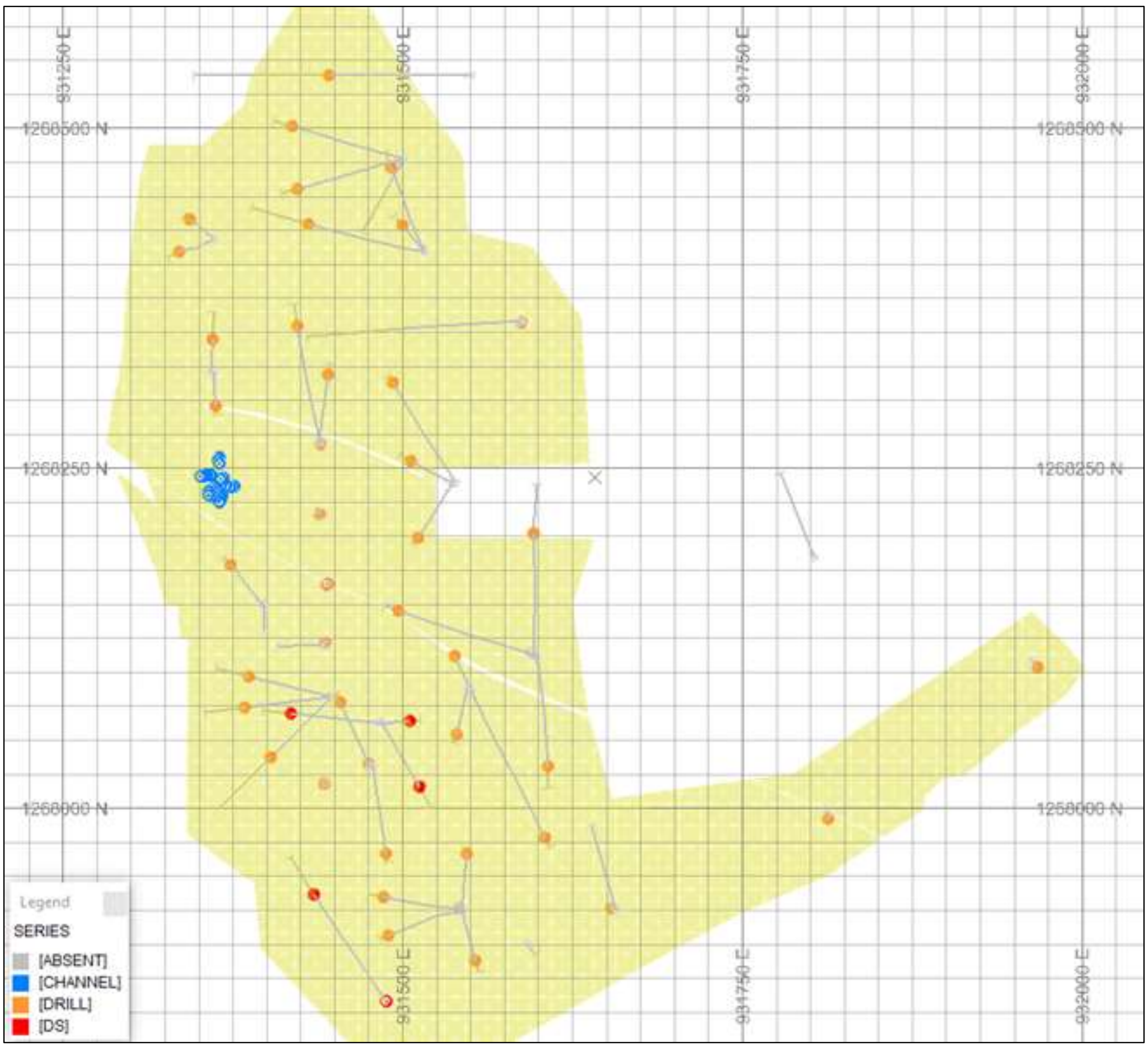
No new drilling has been completed at Carla since the previous Mineral Resource estimate. During 2011, GCG delineated a drilling program for the Carla Project, to be undertaken by PERFOTEC the Colombian drilling contractor, which contemplated approximately 9,000 m of drilling to be completed by end-December 2011.

Per Table 10-2, which shows to date a total of 57 holes totaling some 10,373 m have been completed and designated with the prefix "DRILL-"or "DS-" series holes, in the database provided. All completed drilling has been made available to SRK in producing the geological model and associated Mineral Resource estimate. The location of the drill platforms had the objective to intercept the vein based on 50 m sections and 100 m down-dip (Figure 10-3).

Table 10-2: Summary of Drilling per GCG at the Carla Project

GSG Total		GZC Total		Grand Total	
Subtotal		Subtotal			
Count	Total (m)	Count	Total (m)	Count	Total (m)
52	9,523	5	850	57	10,373

Source: Summarized from SRK, 2013



Source: SRK, 2018

Figure 10-3: Drilling and Sampling Locations at Carla Project

10.3 Procedures

10.3.1 Collar Surveys

All drill sites were initially located with the use of a handheld GPS with final locations recorded by a surveyor once the drilling was completed. Each hole underwent a downhole survey once completed.

All GCG drillhole collars have been surveyed using a precision GPS which is based on Total Station measurements and have been located to a high degree of confidence in terms of the X, Y and Z location. This data has been provided to SRK in digital format using UTM grid coordinates. Details of the survey methods for the historical holes is not known.

10.3.2 Downhole Surveys

The drilling from surface is reported to have been orientated broadly perpendicular to the target vein (access permitting); however, very few collar surveys are available and thus the large majority of traces are shown in the database as vertical. Directional surveys were not carried out during the FGM drilling programs.

Underground drilling appears to have largely been completed from crosscuts and platforms on the main levels. In places, fan drilling has been completed to maximize the information made available from a single drill site.

GCG have used downhole geophysical surveys to orientate the holes carried out by the contractor ‘Weatherford’. The downhole tool has a Verticality Sonde instrument that measures azimuth and inclination every 5 m by two level cells and three magnetometers. From the erratic measurements in zones of casing indicate the instrument was affected by magnetic rocks and casing and should be ignored. Outside of the casing in general, the data collected is considered to be of high precision and accuracy suitable for use in this resource estimation.

10.3.3 Core Logging

During the 2012, 2013, 2016, 2017 and 2018 site visits, SRK was able to visit the core shed facilities and observe the underground channel sampling to review the sampling methods currently employed by GCG. The following section relates to the methods and protocols used by GCG in the latest exploration campaign. In terms of the historical sampling methods, SRK has relied on the work completed by Dr. Stewart Redwood, a consultant geologist to GCG.

The GCG core shed is located near to entrance to the El Silencio Mine on the valley floor. SRK visited the storage facility during the site visit and found the facility to be organized and clean. During the last site inspection SRK noted that the core shed is operating near full capacity and therefore additional storage will be required. It is SRK understanding that GCG is in the process of transferring a portion of the core to a secondary facility and that there will be sufficient space for the on-going exploration work. The core is currently being stored in a temporary secondary facility located within the fenced Pampa Verde area, but SRK has not inspected the secondary facility. The new core storage facility has been completed in 2020 (Figure 10-4), but SRK has not visited the new facility to date.

Source: GCG,2020

Figure 10-4: New Core Storage Facility at Segovia

Core logging and sampling procedures were consistent throughout the drilling program and were performed by the Company's exploration geology team. The main processes were as follows:

- Core boxes are transported from the drill sites to the core storage and logging facilities, Figure 10-5
- Technicians at the core shed log the core for recovery and RQD
- All core is photographed wet (Figure 10-6)
- Core is geotechnically and geologically logged using a paper logging form, specifically designed for vein type deposits, along with a Geology & Mineral Codes Legend
- Sampling lengths are allocated; only the vein material and through into the hangingwall and footwall, material is sampled in lengths ranging from 30 cm to 1 m dependent upon geological unit
- For the purpose of sampling, the alteration (where present) in the wall rock is split into two distinct units, namely argillic dominant (typically more gold-bearing) and propylitic or potassic dominant
- Sections are then carefully cut with the use of a diamond core cutter into two equal halves
- Samples are taken and placed into heavy duty plastic bags; care is taken to ensure the same half core is removed throughout the sample interval
- Quality Control materials are inserted only in the mineralized intervals selected, coarse granitic blank material, different pulped standards and 1/4 core for field duplicates. Any insertion is recorded within the core box by inserting additional wooden core blocks
- Samples are shipped to the SGS Colombia S.A. facilities in Medellín for sample preparation and fire assay
- All core boxes are covered and housed in a centralized core storage facility
- All data is inputted into a central SQL database maintained on site by one of two responsible data managers

It is SRK's opinion that the current sampling methods and approach are in line with industry best practice and should not lead to any bias in the sampling and assay results.

Source: SRK, 2015

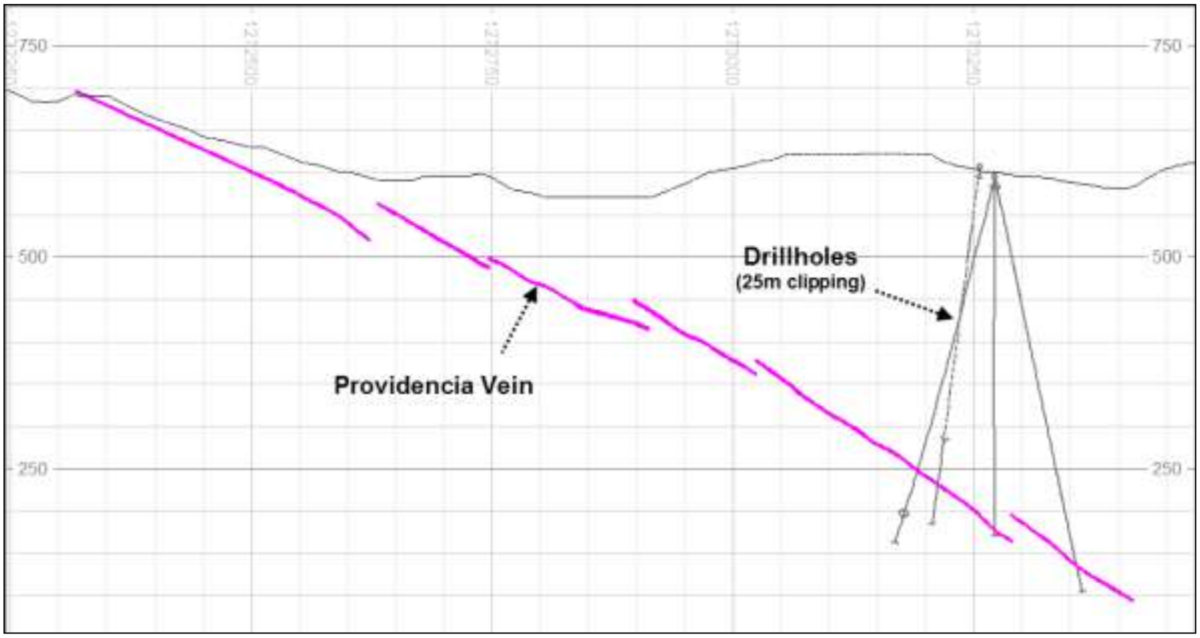
Figure 10-5: Core Storage and Logging Facility at Segovia

Source: SRK, 2018

Figure 10-6: Example of Core Photography Setup (left) and Core Photographs (right)

10.3.4 Drillhole Orientation

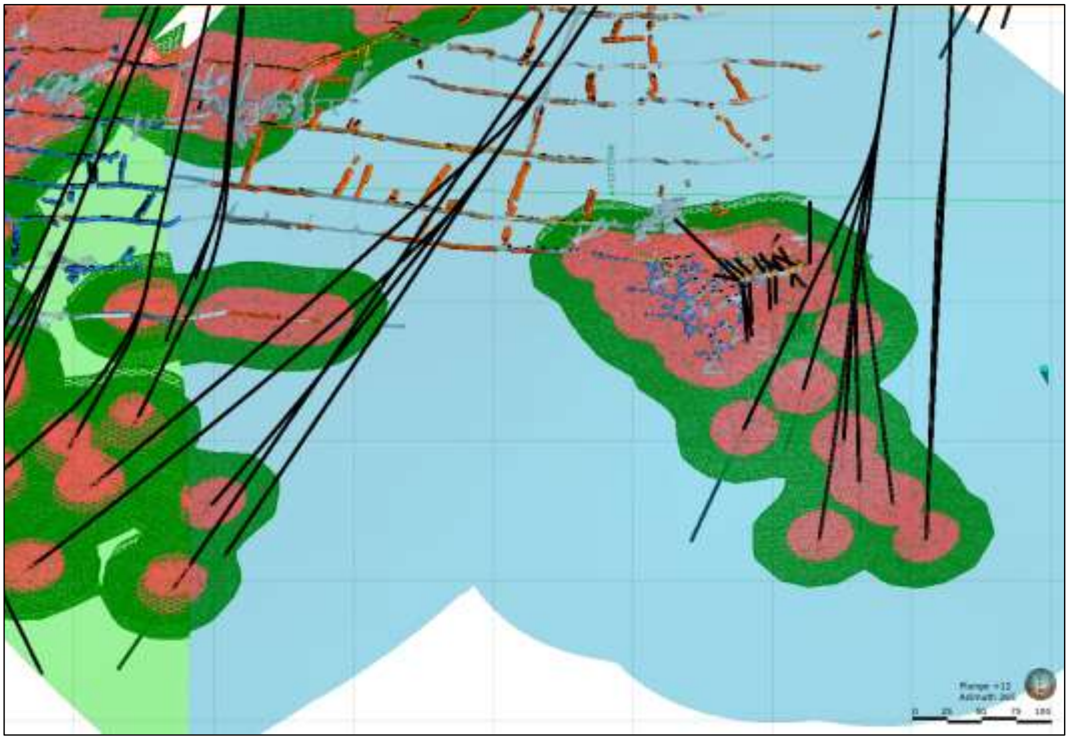
At Providencia, the drilling intersects the mineralized vein from the northeast, southwest and (predominant) vertical orientations in an attempt to intersect the vein target area with sufficient coverage whilst remaining inside the Segovia Concession boundary. From surface the drillholes dip range from -39° to -90°, with the average dip of the holes in the order of -85º and hole lengths ranging from 45 to 557.0 m (Figure 10-7). In addition to the surface drilling infill drilling has been completed from underground fan drilling to maximize the information made available from a single drill site. Fan drilling ranges from +39° to -90°, with the average dip reported at -38°. Hole depths from underground drilling at Providencia ranges from 4.2 m to 303.0 m. Infill drilling is aimed to reduce the drillhole spacing to approximately 25 by 25 m spacing.



Source: SRK, 2017

Figure 10-7: Cross Section (25 m Clipping Width) Through the Providencia Deposit, Showing Typical Drillhole Orientation, Looking West

At El Silencio, the drilling database includes drilling from a variety of locations including surface and areas within the Las Verticales Area to the west of the El Silencio mine. Drillholes from surface are drilled to the west/south-west/north-west or vertical orientations. Drilling is a mixture of directional and vertical holes with the average dip of the drilling from surface drillholes dip ranging from -40° to -90°, with the average dip of the holes in the order of -66º and hole lengths ranging from 59 to 500.6 m. In 2018, GCG has focused on underground fan infill drilling to reduce the drillhole spacing to approximately 25 by 25 m spacing. Fan drilling ranges from +30° to -84°, with the average dip reported at -33°. Hole depths from underground drilling at Providencia ranges from 30.1 m to 468.8 m. In 2019, GCG drilled a series of wedged holes (Figure 10-8) to infill the drilling density at depth at El Silencio. The holes were drilled by a drilling contractor and made use of an initial parent hole of approximately 500 m, before a series of wedges were placed with the fans optimized to provide a drilling coverage of approximately 50 by 50 m spacing.



Source: SRK, 2020

Figure 10-8: Oblique View, Showing Wedge Drilling Location in Lower Levels of El Silencio

At Sandra K. from surface the drillholes lengths ranging from 98 to 407.0 m, with an average depth of approximately 235 m, with dips ranging from -27° to -90°, and an average dip of the holes in the order of -70°. In addition to the surface drilling infill drilling has been completed from underground fan drilling to maximize the information made available from a single drill site. Fan drilling ranges from +14° to -90°, with the average dip reported at -38°. Hole depths from underground drilling at Providencia ranges from 8.2 m to 398.6 m.

The predominant drilling direction at the Las Verticales area has been to the southwest which is perpendicular to the main orientation of the majority of the veins. The drillholes are plotted on sections oriented north 65° east across the principal structural control of the deposit and spaced 100 to 200 m apart. The dips range from -37° to -90°, with the average dip of the holes in the order of -63° and hole lengths ranging from 82.8 to 600 m.

10.4 Interpretation and Relevant Results

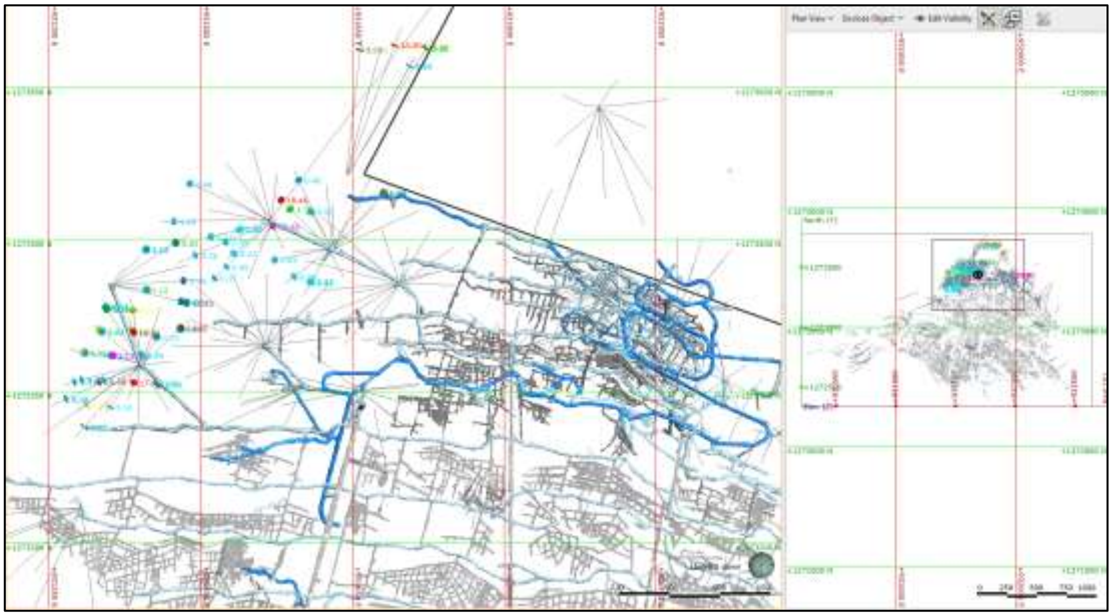
The drilling results are used to guide ongoing exploration efforts and to support the resource estimation. SRK notes that for the majority of the individual deposits, drilling is as perpendicular to the deposit as possible although there is a degree of concern relating to the low angle of intersection of the deep drilling with the Las Verticales Veins System (resulting in a vein interval length that may not closely represent true thickness).

It is SRK's opinion that with the exceptions noted at Las Verticales and limited areas of underground at Providencia and El Silencio, that the drilling orientations are sufficiently reasonable to accurately model the geology and mineralization based on the current geological interpretation. Areas with poor interception angles have been accounted for in the mineral resource classification, and SRK strongly recommends drilling these areas from different positions to improve the angle of intersection in any future programs.

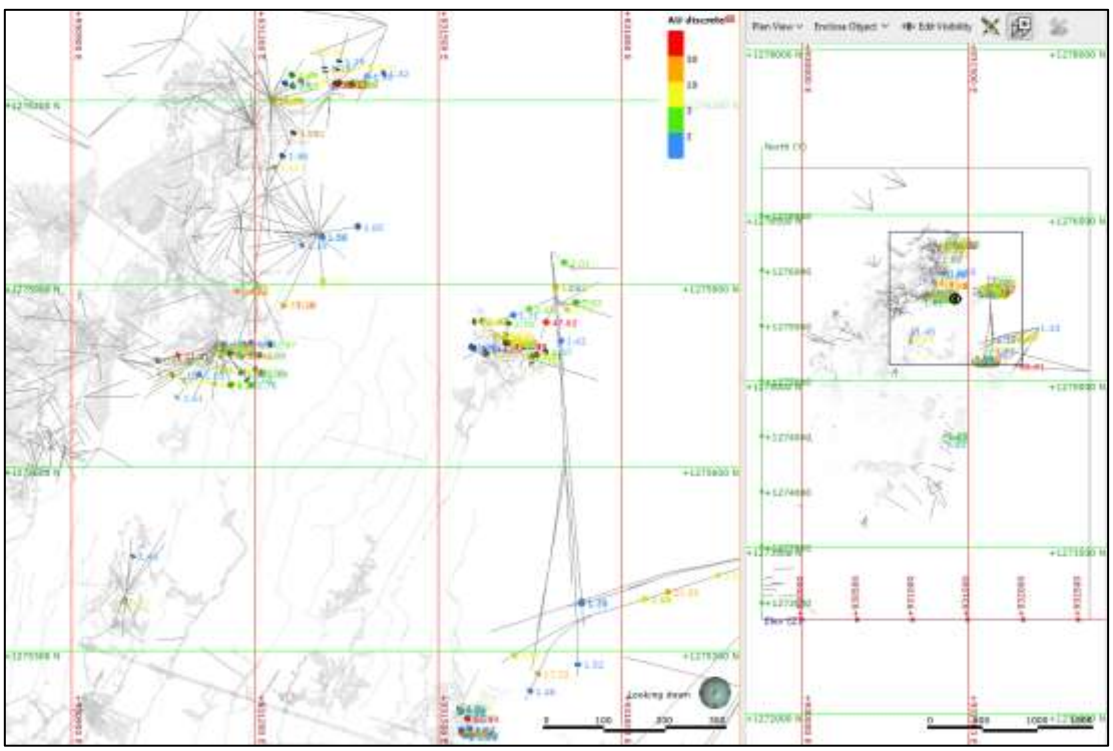
During 2019, GCG has focused drilling exploration on underground drilling at Providencia, El Silencio and Sandra K looking for down-dip extensions to existing mineralization. The updated MRE for the Segovia operations incorporates assay results from an additional 402 holes drilled for a total of 43,968 m of sampling information in the databases compared to the previous model, inclusive of the 2019 drilling program and the ongoing validation exercises of historical information being completed by the GCG's geologists.

The location and key results of 2019 drilling program findings are shown in (Figure 10-9). Results included the discovery of new structures and the extension of existing known structures at all three mines. A summary of the key finding includes:

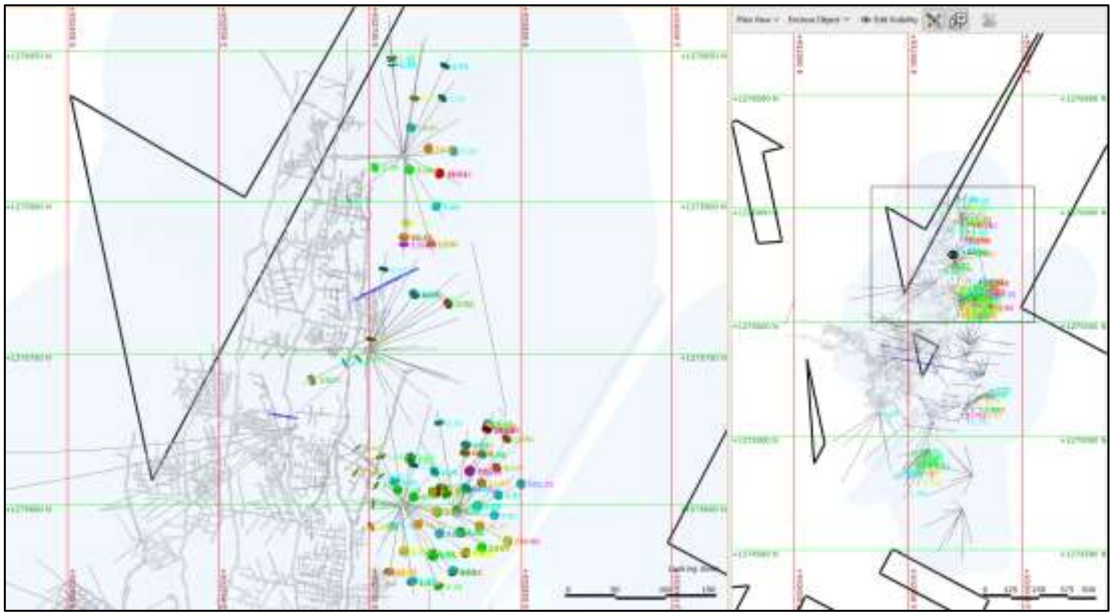
- At Providencia, all have the potential to add mineral resources and mine life extension this was followed up on in the 2019 drilling program (Figure 10-9), which indicates the extensions are typically at the edges of known high-grade domains or down dip extensions. Additionally, drilling has been conducted at depth on the edge of the concession into a new fault block to test for extensions to the high-grade mineralization shoot, which returned encouraging results that warrant further follow-up
- At El Silencio drilling intersected at depth extensions of the Veta Manto structure, located in the footwall of Veta Nacional. It was previously interpreted that the Veta Manto structure did not extend at depth, but these new results indicate potential for 1,000 m of extension in the vein with no current exploration. SRK is recommending further exploration to initially confirm this assumption, and then to infill within this area.
- At Sandra K new mineralization in the footwall has been located to the south of the current mine. These represent new zones and targets for potential mining but will require infill drilling.



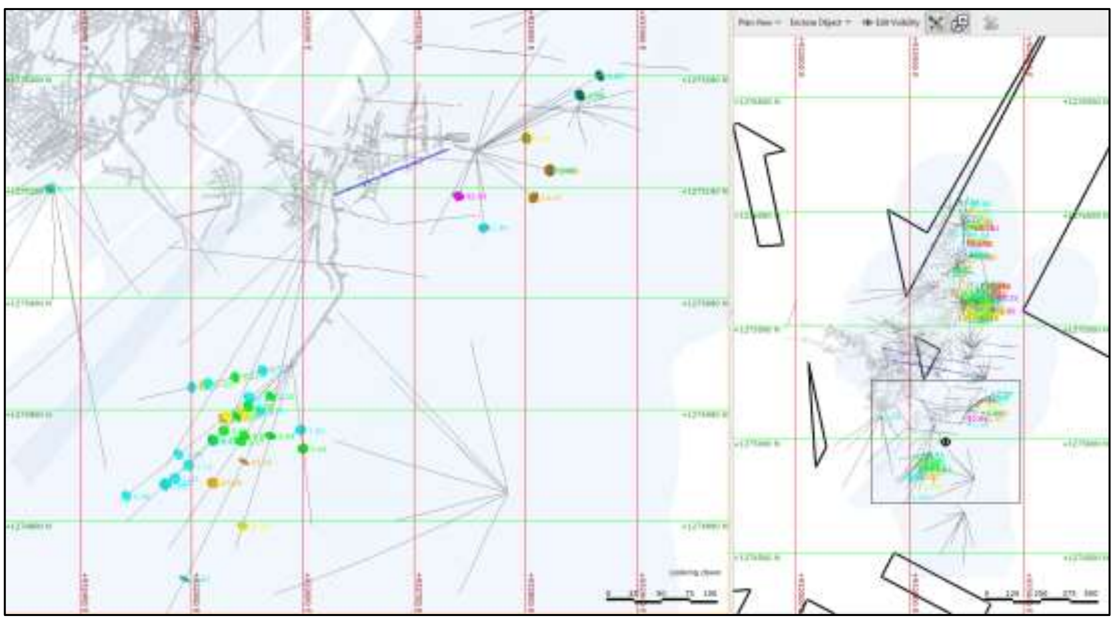
Providencia



El Silencio



Sandra K (north)



Sandra K (south)

Source: SRK, 2020

Figure 10-9: Plan Views Showing Location of New Underground Drilling at Providencia, El Silencio and Sandra K with Significant Results

11 Sample Preparation, Analysis and Security

GCG employs material handling protocols at the mines for underground drilling and sampling. All underground sampling (Channel Sampling) is completed by mine personal or mining contractors depending on the location in the mines. Samples are collected in plastic bags and labelled and transported back to surface. Diamond drill core is collected at the rig and measured by the drilling contractors. A GCG geologist from the exploration team visits the rig at regular intervals to confirm sampling protocols are being followed. Each core box (wooden) is sealed at the drill station prior to transport to surface by GCG personnel. All exploration sampling is transferred at surface to the exploration offices, where any logging or subsampling required is completed prior to dispatch to the laboratory.

11.1 Core Logging

Core logging and sampling procedures were consistent throughout the drilling programs by GCG and were performed by GCG's exploration geology team. The main processes are as follows:

- Technicians at the drill site log the core for recovery and RQD before transportation to the core shed
- Core boxes are transported from the drill sites to the core storage and logging facilities within the El Silencio Mine complex (Figure 11-1)
- All core is photographed wet
- Core is geologically logged by GCG Geologists using logging sheets designed for detailed descriptions
- Sampling lengths are allocated by the geologists; only the vein material and the hanging-wall and footwall selvage material is sampled on lengths ranging between 30 cm to 1 m dependent upon geological unit
- For the purpose of sampling, the alteration (where present) in the wall rock is split in to two distinct units, namely argillic dominant (typically more gold-bearing) and propylitic or potassic dominant
- Geologist mark the center line of the core and half-core samples are cut with a diamond core cuter into two equal halves
- Samples are taken and placed into heavy duty plastic bags; care is taken to ensure the same side half of core is removed throughout the sample interval
- Quality Control materials are randomly inserted following the GCG defined QAQC procedures discussed in section 11.5, which include coarse blank material, three different pulped standards and 1/4 core for field duplicates, any insertion is recorded within the core box by inserting additional wooden core blocks
- Samples are shipped to SGS Colombia S.A. facilities in Medellín for preparation and fire assay
- All core boxes are covered and housed in a centralized core storage facility which is within the mine grounds and require access control.

All drilling, logging, and analytical data is inputted into a central structured query language (SQL) database maintained on site by one of two responsible data managers

Source: Documented by GeoIntegral, (2011) in GCG Internal Report
(a) Core photography,
(b) Core logging area,
(c) Checking of recovery and RQD,
(d) Geological logging,
(e) Core cutting; and
(f) Core storage shelving system.

Figure 11-1: Core Storage Facility at the Carla Project

11.2 Sample Preparation for Analysis

11.2.1 Channel/Chip Sampling at Mine Laboratory, Pre-2015

SRK visited the mine laboratory located in close proximity to the Maria Dama Plant during the 2013 site inspection.

The sample preparation method at the mine laboratory consisted of placing samples in individual steel trays, which were then inserted into a large oven (heated at 105ºC for approximately three hours).

The entire sample was crushed to >85% passing -10 mesh (2 mm) using a jaw crusher, then spilt to 250-g using a Jones splitter (if required) and pulverized to >90% passing -140 mesh (140 µm) with an LM2 pulverizing ring mill. The fineness of the pulverized sample was reported to be tested using a sieve once per shift by SRK has not reviewed the procedure during the site inspections.

From the pulverized material, a 50-g sample was selected using a cone and quarter method and mixed with a flux. Gold assays were then taken using fire assay techniques with a gravimetric finish only.

Tested barren silica sand (in addition to compressed air) was used as a clean wash between each sample in the crushing and pulverization stages.

11.2.2 Mine Laboratory, 2015 - Present

GCG commissioned a new mine laboratory in 2015. The laboratory is located near the current Maria Dama processing facility and can complete sample preparation and fire assay (channel samples). The facility was constructed under the guidance of SGS but is run by GCG.

SRK visited the facility on August 10, 2016 and April 12, 2018, and noted that the laboratory was organized and clean, with dust extraction units in place to minimize potential contamination issues. Samples are tracked through the system using barcodes placed on the samples within the sample receipt bay.

The sample preparation methodology at the mine remains the same as the old laboratory but is improved by the quality of the equipment and the space in the new facility.

From the pulverized material, a 50 g sample was selected using a cone and quarter method and mixed with a flux. Gold assays were then taken using fire assay techniques with a gravimetric finish only.

11.2.3 Exploration Channel Sampling and Diamond Drilling SGS (Colombia) Laboratory

Since the 2011 drill program, samples were sent for sample preparation to the ISO 9001:2000 accredited, SGS laboratories (SGS Colombia) sample preparation facility in Medellín and assayed for gold by SGS in Peru (SGS Peru).

SRK has not visited the SGS Medellín sample preparation facilities during the current site inspections but has during previous visits. The sample preparation method at SGS Medellín was the same as designed for the mine laboratory.

11.3 Sample Analysis

11.3.1 Mine Laboratory, Pre-2013

From the pulverized material, a 50 g sample was selected using a cone and quarter method and mixed with a flux. Gold assays were then taken using fire assay techniques with a gravimetric finish only.

11.3.2 Mine Laboratory, 2015

The only samples assayed in the onsite laboratory and used in the current resource estimate are the channel samples collected by the Mine Geology Department. All exploration drilling and sampling has been dispatched to SGS in Medellín for sample preparation and analysis. Since early November 2020, all exploration samples are still dispatched to SGS in Medellín for sample preparation but returned to the on-site facilities in Segovia for analysis, as the SGS fire assay facilities in Medellín were shut down in October 2020.

The sample preparation methods are consistent with those used at the SGS facility (Figure 11-2). SGS (Medellín) analyzed the samples for gold by fire assay with AAS finish, using an Aligent Technologies 200 Series AA machine. Silver samples above 100 g/t were assayed by fire assay with gravimetric finish. All information is captured directly into the laboratory database to remove any transcription errors. Samples over 5 g/t Au were assayed by fire assay with gravimetric finish.

Source: SRK, 2016

Figure 11-2: Mine Laboratory at Segovia, Showing Crusher, Pulverizer, Furnace and AA Assay Capture

11.3.3 SGS Laboratory

Since August 15, 2013, SGS (Colombia) has upgraded the SGS laboratory at Medellín from a sample preparation only facility to both sample preparation and fire assay. SRK has not completed a visit to the laboratory by Benjamin Parsons during the current site inspections but has during previous visits. Samples are tracked through the system using barcodes placed on the samples within the sample receipt bay. The sample preparation method follows the same process as the old laboratory.

SGS (Medellín) analyzed the samples for gold by fire assay with atomic absorption spectrophotometer (AAS) finish. Samples over 5 g/t Au were assayed by fire assay with gravimetric finish. Silver was assayed by aqua regia digestion and AAS finish. All field samples and drill samples up to hole ZC-0086 were analyzed for multiple elements by aqua regia digestion and inductively coupled plasma (ICP) finish (39 Element ICP Package).

Since early November 2020, all exploration samples are still dispatched to SGS in Medellín for sample preparation but returned to the SGS on-site facilities in Segovia for analysis, as the SGS fire assay facilities in Medellín were shut down in October 2020.

11.4 Specific Gravity

GCG, with guidance from SRK, developed a density measurement protocol based on an immersion methodology:

- Weigh dry sample
- Cover in paraffin wax
- Weigh sample covered in paraffin
- Immerse in water on suspended tray
- Manually record weight
- Back-calculate density based on fixed formula within an Excel spreadsheet

An example of the equipment used to measure the weights during the analysis and a typical prepared core sample with logging sheet is illustrated in Figure 11-3. At Segovia, prior to 2017, the program implemented by GCG for specific gravity included a total of 580 drill core and channel samples analyzed. Density values measured range from 1.51 to 4.97 g/cm^3. Between 2017 and 2018 an additional 179 samples were selected and tested using the same immersion methodology. The density values ranged from 2.58 to 4.86 g/cm^3, with an average density of 2.77 g/cm^3.

Check samples have been taken in both the historical and more recent sampling. A total of seven samples were sent to SGS Peru in 2012 for external verification. A further 10 check samples were submitted in 2018 to ALS Medellín for analysis. The results of the analysis confirmed the initial values are reasonable with the difference in the mean density reporting within ± 1 %, and therefore SRK has considered the database from the GCG to be acceptable. Whilst there is a degree of limitation on the sample size and variability in the results, SRK has selected the average value of 2.7 g/cm^3 as a reasonable representation of mineralized vein density.

Source: SRK, 2013

Figure 11-3: Core Sample Coated in Paraffin Wax with Logging Sheet, Prior to Entry to the Database

11.5 Quality Assurance/Quality Control Procedures

Quality Assurance/Quality Control (QA/QC) measures ensure the reliability and trustworthiness of exploration data. These measures include written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management, and database integrity. Appropriate documentation for quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

A QA/QC program is independent of the testing laboratory. The purpose of a QA/QC program is to ensure reliable and accurate analysis is obtained from exploration samples for use in resource estimation as part of industry best practice. Correctly implemented, a QA/QC program monitors for detects, and corrects any errors identified at a project.

The following control measures were implemented by GCG to monitor both the precision and accuracy of sampling, preparation and assaying. Results shown have been limited to the QA/QC samples inserted during routine 2019 sample submissions. Results from 2016 and 2017 sample submissions are outlined in the report “Gran Colombia Segovia Mineral Resource Estimate December 31, 2017”. Results from 2018 sample submissions are outlined in the report “Gran Colombia Segovia Mineral Resource Estimate December 31, 2018”.

GCG use a variety of samples within the QA/QC program which includes routine submissions of Certified Reference Material (CRM), blanks and duplicates into the routine sample stream. QA/QC samples are inserted at a rate of approximately 15%, as illustrated in Table 11-1. In every 100 samples sent to the laboratory, the following QA/QC materials were inserted: seven CRM, three blanks, one field duplicate, two coarse reject preparation duplicates and two sample pulp duplicates.

Table 11-1: Quality Control Data Produced by the Company for the Project (2019)

Sampling Program	Count	Comment
Mine Geology Sampling		
Mine Drilling Rejects (GCG vs SGS)	366	
Mine Channel Rejects (GCG vs SGS)	164	
Mine Channel Rejects (GCG vs ALS)	425	
Mine Drilling Pulp (GCG vs SGS)	8	
Mine Channel Pulp (GCG vs SGS)	164	
Mine Channel Pulp (GCG vs ALS)	428	
Coarse Blanks (ALS)	16	
Coarse Blanks (SGS)	61	
Coarse Blanks (GCG)	1,567	
CRM (ALS)	18	Combined Channel & Drillhole submissions
CRM (SGS)	70	Combined Channel & Drillhole submissions
CRM (GCG)	1,304	Combined Channel & Drillhole submissions
Exploration Sampling		
Fine Blanks	4	
Pulp Blanks	0	
Channel Coarse Blanks	184	
Drilling Coarse Blanks	324	
Drilling Duplicates	130	
Channel Coarse Duplicates	64	
Channel Pulp Duplicates	64	
Channel Field Duplicates	68	
Drilling Coarse Duplicates	103	
Drilling Pulp Duplicates	108	
Drilling Field Duplicates	94	
Drilling CRM	200	
Channel CRM	347	
Subtotal Mine Geology	4,591	
Subtotal Exploration	1,690	
Total QC Samples	**6,281**	

Source: SRK, 2020

11.5.1 Standards

GCG historically has used 39 different CRMs in the sample analysis stream. During the 2019 exploration program CRMs for gold were supplied by Rocklabs, New Zealand, by Geostats, Australia, and by Ore Research and Exploration, Australia. Summary statistics are shown in (Table 11-2) for CRM samples used in the exploration drilling program and (Table 11-3) for CRM samples used in sampling mine geology channels. GCG has defined performance related goals on which batches are accepted or rejected and therefore requested for reanalysis. The guidelines can be summarized as follows

- A single CRM greater than three times the standard deviation is considered unacceptable and means the subsequent samples are rejected
- A single CRM greater than two times the standard deviation but less than three standard deviations is considered acceptable and no immediate action is taken
- Two consecutive CRMs greater than two times the standard deviation but less than three standard deviations are considered unacceptable, the laboratory is notified and samples falling between the two are re-assayed

SRK has reviewed the CRM results and associated graphs and is satisfied that they demonstrate in general a high degree of accuracy at the assaying laboratory (with the exception of a limited number of anomalies, generally associated with very high grade assays) and hence give sufficient confidence in the assays for these to be used to derive a Mineral Resource estimate. A summary of the submissions of CRM material separated by exploration and mine sampling submissions is shown in Table 11-2 and Table 11-3.

Table 11-2: Summary of Certified Reference Material Produced by GEOSTATS, Rocklabs and Oreas and Submitted by GCG Exploration in Drilling/Channel Submissions to External Laboratories in 2018 and 2019

				2018 Submissions		2019 Submissions		
Supplier	**Material ID**	**Certified Value**	**Standard Deviation**	**Count**	**Average Assay Au (g/t)**	**Count**	**Average Assay Au (g/t)**	**Standard Deviation**
GEOSTATS	G310-6	0.650	0.04	27.00	0.62	12.00	0.65	0.01
GEOSTATS	G915-6	0.670	0.04	7.00	0.64	25.00	0.67	0.02
GEOSTATS	G314-1	0.750	0.04	0.00	0.00	22.00	0.75	0.04
GEOSTATS	G315-2	0.980	0.02	29.00	0.98	87.00	0.98	0.11
GEOSTATS	G313-1	1.000	0.02	2.00	0.99			
GEOSTATS	G315-3	1.970	0.11	2.00	1.86			
GEOSTATS	G313-2	2.040	0.01	1.00	2.03			
GEOSTATS	G914-6	3.210	0.02	32.00	3.20	33.00	3.21	0.06
GEOSTATS	G313-6	4.940	0.26	22.00	4.76	2.00	4.94	0.30
GEOSTATS	G314-5	5.290	0.42	5.00	4.87			
GEOSTATS	G312-4	5.300	0.17	3.00	5.17	30.00	5.30	0.84
GEOSTATS	G313-7	6.930	0.05	8.00	6.88			
GEOSTATS	G915-3	9.390	0.69	2.00	10.08			
GEOSTATS	G315-8	9.930	0.57	2.00	10.50			
GEOSTATS	G914-10	10.260	0.71	4.00	9.96	5.00	10.26	0.00
GEOSTATS	HiSilP3	12.244	0.38	20.00	12.19	9.00	12.24	0.00
GEOSTATS	G917-8	17.120	0.45	0.00	0.00	3.00	17.12	0.00
GEOSTATS	G915-5	17.950	1.50	9.00	16.91			
GEOSTATS	G916-6	30.940	0.94	2.00	30.01			
GEOSTATS	G917-1	48.520	0.52	5.00	48.01	6.00	48.52	0.00
GEOSTATS	G915-10	48.680	0.49	11.00	48.29			
Oreas	OREAS 65A	0.52	0.03	7.00	2.24	3.00	0.52	0.13
Oreas	OREAS 67A	2.238	0.1	14.00	2.22	64.00	2.24	0.14
Rocklabs	SE29	0.597	0.07	3.00	0.53	0.00	0.00	0.00
Rocklabs	SE-101	0.606	0.01	0.00	0.00	55.00	0.61	0.66
Rocklabs	SF30	0.832	0.12	2.00	0.71	0.00	0.00	0.00
Rocklabs	SF57	0.848	0.07	2.00	0.78	0.00	0.00	0.00
Rocklabs	SG40	0.976	0.07	1.00	0.90	0.00	0.00	0.00
Rocklabs	SG31	0.996	0.09	2.00	0.90	0.00	0.00	0.00
Rocklabs	SH35	1.323	0.06	2.00	1.28	0.00	0.00	0.00
Rocklabs	SJ80	2.656	0.06	13.00	2.60	35.00	2.66	0.14
Rocklabs	SK94	3.899	0.23	7.00	3.70	33.00	3.90	0.24
Rocklabs	SK78	4.134	0.07	17.00	4.11	0.00	0.00	0.00
Rocklabs	SL76	5.960	0.12	14.00	5.93	33.00	5.96	0.82
Rocklabs	SN75	8.671	0.63	14.00	8.16	20.00	8.67	0.10
Rocklabs	SN91	8.680	0.07	6.00	8.63	0.00	0.00	0.00
Rocklabs	SP73	18.170	0.37	16.00	17.89	34.00	18.17	0.00
Rocklabs	SQ87	30.870	0.59	4.00	30.33	4.00	30.87	0.00
Rocklabs	SQ88	39.723	0.59	9.00	39.44	32.00	43.51	0.00

Source: SRK, 2020

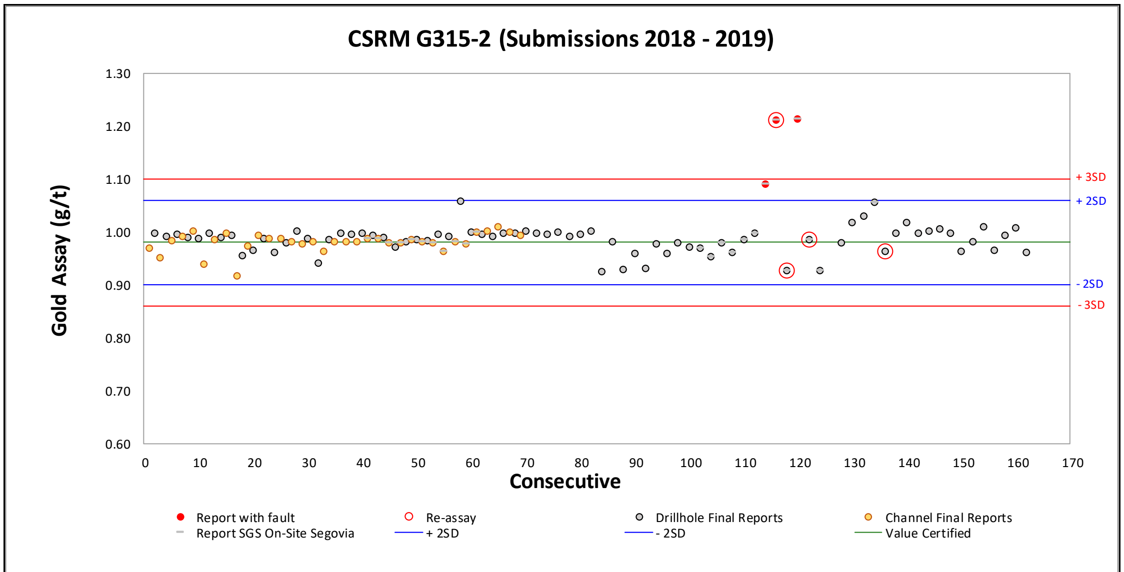
Table 11-3: Summary of Certified Reference Material Produced by GEOSTATS, Rocklabs and Oreas and Submitted by GCG Mines in Drilling/Channel Submissions to External Laboratories in 2018 and 2019

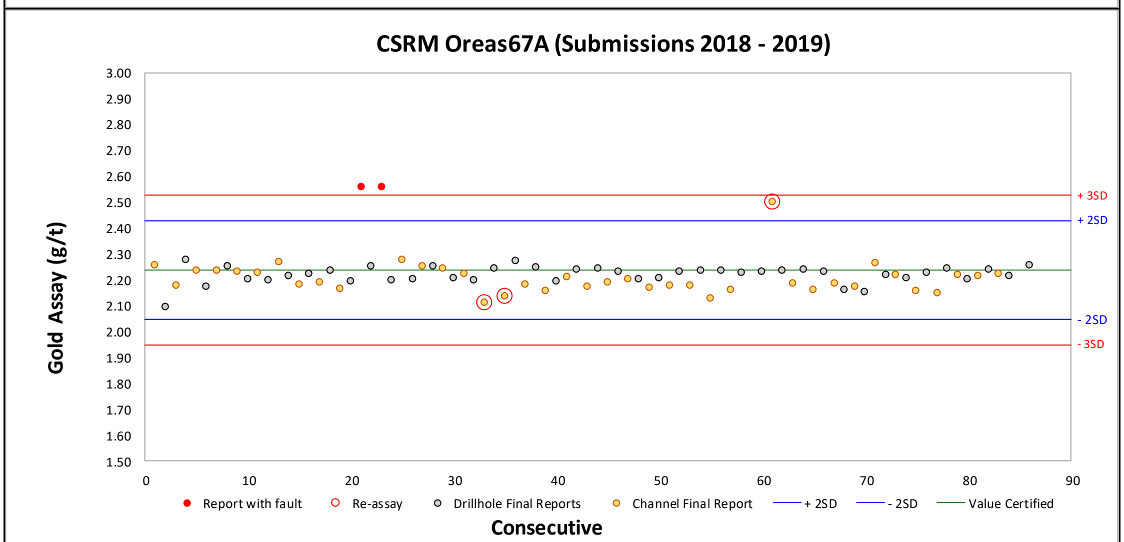
				2018 Submissions		2019 Submissions		
Supplier	Material ID	Certified Value	Standard Deviation	Count	Average Assay Au (g/t)	Count	Average Assay Au (g/t)	Standard Deviation
GEOSTATS	G310-6	0.65	0.022	39	0.638	0	0.000	0.000
GEOSTATS	G312-4	5.3	0.082	22	5.25	277	5.222	0.086
GEOSTATS	G313-1	1	0.095	5	0.936	0	0.000	0.000
GEOSTATS	G313-2	2.04	0.073	18	1.983	0	0.000	0.000
GEOSTATS	G313-6	4.94	0.191	52	5.062	0	0.000	0.000
GEOSTATS	G313-7	6.93	0.163	60	7.026	0	0.000	0.000
GEOSTATS	G314-5	5.29	0.155	80	5.186	0	0.000	0.000
GEOSTATS	G315-2	0.98	0.208	71	1.012	107	0.986	0.020
GEOSTATS	G315-3	1.97	0.079	5	1.914	0	0.000	0.000
GEOSTATS	G315-8	9.93	0.353	53	10.154	0	0.000	0.000
GEOSTATS	G914-10	10.26	0.202	50	10.283	292	10.179	0.439
GEOSTATS	G914-6	3.21	0.069	147	3.211	346	3.214	0.165
GEOSTATS	G914-9	16.77	0.399	45	16.938	0	0.000	0.000
GEOSTATS	G915-10	48.68	0.601	18	48.974	0	0.000	0.000
GEOSTATS	G915-3	9.39	0.545	8	9.643	0	0.000	0.000
GEOSTATS	G915-5	17.95	0.619	43	17.426	29	17.419	0.360
GEOSTATS	G915-6	0.67	0.017	7	0.657	114	0.647	0.018
GEOSTATS	G916-6	30.94	0.369	22	30.943	42	30.659	0.601
GEOSTATS	G917-1	48.52	0.585	31	48.262	27	48.436	0.518
RockLabs	HiSILP3	12.244	0.361	96	12.233	0	0.000	0.000
RockLabs	SJ80	2.656	0.042	106	2.654	0	0.000	0.000
RockLabs	SN75	8.671	0.153	7	8.803	29	8.698	0.164
RockLabs	SN91	8.68	0.197	91	8.804	1	8.482	0.000
RockLabs	SP73	18.17	0.288	16	18.111	46	18.138	0.324
RockLabs	SQ47	39.88	0.882	16	39.216	0	0.000	0.000
RockLabs	SQ87	30.87	0.605	20	30.495	48	30.683	0.553
RockLabs	SQ88	39.723	0.83	28	39.234	34	39.253	1.509

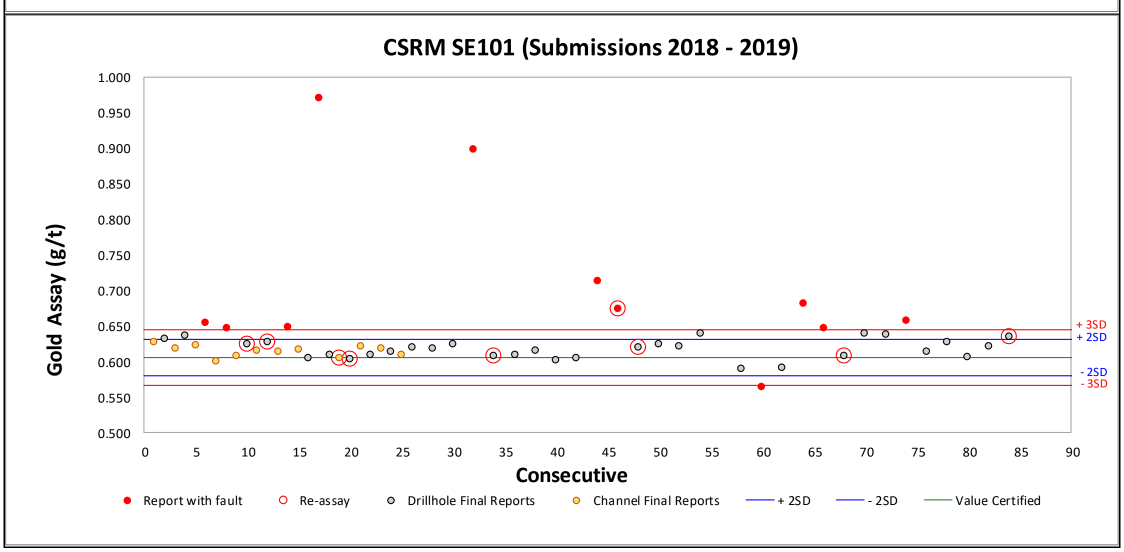
Source: SRK, 2020

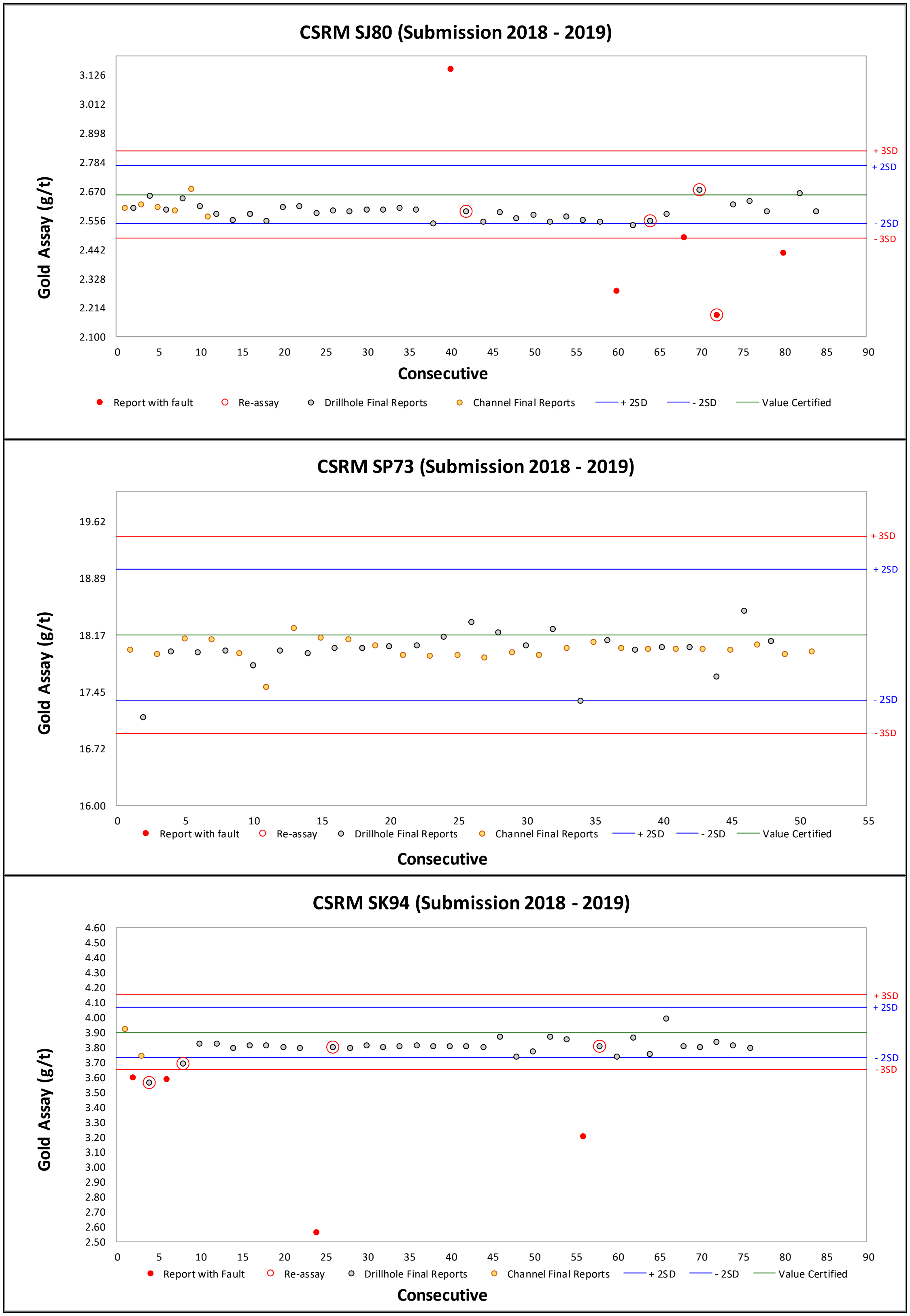
Within the exploration submissions, SRK has focused on the six standards have been most heavily used in 2019: G315-2, OREAS-67A, SE-101, SJ-80, SP-73, SK-94, which all contained more than 30 submissions. Figure 11-4 shows the performance of these selected CRMs. In general, samples submitted as standards return Au values within two standard deviations of their certified value. When a standard fail (by falling outside GCG's failure criteria of three standard deviations from the certified value), it is flagged by GCG personnel, reported to the laboratory, and submitted for re-assay. Overall, SRK notes that the majority of standards fall below or are very close to the expected Au value.

In the mine submissions SRK has reviewed all CRM's but presents the results from the top five submissions (G914-6, G914-10, G312-4, G915-6 and G315-2) which are shown in Figure 11-5. The results all report within the two standard deviation lines, with the only minor comment is that the grade is trending lower in both G914-10 and G312-4.


CSRM G315-2 (Submissions 2018 - 2019)
Gold Assay (g/t)
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
+ 3SD
+ 2SD
- 2SD
- 3SD
Consecutive
Report with fault
Re-assay
Drillhole Final Reports
Channel Final Reports
Report SGS On-Site Segovia
+ 2SD
- 2SD
Value Certified

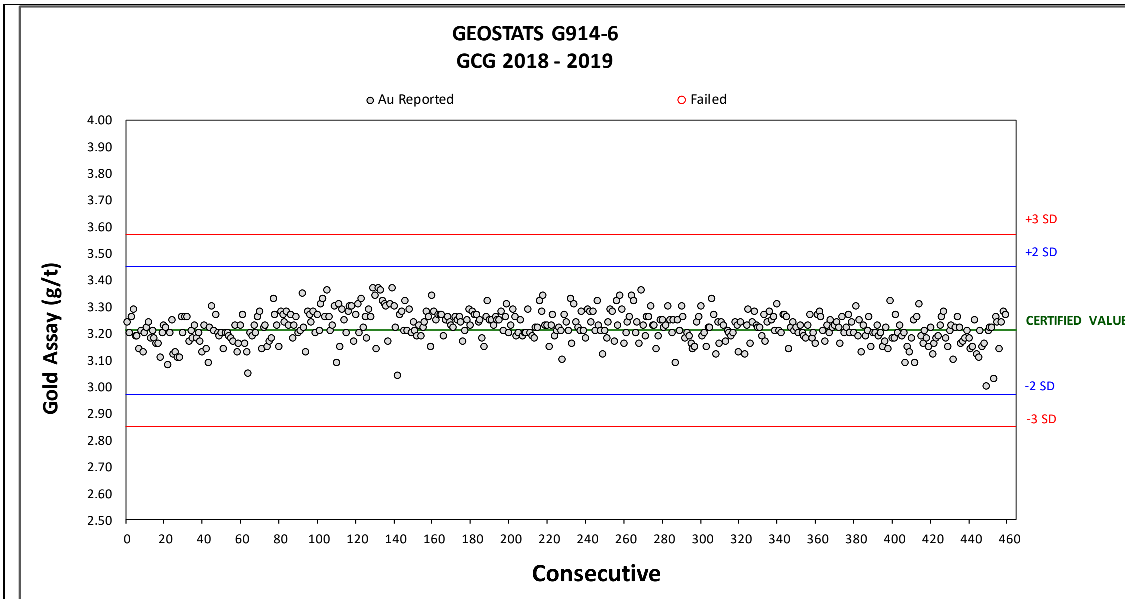

CSRM Oreas67A (Submissions 2018 - 2019)
Gold Assay (g/t)
3.00
2.90
2.80
2.70
2.60
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
0
10
20
30
40
50
60
70
80
90
+ 3SD
+ 2SD
- 2SD
- 3SD
Report with fault
Re-assay
Drillhole Final Reports
Channel Final Report
+ 2SD
- 2SD
Value Certified
Consecutive

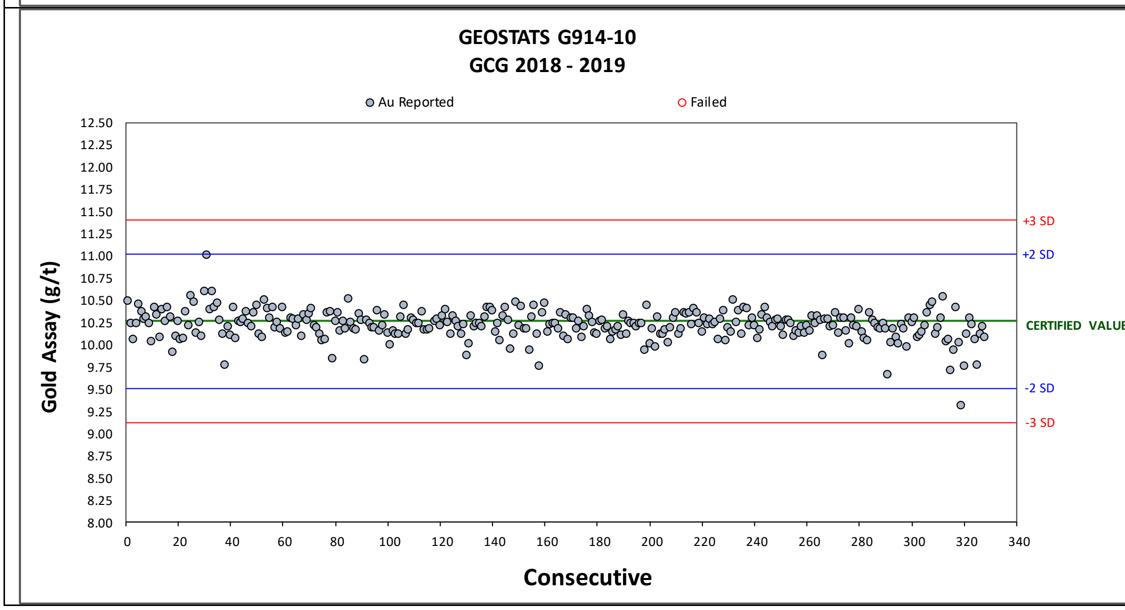

CSRM SE101 (Submissions 2018 - 2019)
Gold Assay (g/t)
1.000
0.950
0.900
0.850
0.800
0.750
0.700
0.650
0.600
0.550
0.500
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
+ 3SD
+ 2SD
- 2SD
- 3SD
Consecutive
Report with fault
Re-assay
Drillhole Final Reports
Channel Final Reports
+ 2SD
- 2SD
Value Certified

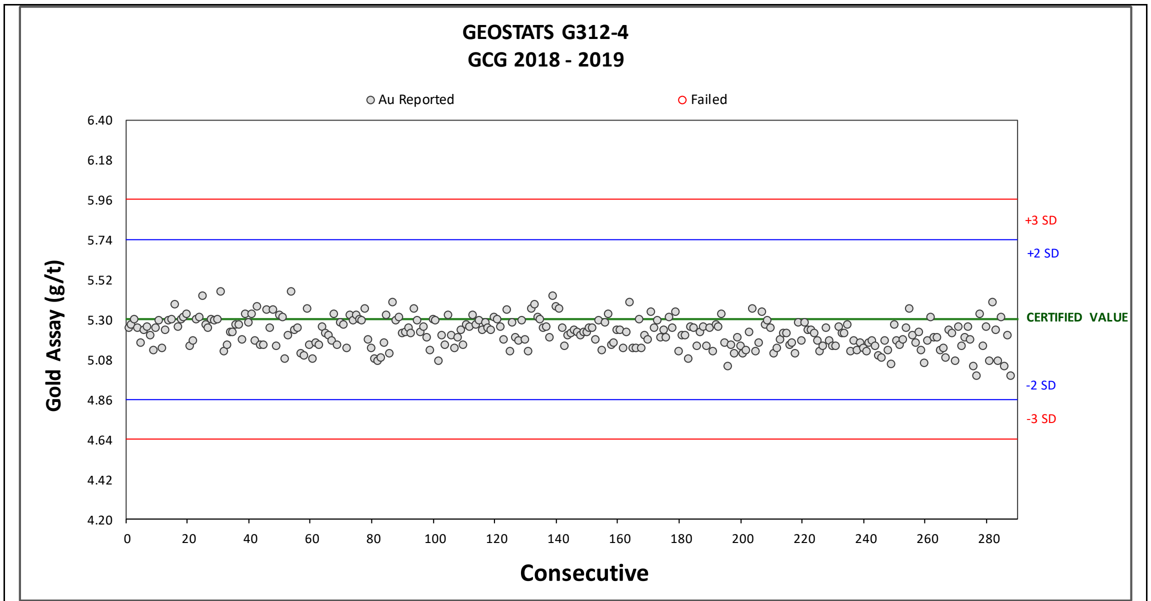


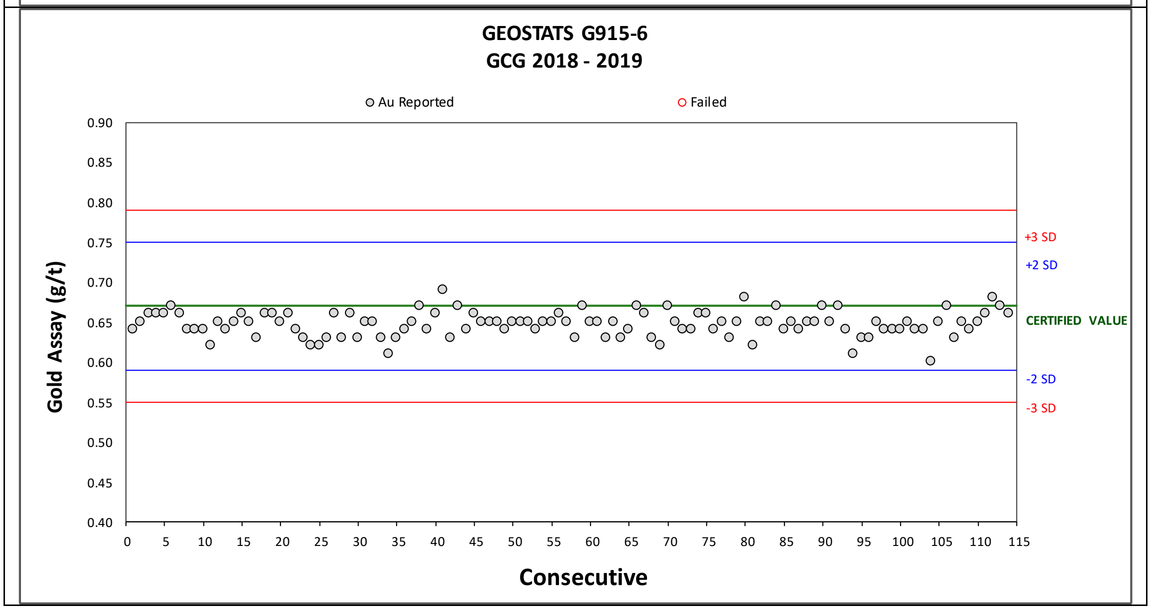
Source: SRK, 2020

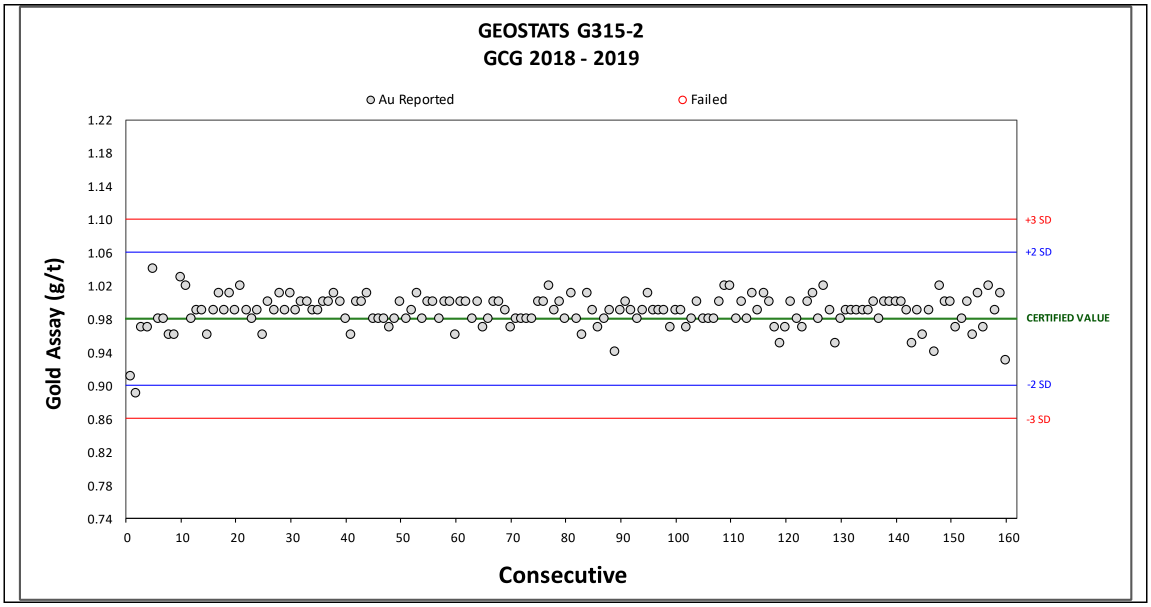
Figure 11-4: Control Charts Showing Performance of Au CRMs with Exploration Sample Submissions


GEOSTATS G914-6
GCG 2018 - 2019
Au Reported
Failed
Gold Assay (g/t)
4.00
3.90
3.80
3.70
3.60
3.50
3.40
3.30
3.20
3.10
3.00
2.90
2.80
2.70
2.60
2.50
+3 SD
+2 SD
CERTIFIED VALUE
-2 SD
-3 SD
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460
Consecutive


GEOSTATS G914-10
GCG 2018 - 2019
Au Reported
Failed
Gold Assay (g/t)
12.50
12.25
12.00
11.75
11.50
11.25
11.00
10.75
10.50
10.25
10.00
9.75
9.50
9.25
9.00
8.75
8.50
8.25
8.00
+3 SD
+2 SD
CERTIFIED VALUE
-2 SD
-3 SD
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340
Consecutive


GEOSTATS G312-4
GCG 2018 - 2019
Au Reported
Failed
Gold Assay (g/t)
6.40
6.18
5.96
5.74
5.52
5.30
5.08
4.86
4.64
4.42
4.20
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
Consecutive
+3 SD
+2 SD
CERTIFIED VALUE
-2 SD
-3 SD


GEOSTATS G915-6
GCG 2018 - 2019
Au Reported
Failed
Gold Assay (g/t)
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.55
0.50
0.45
0.40
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
Consecutive
+3 SD
+2 SD
CERTIFIED VALUE
-2 SD
-3 SD



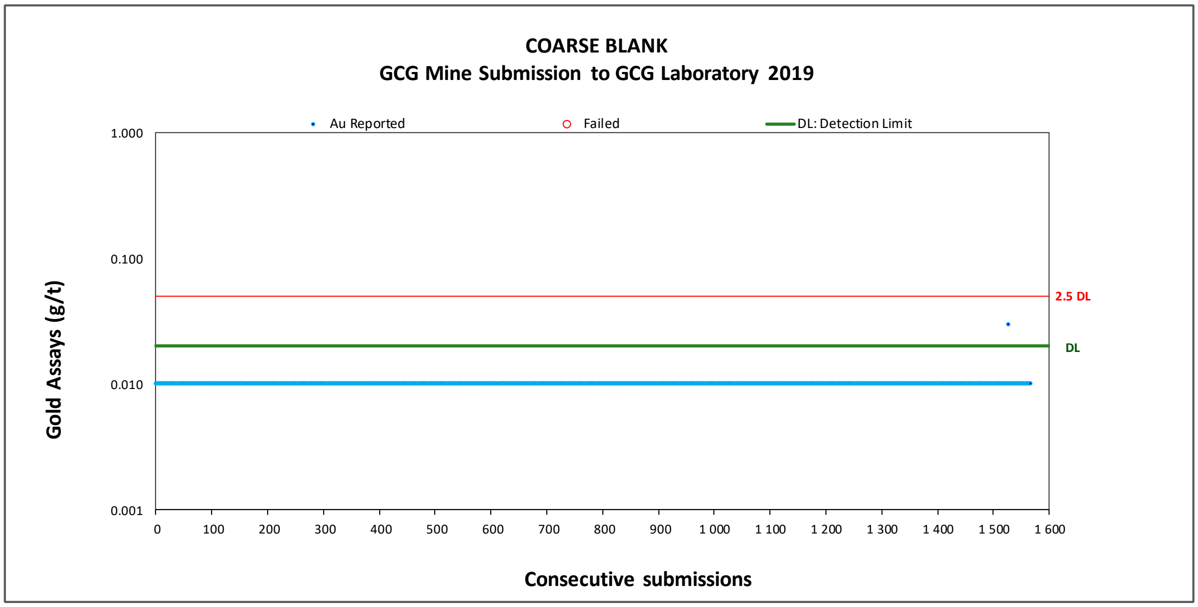
Source: SRK, 2020

Figure 11-5: Control Charts Showing Performance of Au CRMs with Mine Sample Submissions

11.5.2 Blanks

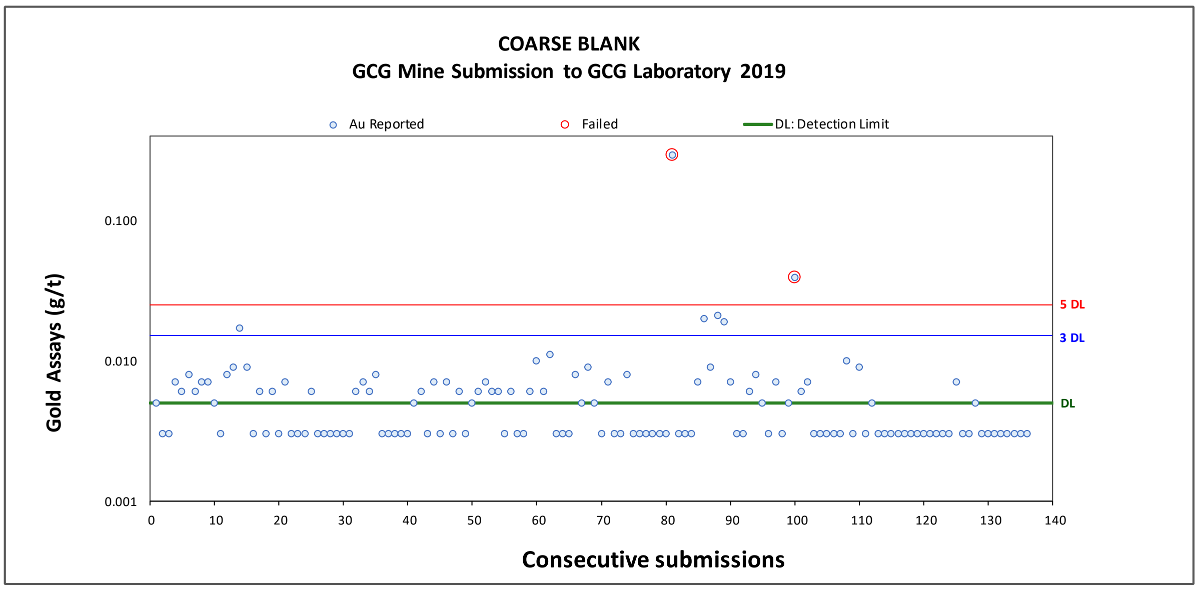
Coarse quartz brought in from Medellín, and a certified fine-grained blank from Rocklabs are included in the sample stream. Blank samples were submitted with both mine drill core (Figure 11-6) and mine pulps (Figure 11-7). Through 2019, 272 blank samples were submitted with mine drilling samples to verify that contamination is not affecting assay results at Segovia. Additionally, 1,567 blanks were submitted with mine pulps at the GCG laboratory, which reported no errors, with only one sample reporting measurable results above the detection limit. In addition to the mine channel sampling 61 and 16 blanks were also submitted to ALS which is used as a check laboratory and SGS (Colombia) respectively. Of the SGS (Colombia) samples submitted in 2019, seven were anomalous, two samples reported higher than 5 x detection limit with an additional four samples reporting higher than 3x detection. SRK has reviewed the results from the blank sample analysis and has determined that there is little evidence of sample contamination at SGS (Colombia), ALS or GCG's facilities.

SRK has also reviewed the submissions of exploration samples submitted to SGS (Colombia) to review the laboratory performances. The results from the submission of coarse blanks (which is testing the complete sample preparation process), are shown in Figure 11-8, for all 2018 and 2019 submissions. SRK has also conducted the review on a time (submission date) basis, which indicated that only three samples reported above 5x detection limits during 2019, with an additional eight samples reporting above 3x detection limits which equates to approximately 2% of the submissions. SRK notes that even with these failures, the evidence of contamination is limited at SGS (Colombia), with all assays above the 5x detection limit reported for failure with the resultant re-assays reporting typically less than 3x detection limit (one assay returned a blank analysis of 3x detection limit).



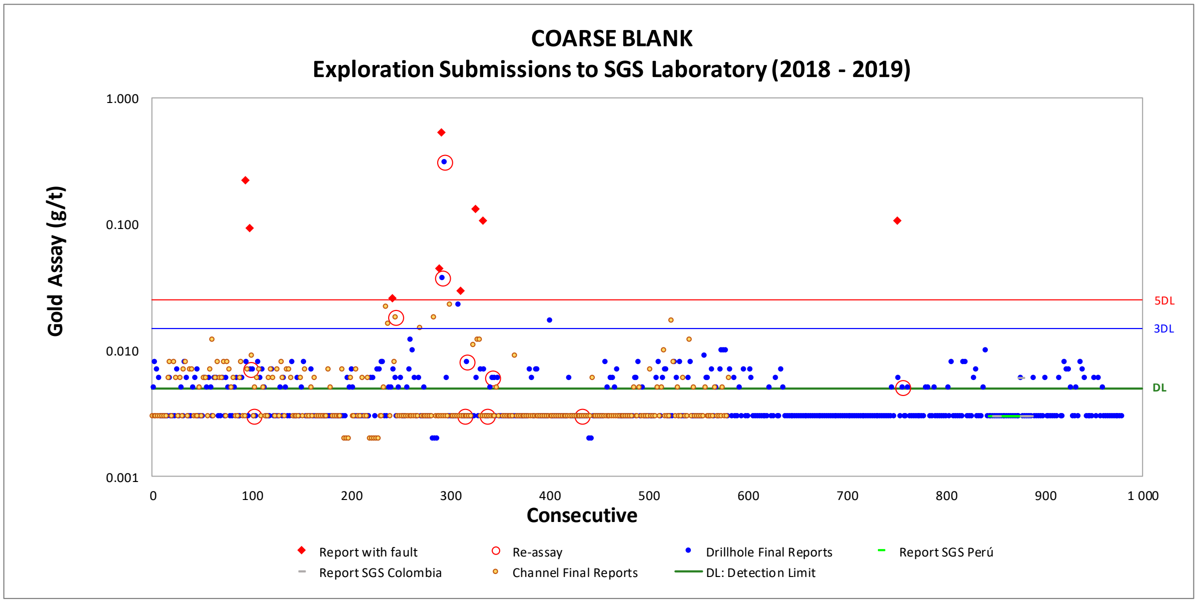
Source: SRK, 2020

Figure 11-6: Blank Analysis (Au) for GCG Mine Submissions (blue dots) at Segovia Laboratory



Source: SRK, 2020

Figure 11-7: Blank Analysis (Au) for GCG Mine Submissions at SGS (Colombia) Laboratory



Source: SRK, 2020

Figure 11-8: Coarse Blank Analysis (Au) for GCG Exploration Submissions at SGS (Colombia) Laboratory

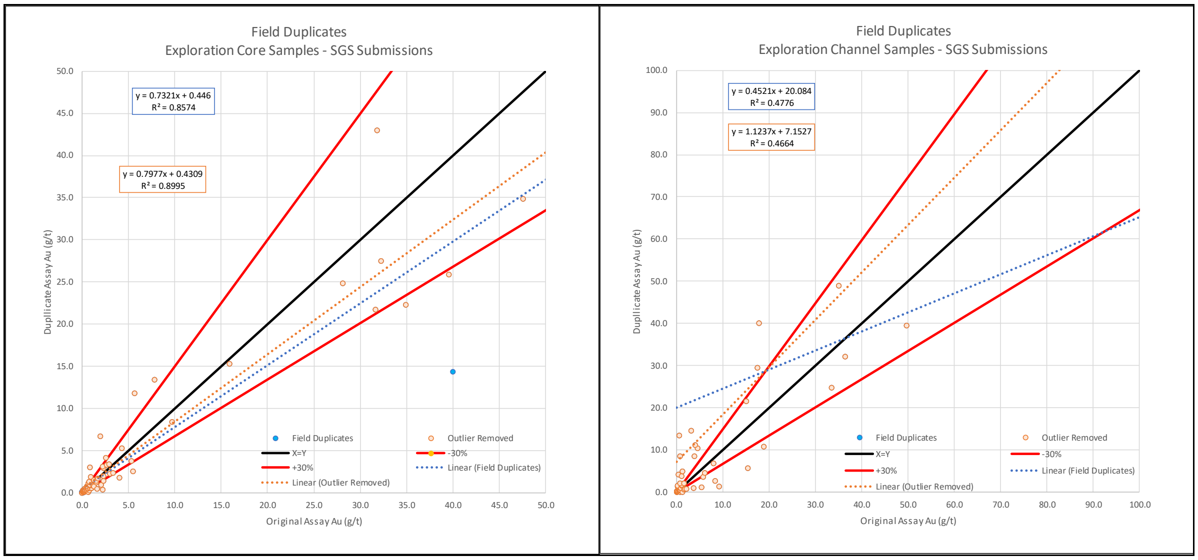
11.5.3 Duplicates

GCG use a combination of field duplicates and third-party duplicates are inserted into the sample stream at Segovia to evaluate the ability of a third-party laboratory to repeat the assay results from the remaining sample. Field duplicates are generated by submitting 1/4 core or splitting a channel sample by rock saw or hammer. Third-party laboratory duplicates are generated by the laboratory by generating new samples from both reject and pulp material. The new pulp is created using the rejection material of the original sample. This new pulp is tested, and the results are compared with the results of the original sample assayed.

In 2019, 94 drill core field duplicates (1/4 core), and 68 channel sample duplicates (taken adjacent to the main sample) were inserted into the routine sample submissions by the exploration department and assayed for Au to ensure laboratory precision.

The field duplicates show a reasonably wide scatter (Figure 11-9). A review of the mean grades for original and duplicates respectively are 4.29 g/t and 3.58 g/t Au for core and field duplicates (a -16.4% difference), and 40.6 g/t and 38.4 g/t Au for channel duplicates (a -5.3% difference). In the context of a deposit with noted high geological variability, SRK is reasonably confident in the repeatability of the sample preparation process but cautions that individual high grades should be treated with caution. During the analysis SRK noted one outlier in the core sample duplicates which was removed from the statistical analysis which reduced the bias from -16.4 % to -11.1 %, and the correlation coefficient improving from R^2=0.85 to R^2= 0.90, with the original assay reporting higher. A review of the channel sample field duplicates shows wider dispersion of results (which is expected), it is noted with the exception of one outlier the duplicate assays tend to return higher grades.

SRK considers the correlation between the two dataset is within acceptable levels for the sampling styles. SRK recommends continuation of the GCG sampling protocols during 2019.



Source: SRK, 2020

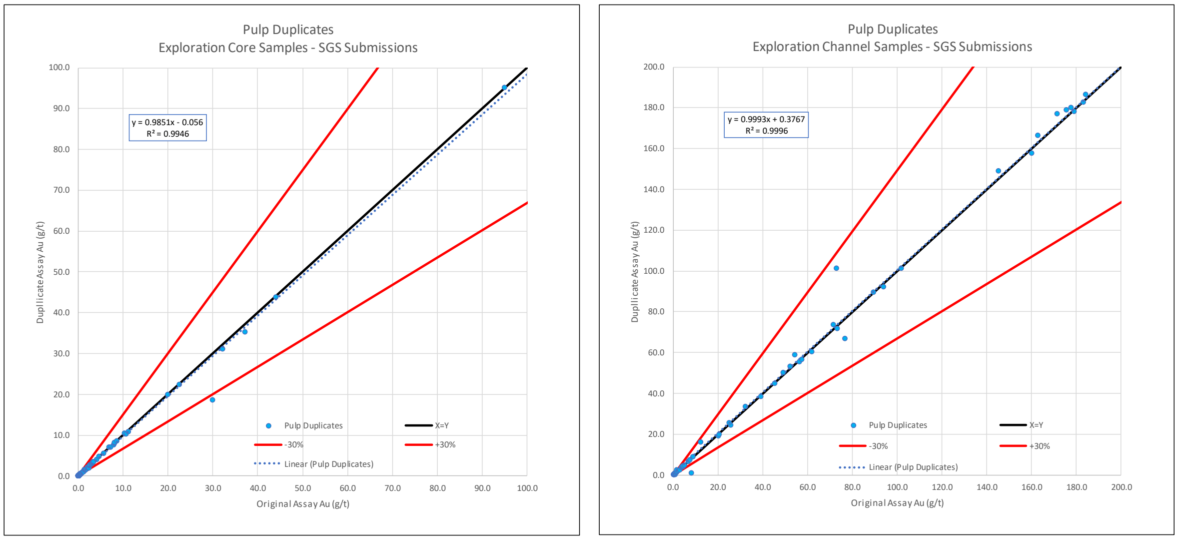
Figure 11-9: Au Dispersion Plots for Segovia Exploration Field Duplicates Split by Drilling and Channel Sampling

In 2019, coarse rejects from previous samples were submitted in both the drillcore and channel samples submissions to the laboratory. A total of 103 and 68 reject samples were inserted in the drillcore and channel samples respectively.

The reject duplicates show an improvement compared to the field duplicates in terms of the scatter (Figure 11-10). A review of the mean grades for original and duplicates respectively are 6.50 g/t and 6.98 g/t Au for core and field duplicates (a +7.4% difference), and 50.6 g/t and 50.2 g/t Au for channel duplicates (a -0.6% difference). There is a strong correlation when reviewing the two trend lines for the populations with a reported correlation of R^2=0.94 and R^2=0.99 for the core and channel submissions respectively. SRK noted one outlier in the core sample duplicates which was removed from the statistical analysis which reduced the bias from +7.4 % to -1.2 %, which confirms the strong correlation between the two datasets.

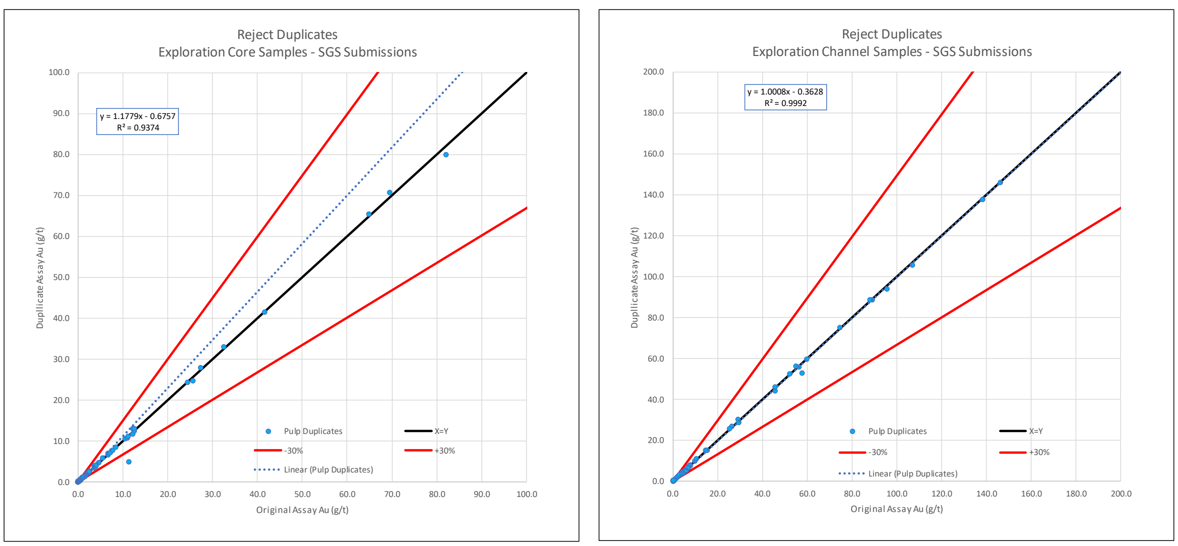
In 2019, pulp rejects from previous samples were submitted in both the drillcore and channel samples submissions to the laboratory. A total of 108 and 64 reject samples were inserted in the drillcore and channel samples respectively.

The pulp duplicates show best correlation of the duplicate sample types which is expected as the samples have been homogenized prior to splitting the pulps as part of the sample preparation process (Figure 11-11). A review of the mean grades for original and duplicates respectively are 4.90 g/t and 4.77 g/t Au for core and field duplicates (a -2.6% difference), and 109.6 g/t and 109.5 g/t Au for channel duplicates (a +0.3% difference). There is a strong correlation in both the populations with the correlation coefficient in excess of R^2=0.99.



Source: SRK, 2020

Figure 11-10: Au Dispersion Plots for Segovia Exploration Pulp Duplicates Split by Drilling and Channel Sampling



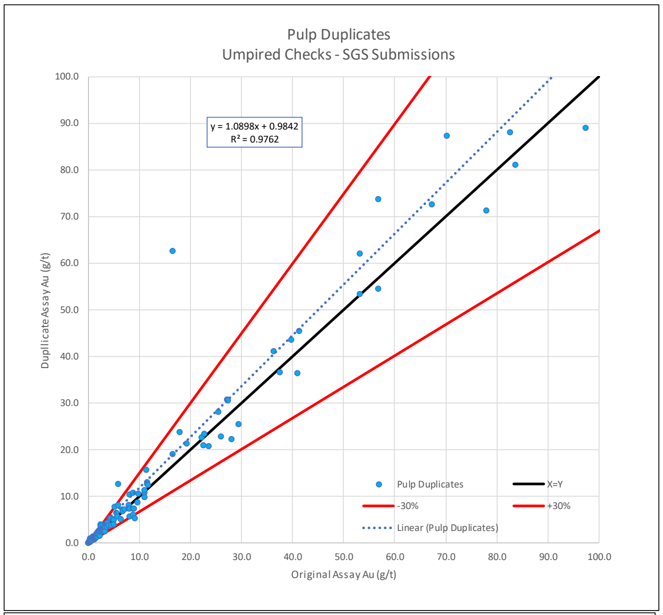
Source: SRK, 2020

Figure 11-11: Au Dispersion Plots for Segovia Exploration Reject Duplicates split by drilling and channel sampling

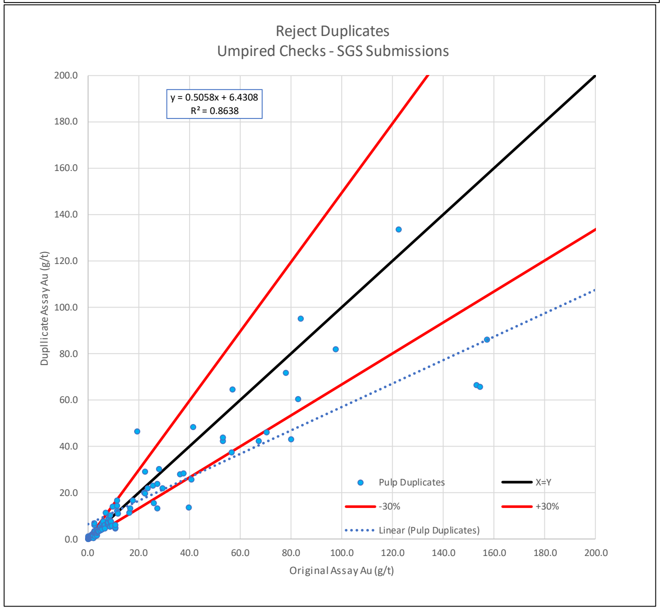
11.5.4 Umpire Laboratory Checks

To confirm the quality of the assays at the mine laboratory submitted during the 2019 programs, an umpire laboratory (SGS, Colombia) check was completed. To complete the analysis, selected batches sent to SGS Colombia with some additional batches also tested at ALS (preparation in Medellín and analysis in Peru).

The selected samples were sourced both reject and pulp material from channel sampling from underground drives and pillars. Samples were selected on a batch basis. GCG completed a check analysis program on selected rejects and pulps from the operating mines during 2019. A total of 164 reject duplicates and 163 pulp duplicates were submitted to SGS (Colombia) for checks. A total of 428 pulp duplicates and 425 reject duplicates were analyzed at ALS. The results of the submissions are shown in Figure 11-12 and Figure 11-13 for SGS and ALS respectively. The results for the pulp duplicates at SGS (Colombia) have the best correlation coefficient of R^2 = 0.97, but overall the correlations are considered reasonable for all the submissions (in excess of R^2=0.83). The biggest variation in the correlation is noted in the reject duplicates at ALS which has a population where the original assays reported grades in excess of 40 g/t, but the corresponding assays are less than 20 g/t, which should be monitored in the future. Comparisons of the mean grades in the sample populations are reasonable with the highest variability noted in the pulp duplicates at SGS (Colombia), but SRK highlights this is influences by some extreme grade material in excess of 900 g/t Au.



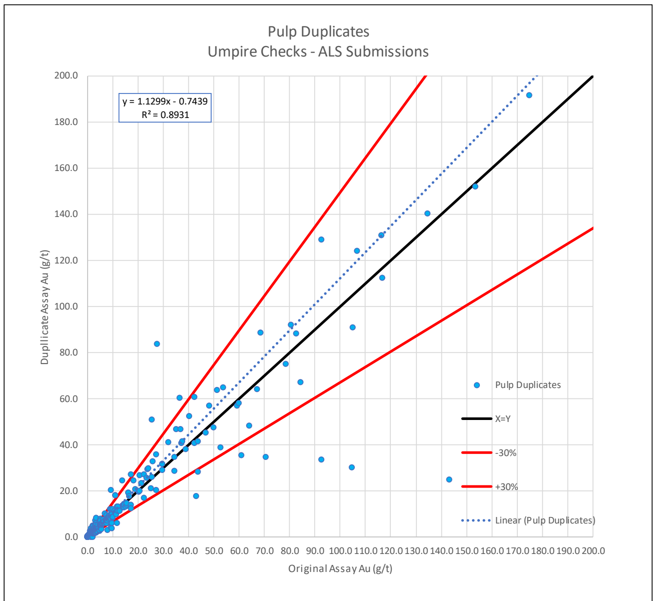
All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	40.49	45.12	11.43%
Standard Error	9.48	10.45	
Median	3.68	3.90	
Mode	0.40	1.23	
Standard Deviation	121.38	133.89	
Sample Variance	14733.79	17926.29	
Kurtosis	30.45	28.57	
Skewness	5.18	5.00	
Range	916.35	1026.84	
Minimum	0.01	0.02	
Maximum	916.36	1026.86	
Sum	6641.00	7399.10	
Count	164	164	



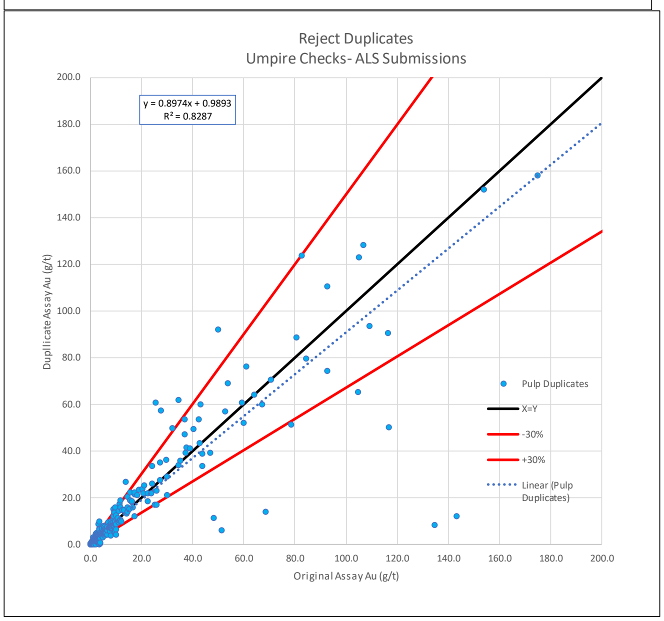
All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	40.49	41.86	3.4%
Standard Error	9.48	8.95	
Median	3.68	3.83	
Mode	0.40	0.52	
Standard Deviation	121.38	114.65	
Sample Variance	14733.79	13145.29	
Kurtosis	30.45	19.31	
Skewness	5.18	4.21	
Range	916.35	744.68	
Minimum	0.01	0.04	
Maximum	916.36	744.72	
Sum	6641.00	6865.21	
Count	164	164	

Source: SRK, 2020

Figure 11-12: Comparison of Umpire Laboratory Check Analysis Between GCG Laboratory and SGS Colombia



All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	14.60	15.75	7.9%
Standard Error	1.88	2.24	
Median	2.72	2.71	
Mode	0.59	1.23	
Standard Deviation	38.81	46.40	
Sample Variance	1505.91	2152.74	
Kurtosis	57.21	58.98	
Skewness	6.40	6.79	
Range	476.59	557.964	
Minimum	0.01	0.036	
Maximum	476.6	558	
Sum	6247.83	6741.091	
Count	428	428	



All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	14.6	14.9	1.5%
Standard Error	1.9	2.3	
Median	2.8	2.5	
Mode	0.6	1.4	
Standard Deviation	38.9	47.2	
Sample Variance	1515.6	2229.1	
Kurtosis	56.8	137.1	
Skewness	6.4	10.0	
Range	476.6	741.0	
Minimum	0.0	0.0	
Maximum	476.6	741.0	
Sum	6224.0	6318.4	
Count	425	425	

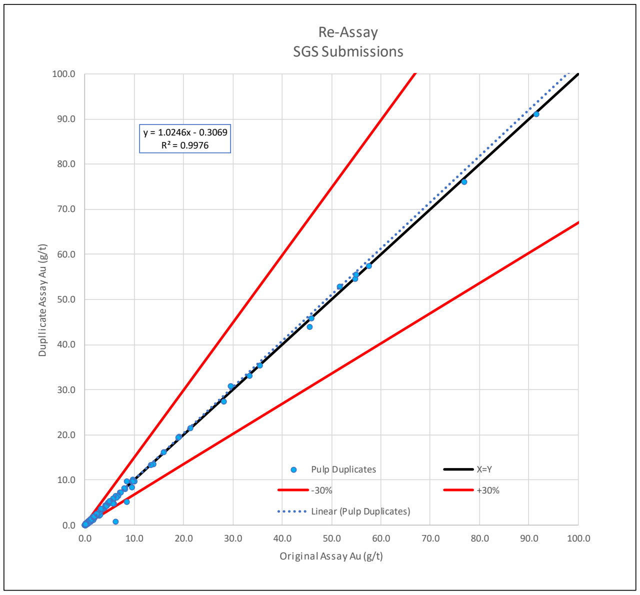
Source: SRK, 2020

Figure 11-13: Comparison of Umpire Laboratory Check Analysis Between GCG Laboratory and ALS Medellín

2019 Submissions (Exploration Re-Assays Samples)

To confirm the quality of the assays from SGS (Medellín), GCG has re submitted samples to SGS and ALS during the 2019 programs, on selected batches. Samples were submitted on a like for like basis with the original QA/QC samples, including blank and CRM material replaced to ensure thorough quality checks were in place. A total of 421 samples including the associated QA/QC samples were submitted. SRK has also reviewed the samples using an XY scatter plot to test the correlation between the original and umpire laboratory analysis. The results are shown in Figure 11-14. The correlation coefficients have been calculated at R^2=0.99, indicating a satisfactory correlation between the two laboratories in the samples submitted, which is supported by a difference in the mean grades of -0.3%.

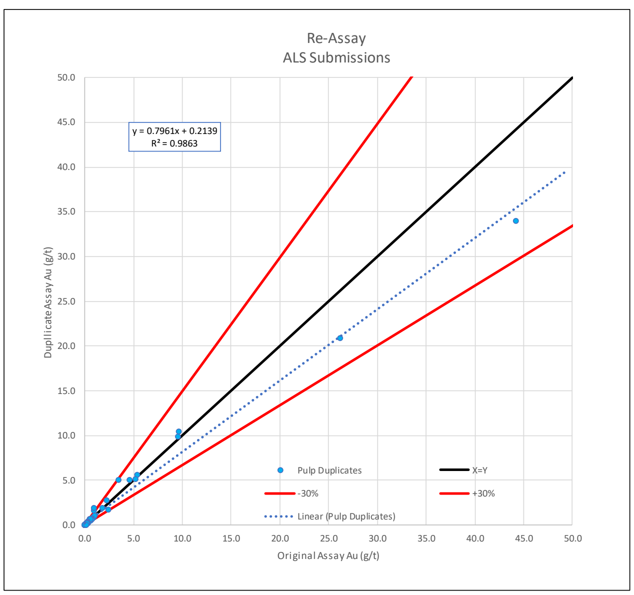
Overall SRK concluded that the level of accuracy/precision is acceptable for the laboratory. The comparison of SGS to ALS shows more variability with a difference in the mean grades of -9.3%, which is influenced by one sample which returned a value of 44.2 g/t Au at SGS compared to 34.0 g/t Au at ALS. If this sample is removed from the population the difference in the mean grades is reduced to 2.1 %.



All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	11.29	11.26	-0.3%
Standard Error	2.54	2.60	
Median	0.36	0.35	
Mode	0.01	0.01	
Standard Deviation	52.02	53.37	
Sample Variance	2706.60	2848.49	
Kurtosis	99.20	115.19	
Skewness	8.67	9.32	
Range	736.137	789.117	
Minimum	0.003	0.003	
Maximum	736.14	789.12	
Sum	4754.244	4742.189	
Count	421	421	

Source: SRK, 2020

Figure 11-14: Dispersion Plots for Umpire Check Channel Samples at SGS



All Data	*Au Original (ppm)*	*Au Reassay (ppm)*	
Mean	1.93	1.75	-9.3%
Standard Error	0.78	0.63	
Median	0.21	0.19	
Mode	0.01	0.00	
Standard Deviation	6.38	5.12	
Sample Variance	40.74	26.18	
Kurtosis	32.32	26.56	
Skewness	5.44	4.86	
Range	44.19	34.00	
Minimum	0.01	0.00	
Maximum	44.20	34.00	
Sum	129.29	117.26	
Count	67	67	

Source: SRK, 2020

Figure 11-15: Dispersion Plots for Umpire Check Channel Samples at ALS

Overall, it is the QP’s opinion that the QAQC program conducted by GCG to be in line within industry best practices and the results indicate no major issues in the laboratories used.

12 Data Verification

12.1.1 Gran Colombia Verification

GCG has undertaken a number of verification sampling programs to date for the historic underground channel sampling, including the initial check sampling, which concluded a low degree of confidence in the results from the historic mine laboratory (SRK, 2012; previous NI43-101 SRK Mineral Resource Report, dated April 2012).

As a result, it was recommended to increase the confidence in the sampling by increasing the underground mine/channel database completed by GCG, inclusive of further verification sampling. On the basis of the subsequent verification (2011 to 2012) of the sampling databases (which indicated reasonable sample integrity), SRK used the combined historical and more recent GCG data for the previous Mineral Resource Estimate.

Additional channel sampling completed at the operating mines between 2013 to 2019, and infill drilling exploration programs has enabled further verification of the historic database, which (whilst indicating a variable correlation) has increased the geological confidence within the re-sampled areas, as discussed in Section 11.5.

Further key verification work completed by GCG during the latest phase of exploration included the following:

- Infill drilling of the historic drillhole database at Sandra K
- Completing a check assay program for the SGS laboratory Medellín, at ALS laboratory in Peru
- Data capture and cross checking of historical database of historical plans for the El Silencio Mine
- Survey and mapping of underground workings, in the case of El Silencio in areas which were previously flooded
- Validation of the Carla database, including geotechnical re-logging and assaying of previously (selectively) non-sampled core within the mineralized zone, as recommended by SRK
- Anomalous GCG downhole surveys were resurveyed by an external contractor (Weatherford) and all GCG collars resurveyed by a land survey Company (SIGMA Ingenieria)

12.1.2 Verifications by SRK

In accordance with NI 43-101 guidelines, SRK visited the Project from November 27 to 30, 2016, February 10, 2017, and April 11 to 13, 2018. The main purpose of the site visits was to:

- Observe the extent of the exploration work completed to date
- Inspect the drilling core and underground channel sampling completed during the latest phase of exploration
- Visit the Providencia, El Silencio underground mines (SRK previously visited Sandra K and Carla) to ascertain geological characteristics of the mineralized structures
- Complete an audit of sampling procedures underground
- Complete an audit of the new laboratory onsite
- Inspect core logging and sample storage facilities
- Discuss updated geological and structural interpretations and inspect drill core

- Conduct routine visits to GCG offices in Medellín and site to review the geological database and progress on updating the 3D spatial locations with the new mine survey information

Since GCG have taken ownership, SRK has completed reviews of the sample preparation methodology and assay laboratory at SGS Medellín, the old (GEM) Mine Laboratory, and the new mine laboratory, and discussed quality issues, which formed the basis to stop submissions of the mine channel samples to the old GEM facility while construction of the new facility was completed;

SRK completed a phase of data validation on the digital sample database supplied by GCG which included but was not limited to the following:

- SRK completed a two-week meeting with a senior GCG geologist in charge of the geological information for Segovia, in the SRK offices in Denver in December 2019. During this meeting the main focus was to correct elevation issues and provide training to GCG on how to validate and model the veins using Leapfrog® Geo on a regular basis
- Search for sample overlaps or significant gaps in the interval tables, duplicate or absent samples, errors in the length field, anomalous assay and survey results. GCG’s geological team were notified of any issues that required correction or further investigation. No material issues were noted in the final sample database
- Confirmation of historic assays digitized from 2D mine plans for the El Silencio Mine. Due to the historic method of recording channel sample grade in pennyweights (dwts) and length in inches, SRK cross-checked from original mine plans that the correct conversions had been used (to reflect g/t Au and length in meters). A number of non-converted historic channel samples were noted to exist in the database, which SRK raised with the Company and were resolved prior to estimation
- Excluded vein samples that are flagged as having the footwall or hanging wall of the structure continuing into the floor or roof of the underground drive (and therefore effectively representing incomplete samples). The exposed hanging wall or footwall (point) of the flagged vein sample was used to guide the appropriate surface of the geological model, however such samples were excluded from all statistical analyses and the resource estimate
- Excluded veins samples which have poor control on the survey location relative to known underground workings, these are reported back to GCG geologist for correction for possible use in future updates

SRK was able to verify the quality of geological and sampling information and develop an interpretation of gold grade distributions appropriate to use in the Mineral Resource model.

12.2 Limitations

SRK did not review 100% of the analyses from the analytical certificates as part of this report. In addition, SRK reviewed analyses from certificates that are likely to have been reanalyzed either as a part of the recent resampling program or over the normal course of the previous six years of work. SRK has not completed site inspections to all levels of the mining areas but has focused on the areas operated by GCG at lower levels.

12.3 Opinion on Data Adequacy

SRK considers that significant progress has been made at the Providencia and Sandra K mines, with reasonable progress at El Silencio. SRK still noted a number of areas at El Silencio where issues still occur and due to timing SRK completed a completed remodel of the El Silencio Mine, as the GCG geological team did not deliver a valid model.

SRK considers that the efforts should remain ongoing and that while a lack of definition in portions of the 3D survey of the mines has limited the ability to accurately place all the sample in their “True” location, it is SRK opinion that general survey of the mines has improved (especially in new areas) and that the exploration and assay data is sufficiently reliable to support evaluation and classification of Mineral Resources in accordance with generally accepted CIM Estimation of Mineral Resource and Mineral Reserve Best Practices Guidelines (November, 2019).

It is the QP’s opinion that the data provided is adequate for estimation of Mineral Resources and classification in the Indicated and Inferred categories.

13 Mineral Processing and Metallurgical Testing

GCG ore is processed through the Maria Dama process plant utilizing a process flowsheet that includes crushing, grinding, gravity concentration, gold flotation, concentrate regrinding, concentrate cyanidation, Merrill-Crowe zinc precipitation and refining of both the zinc precipitate and gravity concentrate to produce a final gold/silver doré product.

The Maria Dama process plant has been in production for many years and the metallurgical requirements for processing ore from the Providencia, El Silencio and Sandra K mines are well understood. GCG is now planning to mine and process ore from the Carla vein, which is part of the Segovia complex and has conducted metallurgical testwork at SGS Canada (SGS) on a single test composite that was formulated from selected drill holes and intervals from the Carla vein. The metallurgical program included rougher flotation followed by cyanidation of the reground rougher concentrate using process conditions currently practiced at GCG's Maria Dama process plant. In addition, whole-ore cyanidation and Bond ball mill work index (BWI) tests were conducted. The results of this testwork demonstrated that the gold contained in ore from the Carla vein is highly recoverable using the process conditions currently in use at the Maria Dama process plant. Gold and silver recoveries were reported at about 95% and 77%, respectively. The results of this program are fully documented in SGS's report, "An Investigation into Gold and Silver Recovery Using a Composite from Gran Colombia Gold's Carla Vein", April 24, 2020.

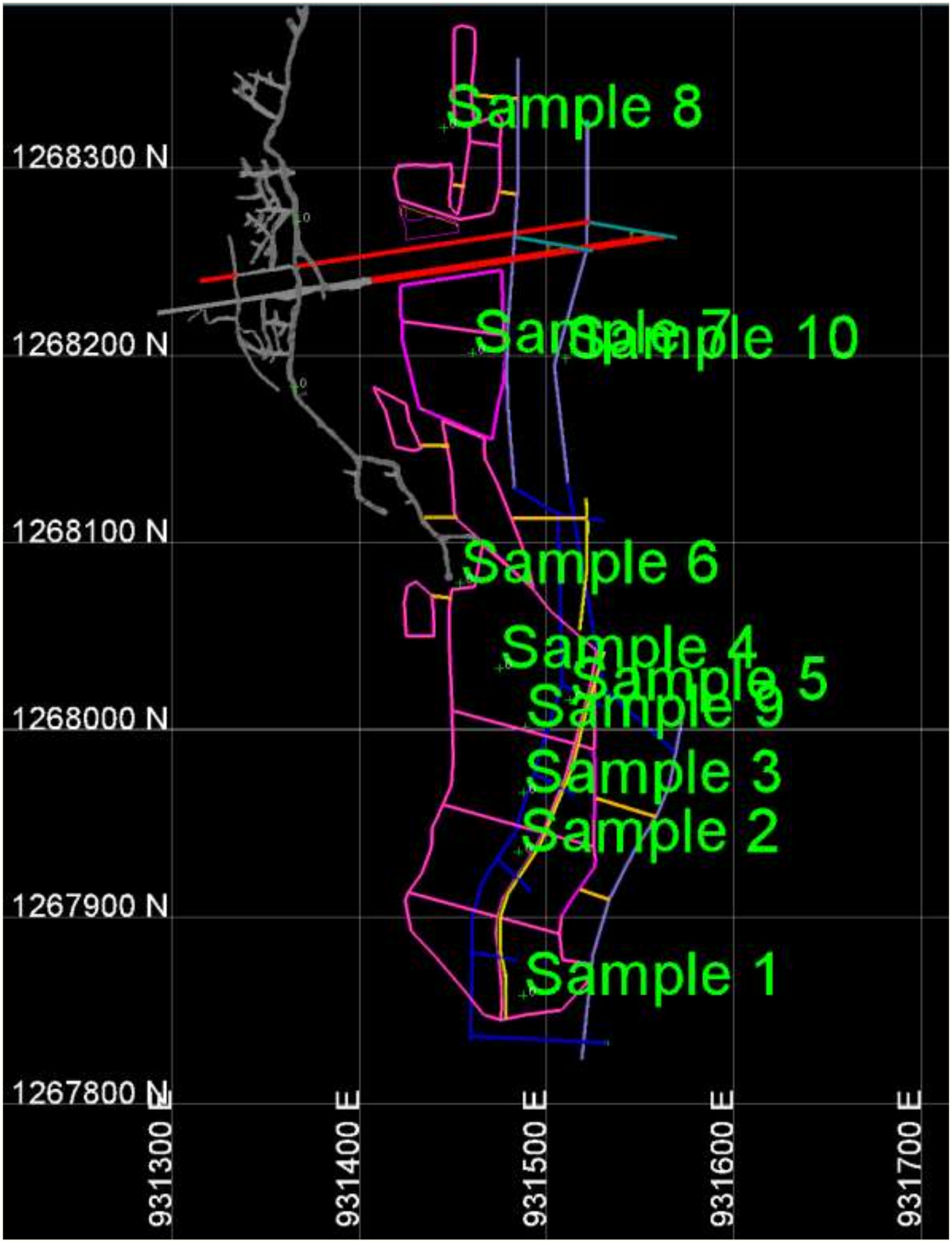
13.1 Sample Source

The Carla vein composite was formulated from 10 different drill core interval samples. As shown in Table 13-1 a total of 20.45 m of ¼ HQ core intervals were used to create a 43.7 kg composite with an estimated gold grade of 10.34 g/t Au, which is the expected average grade of the deposit. The location of each of the samples is shown in Figure 13-1.

Table 13-1: Drill Holes Used for the Carla Vein Composite

Sample No.	Drill Hole	Interval (m)	Kg	Au (g/t)
1	DS-0159	2.56	5.47	9.83
2	Drill-042	2.15	4.60	10.6
3	Drill-029	2.80	5.99	36.26
4	Drill-027	1.80	3.85	5.36
5	DS-0151	1.30	2.78	10.01
6	Drill-025	1.70	3.63	7.54
7	CA-ES-004	1.53	3.27	5.61
8	Drill-033	1.92	4.10	0.81
9	CA-ES-008	2.26	4.83	3.04
10	Drill-025	2.43	5.19	3.93
Total		**20.45**	**43.71**	**10.34**

Source: GCG, 2020



Source: GCG, 2020

Figure 13-1: Location of Drill Core Intervals Used to Formulate the Carla Composite

13.2 Sample Characterization

Head analyses for the Carla composite are shown in Table 13-2. Duplicate gold fire assays averaged 5.53 g/t Au and the calculated head analyses from the test program averaged 7.15 g/t Au, lower than the targeted composite grade of about 10 g/t Au. Silver averaged 5.7 g/t Ag. Total sulfur and sulfide sulfur were reported at 2.71% and 2.47%, respectively, indicating that sulfur occurs primarily as sulfide mineralization. Organic carbon was reported at <0.05% C_{org}, indicating that preg-robbing would likely not be an issue. Additionally, cyanide soluble copper was reported at <0.002%, indicating that copper would not present any issues during cyanidation.

Table 13-2: Carla Vein Composite Head Analyses

Element	Segovia Comp.
Au 1 (g/t)	6.2
Au 2 (g/t)	4.86
Au Avg. (g/t)	5.53
Au Calc. (g/t)	7.15
Ag 1 (g/t)	7
Ag 2 (g/t)	4.4
Ag Avg. (g/t)	5.7
Ag Calc. (g/t)	6
AuCN (g/t)	3.3
Cu NaCN (%)	<0.002
S (%)	2.71
$S^=$ (%)	2.47
SO_4 (%)	0.10
S(o) (%)	<0.05
C_T (%)	1.04
C(g) (%)	<0.05
TOC (%)	<0.05
CO_3 (%)	5.26

Au assays = 30 g fire assay (to extinction)
Calc. values = Average values from test program
Source: SGS, 2020

13.3 Comminution Testwork

A single Bond ball mill work index (BWI) grindability test was performed using a 120 mesh (125 µm) closing screen. The test results are summarized in Table 13-3. The BWI value was 15.5 kWh/t, which indicates a medium range of hardness, which is somewhat harder than the ore typically processed at the Maria Dama process plant, which was reported to have a BWI of about 14 kWh/t.

Table 13-3: Summary of BWI Test on the Carla Test Composite

Sample Name	Mesh of Grind	F80 (µm)	P80 (µm)	Gram per Revolution	Work Index (kWh/t)	Hardness Percentile
Segovia Comp.	120	2,193	95	1.36	15.5	64

Source: SGS, 2020

13.4 Flotation Testwork

One 2 kg rougher/scavenger kinetic flotation test and one 10 kg bulk rougher/scavenger flotation test were completed using process conditions that are currently in use at the Maria Dama process plant, which include:

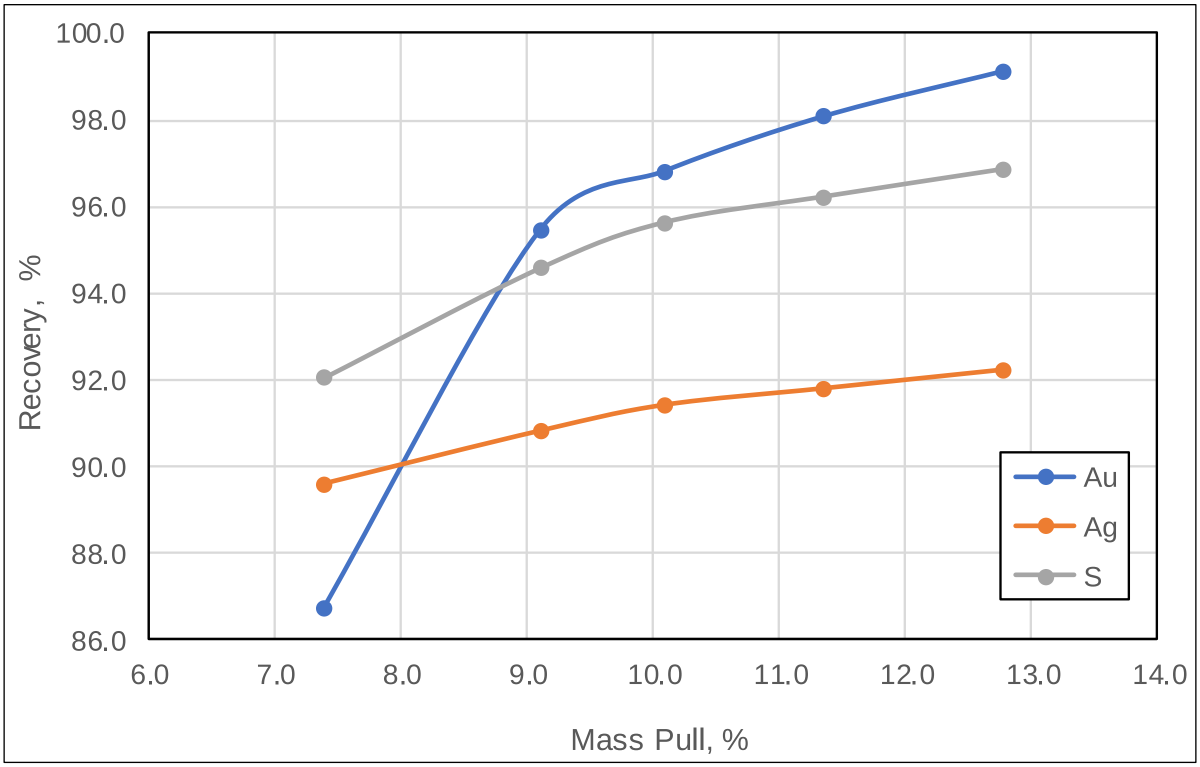
- Grind size: P80 105 µm
- Slurry density: 40% solids (w/w)
- Pulp pH: 7-8 (natural)
- Retention time:
  - Rougher: 13.5 minutes (scaled to 5 minutes for lab testing)
  - Scavenger: 68 minutes (scaled to 27 minutes for lab testing)
- Reagent Additions:
  - Copper sulfate: 20 g/t
  - PAX: 35 g/t
  - Aero 404: 10 g/t
  - MX5160: 10 g/t
  - Aerofroth-65: Stage-added as required

The results of these flotation tests are presented in Table 13-4. The initial 2 kg test (Test F-1) was a kinetic test which was completed to ensure the plant conditions would yield results similar the current plant operation. Gold and silver recoveries were 99.1% and 92.2%, respectively. The sulfur recovery was 96.8% and the mass pull was 12.8%, which was close to the target value (~15% in the plant operation). Gold, silver and sulfur recovery versus mass % to the concentrate are shown in Figure 13-2. Upon completion of the kinetic test, a bulk rougher test (F-2) was completed under similar test conditions to provide sufficient concentrate sample for downstream leach tests. Gold and silver recovery during the bulk flotation test were 98.6% and 92.1%, respectively.

Table 13-4: Flotation Test Results on Carla Test Composite

Test No.	Ro Tail P_{80} µm	Product	Mass %	Assays, g/t, %			% Distribution		
				Au	Ag	S	Au	Ag	S
F-1	94	Rougher Conc. 1	7.4	97.7	68.0	34.5	86.7	89.6	92
		Rougher Conc. 1-2	9.1	87.2	55.9	28.7	95.5	90.8	94.6
		Rougher Conc. 1-3	10.1	79.8	50.8	26.2	96.8	91.4	95.6
		Rougher Conc. 1-4	11.4	71.9	45.3	23.5	98.1	91.8	96.2
		Rougher Conc. 1-5	**12.8**	**64.5**	**40.4**	**21**	**99.1**	**92.2**	**96.8**
		Rougher Tailing	87.2	0.09	<0.5	0.10	0.9	7.8	3.2
		Calculated Head	100	8.32	5.60	2.77	100	100	100
		Direct Head		5.53	5.70	2.71			
F-2	94	**Rougher Conc**	**14.2**	**39.9**	**35**	**19**	**98.6**	**92.1**	**97.2**
		Rougher Tailing	85.8	0.10	<0.5	0.09	1.4	7.9	2.8
		Calculated Head	100	5.75	5.40	2.78	100	100	100
		Direct Head		5.53	5.70	2.71			

Source: SGS, 2020



Source: SGS, 2020

Figure 13-2: Gold, Silver and Sulfur Recovery Versus Mass % to Concentrate

13.5 Flotation Concentrate Cyanidation Testwork

Two identical cyanidation tests were completed on the flotation concentrate produced from the bulk flotation test. The flotation concentrate was reground to 80% passing (P_{80}) 38 µm prior to standard bottle roll cyanidation tests. The cyanidation tests were completed using the following conditions:

- Grind size target: P_{80} 38 µm
- Slurry density: 30% solids (w/w)
- Pulp pH: 10.5-11 (maintained with lime)
- Cyanide conc: 1 g/L NaCN (maintained)
- Retention time: 96 hours (kinetic sub-samples at 8,12, 24, 36, 48 and 72 hours)
- Dissolved oxygen: 5-8 mg/L (air sparged into the bottles to maintain)
- Temperature: Ambient

The results of the concentrate leach tests are shown in Table 13-5 and Table 13-6. Gold extraction from the flotation concentrate averaged 96.5% and silver extraction averaged 83.9%. As shown in Figure 13-3 and Figure 13-4, gold and silver extraction were essentially complete at 24 hours of leaching. Sodium cyanide consumption averaged 2.28 kg/t of concentrate (0.32 kg/t ore) and lime consumption averaged 2.93 kg/t of concentrate (0.42 kg/t ore).

Table 13-5: Gold Extraction from Flotation Concentrate Produced from Carla Test Composite

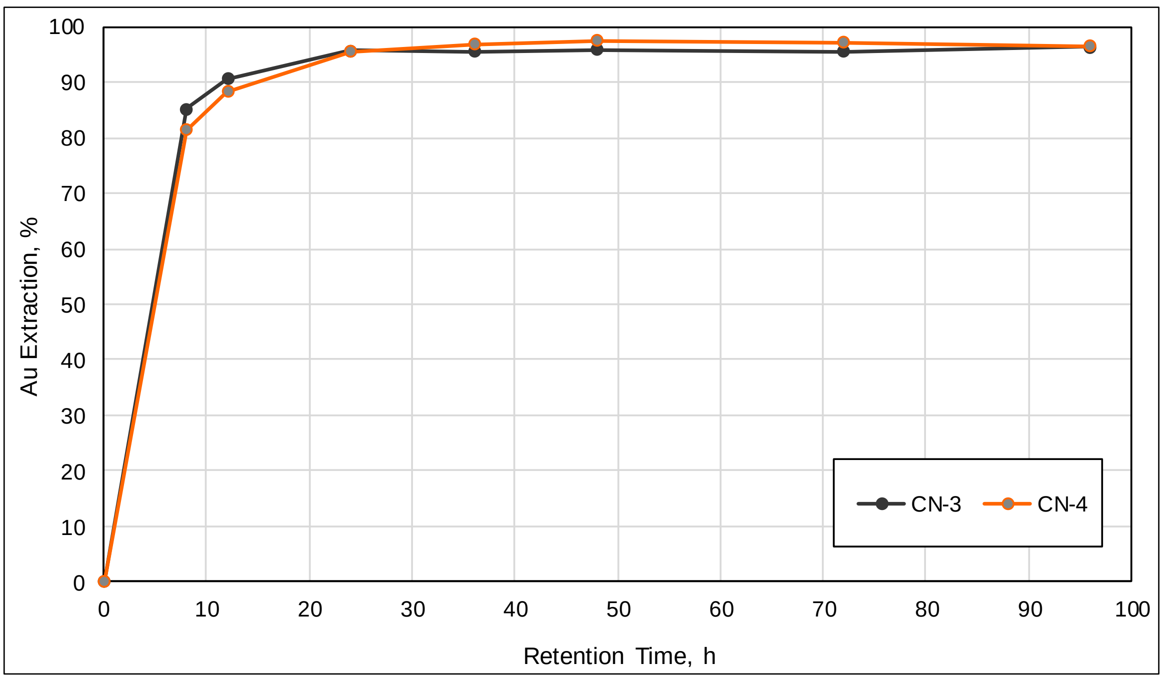
CN Test No.	Feed Size P_{80} µm	Reagent Cons. K g/t of CN Feed		Au Extraction (%)							Au Residue (g/t)			Au Head (g/t)	
		NaCN	CaO	8 h	12 h	24 h	36 h	48 h	72 h	96 h	A	C	Avg.	Calc.	Direct
3	33	2.65	2.57	85.3	90.6	95.8	95.6	95.9	95.6	96.4	1.37	1.31	1.34	37.3	39.9
4	31	1.90	3.28	81.4	88.4	95.6	96.8	97.6	97.2	96.6	1.29	1.19	1.24	36.8	
		2.28	2.93							96.5				37.1	

Source: SGS, 2020

Table 13-6: Silver Extraction from Flotation Concentrate Produced from Carla Test Composite

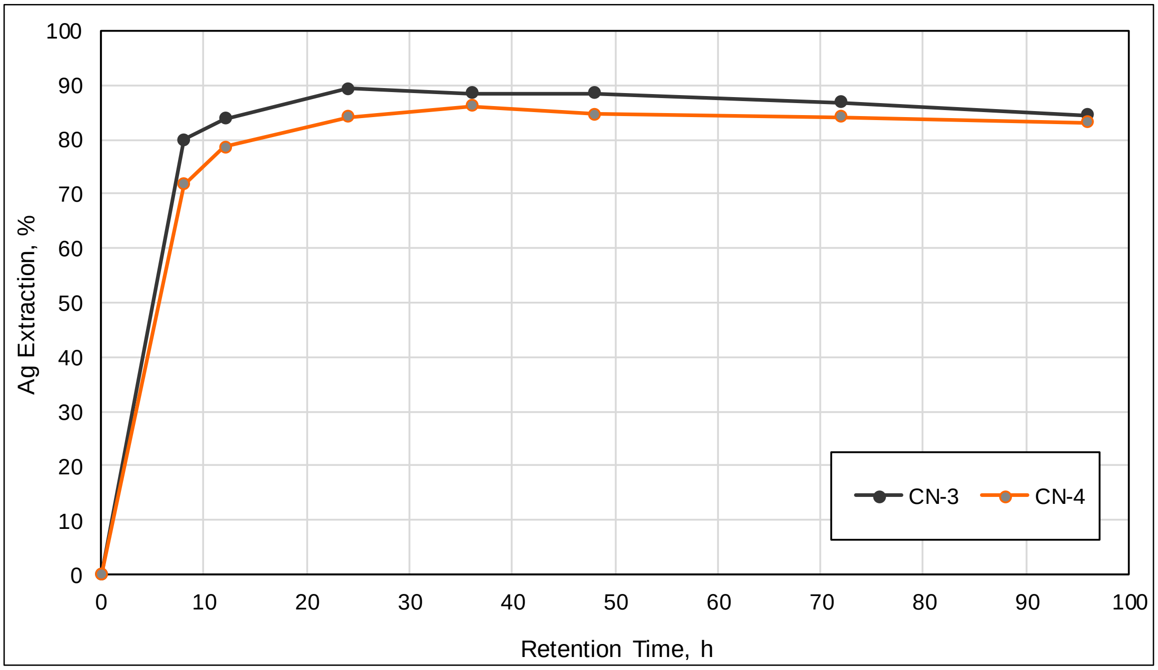
CN Test No.	Ag Extraction (%)							Ag Residue (g/t)			Ag Head (g/t)	
	8 h	12 h	24 h	36 h	48 h	72 h	96 h	A	C	Avg.	Calc.	Direct
3	80	83.9	89.4	88.5	88.6	86.8	84.5	5.4	5.6	5.5	35.4	35
4	71.7	78.6	84.1	86.2	84.7	84.2	83.2	5.5	6	5.75	34.2	
							83.9				34.8	

Source: SGS, 2020



Source: SGS, 2020

Figure 13-3: Gold Extraction from Flotation Concentrate Versus Leach Retention Time



Source: SGS, 2020

Figure 13-4: Silver Extraction from Flotation Concentrate Versus Leach Retention Time

13.6 Whole Ore Cyanidation Testwork

For comparative purposes, two whole-ore cyanidation tests were conducted on the Carla test composite using the following test conditions:

- Grind size target: P_{80} 38 µm
- Slurry density: 45% solids (w/w)
- Pulp pH: 10.5 to 11 (maintained with lime)
- Cyanide conc: 1 g/L and 0.5 g/L NaCN (maintained)
- Retention time: 72 hours (kinetic sub-samples at 4, 8,12, 24, 36 and 48 hours)
- Dissolved oxygen: 5 to 8 mg/L (air sparged into the bottles to maintain)
- Temperature: Ambient

The results of the whole-ore cyanidation tests are shown in Table 13-7 and Table 13-8. Gold extraction was reported at 97.6% when leaching at a concentration of 1 g/L NaCN and 98.1% when leaching at 0.5 g/L NaCN. Silver extraction was reported at 91.4% and 92.9%, respectively. Cyanide consumption was 1.51 kg/t when leaching at a maintained cyanide concentration of 0.5 g/L NaCN and 2.62 kg/t at a maintained cyanide concentration of 1 g/L NaCN. Gold and silver extraction versus retention time are shown in Figure 13-5 and Figure 13-6. When leaching at a cyanide concentration of 0.5 g/L NaCN, gold extraction is complete after 24 hours and silver extraction is complete after 36 hours.

Table 13-7: Whole-Ore Gold Extraction from Carla Test Composite

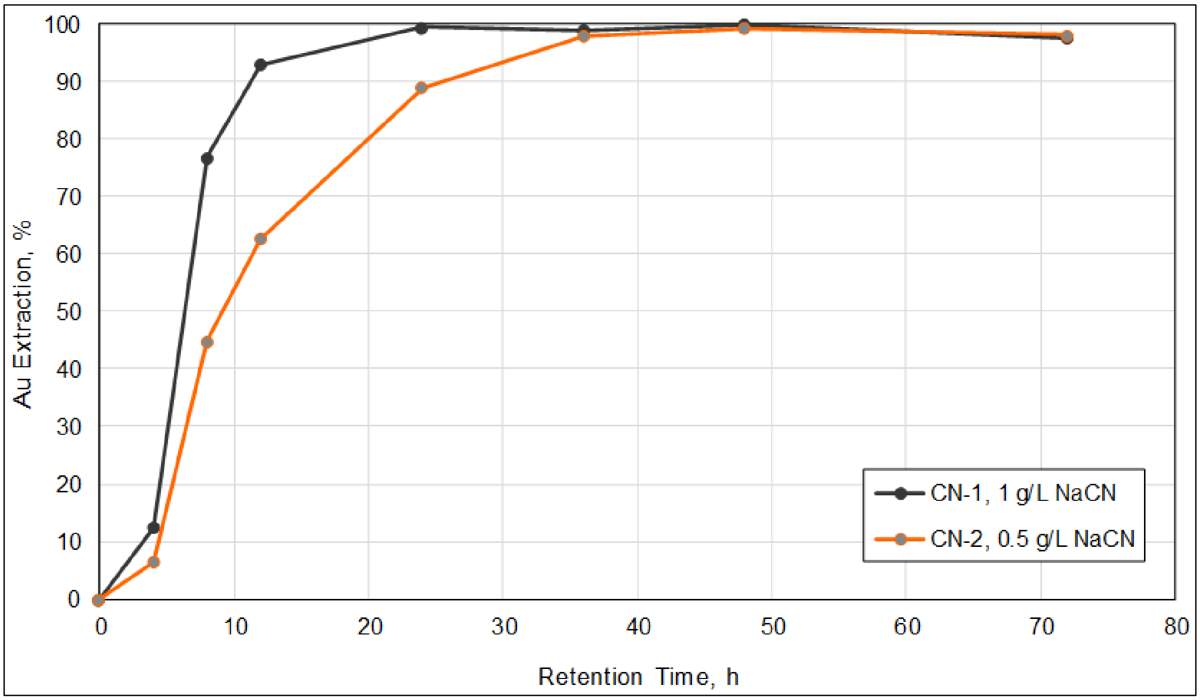
CN Test No.	Feed Size P_{80} µm	Reagent Cons. kg/t of CN Feed		Au Extraction (%)							Au Residue (g/t)			Au Head (g/t)	
		NaCN	CaO	4 h	8 h	12 h	24 h	36 h	48 h	72 h	A	C	Avg.	Calc.	Direct
1	32	2.62	1.09	12.4	76.8	93	99.4	99	99.9	97.6	0.15	0.15	0.15	6.18	5.53
2	33	1.51	1.34	6.4	44.8	62.7	89	97.9	99.2	98.1	0.16	0.16	0.16	8.37	

Source: SGS, 2020

Table 13-8: Whole-Ore Silver Extraction from Carla Test Composite

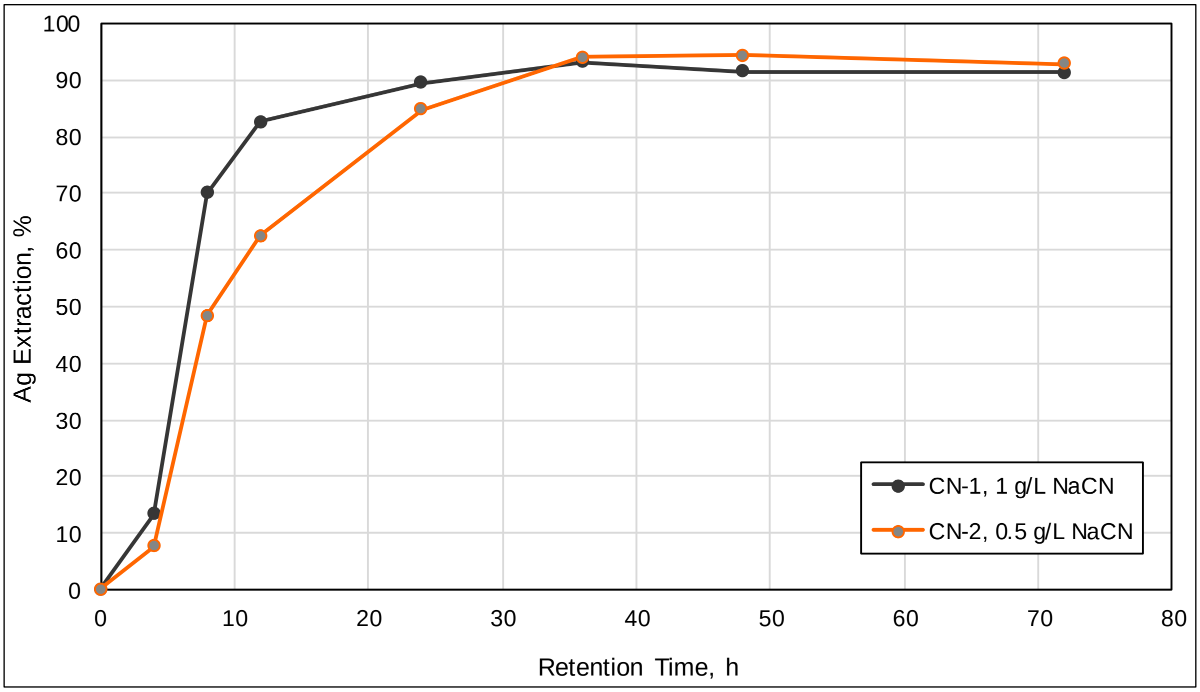
CN Test No.	Ag Extraction (%)							Ag Residue (g/t)			Ag Head (g/t)	
	4 h	8 h	12 h	24 h	36 h	48 h	72 h	A	C	Avg.	Calc.	Direct
1	13.3	70.1	82.7	89.5	93.2	91.5	91.4	<0.5	<0.5	<0.5	5.8	5.7
2	7.6	48.4	62.5	84.8	94.1	94.4	92.9	0.5	0.5	0.5	7.1	

Source: SGS, 2020



Source: SGS, 2020

Figure 13-5: Whole-Ore Gold Extraction Versus Leach Retention Time



Source: SGS, 2020

Figure 13-6: Whole-Ore Silver Extraction Versus Leach Retention Time

13.7 Estimated Recovery

Estimated gold and silver recovery from Carla ore is shown in Table 13-9. Laboratory testwork using conditions that are currently in use at the Maria Dama process plant indicate an overall gold recovery of 95.1% and an overall silver recovery of 77.3% after flotation and cyanidation of the reground flotation concentrate. SRK has reduced the reported laboratory recoveries by 2% in order to account for inherent plant inefficiencies. As such, overall gold and silver recoveries from Carla ore are projected at 93% and 75%, respectively. It is noted that the Carla test composite was somewhat lower grade than the average ore grade planned to be mined from the Carla vein. Actual gold and silver recoveries from higher grade Carla ore processed in the Maria Dama process plant could be incrementally higher.

Table 13-9: Estimated Gold and Silver Recovery from Carla Ore

Rougher Flotation Recovery (%)		Conc. Cyanidation Extraction (%)		Overall Recovery Flot. + Cyanide		Adjusted Overall Recovery	
Au	Ag	Au	Ag	Au	Ag	Au	Ag
98.6	92.1	96.5	83.9	95.1	77.3	93	75

Source: SGS and SRK, 2020

14 Mineral Resource Estimate

The Mineral Resource statement presented herein represents the latest Mineral Resource evaluation prepared for the Project in accordance with Canadian National Instrument (NI) 43-101.

The Mineral Resource model prepared by SRK utilizes of 1,625 diamond drillholes, for a combined length of 189,329 m, 39,463 underground channel samples, and a further 101,273 historical channel samples contained in the databases. The Mineral Resource estimate was completed by Mr. Benjamin Parsons, MAusIMM (CP) an appropriate "independent qualified person" as this term is defined in NI 43-101. The effective date of the resource statement is December 31, 2019.

This section describes the Mineral Resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the Mineral Resource estimate reported herein is a reasonable representation of the global Mineral Resources found at the Project with the current level of sampling. The Mineral Resources have been estimated in conformity with generally accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines and are reported in accordance with the Canadian Securities Administrators' NI 43-101. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into Mineral Reserve.

The resource estimation methodology involved the following procedures:

- Database compilation and verification
- Construction of 3D wireframe models for the fault networks and centerlines of mining development per vein
- Definition of resource domains
- Data conditioning (compositing and capping) for statistical analysis, geostatistical analysis
- Variography
- Block modeling and grade interpolation
- Resource classification and validation
- Assessment of "reasonable prospects for economic extraction" and selection of appropriate reporting cut-off grades (CoGs)
- Preparation of the Mineral Resource statement

SRK has been supplied with an export of the geological database and preliminary interpretations of the main faults and veins in DXF format by GCG. The database used to estimate the Project Mineral Resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for gold mineralization and that the assay data are sufficiently reliable to support Mineral Resource estimation.

Seequent Leapfrog® Geo modeling software (Leapfrog®) was used to construct the geological solids, whilst Datamine™ Studio RM (Datamine™) was used to domain assay data for statistical and geostatistical analysis, construct the block model, estimate quality variables and tabulate the resultant Mineral Resources. Phinar X10-Geo software was used to conduct the capping analysis with Snowden Supervisor software used for geostatistical analysis, variography and statistical validation of the grade estimates.

SRK has not updated the Mineral Resource models for the Carla and Las Verticales areas as no new information is currently available and therefore, the last estimate remains valid (December 31st, 2018).

14.1 Drillhole Database

SRK was supplied with a Microsoft Excel files, which was exported from the Company's main structured query language (SQL) database. The files supplied had an effective cut-off date of December 31, 2019. Separate files were supplied for the drilling database and channel sampling programmes. The database was reviewed by SRK and imported into Datamine™ to complete the Mineral Resource estimate. A total of 1,625 diamond drillholes, for a combined length of 189,329 m, have been provided. The information represents and increases in the drilling database of 402 holes drilled for a total of 43,968 m. In addition to the drilling the Company completed an additional 7,100 channel samples split during 2019. The largest increase has occurred at the El Silencio mine which noted an increase in the channel sampling of 3,759 channels, including verified historical information. SRK notes that some holes do not have assays and therefore, these holes have only been used in the development of the geological model to position the veins. SRK is of the opinion that the quality of the database is sufficient for use in the construction of the geological block model and associated Mineral Resource estimate. Areas of lower quality data from sample points are considered to have lower confidence and therefore, limited to lower confidence categories (Inferred) in the absence of detailed verification sampling.

14.2 Geologic Model

The Mineral Resource estimation process was a collaborative effort between SRK and GCG staff. GCG provided to SRK an exploration database with a preliminary interpretation of the main veins supplied within Leapfrog® marking the first pass interpretation of the main structures, with the geological logging reflecting through the areas investigated by core drilling for each of the main veins.

SRK reviewed the geological information provided in Leapfrog® and has updated the geological models as appropriate. The following process was undertaken to complete the geological models:

- Reviewed the geological database and checked the standard validation processes (such as absent values, overlapping intervals, extreme values etc.) have been completed appropriately. Any erroneous data was reported to GCG for review. This process included a two-week workshop held at SRK's office with a GCG geologist to improve the elevations of the channel samples at the El Silencio Mine, which had notable errors that were noted to have significant impacts on the preliminary geological model provided to SRK.
- High-level review of the GCG geological interpretation, which was in polyline formats.
- SRK updated the fault model using polyline inputs adjustments to the initial interpretations from the GCG exploration team.
- Define the timing and interaction of faults to generate fault blocks which veins are defined. The veins terminate at the contact with each fault.
- Creation of the veins based initially on lithological coding provided by GCG, then edited by SRK based on either grade or location validation issues. SRK recommends that the elevation validation work continues and that efforts should be made to initially define the mining levels and development in full before reviewing the channel elevations further.

A fault network for Providencia, Sandra K and El Silencio was interpreted by the Company using mine survey points and underground fault mapping. The structural model (provided as surface wireframes or polylines in DXF format), was approved as a reasonable geological representation by the Company's external structural consultant (Dr. Tony Starling, Telluris Consulting Ltd). Dr. James Siddorn, PGeo of SRK (Ontario) visited the Segovia site between June 10 to 14, 2019 to review the structural model prepared by the GCG geological team and to comment on the controls on the mineralization. Based on the review, the structural model was deemed as acceptable and has been used to define domain breaks for construction of the mineralization wireframes. SRK made minor adjustments to the model during the geological modelling process based on the latest underground channel sampling and survey information.

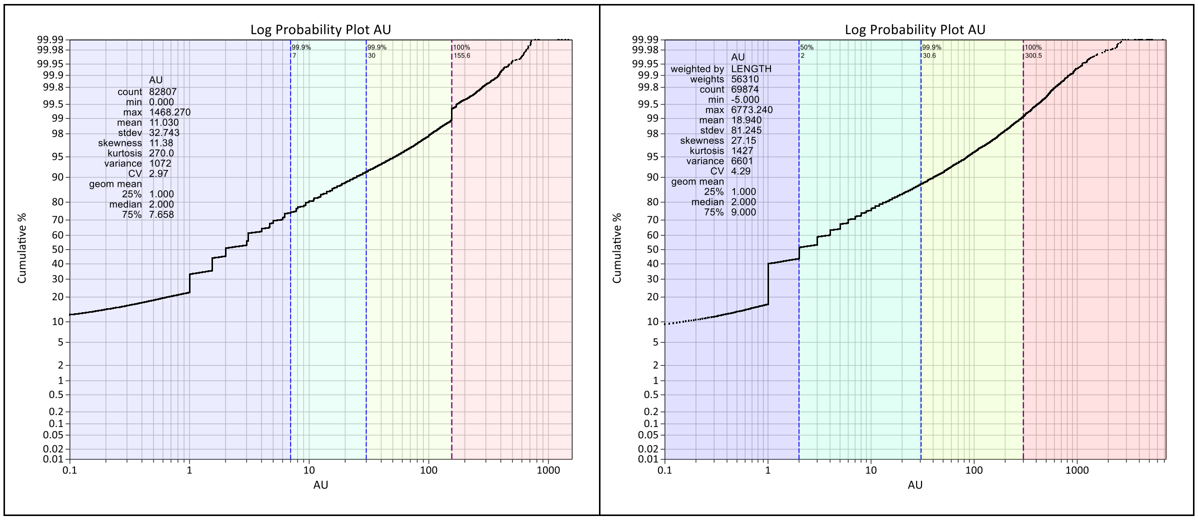
In the current model, all three of the main operating mines have been treated individually as independent geological models (due to file size). Interpretation of the vein structure in areas of mining development is relatively clear given the abundance of on-vein channel samples and development surveys, whereas in areas of less-densely spaced sampling (for example down-dip of the mine) a greater consideration for development is required.

Infill drilling from underground drilling locations has improved the geological knowledge of short to medium scale mine plans ahead of the current development. SRK considers the use of tightly spaced infill holes important and recommends this practice continues across all three operating mines.

To generate the model, interpreted vein intervals and vein locations (single plane) were provided by mine geologists and used by the GCG exploration team as a modeling guide. These interpretations have been used where possible to prevent misallocation of mineralized intercepts where multiple veins exist, which are supplied to SRK for review.

SRK final models use the interpreted veins provided, vein intervals based on lithology logs or elevated gold grades and knowledge of the relationship between adjacent veins noted from underground mapping. SRK utilized the interval selection tool in Leapfrog® to generate new logging codes to provide a smoothed interpretation of the vein and avoid isolated pinches or pulls in the interpretation. The geological model was reviewed by GCG to confirm that the current interpretation is representative of the underlying geological data, and the knowledge of the veins from site.

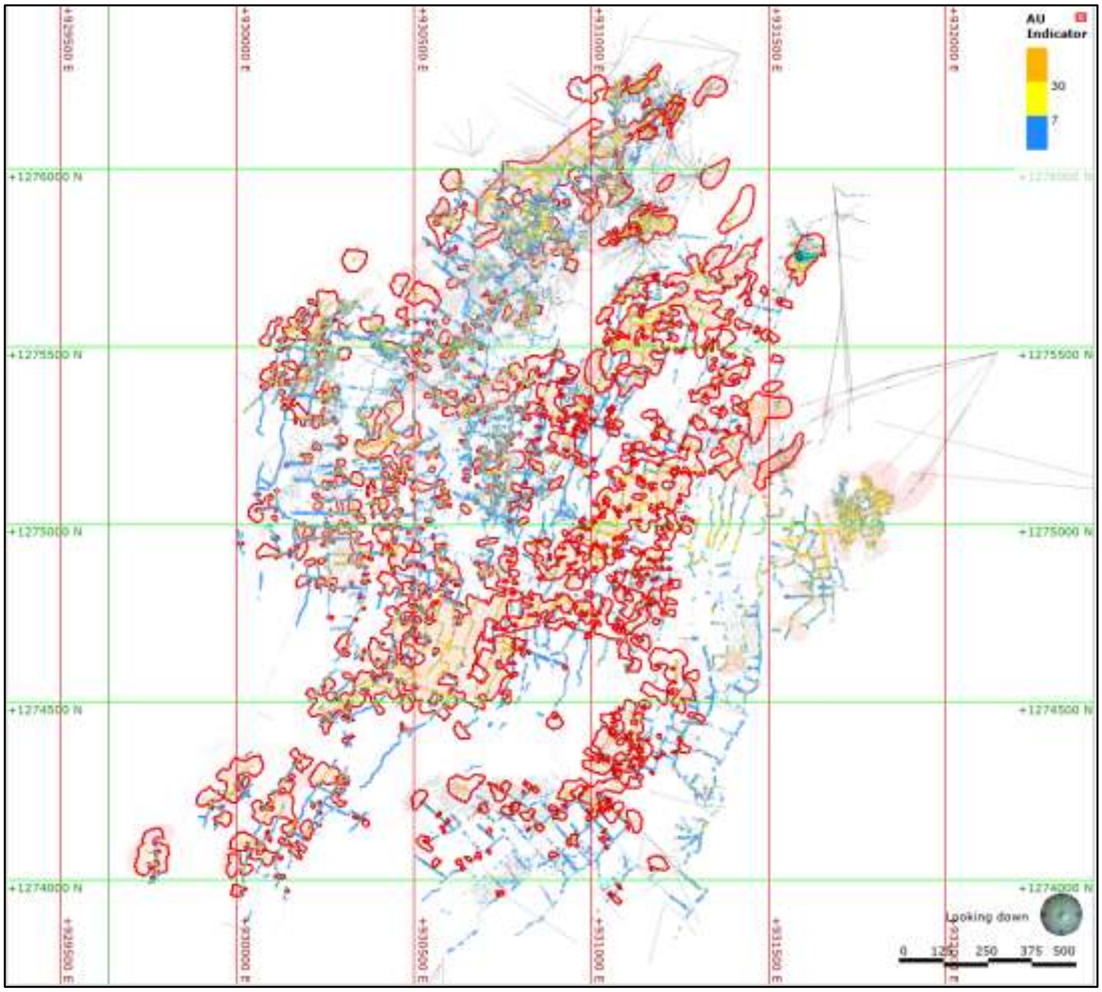
Statistical analysis and visual validation of the database during exploratory data analysis (EDA) indicated the presence of two sample populations (medium- and high-grade), at El Silencio and Providencia as shown in Figure 14-1 and Figure 14-2, and to a limited extent at Sandra K.



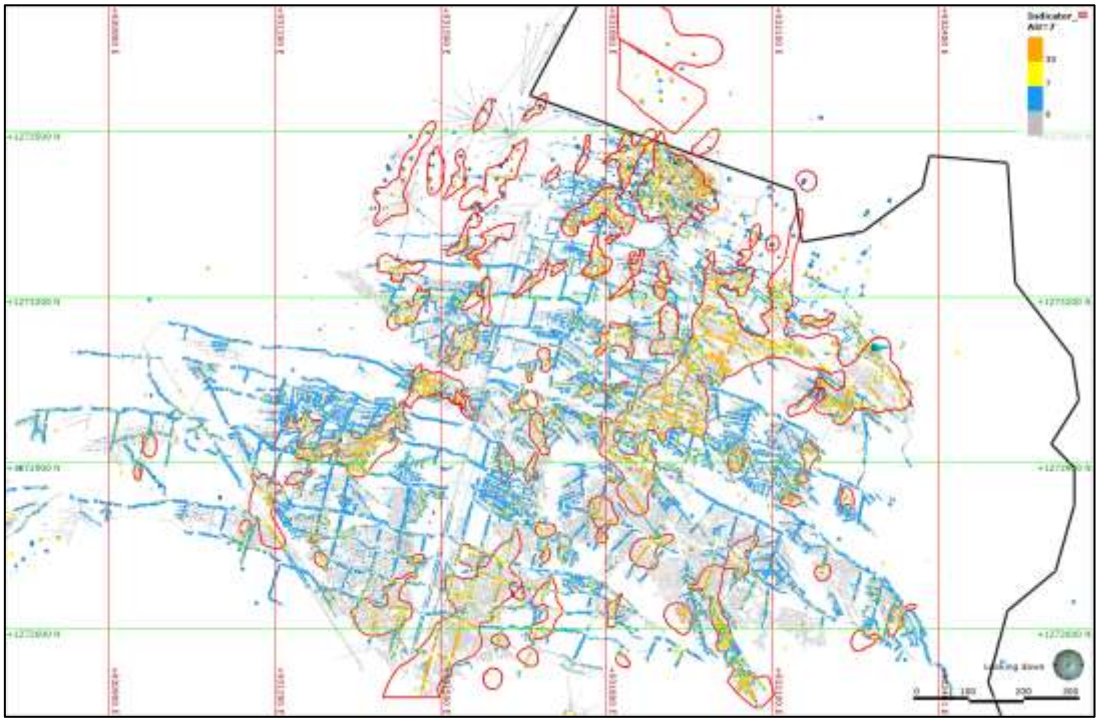
El Silencio Providencia

Source: SRK, 2020

Figure 14-1: Summary of Log-Probability Analysis to Test for Breaks in Trend


AU
Indicator
30
7
+929500 E
+930000 E
+930500 E
+931000 E
+931500 E
+932000 E
+1276000 N
+1275500 N
+1275000 N
+1274500 N
+1274000 N
Looking down
0 125 250 375 500

El Silencio



Providencia

Source: SRK, 2020

Figure 14-2: Bimodal Populations in Veta Providencia Showing High (>7.0 g/t Au) and Lower Grade (< 7.0 g/t Au) Internal Distribution of Grade

SRK considers that the application of internal high-grade domains forms an important component to the different Segovia mines. In 2018, SRK introduced the use of a high-grade domain at Sandra K, which has been maintained in the current model. SRK elected to exclude the southern fault block at Sandra K from the high-grade domaining as the sampling has been predominately from surface drilling, and therefore the sample population is considered too low to assign limits with sufficient levels of confidence.

During the review of the high-grade domains, SRK noted that the orientation of the high-grade samples is to the northeast on all three mines (Figure 14-3) due to the regional structural controls creating preferential deposition of gold mineralization. This is consistent with the structural model proposed by GCG geologist and reviewed by SRK structural geologist in 2019 (Figure 14-3).

The grade estimation domains comprise the narrow vein zones interpreted by SRK/GCG geologists and discrete high-grade gold shoot domains, defined using either Leapfrog or Datamine and modified to create the final grade-shells. The presence and orientation of the high-grade shoots were validated during underground visits and in discussions with the mines geological team as part of on-going technical support provided by SRK for short and medium-term mine planning.

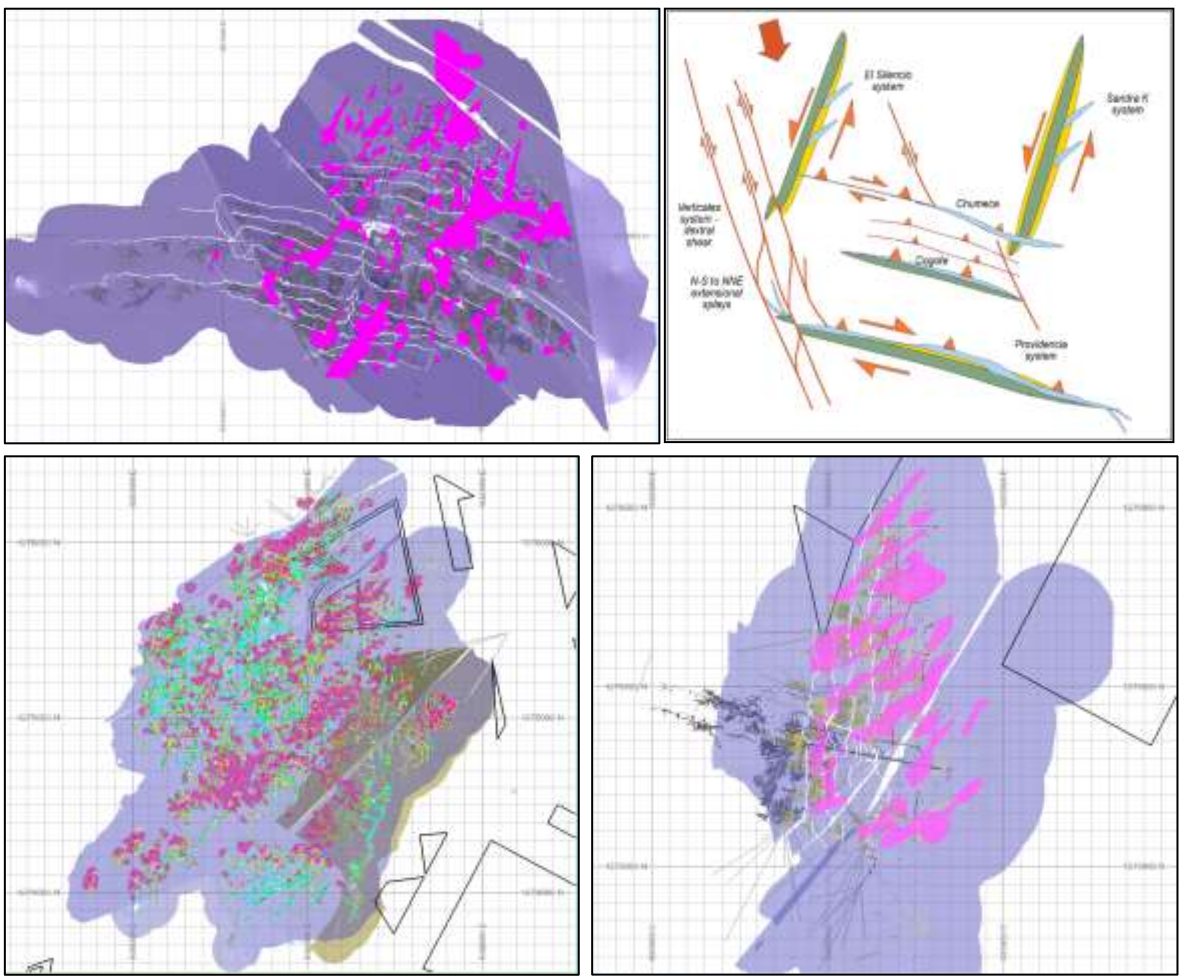
The high-grade domains for each of the three mines were created using a form of Indicator modeling using Leapfrog®, with the first pass interpretation imported into Datamine™ mining software for review.

SRK used the following Au indicator grade limits on all three deposits based on initial review of the grade histograms and log-probability plots as follows:

- Providencia – 7 g/t Au
- El Silencio – 7 g/t Au
- Sandra K – 5 g/t Au

To remove any potential small volumes or isolated pockets created by the estimation process, SRK generated a series of strings from the initial interpretation and manually edited the interpretation to provide reasonable representation of the underlying grade continuity.

The final geological coding was stored in the block model under the field "HG" for the main domains, but each individual wireframe was coded into the model dependent on its various fault block locations in sequence under the field "KZONE". A summary of the final domains is provided in Figure 14-3 and a description of the files used to define each domain in Table 14-1.



Source: SRK, 2020

Figure 14-3: Plots Showing Orientation of High-Grade Shoots. from Top Left (clockwise), Providencia, Telluris Consulting Structural Control Model, El Silencio, and Sandra K (March 2017)

Table 14-1: Summary of Final Geological Domain and Coding

Mine	HG	Wireframe/Coding	Main Vein	Description
Providencia	10	pro_vn_1010 - pro_vn_1160	Providencia	LG
	20	pv_shoot_0119	Providencia	HG
	30	pro_vn_2010	3180	COR & 3180
	40	pro_vn_2090	Piso	PISO
	50	pro_vn_2100	Piso	PISO
	60	pro_vn_2860	2860	2860
	70	pro_vn_3680	3680	3680
	80	pro_vn_2845	3845	3845
	90	pro_vn_4020	4020	4020 & 4021
	100	pro_vn_4150	4150	4150
	110	pro_vn_4320	4320	4320
	120	pro_vn_4380	4380	4380
El Silencio	10	vem1001 - vem1011	Manto	VEM - LG
	20	es_shoot_0119	Manto	VEM - HG
	30	nal2001 - nal2004	Nacional	nal
	40	vep3001	Piso	vep
	50	esi4001	El Silencio	esi
	60	lan5001	La Antioqueña	lan
	70	unk6001	unknown	unk
	80	sal7001		sal
	90 to 100	sno8001, sno9001, sno9002	El Silencio Norte	sno
	110	sno1330	1330	1330
	120	sno1320	1320	1320
	130	sno650	650	650
	140	snocog	Cogote	cog
Sandra K	10	sk_1001 - sk_1004 & sk_1007	Techo	Techo North LG
	15	sk_1005 & sk_1006	Techo	Techo South LG
	20	sk_shoot_0119	Techo	Techo HG
	30	sk_2001 - sk_2003	Piso	Piso 1
	31 - 32	sk_2004 – sk_2005	Piso	Piso 2
	40	sk_3001 & sk_3002	Chumeca	Chumeca
	50	sk_4001	6640	6640
	60	sk_pat		Pat
	61	sk_int		Int
	62	sk_jul		Jul

Source: SRK, 2020

14.3 Assay Capping and Compositing

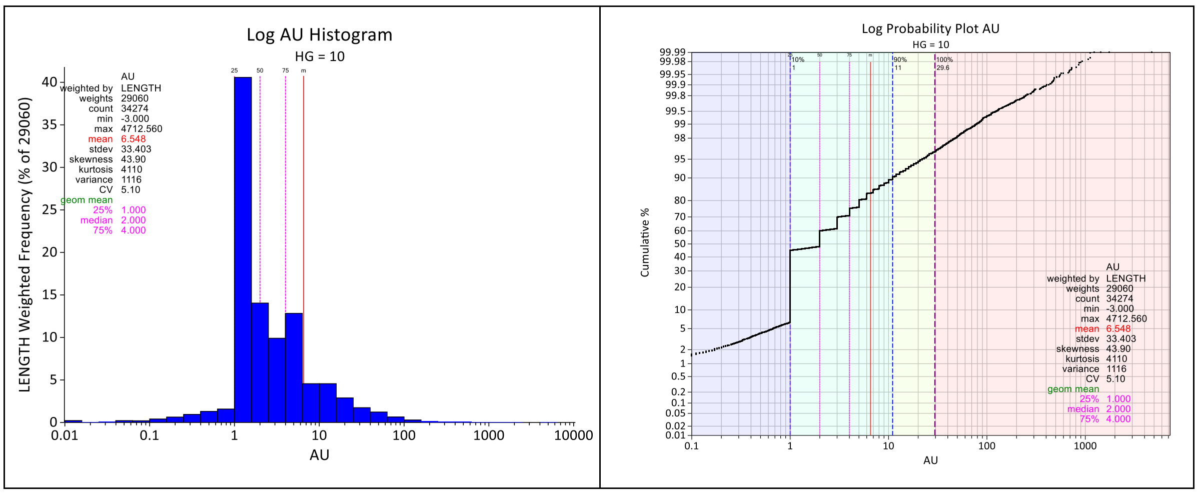
SRK evaluated capping of outlier populations and compositing of variable-length data to minimize variance prior to the estimation as well as to obtain a more reasonable approximation of grades during the resource estimation.

14.3.1 Outliers

High grade capping is undertaken where data is no longer considered to be part of the main population. SRK completed the analysis based on log probability plots, raw and log histograms which can be used to distinguish the grades at which samples have significant impacts on the local estimation and whose affect is considered extreme. SRK notes that the mean grades within the different veins are sensitive to changes in the capping values.

SRK completed a statistical analysis of the impact of grade capping by importing the geologically domained coded samples into Phinar's X10 Geo Software ("X10"). The raw assay data (length weighted) was first plotted on histograms and cumulative distribution plots (Figure 14-4) to understand its basic statistical distribution. High-grade capping was applied based on a combination of these plots, plus log histogram information.

The plots were used to distinguish the grades at which the sample population starts to break down and that additional samples will likely have significant impacts on the local estimation and whose affect is considered extreme (Figure 14-4). Samples for both channel and drilling were considered in the analysis. Using this methodology top-cuts were defined for each domain by reviewing the information from the different sample types.



Source: SRK, 2020

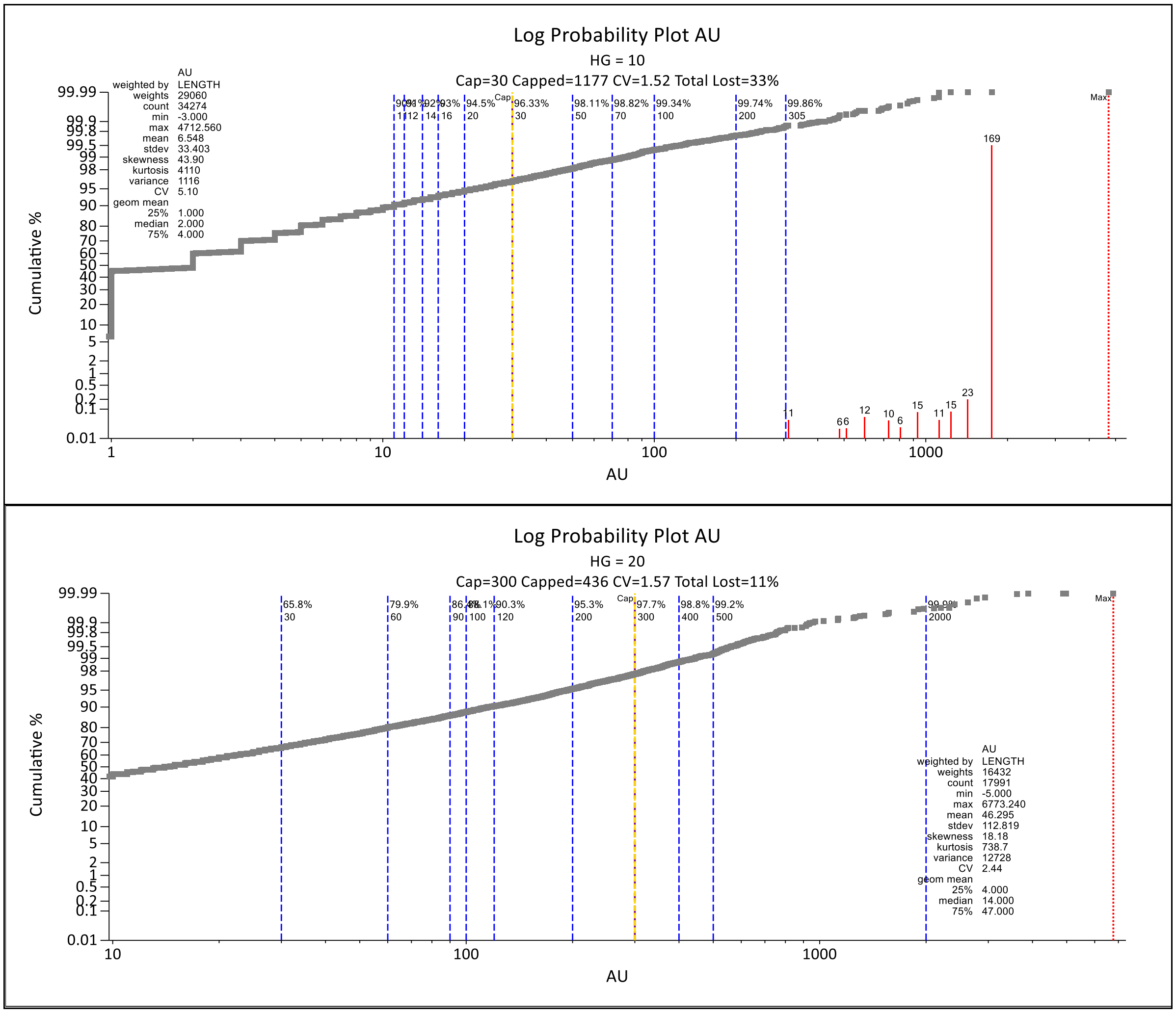
Figure 14-4: Example of Raw Versus Capped Histogram and Log-Probability Plots for Providencia Low-Grade Domain

The influence of the capping was reviewed by SRK, to confirm the potential impact on the number of samples capped and the mean grades within each estimation domain, within X10 Geo (Figure 14-5). To assess the impact on sampling the following statistical parameters have been considered, cap value, percentage of samples capped per domain, total metal reduction from capped values, percentage change in the coefficient of variation (CV), mean grade and the CV. An example of the analysis is shown in Table 14-2. These results are tabulated for comparison with the aim to reduce the CV below a value of 1.5, where reasonable.

The spatial occurrence of the capped values was visually verified to determine if they formed discrete zones which could potentially be domained separately.

During the on-going work with SRK and GCG at Segovia, the capping levels in the minor veins should be considered with caution, and GCG geologist recommended that stricter application of capping would be more appropriate. SRK therefore reviewed the statistics and lognormal probability plots per domain to determine appropriate grade capping thresholds.

Two caps were applied at Carla of 100 g/t Au and 50 g/t Au, to limit the influence of a limited number of high-grade samples on the estimate.



Source: SRK, 2019

Figure 14-5: Log Probability Plots Showing Impact of Capping to Various Levels on the Mean (Providencia High-grade Domain)

Table 14-2: Example of Capping Statistical Analysis Completed per Domain (High-grade Providencia)

Column	_Filter	Cap	Capped	Percentile	Capped %	Lost Total%	Lost CV%	Max	Mean	Variance	CV
AU	HG = 10							4713	6.548	1116	5.1
AU	HG = 10	305	54	99.86%	0.20%	7.30%	38%	305	6.07	368.5	3.16
AU	HG = 10	200	100	99.74%	0.30%	11%	45%	200	5.857	265.7	2.78
AU	HG = 10	100	241	99.34%	0.70%	17%	56%	100	5.444	152.4	2.27
AU	HG = 10	70	422	98.82%	1.20%	21%	60%	70	5.178	111	2.03
AU	HG = 10	50	649	98.11%	1.90%	25%	64%	50	4.888	79.46	1.82
AU	*HG = 10*	*30*	*1177*	*96.33%*	*3.40%*	*33%*	*70%*	*30*	*4.375*	*44.31*	*1.52*
AU	HG = 10	20	1834	94.50%	5.40%	40%	74%	20	3.933	26.2	1.30
AU	HG = 10	16	2276	93%	6.60%	44%	77%	16	3.687	19.23	1.19
AU	HG = 10	14	2609	92%	7.60%	46%	78%	14	3.538	15.84	1.13
AU	HG = 10	12	3001	91%	8.80%	49%	79%	12	3.369	12.62	1.05
AU	HG = 10	11	3279	90%	9.60%	50%	80%	11	3.273	11.06	1.02
AU	HG = 10 - AU > 30							4713	92.33	23825	1.67
AU	HG = 10 - AU <= 30							30	3.45	21.34	1.34
AU	HG = 20							6773	46.3	12728	2.44
AU	HG = 20	2000	13	99.90%	0.10%	1.10%	13%	2000	45.78	9319	2.11
AU	HG = 20	500	158	99.20%	0.90%	5.30%	27%	500	43.84	6005	1.77
AU	HG = 20	400	247	98.80%	1.40%	7.40%	31%	400	42.86	5218	1.69
AU	*HG = 20*	*300*	*436*	*97.70%*	*2.40%*	*11%*	*35%*	*300*	*41.16*	*4188*	*1.57*
AU	HG = 20	200	804	95.30%	4.50%	18%	42%	200	37.82	2818	1.40
AU	HG = 20	120	1604	90.30%	8.90%	30%	51%	120	32.28	1487	1.19
AU	HG = 20	100	1959	88.10%	10.90%	35%	54%	100	30.14	1151	1.13
AU	HG = 20	90	2208	86.40%	12.30%	38%	55%	90	28.86	984.3	1.09
AU	HG = 20	60	3224	79.90%	17.90%	48%	61%	60	23.91	512.4	0.95
AU	HG = 20	30	5439	65.80%	30.20%	65%	70%	30	16.09	141.6	0.74
AU	HG = 20 - AU > 300							6773	520.4	205762	0.87
AU	HG = 20 - AU <= 300							300	34.99	2651	1.47

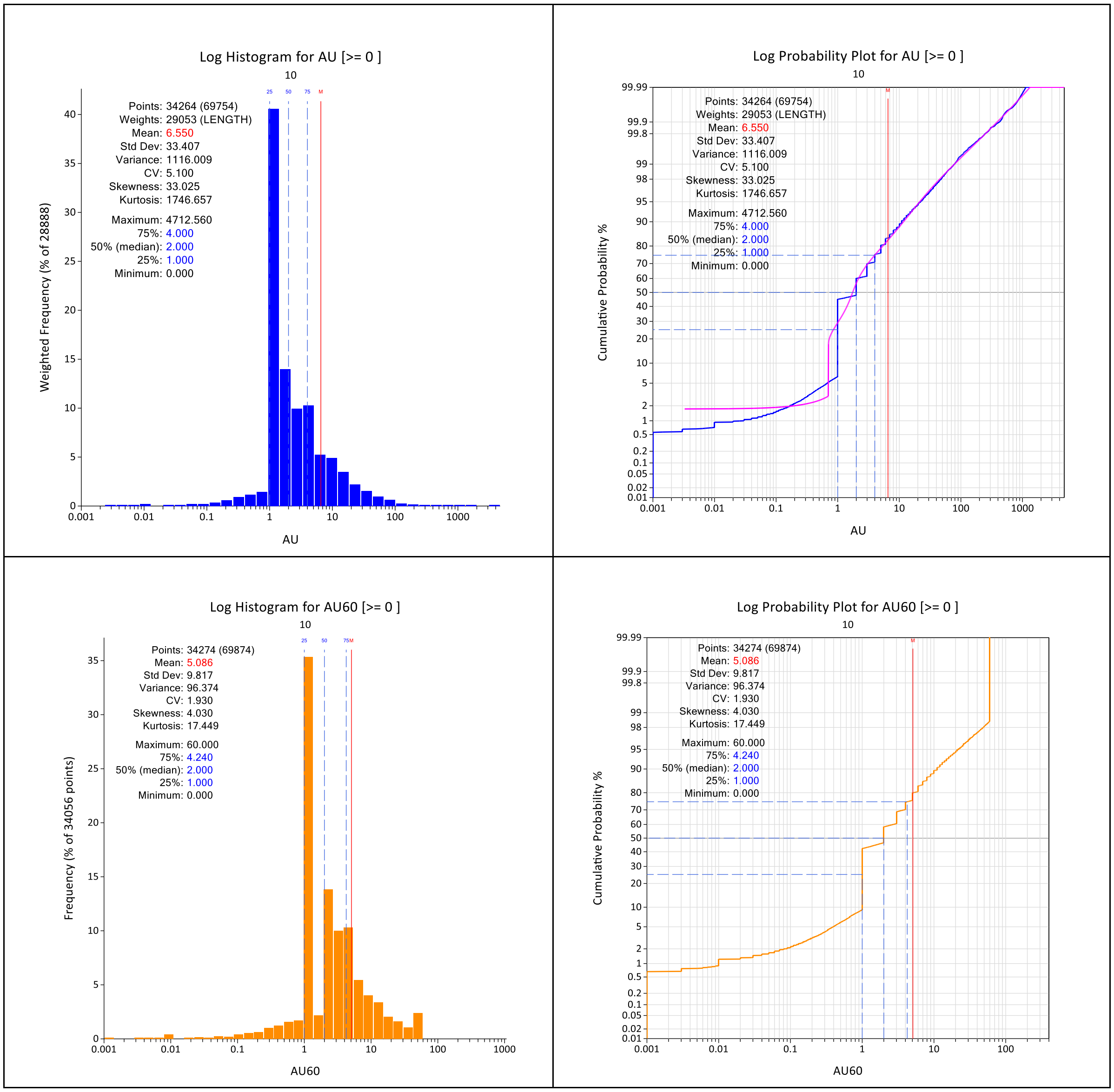
Source: SRK, 2020

Given the high-grades noted at Providencia, SRK elected to use a sliding cap away from the high-grade samples, whereby the initial cap was set to 300 g/t Au (in the first estimation pass of the high-grade shoot), dropping to 200 g/t Au in the second and third search ranges, with a more significant cap in the low-grade domain of 60 g/t Au at Providencia. This process has been used to define a threshold limit for how high-grade samples influence the estimate within the Datamine software. It is the QP's opinion that the initial high grades are realistic, but efforts are made to limit their impact on influencing estimates beyond a given range.

At El Silencio, a maximum of 120 g/t Au was used within the high-grade domain, and 30 g/t Au within the low-grade vein material. The other veins at El Silencio were reviewed on a vein by vein basis with the selected caps ranging between 15 and 90 g/t Au. At Sandra K, capping levels have been completed on a vein by vein basis and range from 30 g/t Au to 100 g/t Au.

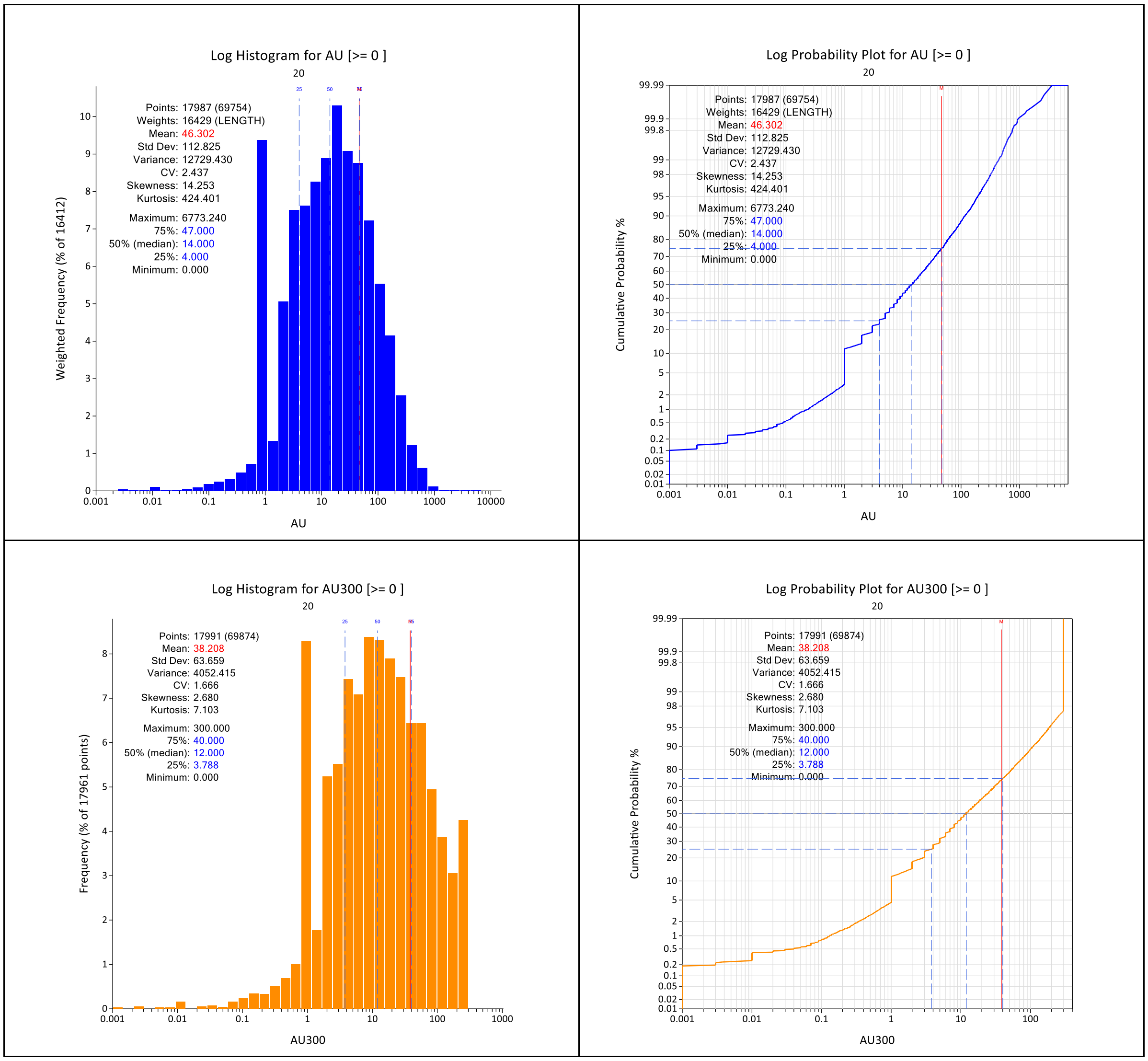
SRK completed sensitivity studies both on samples and estimation to changes in the capping levels which showed that adjusting the capping has a reasonably significant impact on the resultant contained metal. Capping the Providencia high-grade at 300 g/t Au resulted in approximately 2% of the values being capped but dropping the cap to 200 g/t Au increased this percentage to approximately 5% of the database, which increases to 10% at 120 g/t Au. Based on the analysis SRK selected the variable capping approached previously defined, to ensure high-grades have limited local influence.

A comparison of the raw versus capped statistical analysis for the key domains is shown in Figure 14-6 to Figure 14-11.



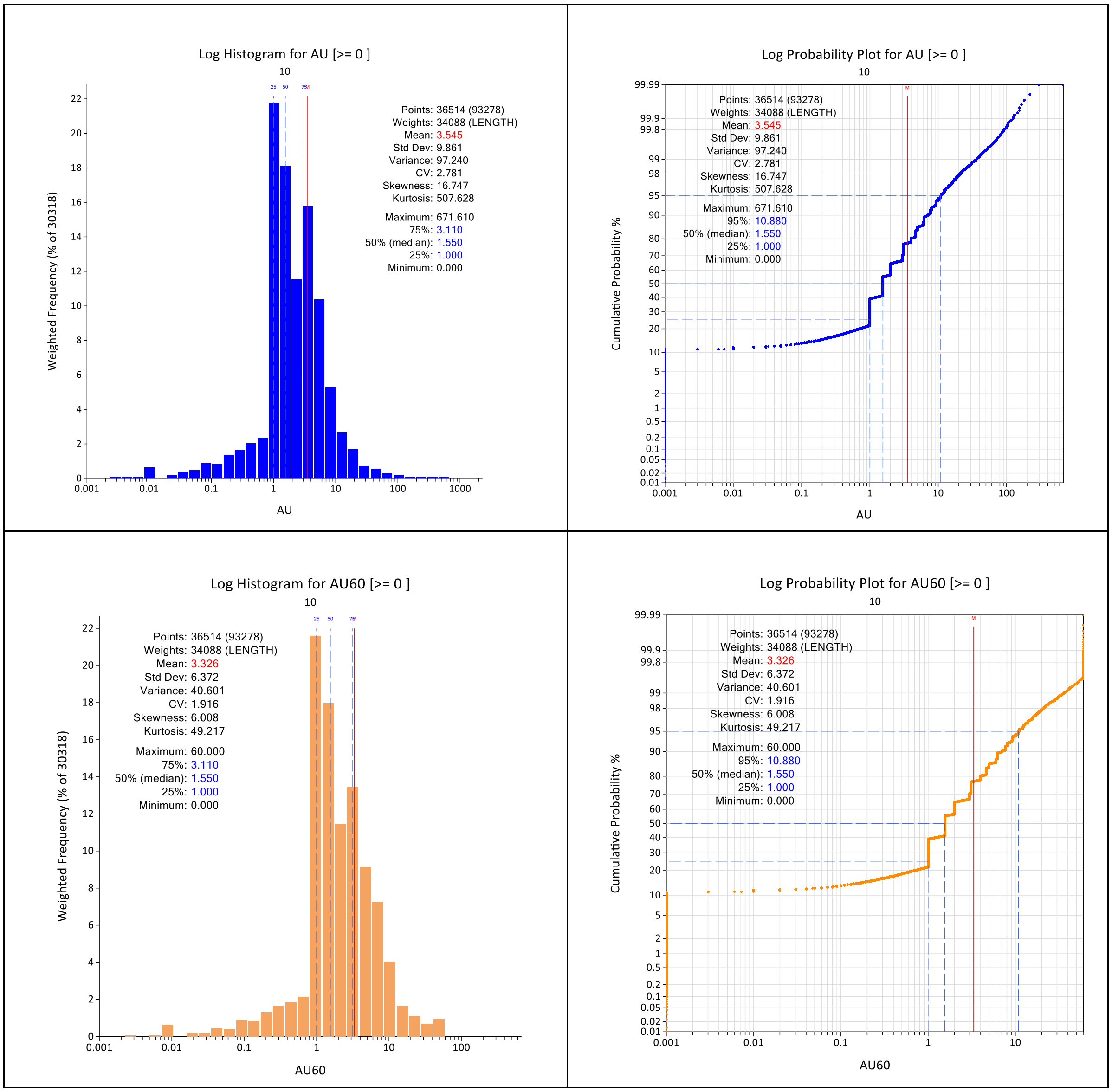
Source: SRK, 2020

Figure 14-6: Example of Raw versus Capped Histogram and Log-Probability Plots for Providencia High-Grade Domain (HG=20)



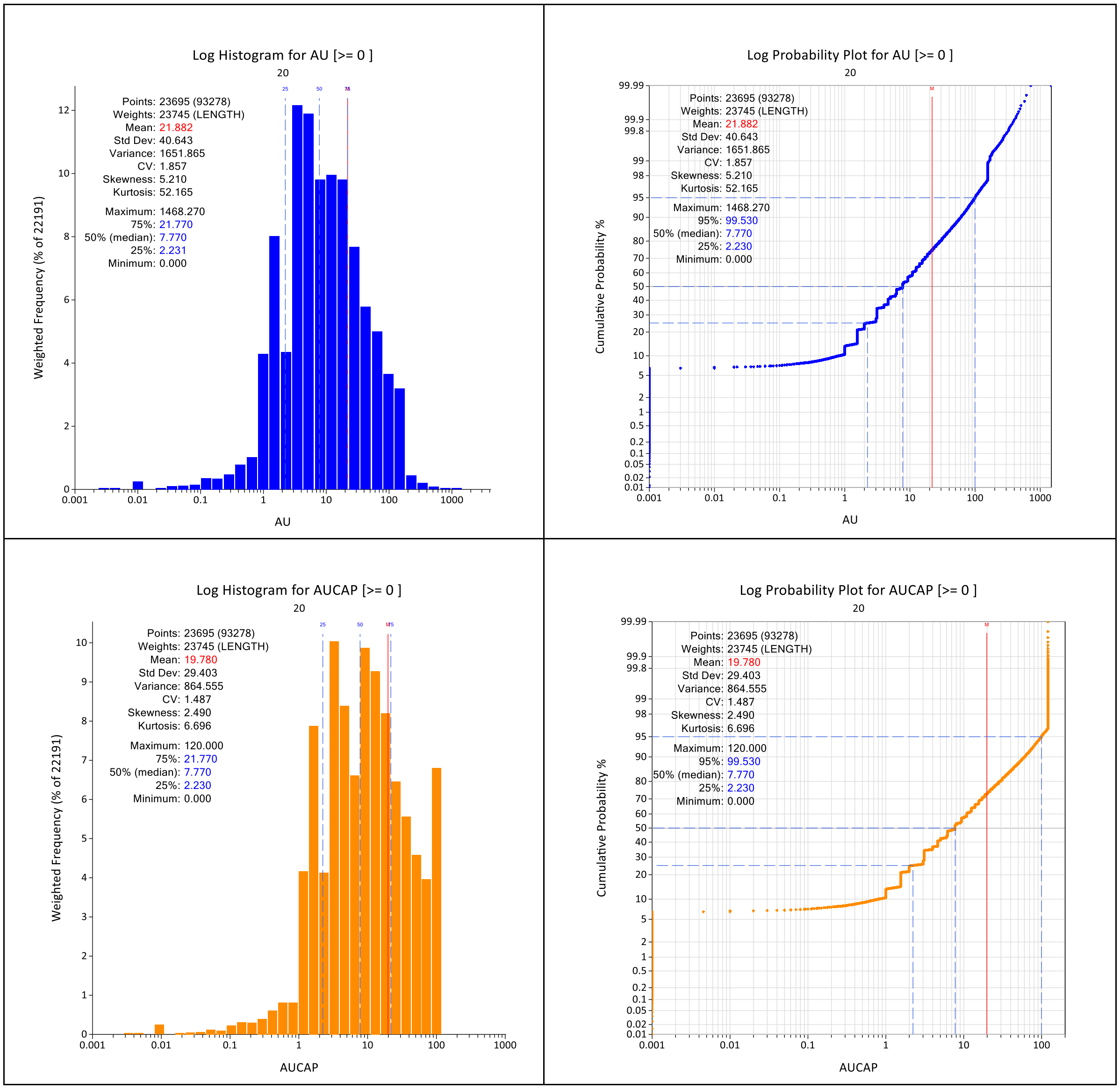
Source: SRK, 2020

Figure 14-7: Example of Raw versus Capped Histogram and Log-Probability Plots for Providencia High-Grade Domain (HG=20)



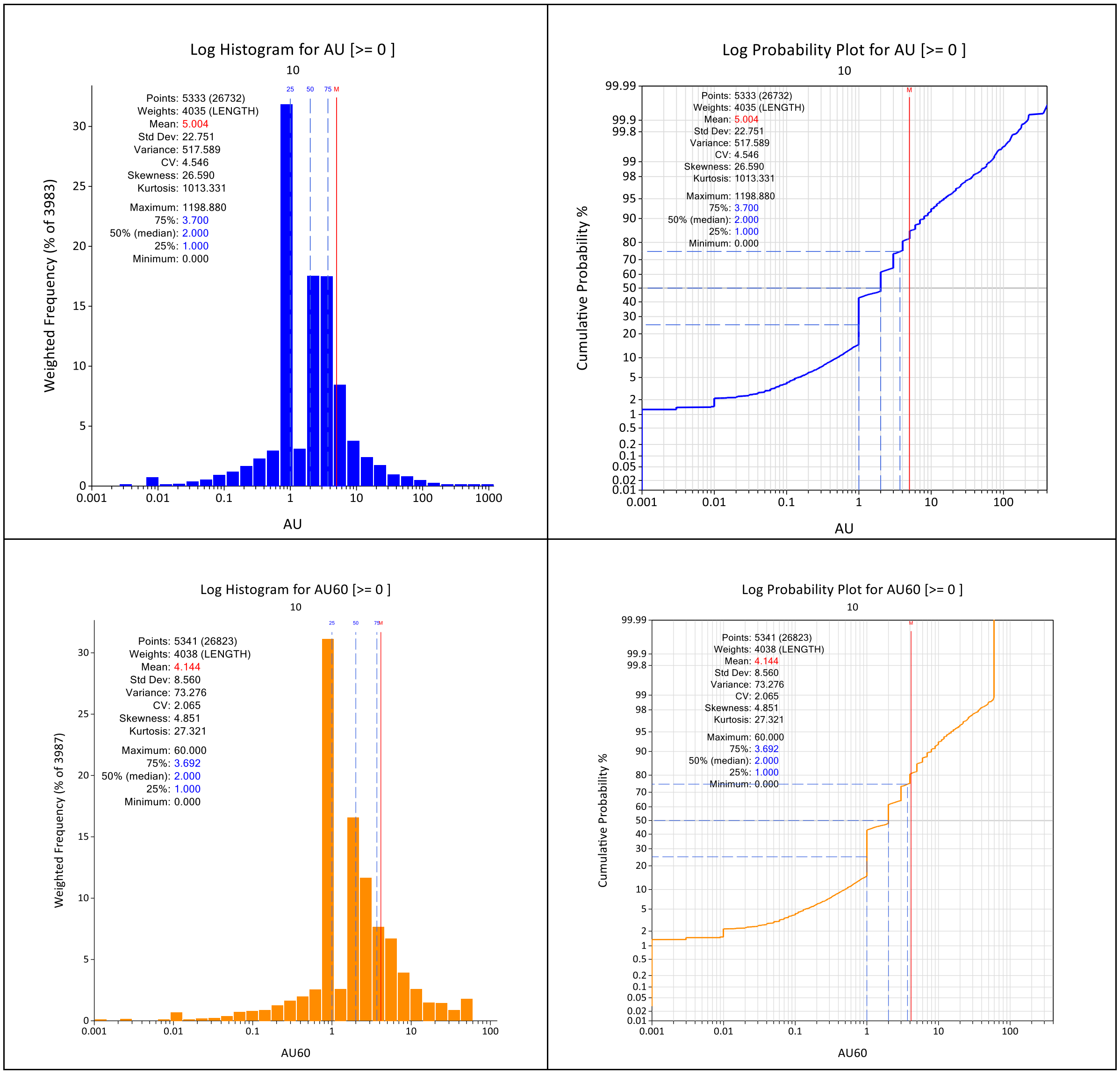
Source: SRK, 2019

Figure 14-8: Example of Raw versus Capped Histogram and Log-Probability Plots for El Silencio Veta Manto Low-Grade Domain (HG=10)



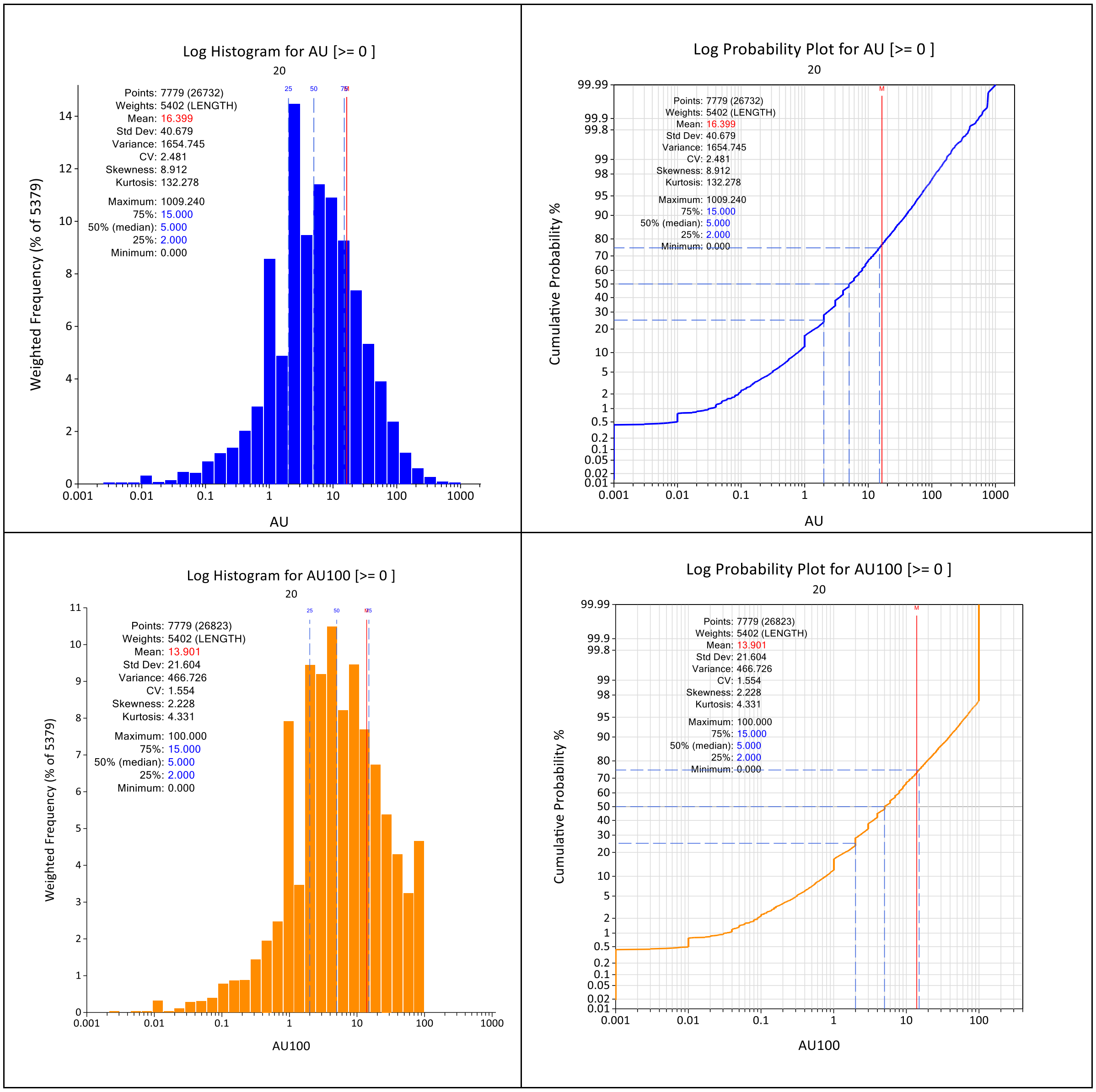
Source: SRK, 2019

Figure 14-9: Example of Raw versus Capped Histogram and Log-Probability Plots for El Silencio Veta Manto High-Grade Domain (HG=20)



Source: SRK, 2020

Figure 14-10: Example of Raw versus Capped Histogram and Log-Probability Plots for Sandra-K Veta Techo Low-Grade Domain (HG=10)

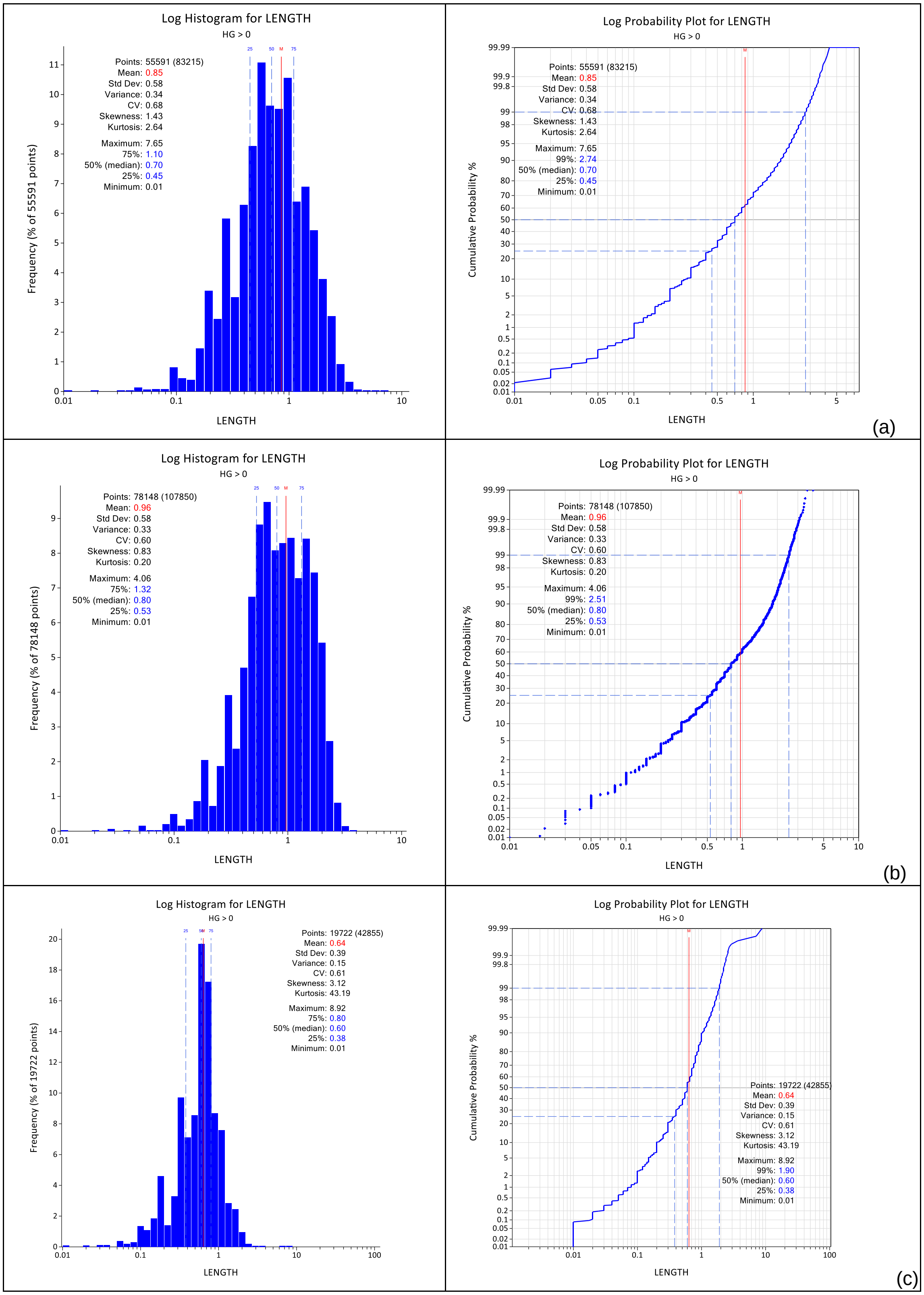


Source: SRK, 2019

Figure 14-11: Example of Raw versus Capped Histogram and Log-Probability Plots for Sandra-K Veta Techo High-Grade Domain (HG=20)

14.3.2 Compositing

SRK analyzed the mean length of the underground channel and drillhole samples in order to determine appropriate composite lengths. At Providencia, Sandra K, Las Verticales and Carla the mean length of the sample data approximates to (or is less than) 0.8 to 1.0 m, suggesting that a composite length of greater than 1 m is appropriate. Figure 14-12 provides an example of the length analysis undertaken for drillhole samples at Providencia and El Silencio, which indicate that while the mean is low, a significant portion of the database has sample lengths in excess of 1 m (typically >40% of the database), and therefore composite lengths in the order of 2 or 3 m would be deemed more appropriate.



Source: SRK, 2019

Figure 14-12: Log Probability Plots of Sample Lengths within (a) Providencia, (b) El Silencio and (c) Sandra K Veins

SRK tested the sensitivity in the mean grades to changes in composite length, plus the sensitivity of Datamine™ (MODE) that attempt to ensure all vein samples are incorporated into the composite file. The results indicate that using the Datamine™ (MODE = 1) utility enables more of the narrow vein samples to be incorporated into the composites while limiting any potential bias.

The results of the study for vein samples indicated that the selected 3 m composite length (or vein width), using a minimum sample length of 0.20 m, and Datamine's™ MODE = 1 function provides a reasonable reconciliation to the raw data mean grade and total length. SRK therefore elected to use the option to utilise all sampling within the flagged veins (MODE=1).

At Carla and Las Verticales, there was no updated Mineral Resource estimate, and the selected composite length used is 1 m composite, using a minimum of 0.25 m.

Table 14-3 through Table 14-6 show a comparison of the mean grades within each domain based on the grade capping applied. The percent difference for the less densely sampled zones between the raw and the capped mean is reasonably elevated, namely in the Carla and Las Verticales vein domains. SRK noted during the investigation that the difference in the mean grade (in the context of a relatively small sample population) is skewed by a limited number of high-grade samples which (prior to capping) were visually checked to see whether they form separate populations.

Table 14-3: Summary of Raw versus Capped Samples

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
PV	10 - LG	Raw	34,264	0.00	4,712.56	6.55	33.41	5.10	
		Capped	34,274	0.00	60.00	5.09	9.82	1.93	-22.3%
		Composite	30,444	0.00	60.00	5.05	9.62	1.90	-22.9%
PV	20 - HG	Raw	17,987	0.00	6,773.24	46.30	112.82	2.44	
		Capped	17,991	0.00	300.00	41.16	64.71	1.57	-11.1%
		Composite	15,208	0.00	300.00	41.20	61.31	1.49	-11.0%
PV	30 - Other	Raw	280	0.00	119.00	4.42	11.55	2.61	
		Capped	281	0.00	30.00	4.05	5.96	1.47	-8.4%
		Composite	221	0.00	30.00	3.58	5.34	1.49	-19.1%
PV	40	Raw	944	0.01	1,092.72	29.86	96.29	3.23	
		Capped	944	0.01	120.00	18.24	32.62	1.79	-38.9%
		Composite	579	0.01	120.00	18.62	29.02	1.56	-37.7%
PV	50	Raw	Insufficient coded samples to define a sample population						
		Capped							
		Composite							
PV	60	Raw	257	0.00	78.00	6.74	10.60	1.57	
		Capped	257	0.00	60.00	6.10	9.75	1.60	-9.5%
		Composite	204	0.00	60.00	6.68	9.76	1.46	-0.9%
PV	70	Raw	302	0.15	92.00	4.16	7.46	1.79	
		Capped	302	0.15	15.00	4.15	4.08	0.98	-0.2%
		Composite	235	0.34	15.00	3.49	3.32	0.95	-16.2%
PV	80	Raw	95	0.00	236.29	11.12	26.90	2.42	
		Capped	95	0.00	15.00	5.64	5.11	0.91	-49.3%
		Composite	82	0.00	15.00	5.91	4.46	0.76	-46.9%
PV	90	Raw	882	0.01	5,209.04	160.59	407.29	2.54	
		Capped	882	0.01	300.00	96.19	117.35	1.22	-40.1%
		Composite	509	0.01	300.00	85.26	91.74	1.08	-46.9%
PV	100	Raw	386	0.00	223.76	20.71	30.86	1.49	
		Capped	386	0.00	90.00	16.96	22.29	1.31	-18.1%
		Composite	271	0.00	90.00	19.05	21.50	1.13	-8.0%
PV	110	Raw	98	0.00	24.00	2.52	3.29	1.30	
		Capped	98	0.00	15.00	2.19	2.42	1.10	-13.1%
		Composite	94	0.00	15.00	2.44	2.82	1.16	-3.3%
PV	120	Raw	81	0.05	163.00	21.31	27.10	1.27	
		Capped	81	0.05	60.00	20.91	20.27	0.97	-1.9%
		Composite	62	1.00	60.00	18.60	16.96	0.91	-12.7%

Source: SRK, 2020

Table 14-4: Summary of Raw versus Capped Samples at El Silencio

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
ES	10 - VEM LG	Raw	36,514	0	671.61	3.55	9.86	2.78	
		Capped	36,514	0	30.00	3.09	4.72	1.53	-12.75%
		Composite	30,330	0	30.00	3.10	4.60	1.49	-12.69%
ES	20 - VEM-LG	Raw	23,695	0	1468.27	21.88	40.64	1.86	
		Capped	23,695	0	120.00	19.78	29.40	1.49	-9.61%
		Composite	21,149	0	120.00	19.88	29.31	1.48	-9.16%
ES	30 - NAL	Raw	9,888	0	1934.22	15.80	54.32	3.44	
		Capped	9,888	0	90.00	11.20	21.64	1.93	-29.11%
		Composite	6,772	0	90.00	9.96	18.88	1.90	-36.97%
ES	40 - VEP	Raw	1060	0	1220.00	17.52	54.57	3.12	
		Capped	1060	0	90.00	13.73	21.99	1.60	-21.64%
		Composite	818	0	90.00	13.17	21.37	1.62	-24.82%
ES	50 - ESI	Raw	200	0	130.44	4.13	12.20	2.95	
		Capped	200	0	30.00	3.25	6.24	1.92	-21.30%
		Composite	115	0	30.00	3.07	4.75	1.55	-25.78%
ES	60 - LAN	Raw	2,456	0	392.00	9.79	22.71	2.32	
		Capped	2,456	0	60.00	8.32	13.15	1.58	-14.99%
		Composite	2,060	0	60.00	7.99	13.16	1.65	-18.40%
ES	70 - UNK	Raw	1,515	0	311.00	14.07	26.55	1.89	
		Capped	1,515	0	60.00	11.56	16.68	1.44	-17.85%
		Composite	1,573	0	60.00	10.98	16.14	1.47	-21.95%
ES	80 - SAL	Raw	20	3.1	159.65	11.35	31.54	2.78	
		Capped	20	3.1	15.00	5.94	3.59	0.60	-47.65%
		Composite	17	3.1	12.40	5.93	3.21	0.54	-47.78%
ES	90 - SNO	Raw	91	1	408.00	12.93	51.76	4.00	
		Capped	91	1	30.00	4.82	7.24	1.50	-62.76%
		Composite	86	1	30.00	4.84	7.36	1.52	-62.60%
ES	100 - SNO	Raw	Insufficient coded samples to define a sample population						
		Capped							
		Composite							
ES	110 - SNO	Raw	27	0	28.40	5.06	7.79	1.54	
		Capped	27	0	15.00	3.93	4.93	1.25	-22.29%
		Composite	45	0	15.00	5.32	5.56	1.05	5.06%
ES	120	Raw	321	0.005	280.92	12.75	25.61	2.01	
		Capped	321	0.005	30.00	8.48	10.02	1.18	-33.46%
		Composite	187	0	30.00	9.18	10.13	1.10	-28.01%
ES	130	Raw	1,915	0	323.99	11.18	23.47	2.10	
		Capped	1,915	0	323.99	11.18	23.47	2.10	0.00%
		Composite	1,574	0	241.24	10.76	22.39	2.08	-3.73%

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
ES	140	Raw	121	0	155.50	15.41	26.83	1.74	
		Capped	121	0	155.50	15.41	26.83	1.74	0.00%
		Composite	101	0	155.50	13.18	19.46	1.48	-14.48%

Source: SRK, 2020

Table 14-5: Summary of Raw versus Capped Samples at Sandra K

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
SK	10 TECHO - LG1	Raw	5,333	0.00	1,198.88	5.00	22.75	4.55	
		Capped	5,341	0.00	60.00	4.14	8.56	2.07	-17.20%
		Composite	4,449	0.00	60.00	4.15	8.26	1.99	-16.94%
SK	15 TECHO - LG2	Raw	1594	0.00	340.84	8.33	18.69	2.24	
		Capped	1596	0.00	85.00	7.80	14.60	1.87	-6.36%
		Composite	1153	0.00	85.00	7.81	13.17	1.69	-6.27%
SK	20 - TECHO HG	Raw	7,779	0.00	1,009.24	16.40	40.68	2.48	
		Capped	7,779	0.00	100.00	13.90	21.60	1.55	-15.24%
		Composite	5,845	0.00	100.00	13.91	18.98	1.37	-15.20%
SK	30 - PISO	Raw	2,470	0.00	1,840.00	11.19	41.40	3.70	
		Capped	2,470	0.00	85.00	9.67	16.05	1.66	-13.58%
		Composite	1,865	0.00	85.00	9.59	15.53	1.62	-14.30%
SK	31 - PISO	Raw	40	0.00	9.38	1.30	2.71	2.09	
		Capped	40	0.00	9.38	1.30	2.71	2.09	0.00%
		Composite	17	0.00	9.38	1.20	2.67	2.23	-7.85%
SK	32 - PISO	Raw	56	0.01	33.16	1.18	4.61	3.91	
		Capped	56	0.01	33.16	1.18	4.61	3.91	0.00%
		Composite	19	0.01	8.57	1.20	2.09	1.74	1.44%
SK	40 - CHUMECA	Raw	1762	0.00	386.00	9.79	31.98	3.27	
		Capped	1762	0.00	60.00	7.04	12.83	1.82	-28.09%
		Composite	1336	0.00	60.00	7.02	12.53	1.78	-28.30%
SK	50 - 6640	Raw	559	0.01	3,302.60	18.26	117.79	6.45	
		Capped	562	0.00	60.00	11.38	16.65	1.46	-37.68%
		Composite	447	0.00	60.00	11.38	15.92	1.40	-37.67%
SK	61 - PAT	Raw	41	0.02	47.72	6.63	12.78	1.93	
		Capped	41	0.02	30.00	5.84	10.25	1.75	-11.92%
		Composite	15	0.02	30.00	5.96	10.37	1.74	-10.06%
SK	62 - INT	Raw	23	0.15	10.61	5.05	4.24	0.84	
		Capped	23	0.15	10.61	5.05	4.24	0.84	0.00%
		Composite	7	0.15	10.61	5.05	4.24	0.84	0.08%

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
SK	62 - JUL	Raw	30	0.00	10.42	1.96	2.97	1.52	
		Capped	30	0.00	10.42	1.96	2.97	1.52	0.00%
		Composite	12	0.00	10.42	1.96	2.96	1.51	-0.15%

Source: SRK, 2020

Table 14-6: Summary of Raw versus Capped Samples at Carla and Las Verticales

Vein	Domain	Field	Count	Minimum Au (g/t)	Maximum Au (g/t)	Mean Au (g/t)	Standard Deviation	Coefficient of Variation	% Difference
CA	Carla	Raw	115	0	290.22	6.55	27.54	4.20	-25.30%
		Capped	115	0	100.00	4.90	11.49	2.35	
LV	Las Verticales	Raw	135	0	56.00	4.30	8.04	1.87	-11.10%
		Capped	135	0	25.00	3.82	5.78	1.51	

Source: SRK, 2020

14.4 Density

Density measurements are collected at Segovia from drill core and hand samples from the underground workings. In the case of both, density is assessed via the immersion method, measuring the mass of the sample in air and then water, and taking the difference between the two. SRK notes that this method is considered reasonable. The method used to define the density for the geological model was discussed in Section 11.3.3, which indicated that a default block density of 2.7 g/cm^3 is appropriate for the Project.

SRK notes that local fluctuations maybe expected due to varying amounts of sulfides. Overall SRK considers the density to be reasonable for this style of deposit and is supported to a degree by production data and weightometers at the plant.

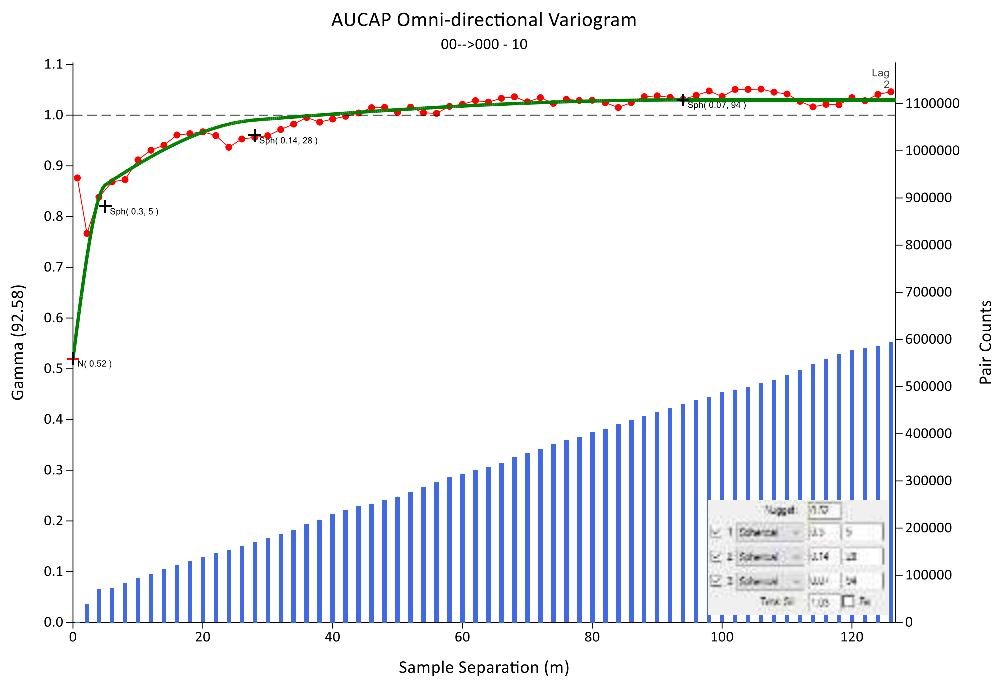
14.5 Variogram Analysis and Modeling

SRK has completed a number of Variography studies between 2013 and 2018 during the Mineral Resource estimates. Given the relative increase in the database, the parameters are still considered valid, but SRK validated the models using Snowden Supervisor during the 2019 estimate.

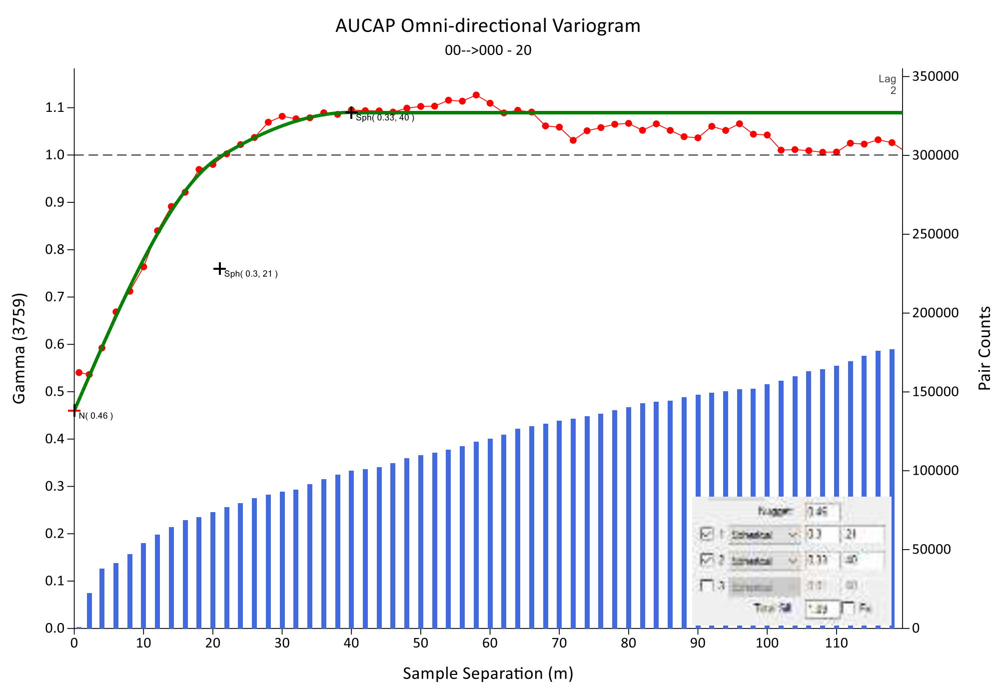
In completing the analysis, the following was considered:

- Azimuth and dip of each zone was determined
- The down-hole variogram was calculated and modeled to characterize the nugget effect
- Experimental semi-variograms, were calculated to determine both as omni-directional and directional variograms for the along strike, cross strike and down-dip directions
- Omni directional variograms were modeled using the nugget defined in the down-hole variography, with single ranges for the along strike, cross strike and down-dip in all directions
- All variances (where relevant) were re-scaled for each mineralized lens to match the total variance of composited data for that zone

An example of the variograms modeled for the Providencia low-grade and high-grade domains (10 and 20) is shown in Figure 14-13 to Figure 14-15. Based on the review as part of the current statistical review SRK has made minor adjustments to the Providencia variograms, and to the first range of the Sandra K variogram.



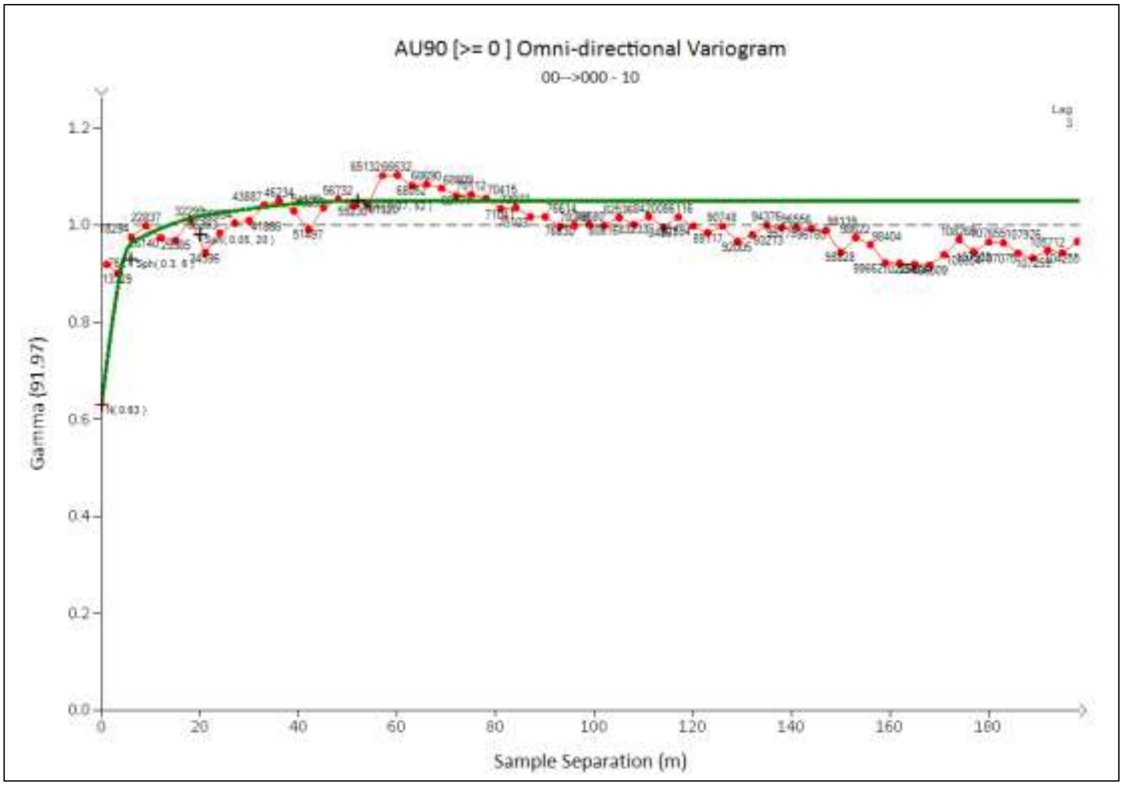
HG = 10



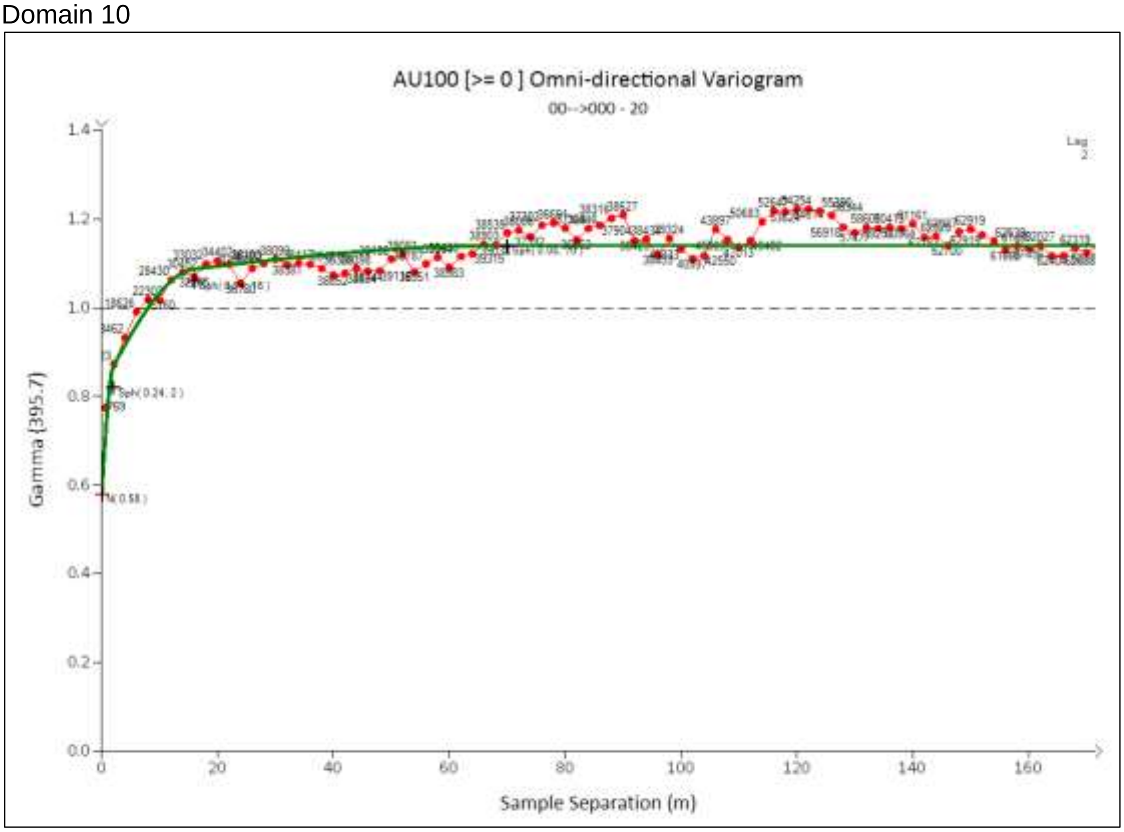
HG = 20

Source: SRK, 2019

Figure 14-13: Summary of Modeled Semi-variogram Parameters for the Providencia for Gold – Domains 10 and 20



Domain 10



Domain 20

Figure 14-14: Summary of Modeled Semi-variogram Parameters for the Sandra K for Gold – Domains 10 and 20

Domain 10

Domain 20

Source: SRK, 2018

Figure 14-15: Summary of Modeled Semi-Variogram Parameters for the El Silencio for Gold – Domains 10 and 20

The final variogram parameters for the Project are displayed in Table 14-7.

Table 14-7: Final Variogram Parameters

Variogram Parameter	Domains	Rotation Z	Rotation Y	Rotation X	Co	C1	A1 Along Strike (m)	A1 Down Dip (m)	A1 Across Strike (m)	C2	A2 Along Strike (m)	A2 Down Dip (m)	A2 Across Strike (m)	C3	A3 Along Strike (m)	A3 Down Dip (m)	A3 Across Strike (m)
Providencia	LG	10	30	-150	52.0%	30.0%	5	5	5	14.0%	28	28	28	7.05%	95	95	95
Providencia	HG	10	30	-150	46.0%	30.0%	21	21	21	33.0%	40	40	40				
El Silencio	LG	105	27	-43	69.9%	16.5%	5	5	5	1.4%	25	35	25	12.2%	80	100	80
El Silencio	HG	105	27	-43	58.0%	14.7%	12	8	12	6.9%	55	25	55	20.4%	90	80	90
Sandra K	LG	60	25	-15	60.0%	28.6%	6	6	6	4.8%	20	20	20	6.7%	52	52	52
Sandra K	HG	60	25	-15	50.9%	21.0%	4	4	4	21.0%	16	16	16	7.0%	70	70	70
Carla	all	80	45	0	30.0%	14.0%	5	5	5	56.0%	130	70	30				
Las Verticales	all	0	0	0	23.1%	36.8%	30	30	30	40.1%	120	120	120				

Source: SRK, 2020

14.6 Block Model

SRK produced block models using Datamine™. Grade estimation was based on block dimensions of 5 m by 5 m by 5 m, for the updated models. The block size reflects that the majority of the estimates are supported via underground channel sampling and spacing ranging from 2 to 5 m. These details are summarized in Table 14-8.

Vein thickness in the block model was based on defining an initial single block across the width of the vein during the block coding routines. Using this methodology, sub-blocks of 1 m by 1 m by 1 m are filled within each vein, with accurate boundaries selected.

Table 14-8: Details of Block Model Dimensions for the Project Geological Model

Model	Dimension	Origin (UTM)	Block Size	Number of Blocks	Min Sub-Blocking (m)
Providencia	X	930000	5	500	1.00
	Y	1272000	5	380	1.00
	Z	0	full width vein	1	full width vein
Sandra K	X	931800	5	330	1.00
	Y	1274600	5	360	1.00
	Z	-100	full width vein	1	full width vein
El Silencio	X	930000	5	500	1.00
	Y	1273500	5	600	1.00
	Z	-300	full width vein	1	full width vein
Carla 2013	X	930650	25	78	1.00
	Y	1267400	25	64	1.00
	Z	-50	25	36	0.25
Las Verticales 2013	X	928500	10	275	0.50
	Y	1271700	20	175	1.00
	Z	0	20	45	1.00

Source: SRK, 2020

Using the wireframes created and described in Section 14.2, several codes were written in the block model to describe each of the major geological properties of the rock types. Table 14-9 summarizes geological fields created within the block model and the codes used.

Table 14-9: Summary of Block Model Fields (Used for Flagging Various Geological Properties)

Field Name	Description
SVOL	Search Volume reference (range from 1 to 3)
NSUM	Number of samples used to estimate the block
AUCAP	Kriged gold value
RESCAT	Classification
GROUP	Mineralized structures grouped by domain
KZONE	Vein domain coding, individual to each mineralized structure
HG	Kriging zone for estimation
DENSITY	Density of the rock
DEPL	Flag to denote depleted areas of model
PILLAR	Remaining vein material inside the current limits of depletion
MINE	Flag to denote depleted areas of the model, excluding the pillars
LICENCE	Flag to denote areas of the model outside of the License Boundary
THK	Vertical thickness estimate using wireframe data
COG	Flag to highlight blocks above the cut-off grade
AUM1	Accumulated gold grade over a 1 m mining width

Source: SRK, 2020

14.7 Estimation Methodology

SRK used the capped and composited data within the individual mineralized domains to interpolate grades for Au into the block models OK. The individual mineralization domains listed above in Section 14.2 were used as hard boundaries, with the samples within each domain being used to only estimate blocks within the same.

A three-pass nested search was utilized for each area, with dimensions of the search ellipsoid increasing in each pass. The initial shorter-range estimation pass is designed to estimate blocks that may be considered as higher confidence resources, and to focus estimates influenced by the channel sampling. To achieve this, SRK used relatively short ranges and higher minimum number of composites to ensure only blocks where channel sampling occur are used within the short range. The search ellipsoid was oriented parallel to the strike and dip of the mineralization and had a flattened shape to approximate the tabular nature of mineralization.

The search ellipses follow the typical orientation of the mineralized structures, and where appropriate, were aligned along higher-grade plunging features within the mineralized veins, namely within the visually evident high grade-shoots. Search ranges for the ellipsoids are generally based on the variogram ranges but adjusted to reflect the visual anisotropy noted in the geology seen. Geostatistical characteristics such as search volume used, kriging variance, and number of samples used in an estimate, were computed and stored in each individual block for descriptive evaluations.

14.7.1 Sensitivity Analysis

The estimations were refined over an iterative process completed of evaluating the results, validating them, and modifying parameters to obtain a model that accurately represents the mineralization and is statistically valid when compared to the input data supporting the estimation. SRK has used the same scenarios as completed in the March 2017 block models.

Grade estimation was performed in Datamine™ using inverse distance weighting to the second power (IDW2) and OK, based on optimum parameters determined through a quantitative kriging neighborhood analysis (QKNA) exercise. The exercise was based on varying estimation parameters during a number of different scenarios. To complete the sensitivity analysis at Providencia, SRK completed the following scenarios:

- Scenario 1: Search range 25 m by 35 m by 12.5 m, minimum six maximum 15 composites, estimation methodology (ID2), estimation at sub-block level
- Scenario 2: Search range 25 m by 35 m by 12.5 m, minimum six maximum 15 composites, estimation methodology (ID2) estimation at parent block level
- Scenario 3: Search range 75 m by 100 m by 50 m, minimum 15 maximum 20 composites, estimation methodology (ID2) estimation at parent block level
- Scenario 4: Search range 40 m by 50 m by 25 m, minimum three maximum 10 composites, estimation methodology (ID2) estimation at parent block level
- Scenario 5: Search range 25 m by 50 m by 25 m, minimum three maximum 10 composites, estimation methodology (ID2) estimation at parent block level
- Scenario 6: Search range 25 m by 50 m by 25 m, minimum three maximum 10 composites, estimation methodology (OK) estimation at parent block level

- Scenario 7: Search range 25 m by 35 m by 12.5 m, minimum six maximum 15 composites, estimation methodology (OK) estimation at parent block level

SRK completed visual and basic statistical tests and elected to use the kriged estimates using the shorter range (Scenario 7) as being most representative of the underlying data.

14.7.2 Final Parameters

OK was selected for the grade interpolation for the Project and all major domain boundaries were treated as hard boundaries during the estimation process. A summary of the final parameters is shown in Table 14-10. A discretization of 5 by 5 by 5 has been used in all scenarios.

Restrictive searches via use of variable capping at Providencia and a short first pass at Carla were utilized to prevent very high gold grade samples in areas of lower drilling density from over influencing the surrounding block estimates, and thus honoring the geological interpretation (for highly variable gold grade distribution) favored by SRK and the Company.

Table 14-10: Summary of Final Kriging Parameters for the Segovia Project

Vein	Domain	SDIST1	SDIST2	SDIST3	SANGLE1	SANGLE2	SANGLE3	SAXIS1	SAXIS2	SAXIS3	MINNUM1	MAXNUM1
PV	10 - LG	25	35	12.5	10	30	-150	3	1	3	6	15
PV	20 - HG	25	35	12.5	10	30	-150	3	1	3	6	15
PV	30 – 120 - Other	25	50	25.0	10	30	-150	3	1	3	6	15
ES	VEM 10 - LG	25	50	25	105	27	-43	3	1	3	6	20
ES	VEM 20 - HG	25	50	25	105	27	-43	3	1	3	6	20
ES	30 - NAL	25	50	25	105	27	-43	3	1	3	6	20
ES	40 - VEP	35	50	25	105	27	-43	3	1	3	6	15
ES	50 - ESI	35	50	25	105	27	-43	3	1	3	6	15
ES	60 - LAN	35	50	25	105	27	-43	3	1	3	6	15
ES	70 - UNK	35	50	25	105	27	-43	3	1	3	6	15
ES	80 - SAL	35	50	25	105	27	-43	3	1	3	6	15
ES	90 - SNO	35	50	25	105	27	-43	3	1	3	6	15
ES	100 - SNO	35	50	25	105	27	-43	3	1	3	6	15
ES	110 - SNO	35	50	25	105	27	-43	3	1	3	6	15
SK	10 TECHO - LG1	25	55	25	60	25	-15	3	1	2	3	15
SK	15 TECHO - LG2	25	55	25	60	25	-15	3	1	2	3	15
SK	20 - TECHO HG	25	55	25	60	25	-15	3	1	2	3	15
SK	30 - PISO	25	50	25	60	25	-15	3	1	2	3	10
SK	31 - 32 OTHER	40	50	25	60	25	-15	3	1	2	2	10
SK	40 - CHUMECA	25	50	25	0	35	0	3	1	3	6	15
SK	50 - 6640	30	55	25	60	25	-15	3	1	2	3	15
SK	60 – PAT	40	50	20	35	25	-15	3	1	3	3	8
SK	61 – INT	40	50	20	35	35	-20	3	1	3	3	8
SK	62 – JUL	40	50	20	35	25	-15	3	1	3	3	8
CA	Carla (1)	100	35	60	80	45	0	3	1	3	4	12
CA	Carla (2)	100	100	100	80	45	0	3	1	3	1	4
LV	Las Verticales	400	400	400	0	0	0	3	1	3	4	8

Vein	Domain	SVOLFAC2	MINNUM2	MAXNUM2	SVOLFAC3	MINNUM3	MAXNUM3	METHOD	CAP FIELD
PV	10 - LG	2	2	12	3	1	8	OK	AU60
PV	20 - HG	2	2	12	3	1	8	OK	AU300, AU200
PV	30	2	2	12	3	1	8	OK	AU60
PV	40	2	2	12	3	1	8	OK	AU120,AU60
PV	50,70,80,110	2	2	12	3	1	8	OK	AU15
PV	60, 120	2	2	12	3	1	8	OK	AU60,AU30
PV	90	2	2	12	3	1	8	OK	AU300, AU120
PV	100	2	2	12	3	1	8	OK	AU90, AU60
ES	VEM 10 - LG	2	4	16	3	1	8	OK	AU30
ES	VEM 20 - HG	2	4	16	3	1	8	OK	AU120
ES	30 - NAL	2	4	16	3	1	8	OK	AU90
ES	40 - VEP	2	2	12	3	1	8	OK	AU90
ES	50 - ESI	2	2	12	3	1	8	OK	AU15
ES	60 - LAN	2	2	12	3	1	8	OK	AU60
ES	70 - UNK	2	2	12	3	1	8	OK	AU60
ES	80 - SAL	2	2	12	3	1	8	OK	AU15
ES	90 - SNO	2	2	12	3	1	8	OK	AU30
ES	100 - SNO	2	2	12	3	1	8	OK	AU15
ES	110 - SNO	2	2	12	3	1	8	OK	AU15
ES	120	2	2	12	3	1	8	OK	AU30
ES	130	2	2	12	3	1	8	OK	AU200
ES	140	2	2	12	3	1	8	OK	AU200

Vein	Domain	SVOLFAC2	MINNUM2	MAXNUM2	SVOLFAC3	MINNUM3	MAXNUM3	METHOD	CAP FIELD
SK	10 TECHO - LG1	1.5	4	30	3	2	25	OK	AU60
SK	15 TECHO - LG2	1.5	4	30	3	2	25	OK	AU30
SK	20 - TECHO HG	1.5	4	30	3	2	25	OK	AU120
SK	30 - PISO	2	2	10	3	1	8	OK	AU85
SK	31 – 32 PISO 2	2	2	10	3	1	8	OK	AU85
SK	40 - CHUMECA	2	6	15	3	1	8	OK	AU60
SK	50 - 6640	1.5	3	12	3	1	8	ID2	Au60
SK	60 - PAT	1.5	2	8	3	1	8	ID2	AU30
SK	61 - INT	1.5	2	8	3	1	8	ID2	AU30
SK	62 - JUL	1.5	2	8	3	1	8	ID2	AU30
CA	Carla (1)	2	4	10	2.6	2	20	OK	AUCAP
CA	Carla (2)	2	1	4	2.6	1	4	OK	AUCAP
LV	Las Verticales	1	3	12	1.5	2	10	OK	AUCAP

Source: SRK, 2020

(1) The restrictive search at Carla (confined to a single block where high-grade is located) uses a high-grade cap of 100 g/t Au, with a lower cap at 50 g/t Au applied to the estimates outside of the restrictive search. Capping limits were defined during outlier analysis from review of log histogram and probability plots.

(2) A secondary search is applied at Carla to fill blocks that do not satisfy the criteria set in the initial search. The secondary search interpolates gold grades into the low confidence blocks in the data sparse down-dip area of the Carla vein, to give an indication of grade distribution for exploration planning.

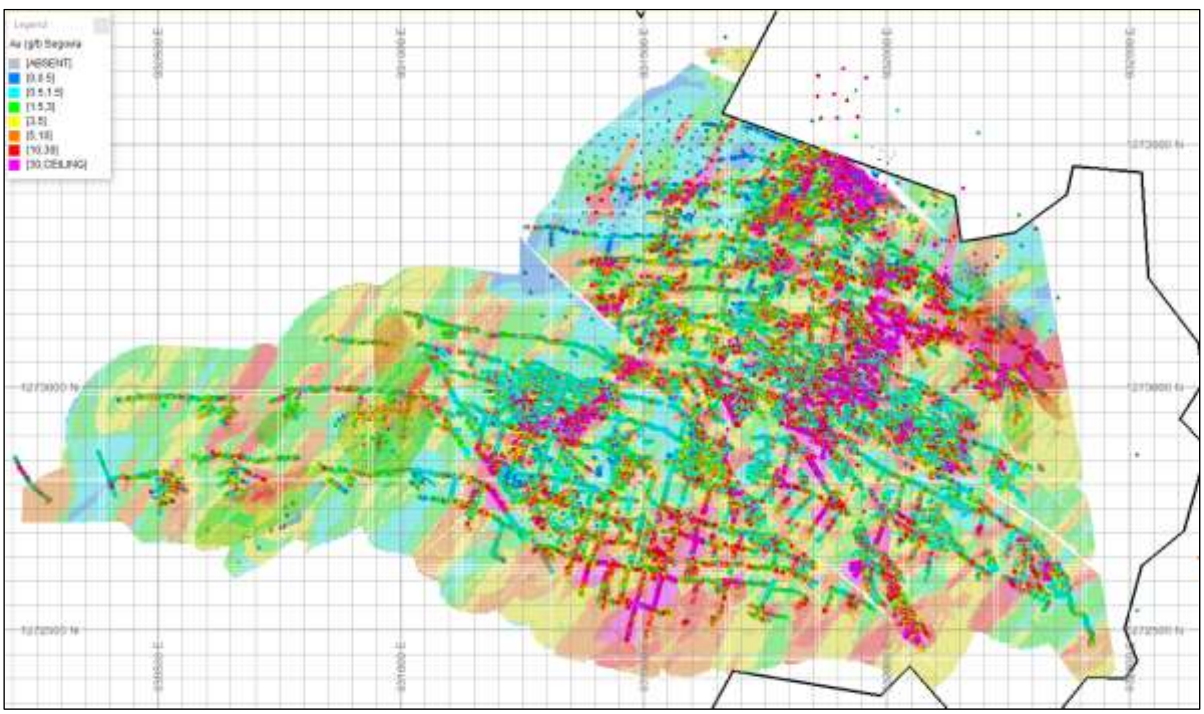
14.8 Model Validation

SRK undertook a validation of the resultant interpolated model in order to: confirm the estimation parameters, check that the model represents the input data on both local and global scales, and check that the estimate is not biased. SRK undertook this using a number of validation techniques:

- Visual inspection of block grades in plan and section and comparison with drillhole grades
- Comparative statistical study versus composite data and alternative estimation methods
- Sectional interpretation of the mean block and composite grades (swath plots)

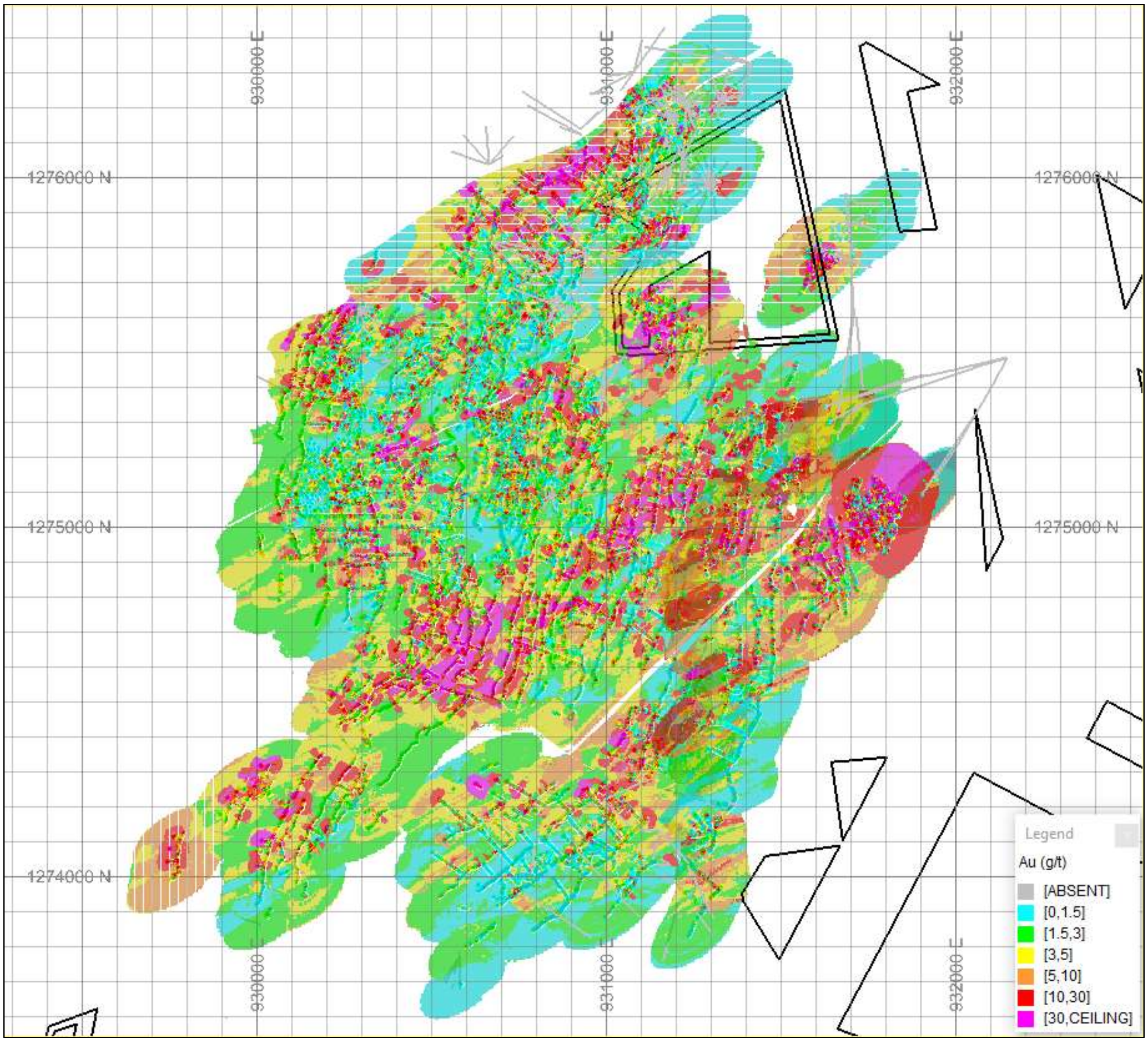
14.8.1 Visual Comparison

Visual validation provides a comparison of the interpolated block model on a local scale. A thorough visual inspection was undertaken in 3D, comparing the sample grades with the block grades, which demonstrates acceptable grade comparison between local block estimates and nearby samples, without excessive smoothing in the block model. Figure 14-16 through Figure 14-20 show examples of the visual validation checks and highlights the overall block grades corresponding with composite sample grades of each mine. SRK notes in a limited number of cases, within areas of low sample density and highly variable gold grade, local grade discrepancies occur between composite and block grades. In these areas, SRK verified the resulting grade distributions with the Company geological staff and made amendments where appropriate. In areas of greatest variability, SRK considered grade continuity as a factor during the classification process.



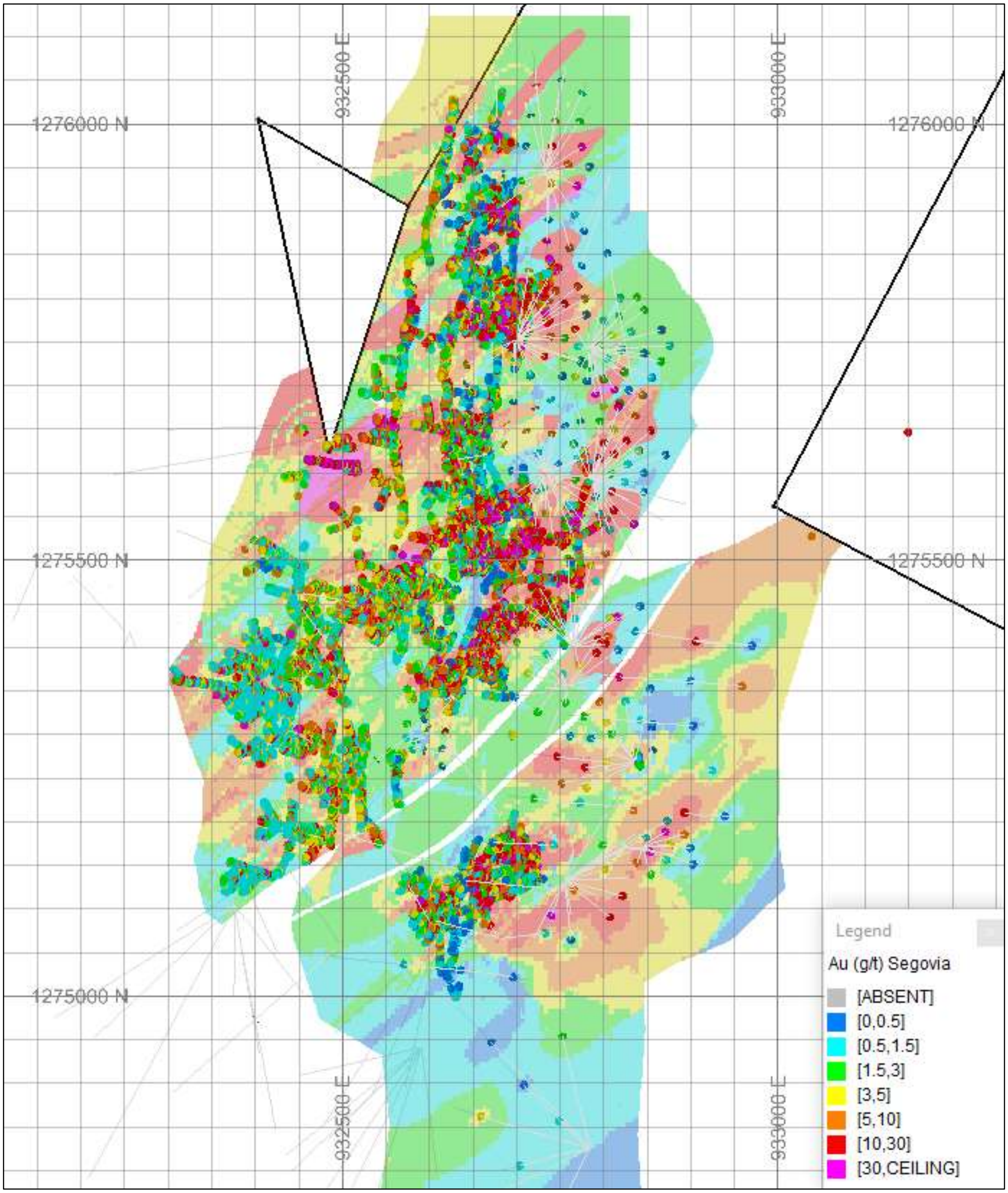
Source: SRK,2020

Figure 14-16: Examples of Visual Validation of Grade Distribution Composites Versus Block Model – Providencia



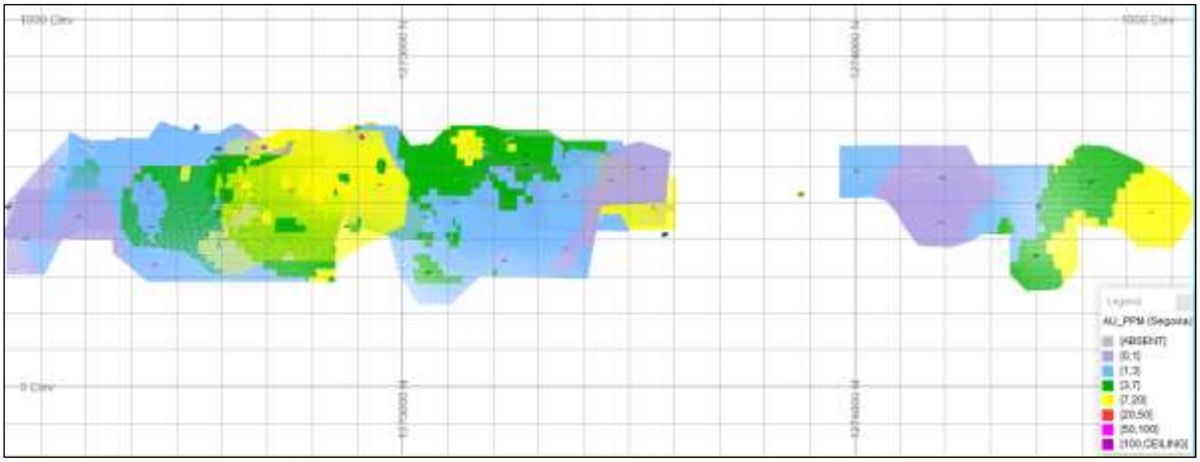
Source: SRK, 2020

Figure 14-17: Examples of Visual Validation of Grade Distribution Composites Versus Block Model - El Silencio



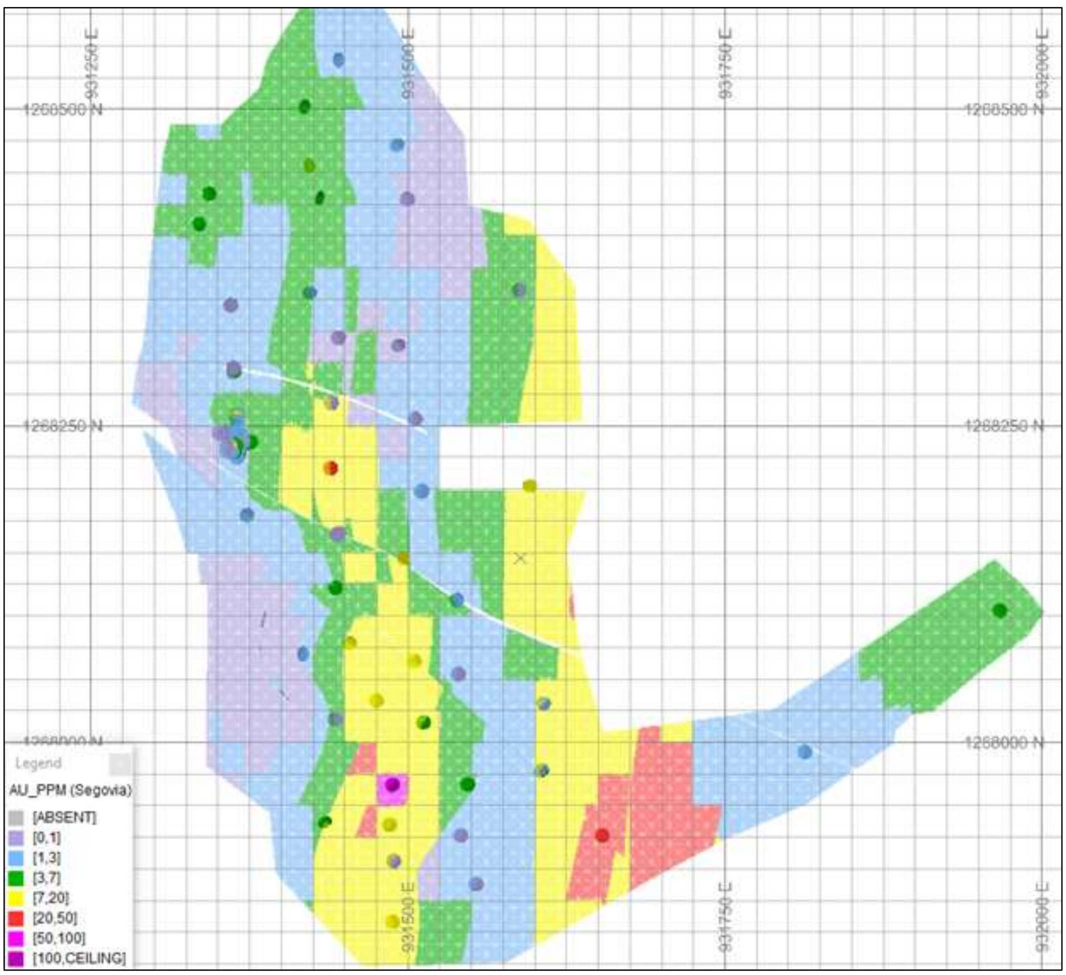
Source: SRK, 2020

Figure 14-18: Examples of Visual Validation of Grade Distribution Composites Versus Block Model - Sandra K



Source: SRK, 2019

Figure 14-19: Examples of Visual Validation of Grade Distribution Composites Versus Block Model - Las Verticales



Source: SRK, 2019

Figure 14-20: Examples of Visual Validation of Grade Distribution Composites Versus Block Model – Carla

14.8.2 Comparative Statistics

SRK reviewed a comparison of the statistics of the composite grades to the block estimation grades to assess the potential for any bias in the estimation. A series of statistical comparisons were conducted including reviews of the histograms for each metal, mean analysis between the blocks and composites, and the relationship between the estimation passes and the amount of data used for each. This was done for all three models estimated with the focus on the main structures. Where differences were noted, SRK completed further detailed analysis in combination with the swath analysis discussed later in Section 14.8.3.

Summary tables of the main veins is shown in Table 14-11. The results indicate that the SRK estimates report slightly lower grades in the veins than the composites and slightly higher grades within the high-grade shoots. For reference, SRK has also completed a de-clustering exercise to note if there are any improvements (using approximate drill spacing grids). In the lower grade domains, the correlation is improved between the composites and the estimates, but in the higher-grade domains the differences typically increase.

At Providencia, the difference between the composite and estimates for the veins overall is reasonable with the block models typically reporting lower grades than the composites in the order of ± 10% when compared to the de-clustered means. The greatest variability in the comparison is noted in the low-grade Providencia vein estimates. The mean grade of the de-clustered composites is approximately 5.0 g/t Au compared to 3.9 g/t Au in the estimated blocks.

SRK also completed the comparison between the composites and the capped values using a 30 g/t capping value and the difference between the estimate and the composites is reduced from -21.5 % to -9.1 %, with the mean of the composites reporting 4.32 g/t Au compared to 3.92 g/t Au in the block estimates.

SRK noted higher differences when compared to a moving window de-clustered average therefore completed a secondary check by completing a nearest neighbor estimate for all domains the results of the nearest neighbor (NN) reported a difference of +2.1 % and +2.0 %, for the low-grade and high-grade Providencia vein estimates (HG10 and HG20) respectively.

The global difference for all domains between the OK and NN returned averages grades of 11.4 g/t and 11.1 g/t respectively using a 0 g/t Au cut-off grade. SRK considers this validation to perform a reasonable correlation of grades.

SRK completed visual validation to identify the key differences between the estimates using swath plots. On investigation, SRK has attributed a portion of this to the influence of higher grades at depth where the data density is lower, or in areas of previously high-grade material which has already been mined. SRK considers the visual validation in these areas is reasonable and reflects the underlying data, but SRK recommend follow-up sampling in these areas, but has classified these areas as low confidence in the current estimates.

The comparison at El Silencio reports similar trends but the differences are slightly higher than reported at Providencia. The low-grade domain (HG10) estimated -5.7% lower in terms of the average grades. The higher-grade areas have reported higher grades compared to the composites in the order of +10.9 %, which increase to 17.3 % when compared to the declustered mean Typically, the higher-grade areas have been mined to date at El Silencio upon visual review which mitigates the risk of over-estimation to some extent, but SRK recommends continual work on understanding the nature of the of over-estimation to some extent, but SRK recommends continual work on understanding the nature of the high-grade domains at El Silencio, with additional sampling completed as required. Given the differences noted at El Silencio high-grade domain the use of high confidence Measured Mineral Resources has not been used.

At El Silencio within Veta Nationale (HG=30), SRK notes that the comparison of the capped composites shows the block estimates underestimating the gold values by approximately 0.6 g/t or a difference of 6.2 %. Significant amounts of the new channel sampling have occurred within this domain so when comparing the block grades to a de-clustered mean there is an increase in the differences to 10.4 %. SRK has not currently defined independent high- and low-grade domains within this vein but the presence of a bi-modal population should be monitored in 2020 as further infill drilling and channel sampling is completed. Veta Nationale (HG=30) is currently open at depth along a high-grade shoot and SRK implements a number of restrictions on the capped values in the second and third searches to limit potential over-estimation at depth. Infill drilling both in the high-grade shoot and around the edges of the shoot are required to improve the model, and therefore SRK has limited its extents during the classification process to reflect this uncertainty.

At Sandra K, the validation between the de-clustered composite mean and the block estimates are reasonable within HG10 and HG20 (Veta Techo), which form the majority of the main mining areas. The results in HG15 show lower grades in the block model than the composites (32.3%), which is a result of lower drilling density in low grade areas in the southern portion of the mine. The difference can be explained as a result of the clustering of the data and larger areas of low-grade material which have been sampled at a relatively wide drill spacing. It is SRK’s opinion that the weighted average for the block model is significantly reduced by the eastern fault block. This was confirmed via the swath analysis and visual confirmation Figure 14-21. While SRK notes that differences exist between the composite and the block estimates. SRK notes reasonable correlations in the other domains, with the highest differences noted between the de-clustered mean of domain HG=50 which is in the order of 17.9 % (higher grade), but when compared to the capped composites the value was 5.9 % lower in the block estimates. This domain has relatively small tonnages and therefore has limited impact on the estimates but will be monitored as further sampling is completed in 2020.

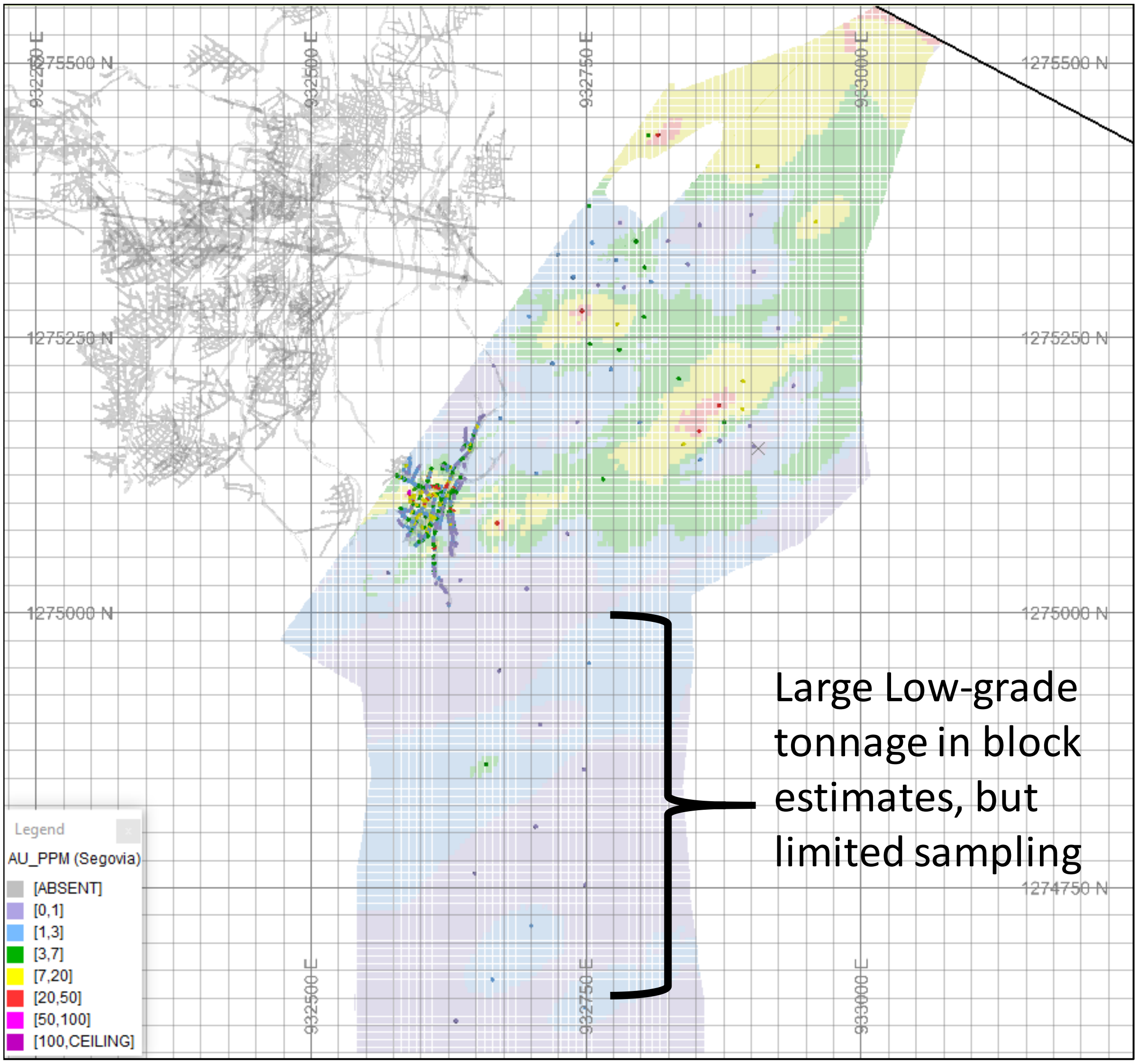
Table 14-11: Summary of Validation Statistics Composites Versus OK Estimates

Domain		Statistic	Mean Sample Data Au (g/t)	Declustered Sample Data Au (g/t)	BlockData1 (Tonnage Weighted) Au (g/t)	BlockData1 vs. Sample % Diff	BlockData vs Declustered % Diff
PV	10	Mean	5.17	5.00	3.92	-24.13	-21.46
		Std Dev	9.78	9.90	3.38		
		Variance	95.59	98.11	11.44		
		CV	1.89	1.98	0.86		
	20	Mean	37.36	35.78	38.10	1.99	6.48
		Std Dev	58.28	57.25	35.80		
		Variance	3396.44	3277.05	1281.84		
		CV	1.56	1.60	0.94		
	30	Mean	4.13	4.32	3.96	-4.16	-8.33
		Std Dev	6.16	6.80	2.33		
		Variance	38.00	46.28	5.41		
		CV	1.49	1.58	0.59		
	40	Mean	18.91	19.90	19.75	4.42	-0.75
		Std Dev	29.71	31.22	15.36		
		Variance	882.52	974.41	236.04		
		CV	1.57	1.57	0.78		
	60	Mean	6.31	5.77	6.27	-0.68	8.63
		Std Dev	10.24	9.35	3.38		
		Variance	104.83	87.50	11.42		
		CV	1.62	1.62	0.54		
	70	Mean	4.09	4.29	3.81	-6.87	-11.10
		Std Dev	3.83	3.86	1.51		
		Variance	14.70	14.91	2.28		
		CV	0.94	0.90	0.40		
	80	Mean	5.26	5.64	5.23	-0.51	-7.27
		Std Dev	4.65	4.65	2.79		
		Variance	21.65	21.62	7.77		
		CV	0.88	0.82	0.53		
	90	Mean	101.45	81.10	65.32	-35.61	-19.46
		Std Dev	106.70	103.70	54.03		
		Variance	11384.94	10753.40	2919.47		
		CV	1.05	1.28	0.83		
	100	Mean	NOT ESTIMATED				
		Std Dev					
		Variance					
		CV					
	110	Mean	2.22	2.49	2.58	16.36	3.76
		Std Dev	2.46	2.77	0.83		
		Variance	6.07	7.65	0.68		
		CV	1.11	1.11	0.32		
	120	Mean	18.89	18.18	19.21	1.67	5.61
		Std Dev	18.47	18.36	8.61		
		Variance	341.02	336.91	74.19		
		CV	0.98	1.01	0.45		

Domain		Statistic	Mean Sample Data Au (g/t)	Declustered Sample Data Au (g/t)	BlockData1 (Tonnage Weighted) Au (g/t)	BlockData1 vs. Sample % Diff	BlockData1 vs. Declustered % Diff
ES	10	Mean	3.09	3.16	2.98	-3.62	-5.71
		Std Dev	4.60	4.48	1.73		
		Variance	21.14	20.11	3.00		
		CV	1.49	1.42	0.58		
	20	Mean	19.88	18.81	22.06	10.97	17.27
		Std Dev	29.31	28.42	14.92		
		Variance	859.21	807.65	222.69		
		CV	1.47	1.51	0.68		
	30	Mean	9.96	10.42	9.34	-6.18	-10.38
		Std Dev	18.88	18.99	9.08		
		Variance	356.62	360.51	82.45		
		CV	1.90	1.82	0.97		
	40	Mean	15.26	12.02	12.00	-21.34	-0.10
		Std Dev	22.85	20.16	8.89		
		Variance	522.09	406.28	79.07		
		CV	1.50	1.68	0.74		
	50	Mean	3.07	3.05	2.67	-12.97	-12.66
		Std Dev	4.75	4.82	1.23		
		Variance	22.59	23.26	1.50		
		CV	1.55	1.58	0.46		
	60	Mean	9.37	7.71	5.31	-43.36	-31.10
		Std Dev	13.87	13.02	5.42		
		Variance	192.34	169.56	29.39		
		CV	1.48	1.69	1.02		
	70	Mean	10.98	11.08	12.35	12.48	11.46
		Std Dev	16.14	16.15	8.28		
		Variance	260.50	260.97	68.49		
		CV	1.47	1.46	0.67		
	80	Mean	5.93	5.73	6.04	1.93	5.44
		Std Dev	3.21	3.10	0.50		
		Variance	10.28	9.60	0.25		
		CV	0.54	0.54	0.08		
	90	Mean	4.84	4.77	5.09	5.17	6.72
		Std Dev	7.36	7.24	2.16		
		Variance	54.16	52.46	4.68		
		CV	1.52	1.52	0.43		
	110	Mean	5.06	5.20	4.22	-16.56	-18.72
		Std Dev	5.29	5.58	2.63		
		Variance	28.02	31.11	6.89		
		CV	1.05	1.07	0.62		
	130	Mean	10.76	9.88	9.63	-10.53	-2.51
		Std Dev	22.39	21.51	8.92		
		Variance	501.40	462.72	79.58		
		CV	2.08	2.18	0.93		
	140	Mean	15.08	13.02	10.61	-29.65	-18.52
		Std Dev	23.91	19.93	8.00		
		Variance	571.89	397.15	63.99		
		CV	1.59	1.53	0.75		

Domain		Statistic	Mean Sample Data Au (g/t)	Declustered Sample Data Au (g/t)	BlockData1 (Tonnage Weighted) Au (g/t)	BlockData1 vs. Sample % Diff	BlockData1 vs. Declustered % Diff
SK	10	Mean	4.11	3.48	3.22	-21.70	-7.48
		Std Dev	8.13	7.09	2.77		
		Variance	66.11	50.30	7.67		
		CV	1.98	2.04	0.86		
	15	Mean	8.15	5.00	3.38	-58.50	-32.28
		Std Dev	13.72	9.27	3.88		
		Variance	188.23	86.00	15.08		
		CV	1.68	1.86	1.15		
	20	Mean	14.20	12.75	13.47	-5.13	5.69
		Std Dev	20.01	18.66	8.63		
		Variance	400.44	348.24	74.49		
		CV	1.41	1.46	0.64		
	30	Mean	11.30	9.13	8.30	-26.54	-9.05
		Std Dev	18.06	15.54	6.34		
		Variance	326.04	241.45	40.22		
		CV	1.60	1.70	0.76		
	40	Mean	7.19	6.15	5.94	-17.38	-3.34
		Std Dev	12.69	11.00	4.82		
		Variance	160.99	120.95	23.27		
		CV	1.76	1.79	0.81		
	50	Mean	11.89	9.49	11.19	-5.94	17.88
		Std Dev	16.57	15.90	12.39		
		Variance	274.63	252.76	153.39		
		CV	1.39	1.68	1.11		
	60	Mean	7.80	7.80	7.62	-2.29	-2.29
		Std Dev	10.93	10.93	6.42		
		Variance	119.40	119.40	41.21		
		CV	1.40	1.40	0.84		

Source: SRK, 2020



Source: SRK, 2020

Figure 14-21: Examples of Areas with Low Drilling Density in Low Grade Areas at Sandra K

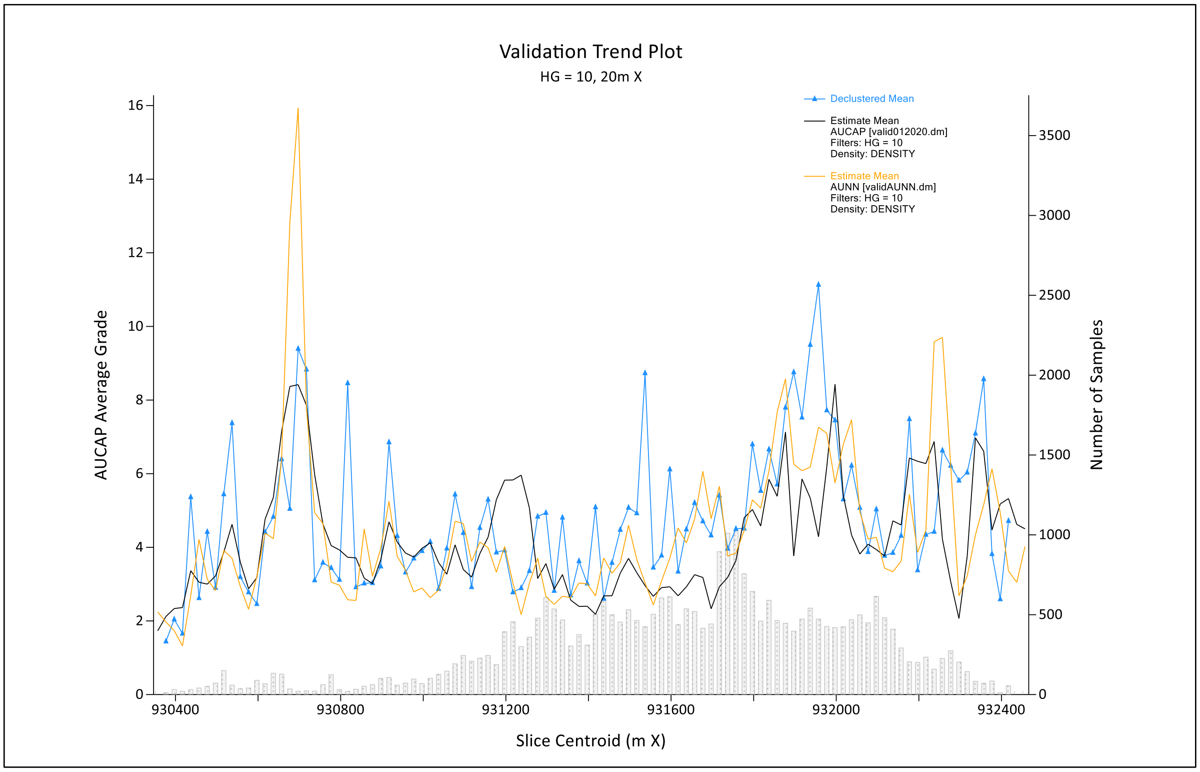
14.8.3 Swath Plots

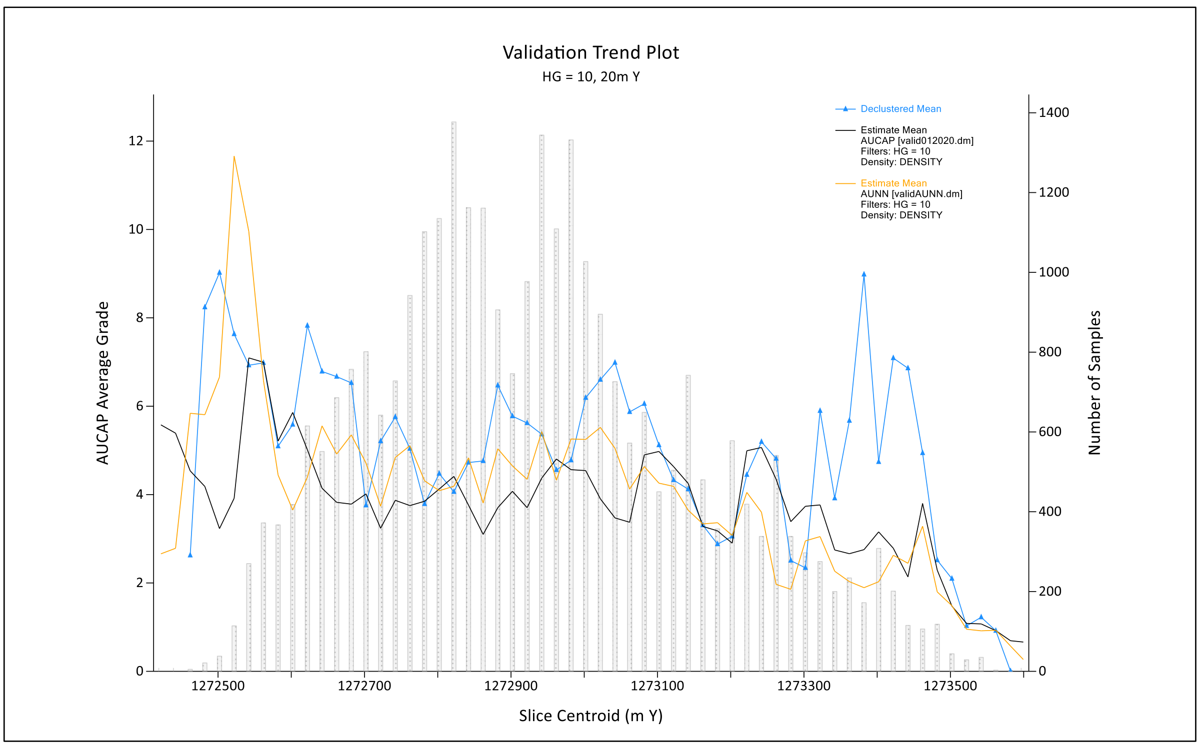
A more local comparison between the blocks and the composites is made using swath plots. The comparisons show both the varying means of the block and composites (declustered) along swaths or slices through the model, as well as the amount of data supporting the estimate in each swath. The swath plots show that there are no significant local biases in the estimation.

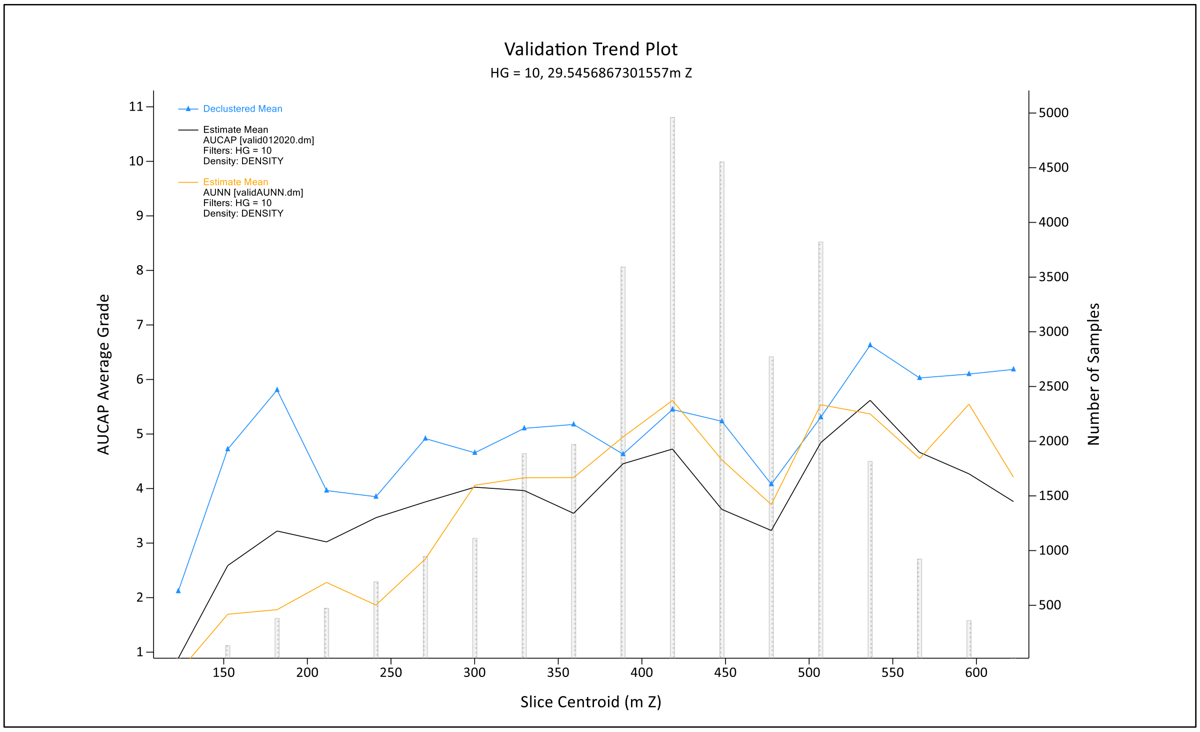
The areas of highest variability between the composites and estimates at Providencia (Figure 14-21), occur between 931400 E and 932200 E within the low-grade domain (HG=10), which relates to the areas surrounding the high-grade shoots. The comparison is also impacted by the clustering of the dataset namely within the historical data. SRK therefore also completed a comparison between the estimates and a nearest neighbor (NN) model. The result shows an improvement in the correlation between the NN and OK estimates. A comparison of the mean grades within the low-grade domain reported 3.92 g/t versus 4.27 g/t in the OK and NN respectively, which is a difference of 8.1%.

SRK also highlights that the current model assumed hard contacts, but it is possible that there is a degree of soft boundaries between the higher and lower grade mineralization which is not truly reflected in the current estimate. SRK recommends that GCG monitor this during mining and generate local scale mining block models to determine if there is a requirement for changes in the next Mineral Resource estimate methodology. To achieve this, SRK recommends that the mine has systems in place to generate routine updated grade control models using the latest sampling information.

A review of the low-grade domain at Providencia (Figure 14-21), highlights the lower grades when compared in the Z-elevation comparisons. The high-grade domain at Providencia shows a strong correlation between the underlying samples and the block estimates (Figure 14-23). SRK has presented the key swath plots of the main mineralized domains in Figure 14-22 to Figure 14-27

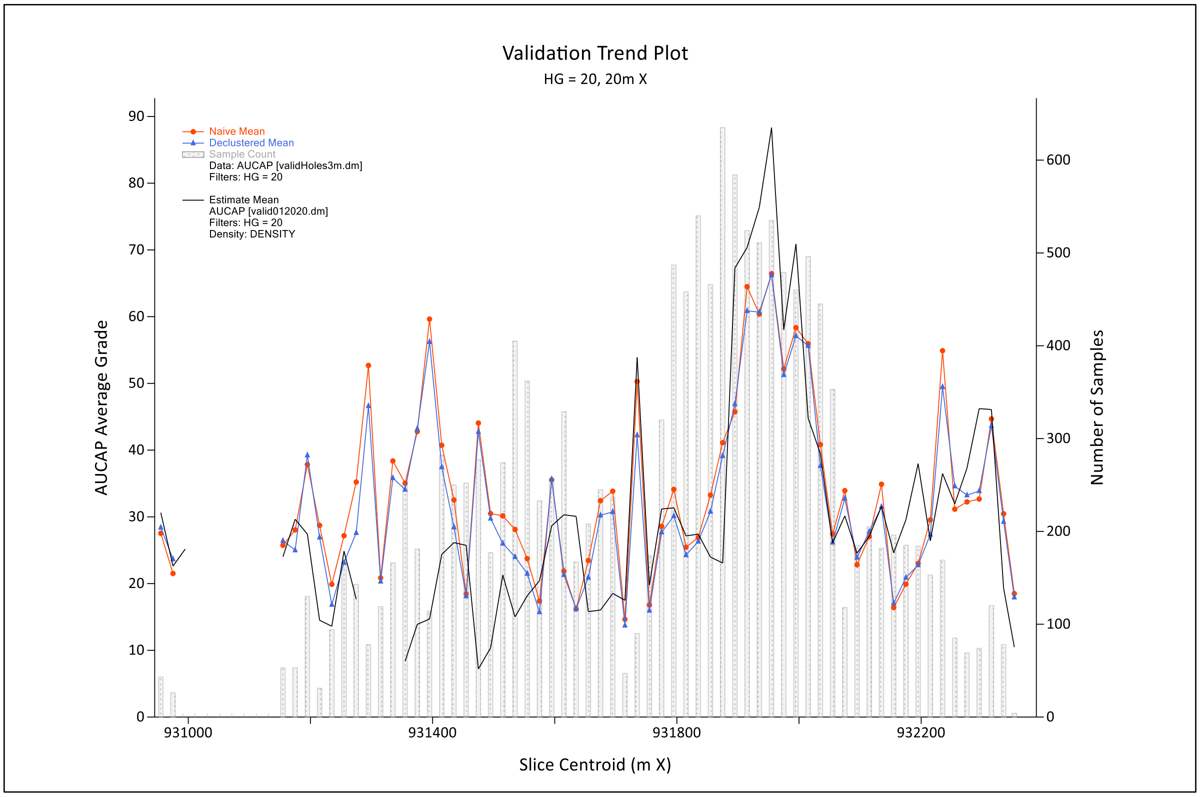

Validation Trend Plot
HG = 10, 20m X
Declustered Mean
Estimate Mean
AUCAP [valid012020.dm]
Filters: HG = 10
Density: DENSITY
Estimate Mean
AUNN [validAUNN.dm]
Filters: HG = 10
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m X)
930400
930800
931200
931600
932000
932400


Validation Trend Plot
HG = 10, 20m Y
Declustered Mean
Estimate Mean
AUCAP [valid012020.dm]
Filters: HG = 10
Density: DENSITY
Estimate Mean
AUNN [validAUNN.dm]
Filters: HG = 10
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m Y)
1272500
1272700
1272900
1273100
1273300
1273500



Source: SRK, 2020

Figure 14-22: Swath Analysis at Providencia HG=10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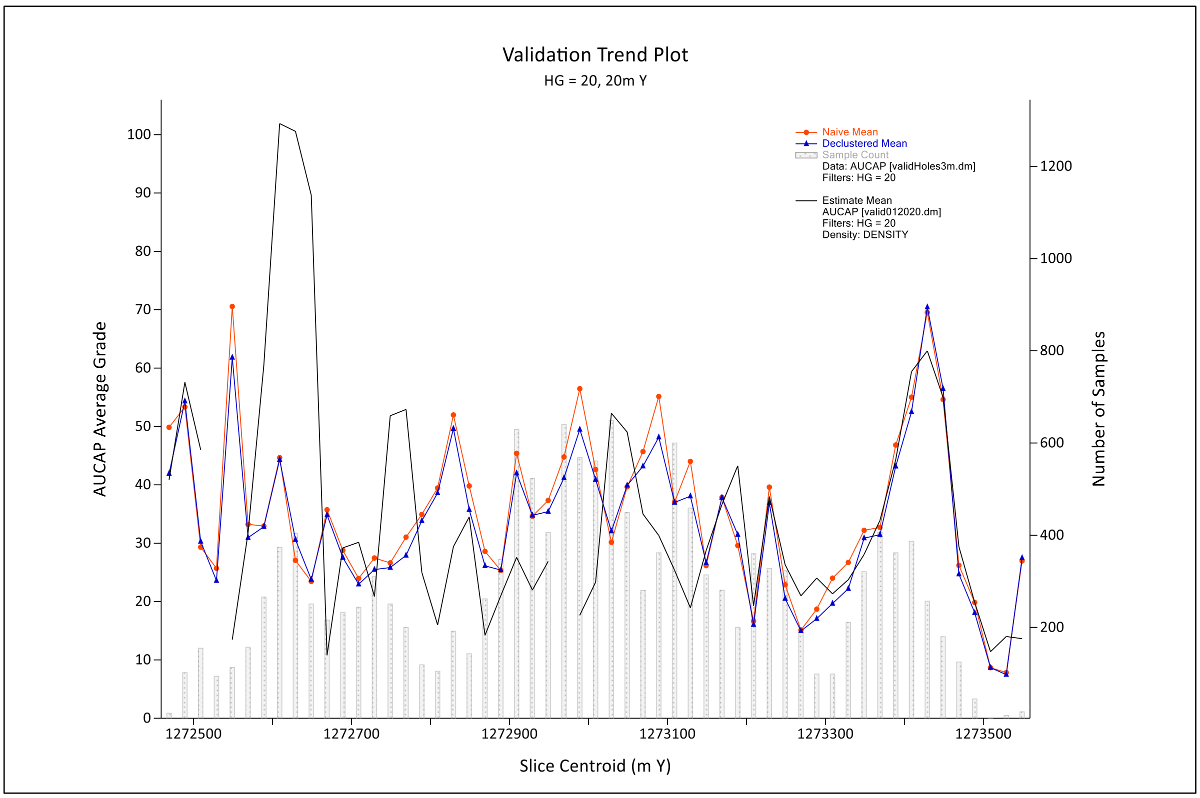
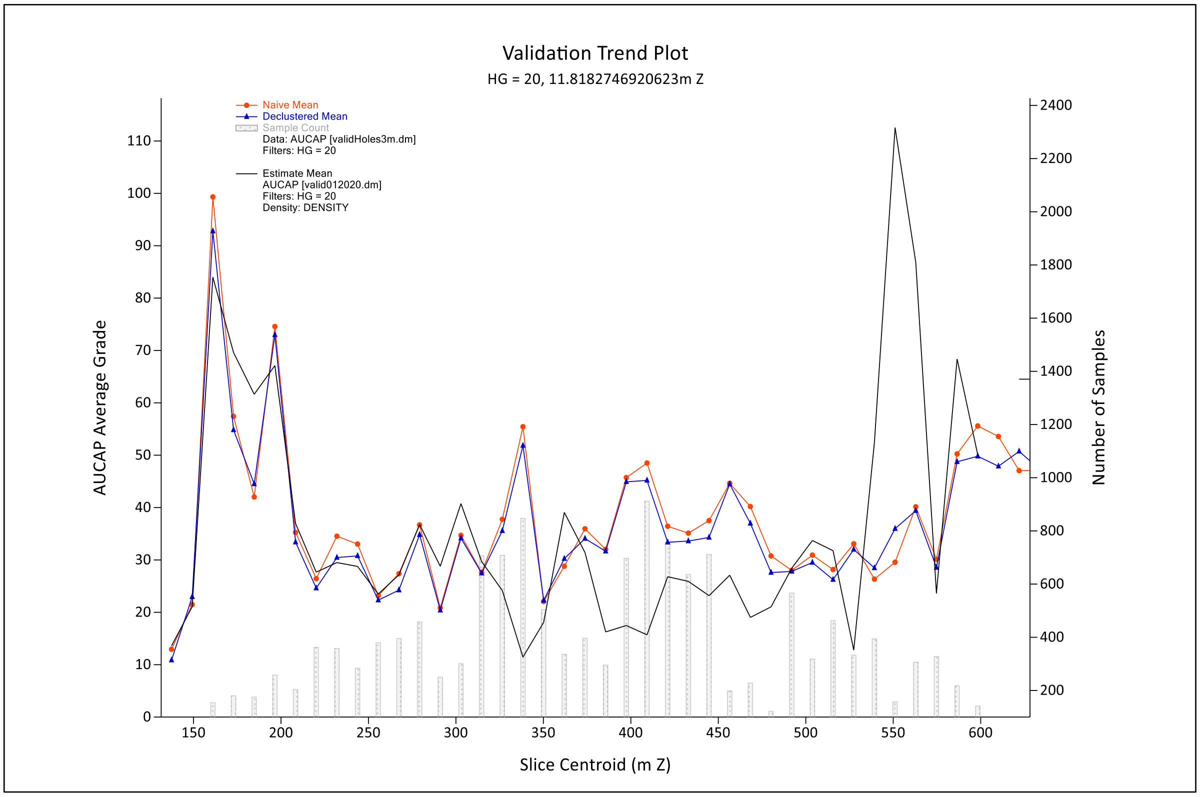
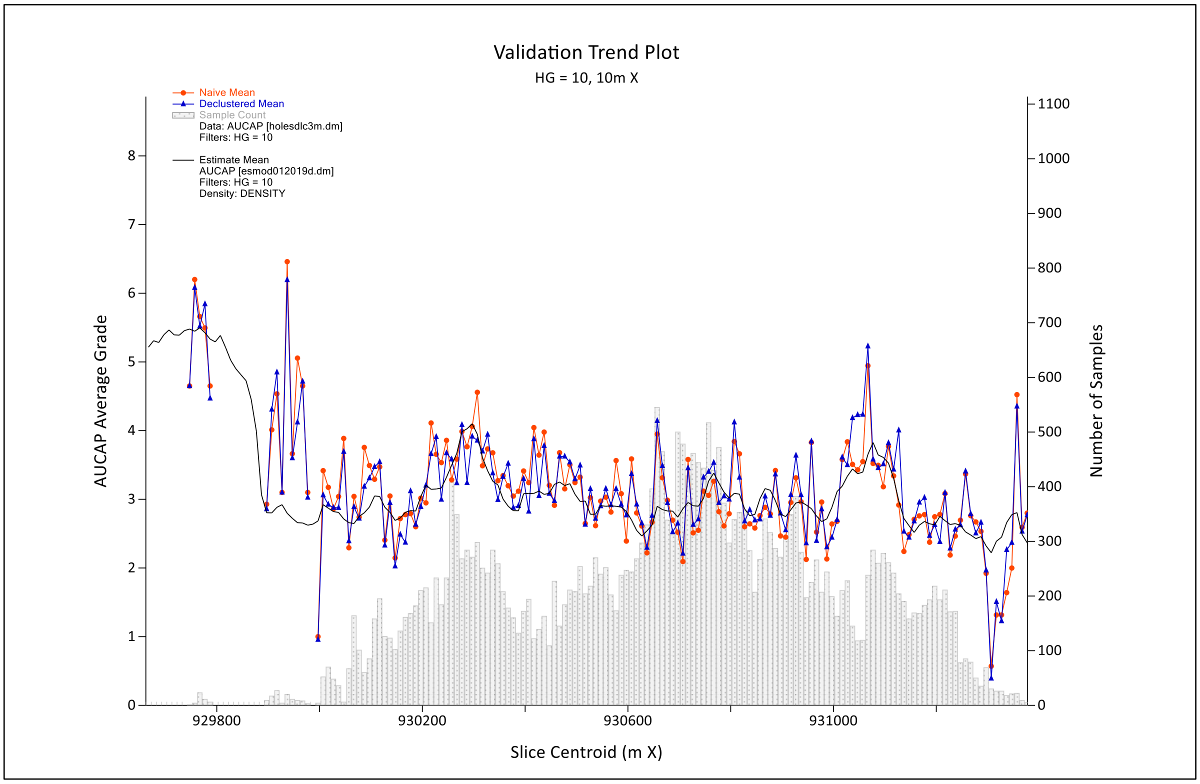
HG = 20, 20m X
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [validHoles3m.dm]
Filters: HG = 20
Estimate Mean
AUCAP [valid012020.dm]
Filters: HG = 20
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m X)

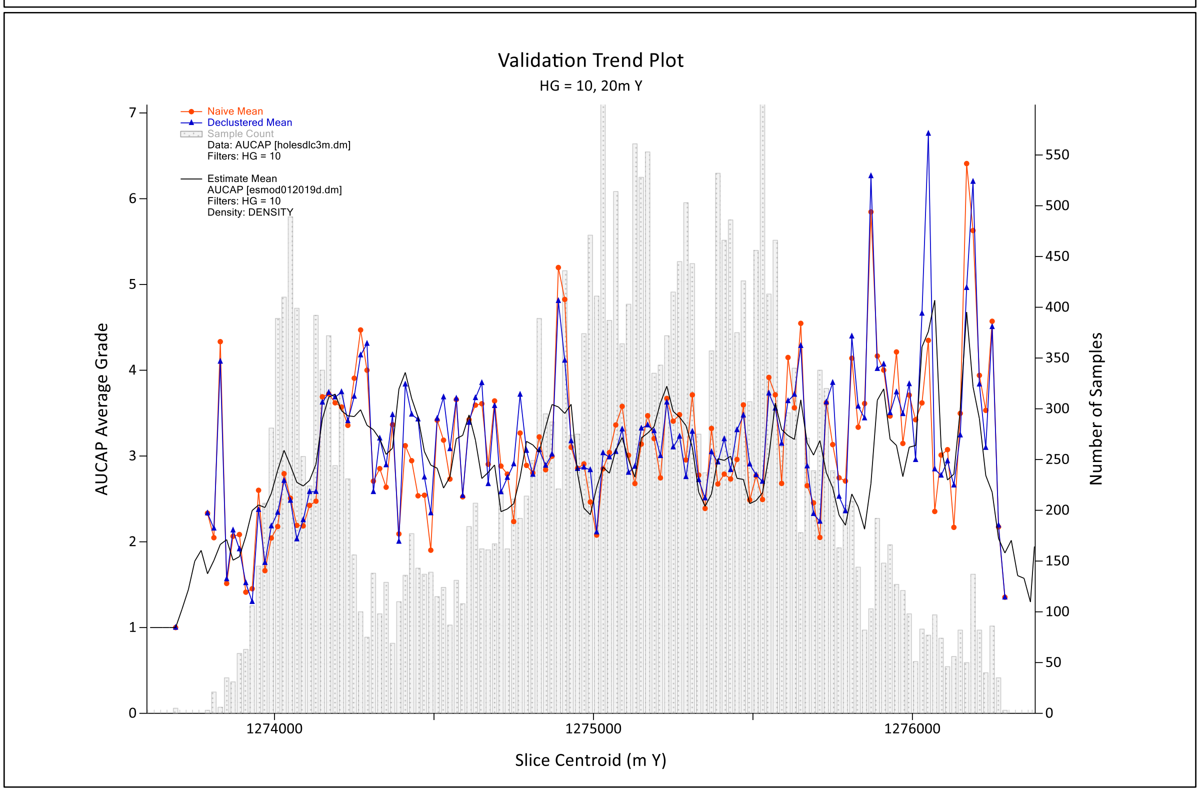

Validation Trend Plot
HG = 20, 20m Y
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [validHoles3m.dm]
Filters: HG = 20
Estimate Mean
AUCAP [valid012020.dm]
Filters: HG = 20
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m Y)

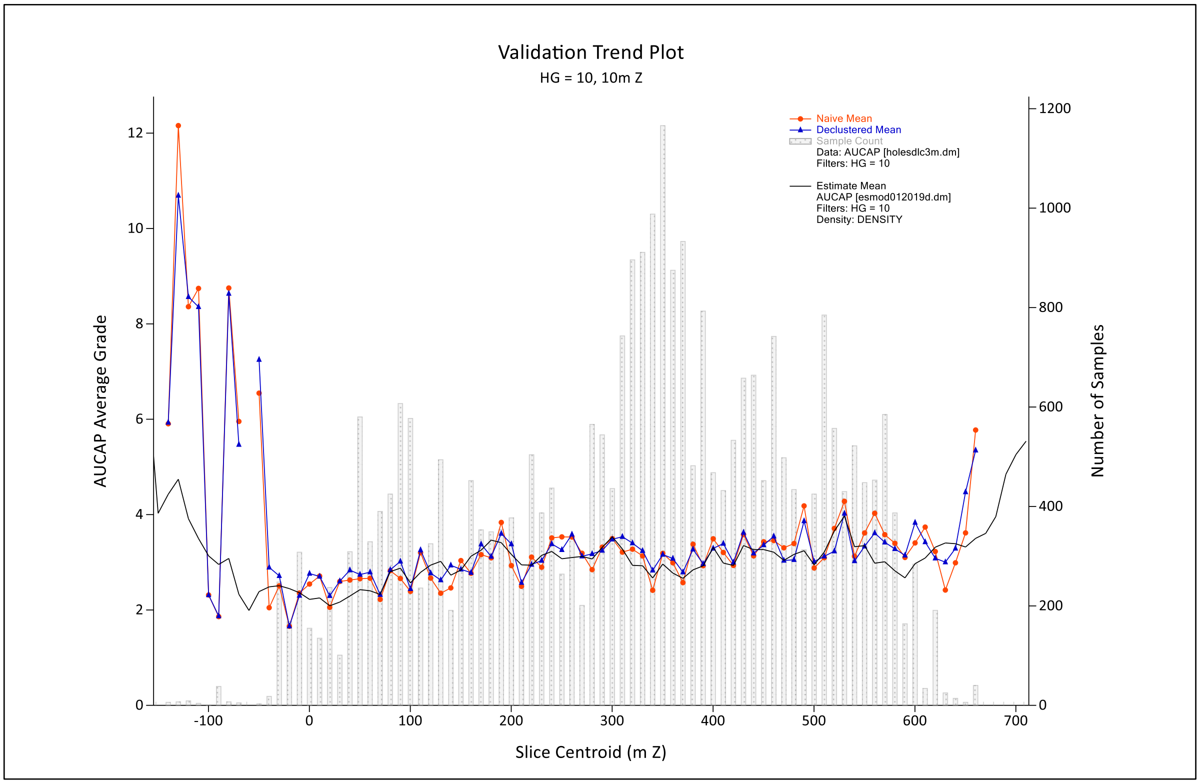


Source: SRK, 2020

Figure 14-23: Swath Analysis at Providencia HG=20

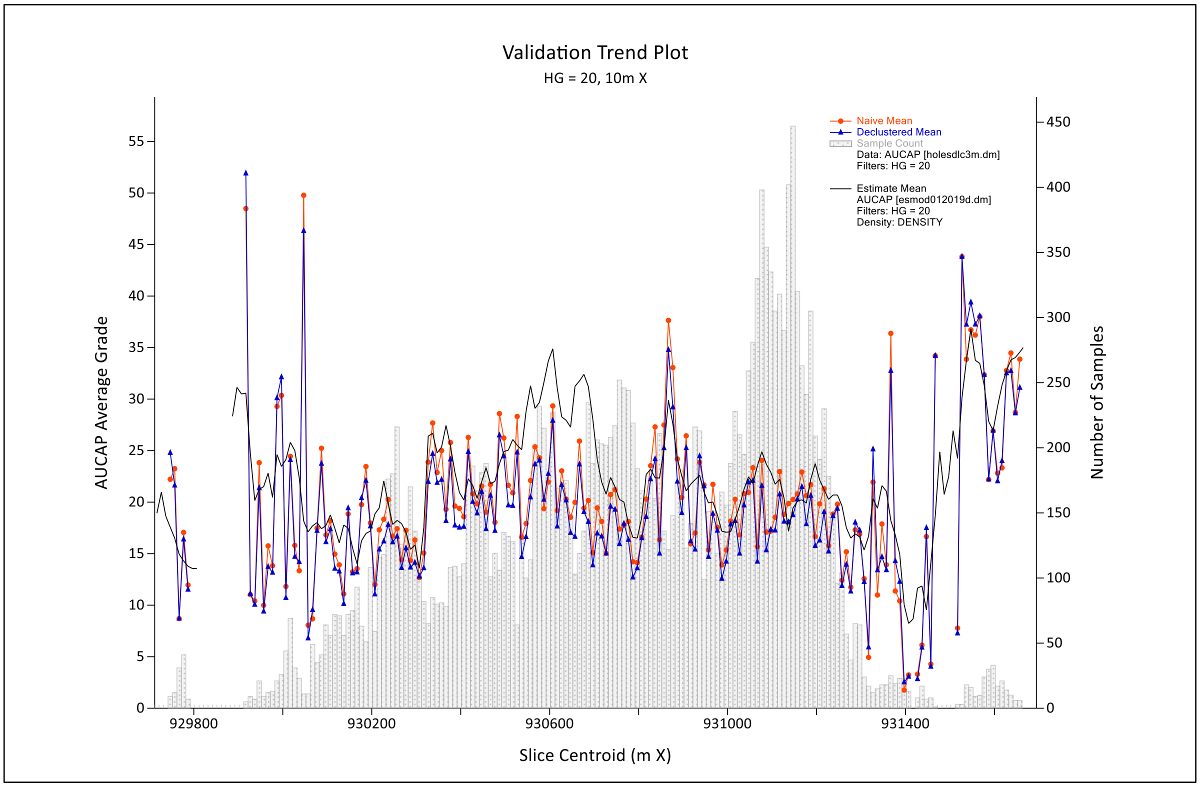

Validation Trend Plot
HG = 10, 10m X
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [holesdlc3m.dm]
Filters: HG = 10
Estimate Mean
AUCAP [esmod012019d.dm]
Filters: HG = 10
Density: DENSITY
AUCAP Average Grade
Number of Samples
929800
930200
930600
931000
Slice Centroid (m X)

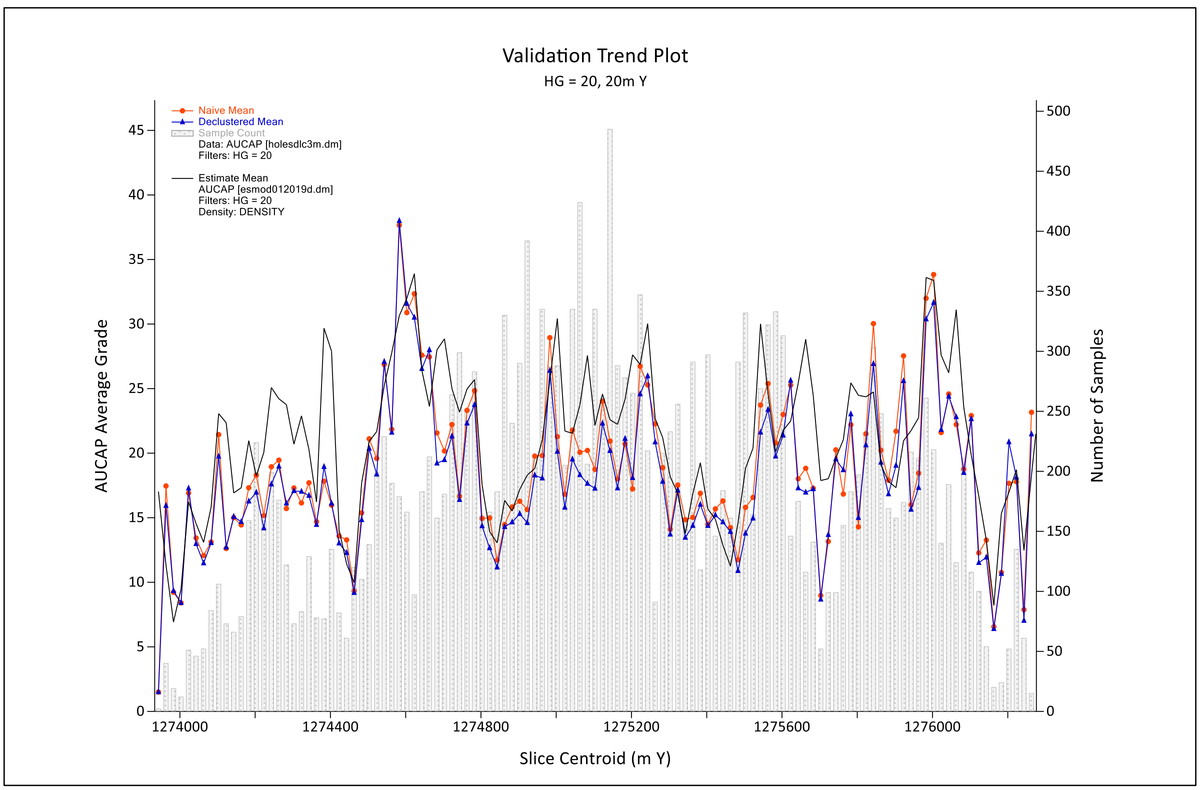

Validation Trend Plot
HG = 10, 20m Y
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [holesdlc3m.dm]
Filters: HG = 10
Estimate Mean
AUCAP [esmod012019d.dm]
Filters: HG = 10
Density: DENSITY
AUCAP Average Grade
Number of Samples
1274000
1275000
1276000
Slice Centroid (m Y)

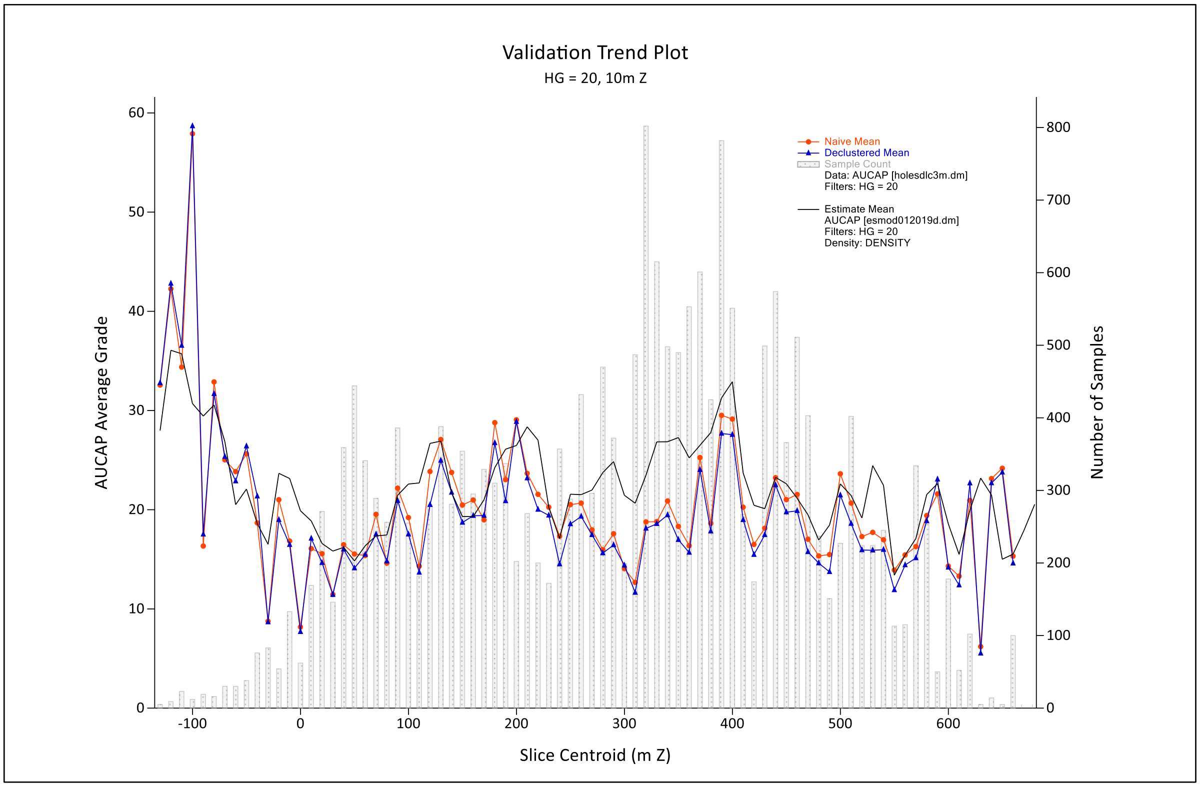


Source: SRK, 2020

Figure 14-24: Example of Swath Analysis at El Silencio HG=10

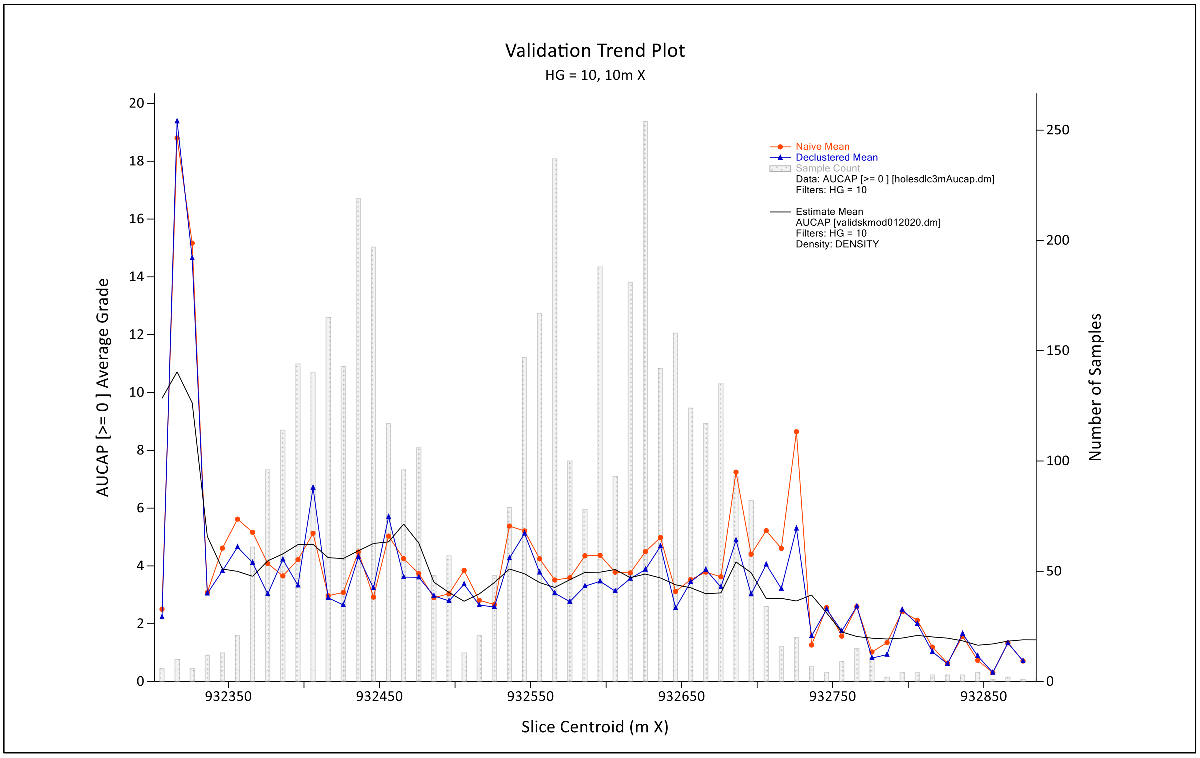

Validation Trend Plot
HG = 20, 10m X
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [holesdlc3m.dm]
Filters: HG = 20
Estimate Mean
AUCAP [esmod012019d.dm]
Filters: HG = 20
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m X)

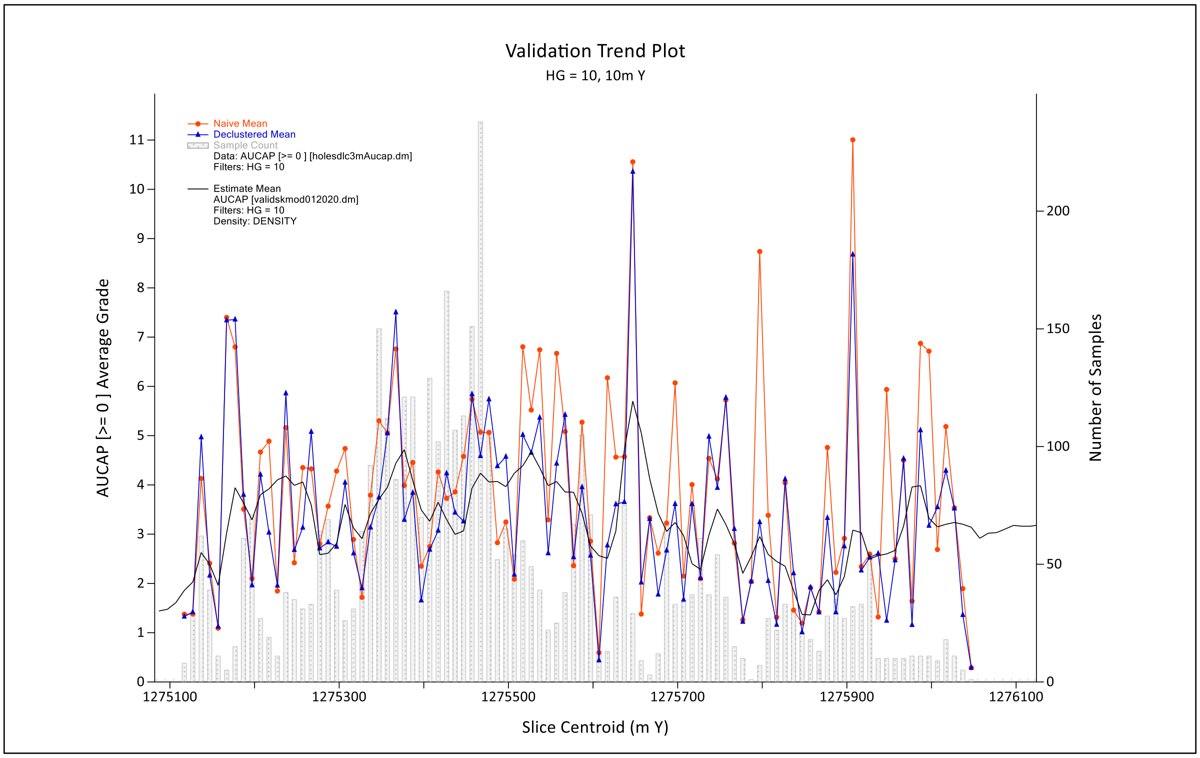

Validation Trend Plot
HG = 20, 20m Y
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [holesdlc3m.dm]
Filters: HG = 20
Estimate Mean
AUCAP [esmod012019d.dm]
Filters: HG = 20
Density: DENSITY
AUCAP Average Grade
Number of Samples
Slice Centroid (m Y)

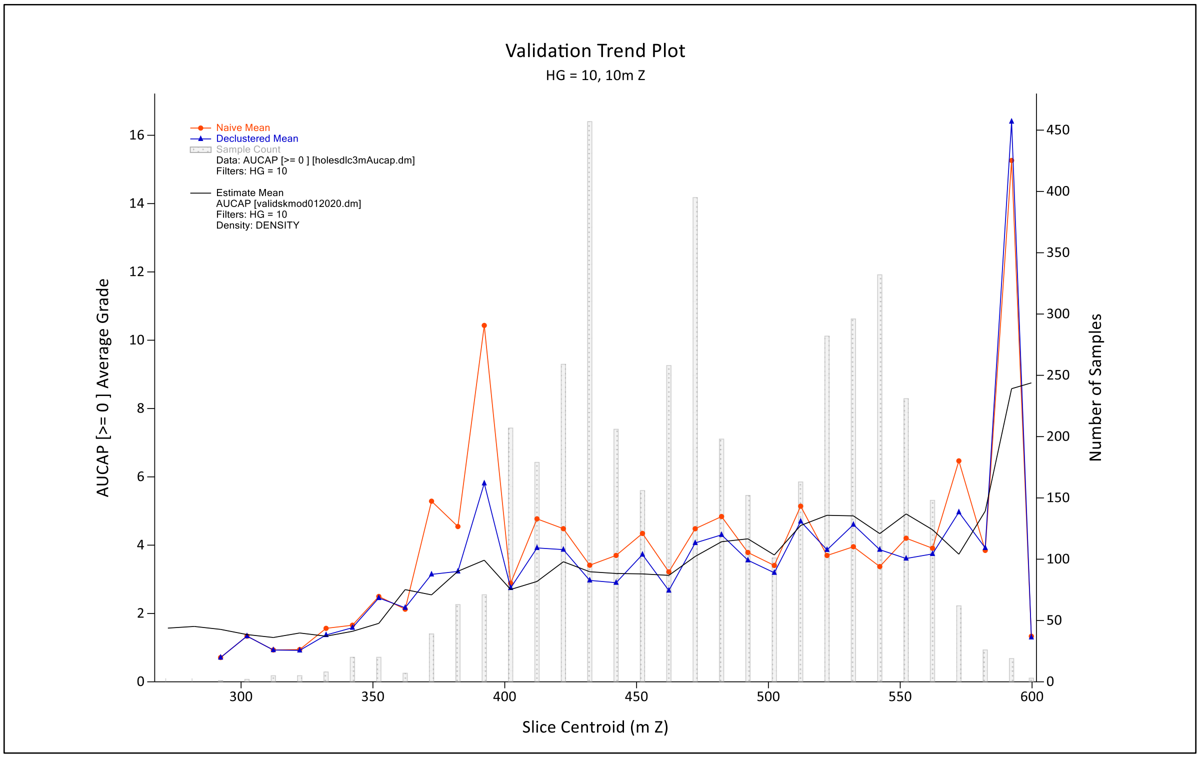


Source: SRK, 2020

Figure 14-25: Example of Swath Analysis at El Silencio HG=20

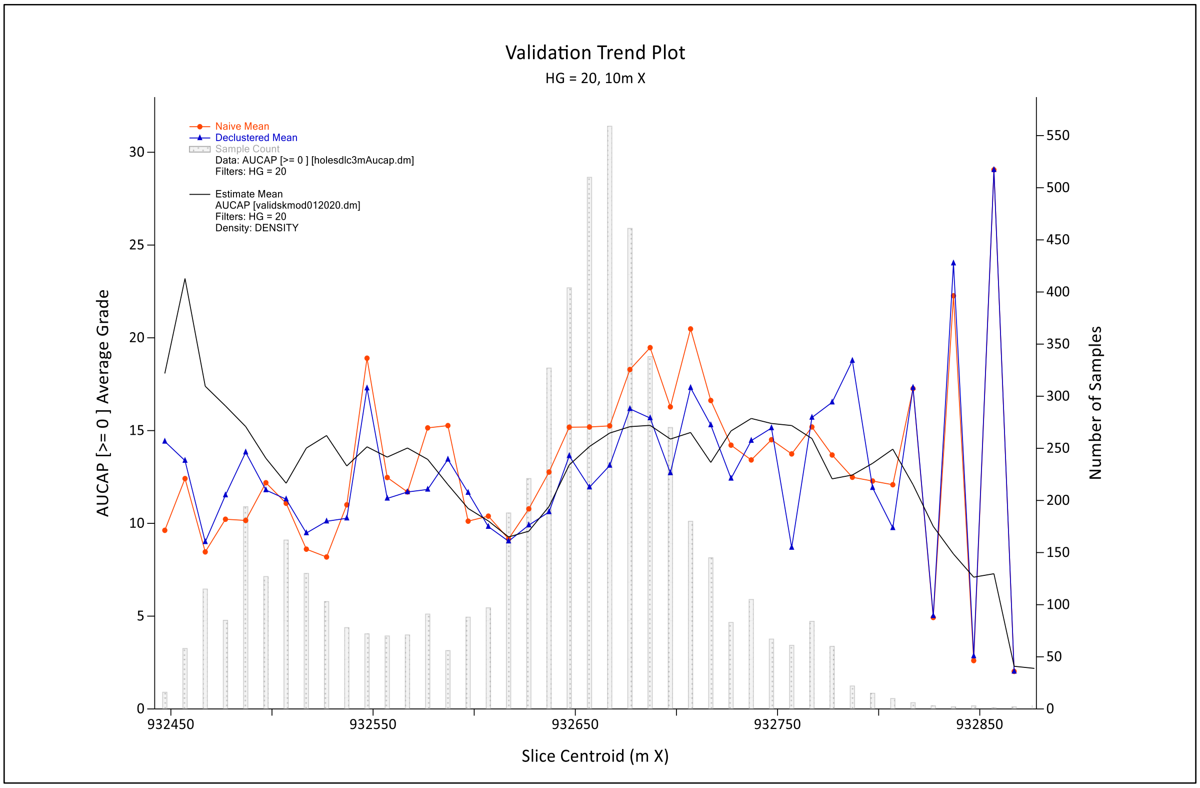

Validation Trend Plot
HG = 10, 10m X
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [>= 0] [holesdlc3mAucap.dm]
Filters: HG = 10
Estimate Mean
AUCAP [validskmod012020.dm]
Filters: HG = 10
Density: DENSITY
AUCAP [>= 0] Average Grade
Number of Samples
Slice Centroid (m X)

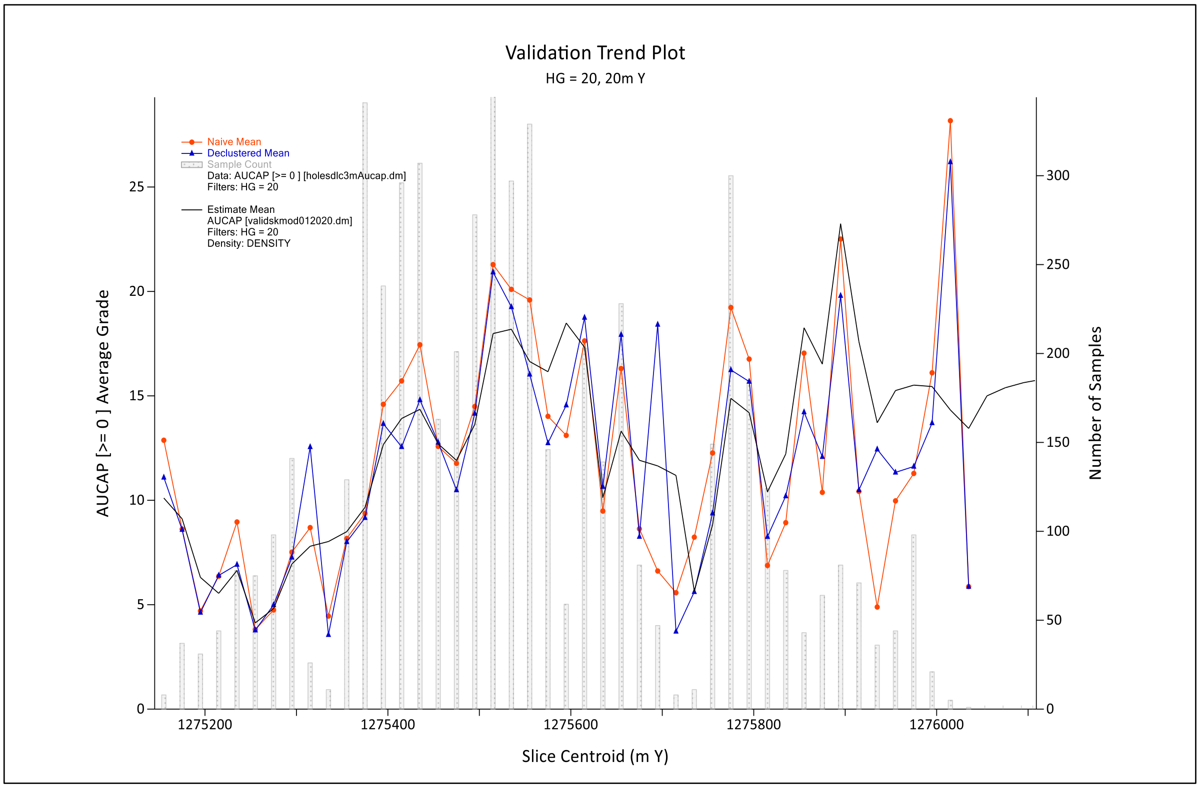

Validation Trend Plot
HG = 10, 10m Y
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [>= 0] [holesdlc3mAucap.dm]
Filters: HG = 10
Estimate Mean
AUCAP [validskmod012020.dm]
Filters: HG = 10
Density: DENSITY
AUCAP [>= 0] Average Grade
Number of Samples
Slice Centroid (m Y)

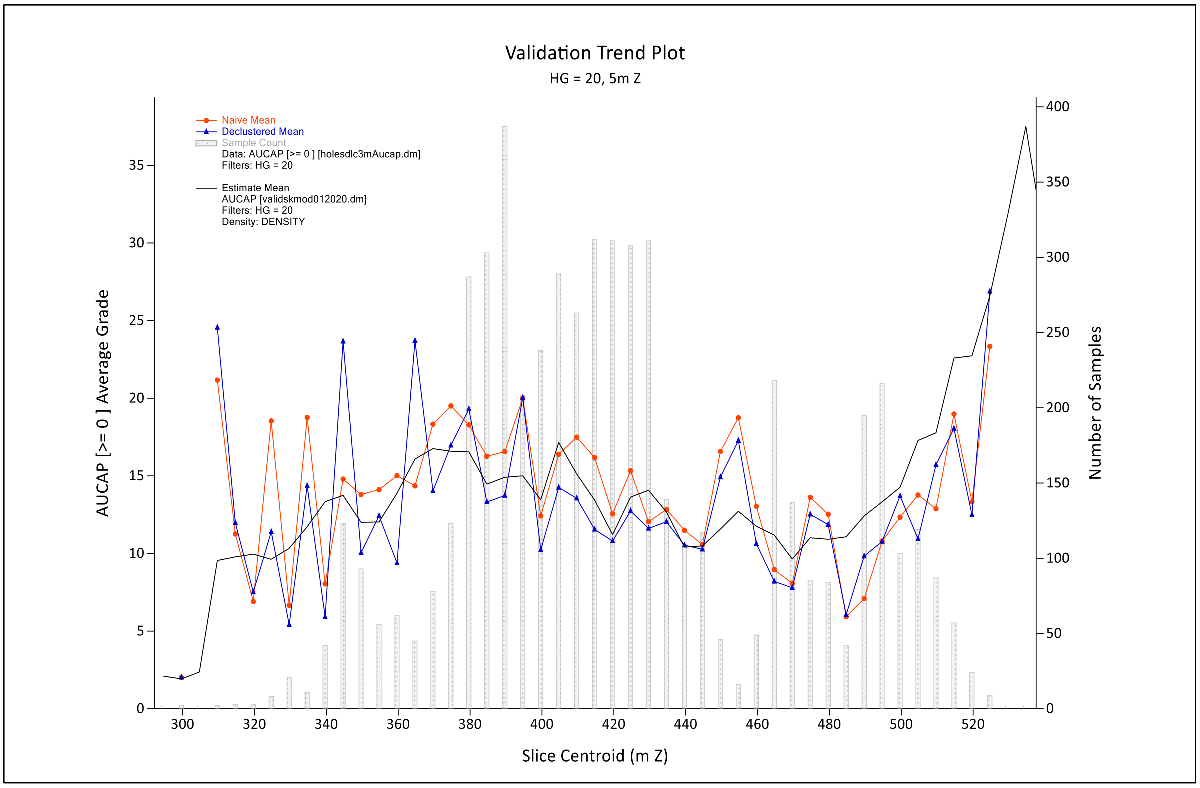


SRK, 2020

Figure 14-26: Example of SWATH Analysis Completed at Sandra K (HG=10)


Validation Trend Plot
HG = 20, 10m X
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [>= 0] [holesdlc3mAucap.dm]
Filters: HG = 20
Estimate Mean
AUCAP [validskmod012020.dm]
Filters: HG = 20
Density: DENSITY
AUCAP [>= 0] Average Grade
Number of Samples
Slice Centroid (m X)
932450
932550
932650
932750
932850


Validation Trend Plot
HG = 20, 20m Y
Naive Mean
Declustered Mean
Sample Count
Data: AUCAP [>= 0] [holesdlc3mAucap.dm]
Filters: HG = 20
Estimate Mean
AUCAP [validskmod012020.dm]
Filters: HG = 20
Density: DENSITY
AUCAP [>= 0] Average Grade
Number of Samples
Slice Centroid (m Y)
1275200
1275400
1275600
1275800
1276000



SRK, 2020

Figure 14-27: Example of SWATH Analysis Completed at Sandra K (HG=20)

14.9 Resource Classification

Tonnage and grade estimates for the Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).

Data quality, drillhole spacing and the interpreted continuity of grades controlled by the veins and high-grade shoots allowed SRK to classify portions of the veins in the Measured, Indicated and Inferred Mineral Resources categories.

SRK's classification system remains similar to that used in the December 31, 2018 Mineral Resource model with some adjustments based on increased knowledge of the deposit from on-going mine planning support.

Measured: Measured Resources are limited to the Providencia vein on the basis of insufficient confidence in the geological and grade continuity and 3D geometry of the mineralized structures at the other deposits. The Measured Mineral Resources have only been defined within areas of dense sampling, within a 15 to 30 m halo (related to the second variogram structure) of close spaced underground channel sampling. SRK downgraded the Mineral Resources in the upper portions of the mine on the eastern edges back to Indicated. SRK only applied Measured within the areas of mining developed by GCG, or the last level of mining in the west, where confidence in the accuracy of the depletion remains high.

Indicated: SRK delineated Indicated Mineral Resources at Providencia, Sandra K and Carla using the same process as the previous Mineral Resource estimate. Indicated Mineral Resources were reported at the following approximate data spacing, as function of the confidence in the grade estimates and modeled variogram ranges:

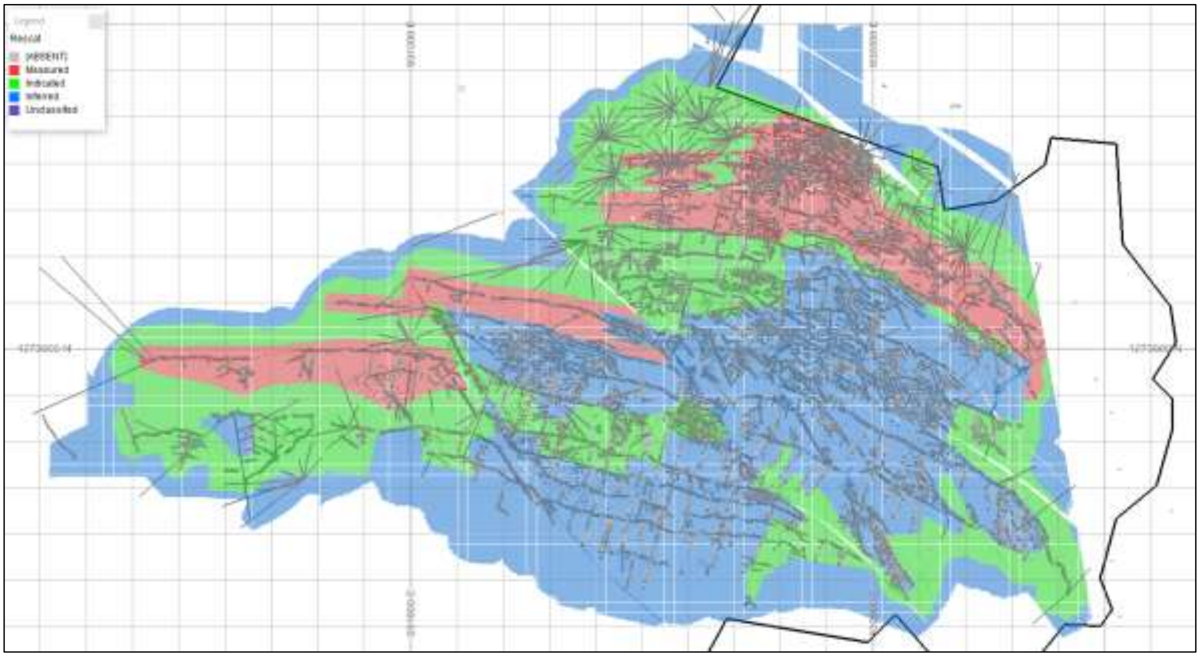
- At Providencia, range from 25 to 55 m (XY) from the nearest drillhole
- At El Silencio, range from 25 to 55 m (XY) from the nearest drillhole
- At Sandra K, a range of 25 m (XY) from the nearest drillhole
- At Carla, within a 25 to 50 m (XY) halo from the nearest drillhole

The main change in the classification occurs at El Silencio; where previously all material was classified as Inferred due to a lack of verification sampling or confidence in the depletion/pillar outlines. SRK limited the Indicated Mineral Resources to the lower portion of the mine (previously flooded), where the depletion limits are considered more accurate due to a lack of mining activity over prolonged periods of time by Contractor mining.

Inferred: In general, Inferred Mineral Resources were limited to within areas of reasonable grade estimate quality and sufficient geological confidence, and are extended no further than 100 m from peripheral drilling on the basis of modeled variogram ranges. The classified Mineral Resource is sub-divided into material within the remaining pillars and the long-term resource material (LTR) outside of the previously mined areas, with the classification for the pillars considered separately, given the uncertainty of the extent of pillar mining currently being undertaken by Company-organized cooperative miners. The following guidelines apply to SRK's pillar classification:

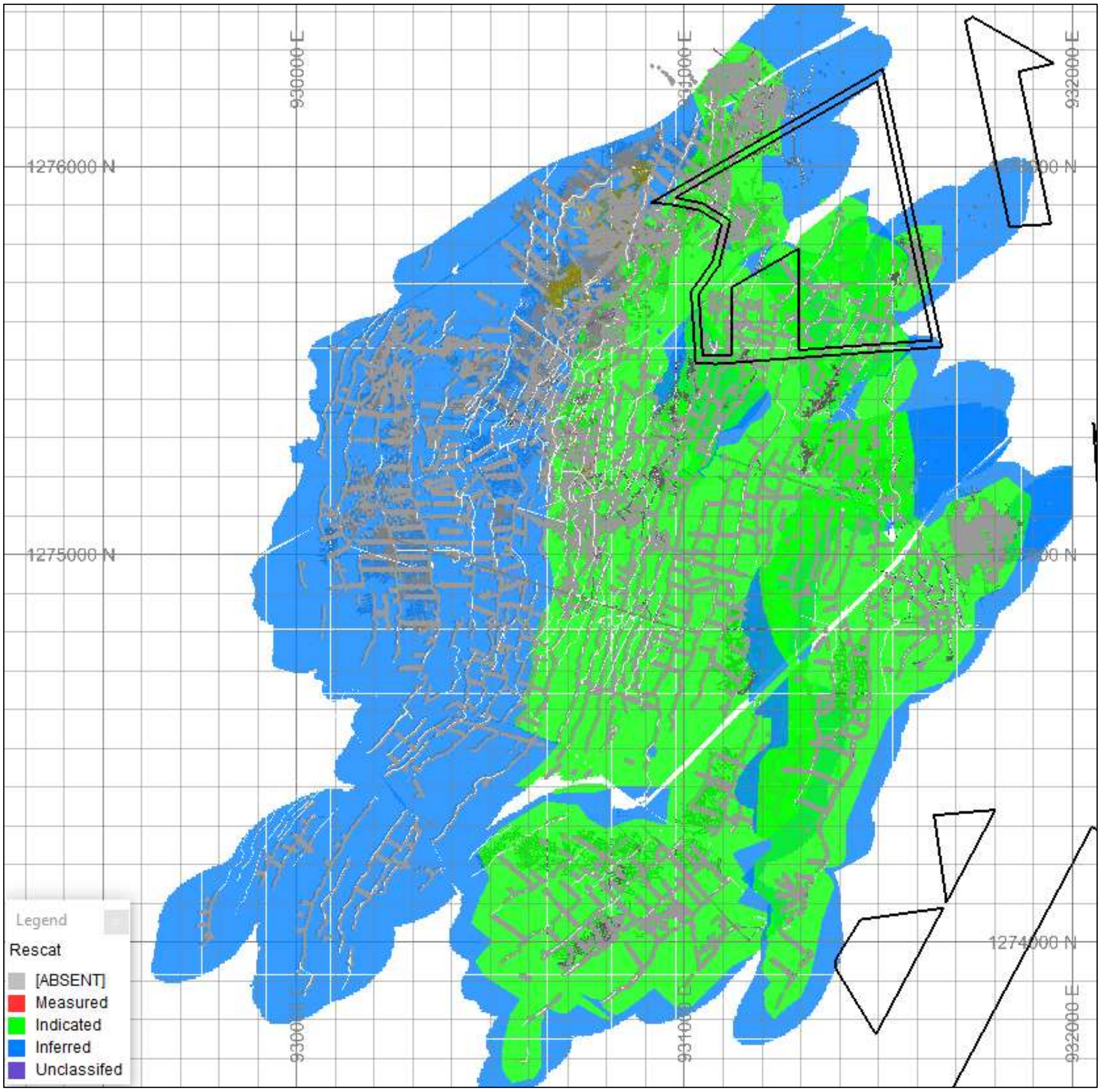
- Indicated Pillar Mineral Resources were limited to areas where a sufficient level of verification channel sampling has been completed by GCG, and there is a relatively high confidence in the accuracy of the pillar surveys. For Providencia, these areas largely represent the pillars where the contractor miners have had limited access. At Sandra K, while the accuracy in the pillars remain relatively unknown, SRK notes that within the economic portions of the model the depletion surveys indicate that certain areas (north of 1275350) have undergone only limited mining activity with the current mining development, and thus SRK considers these areas within the pillar resource to be in the Indicated category. At El Silencio, the Indicated portion of the Mineral Resource were limited to below an elevation of 320 m or Level 29, below in which GCG has conducted more recent surveys to increase the confidence.

A summary of the classification within Providencia, El Silencio and Sandra K are shown in Figure 14-28 to Figure 14-30.



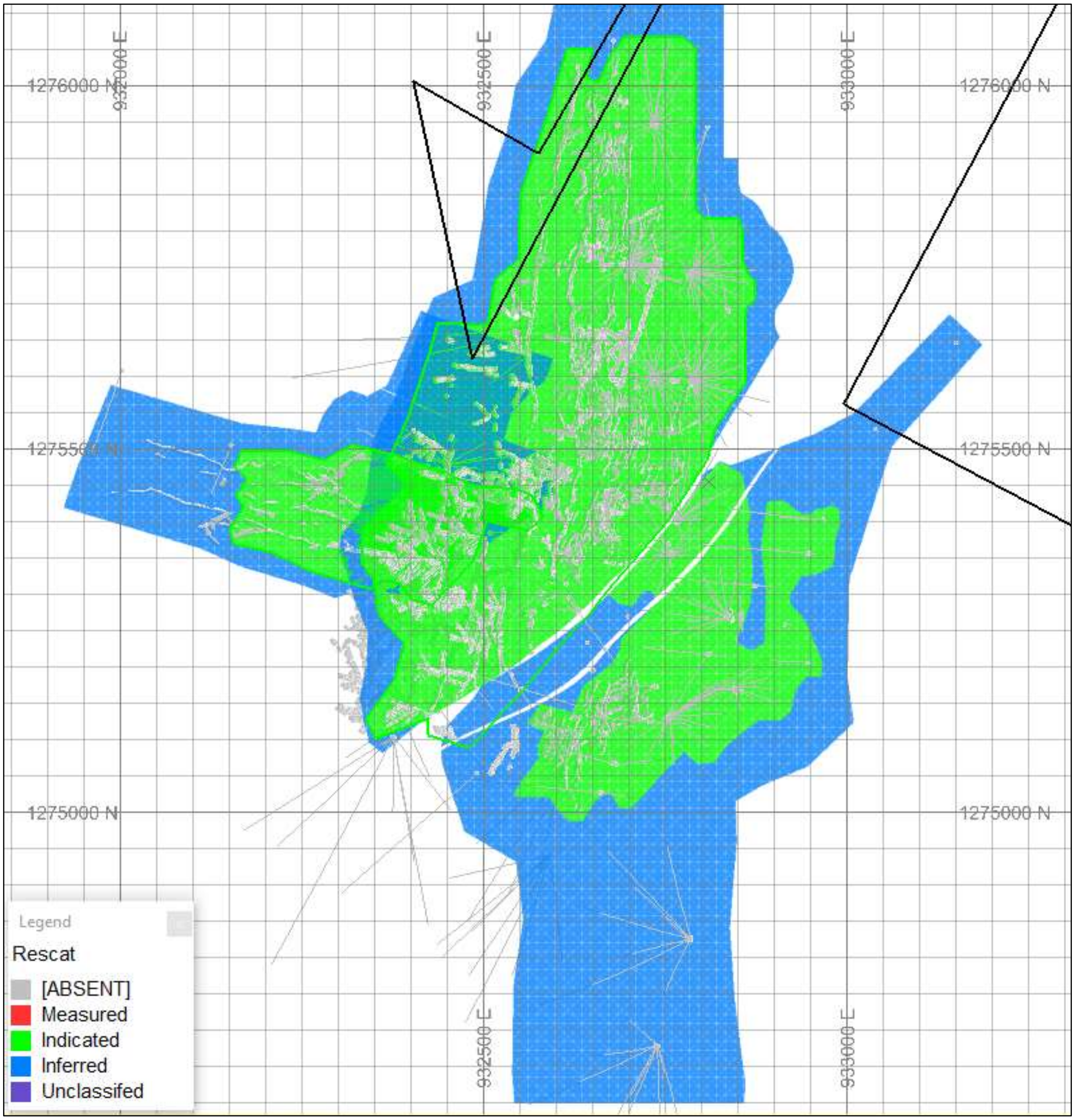
Source: SRK, 2020
Note: Inferred Classification in Historic Mining Areas

Figure 14-28: Plan View Showing Classification at Providencia Example



Source: SRK, 2020

Figure 14-29: Plan View Showing Classification at El Silencio Showing Main Veins

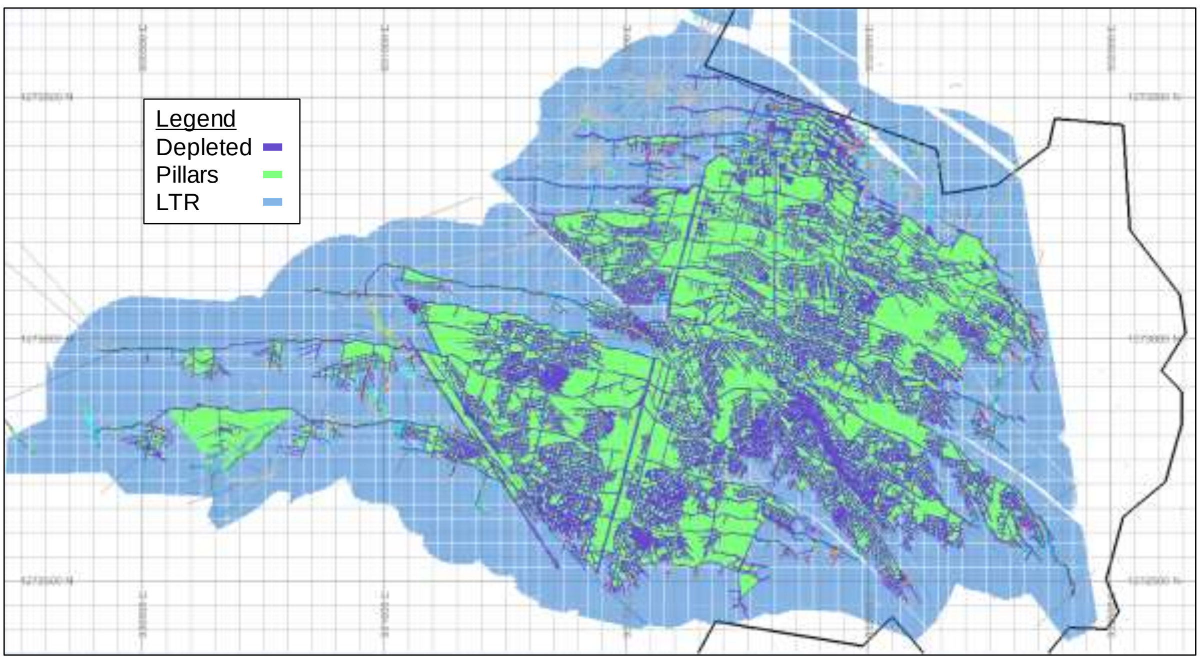


Source: SRK, 2020

Figure 14-30: Plan View Showing Classification at Sandra K Showing Veta Techo and Chumeca

14.10 Mining Depletion

Providencia, El Silencio and Sandra K have been actively mined over a significant time period. To define the Mineral Resource, SRK has created a series of 3D wireframes to represent the depletion for all three veins. In order to complete this task SRK has used a combination of AutoCAD™ polylines (.dwg, .dxf format) and Vulcan™ (.00t) files supplied by the Company to generate polylines of the outlines of the known mining. The process is manual and labor intensive and requires to initially generate an outline of the end of stoping and development by creating a trace around the edge of the current mining in two-dimension (2D). To speed up the process SRK has imported the outlines into Leapfrog® and created a buffer around the known depletion to generate a 2D limit (5 m was selected), which was then converted to a single polyline for the outer edge of the shape to form the barrier. This process may result in over depletion at the edges. Once the outline has been established the next phase of the process was to generate a separate set of polylines to represent the pillars at each of the mines. The AutoCAD™ file formed the basis for this process but required SRK to convert all the polylines into valid closed polygons and therefore manual digitization was required to trace the remaining pillars in places (namely the lower levels of the mine). An example of the resultant wireframes used is shown in Figure 14-31.



Source: SRK, 2020

Figure 14-31: Example of Depletion Limits (Providencia), with Depletion Shown in Purple and Remaining Pillars in Green

Once SRK completed the two sets of polylines for each vein the depletion was assigned via projecting the polylines through the block models and coding blocks directly as follows:

- DEPL: Blocks lying with the edge of development wireframe limits
- PILLAR: Blocks lying within the defined pillars

The final depletion code was assigned by a logical expression for blocks where DEPL=1 and PILLAR=0. Each model was then visually validated to ensure accuracy of the assignment of codes. SRK is satisfied that the level of accuracy is reasonable for the definition of the current Mineral Resource. SRK cautions that in areas of the historical mines the accuracy of the Pillars survey in the AutoCAD™ files may be questioned due to on-going mining by the various contractors, and therefore SRK has assigned the classification accordingly in areas of potential inaccuracy.

14.11 Mineral Resource Statement

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

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge".

The "reasonable prospects for eventual economic extraction" requirement generally imply that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate CoG taking into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that portions of the Providencia, Sandra K, El Silencio and Carla veins to be amenable for underground mining.

To determine the potential for economic extraction SRK has used the following key assumptions for the costing, and a metallurgical recovery of 90.5% Au, has been assumed based on the current performance of the operating plant.

SRK has defined the proportions of Mineral Resource to have potential for economic extraction for the Mineral Resource based on a single CoG. An investigation into CoGs was completed by SRK as part of the previous (2017) Preliminary Economic Assessment. Based on the US$1,400/oz gold price and an average mining cost SRK has limited the Resource based on a CoG of 3.0 g/t Au over a (minimum mining) width of 1 m. Based on on-going assistance with mine planning SRK considers this cut-off to remain appropriate.

The classified Mineral Resource is sub-divided into material within the remaining pillars (pillars), and the long-term resource material (LTR) outside of the previously mined areas, with the classification for the pillars considered separately given the uncertainty of the extent of remnant pillar mining currently being undertaken by Company-organized co-operative miners.

The Mineral Resource statement for the Project is shown in Table 14-12.

Table 14-12: SRK Mineral Resource Statement for the Segovia and Carla Projects, Dated December 31, 2019 – SRK Consulting (U.S.), Inc.

Project	Deposit	Type	Measured			Indicated			Measured and Indicated			Inferred		
			Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal
			(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)
Segovia	Providencia	LTR	118	15.9	60	296	13.0	124	414	13.8	184	315	8.3	84
		Pillars	108	26.1	90	116	12.1	45	224	18.8	135	389	20	249
	Sandra K	LTR				385	10.3	128	385	10.3	128	315	8.6	87
		Pillars				152	10.9	53	152	10.9	53	0	6.8	0
	El Silencio	LTR				824	11.5	304	824	11.5	304	1,736	8.3	462
		Pillars				1,459	10.7	504	1,459	10.7	504	395	12.1	154
	Verticales	LTR										771	7.1	176
	Subtotal Segovia Project	**LTR**	**118**	**15.9**	**60**	**1,504**	**11.5**	**555**	**1,623**	**11.8**	**616**	**3,136**	**8.0**	**809**
		Pillars	**108**	**26.1**	**90**	**1,727**	**10.8**	**602**	**1,835**	**11.7**	**692**	**784**	**16.0**	**403**
Carla	**Subtotal Carla Project**	LTR				154	9.7	48	154	9.7	48	178	9.3	53

Source: SRK, 2020

The Mineral Resources are reported at an in situ cut-off grade of 3.0 g/t Au over a 1.0 m mining width, which has been derived using a gold price of US$1,400 per ounce and technical and economic parameters for the existing underground mining and conventional gold mineralized material processing using a gold recovery of 90.5%. Each of the mining areas have been sub-divided into Pillar areas (“Pillars”), which represent the areas within the current mining development, and long-term resources (“LTR”), which lie along strike or down dip of the current mining development. Mineral Resources are reported inclusive of the Mineral Reserve. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. All composites have been capped where appropriate

14.12 Mineral Resource Sensitivity

14.12.1 Grade Tonnage Sensitivity

The results of grade sensitivity analysis completed per vein are tabulated in Table 14-13 through Table 14-17.

This is to show the continuity of the grade estimates at various cut-off increments in each of the vein sub areas and the sensitivity of the Mineral Resource to changes in CoG. Note SRK has highlighted in yellow the defined Mineral Resources and all other tonnages and grades stated in these figures and tables should not however be interpreted as Mineral Resources.

The reader is cautioned that the figures in this Table should not be misconstrued with the Mineral Resource Statement. The figures are only presented to show the sensitivity of the block model estimates to the selection of CoG. All figures are rounded to reflect the relative accuracy of the estimates. The PEA is preliminary in nature in that it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Table 14-13: Block Model Quantities and Grade Estimates, Providencia Deposit at Various Cut-off Grades

	Grade - Tonnage Table, Providencia LTR						Grade - Tonnage Table, Providencia Pillar					
Cut-off	Measured and Indicated			Inferred			Measured and Indicated			Inferred		
Grade	Quantity	Gold		Quantity	Gold		Quantity	Gold		Quantity	Gold	
Au (g/t)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)
1.00	261	16.45	138	432	18.11	252	480	12.23	189	392	7.14	90
2.00	252	17.01	138	420	18.59	251	454	12.82	187	375	7.39	89
2.50	240	17.73	137	407	19.11	250	437	13.25	186	342	7.89	87
3.00	224	18.85	135	389	19.88	249	414	13.82	184	315	8.33	84
3.50	208	20.04	134	366	20.93	246	377	14.85	180	272	9.14	80
4.00	191	21.43	132	344	22.01	244	342	16.00	176	238	9.90	76
4.50	178	22.73	130	324	23.09	241	315	17.00	172	201	10.97	71
5.00	168	23.83	128	307	24.14	238	294	17.89	169	178	11.78	67
5.50	155	25.33	126	289	25.34	235	270	18.99	165	147	13.15	62
6.00	147	26.46	125	272	26.56	232	249	20.13	161	130	14.13	59
7.00	128	29.31	121	240	29.24	225	209	22.71	153	112	15.34	55
8.00	114	31.98	118	215	31.71	219	181	25.10	146	96	16.69	51
9.00	102	34.73	114	196	33.94	214	157	27.58	140	79	18.37	47
10.00	95	36.60	112	181	36.00	210	137	30.23	133	62	20.83	42

Source: SRK, 2020

Table 14-14: Block Model Quantities and Grade Estimates, El Silencio Deposit at Various Cut-off Grades

Cut-off Grade	Grade - Tonnage Table, El Silencio LTR						Grade - Tonnage Table, El Silencio Pillar					
	Measured and Indicated			Inferred			Measured and Indicated			Inferred		
	Quantity	Gold		Quantity	Gold		Quantity	Gold		Quantity	Gold	
Au (g/t)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)
1.00	909	10.62	310	2,257	6.91	502	1,828	9.04	531	496	10.16	162
2.00	897	10.73	310	2,221	7.00	499	1,737	9.43	526	487	10.32	162
2.50	863	11.06	307	1,927	7.72	478	1,609	10.00	517	439	11.19	158
3.00	824	11.46	304	1,736	8.28	462	1,459	10.74	504	395	12.13	154
3.50	779	11.93	299	1,559	8.85	444	1,310	11.59	488	353	13.18	150
4.00	710	12.73	291	1,372	9.54	421	1,155	12.64	469	313	14.41	145
4.50	649	13.53	282	1,194	10.34	397	1,030	13.66	452	277	15.71	140
5.00	593	14.35	274	1,027	11.24	371	939	14.53	439	250	16.89	136
5.50	547	15.12	266	879	12.26	347	867	15.30	426	233	17.76	133
6.00	515	15.70	260	759	13.29	324	813	15.94	416	219	18.49	130
6.50	485	16.29	254	619	14.88	296	765	16.54	407	205	19.37	128
7.00	449	17.04	246	546	15.97	281	713	17.26	396	195	20.02	125
8.00	402	18.17	235	480	17.15	265	638	18.41	377	178	21.17	121
9.00	352	19.56	221	418	18.43	248	576	19.48	361	168	21.93	119
10.00	319	20.58	211	351	20.14	227	528	20.39	346	155	23.01	115

Source: SRK, 2020

Table 14-15: Block Model Quantities and Grade Estimates, Sandra K Deposit at Various Cut-off Grades

Cut-off Grade	Measured and Indicated			Inferred			Measured and Indicated			Inferred		
	Quantity	Gold		Quantity	Gold		Quantity	Gold		Quantity	Gold	
Au (g/t)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)	Tonnes (kt)	Au (g/t)	Metal (koz)
1.00	446	9.23	132	341	8.09	89	168	10.08	54	0	4.85	0
2.00	426	9.57	131	330	8.29	88	164	10.25	54	0	4.85	0
2.50	405	9.95	130	327	8.34	88	158	10.58	54	0	5.20	0
3.00	385	10.33	128	315	8.57	87	152	10.87	53	0	6.80	0
3.50	367	10.68	126	302	8.79	85	143	11.36	52	0	7.87	0
4.00	348	11.05	124	284	9.11	83	132	11.96	51	0	7.99	0
4.50	327	11.49	121	266	9.45	81	125	12.45	50	0	9.45	0
5.00	311	11.85	118	246	9.81	78	116	13.00	49	0	10.08	0
5.50	296	12.18	116	224	10.27	74	108	13.63	47	0	10.08	0
6.00	279	12.56	113	207	10.65	71	100	14.24	46	0	10.08	0
6.50	264	12.93	110	191	11.01	68	92	14.93	44	0	10.08	0
7.00	249	13.31	106	177	11.34	65	86	15.47	43	0	10.08	0
8.00	222	14.01	100	146	12.18	57	76	16.57	40	0	11.03	0
9.00	194	14.79	92	97	14.00	44	67	17.63	38	0	11.93	0
10.00	168	15.61	84	72	15.60	36	60	18.57	36	0	13.85	0

Source: SRK, 2020

Table 14-16: Block Model Quantities and Grade Estimates, Las Verticales Deposit at Various Cut-off Grades

Grade - Tonnage Table, Las Verticales 31 July 2013						
Cut-off Grade	Measured and Indicated			Inferred		
	Quantity	Gold		Quantity	Gold	
AUM1 (g/t Au over 1 m)	(kt)	Grade (g/t)	Metal (koz)	(kt)	Grade (g/t)	Metal (koz)
1.0	-	-	-	1,700	5	275
1.5	-	-	-	1,344	5.7	248
2.0	-	-	-	1,137	6.2	226
2.5	-	-	-	962	6.6	203
3.0	-	-	-	771	7.1	176
3.5	-	-	-	656	7.4	156
4.0	-	-	-	554	7.6	135
4.5	-	-	-	473	7.8	119
5.0	-	-	-	406	8	105

Source: SRK, 2019

Table 14-17: Block Model Quantities and Grade Estimates, Carla Deposit at Various Cut-off Grades

Grade - Tonnage Table, Carla 31 July 2013						
Cut-off Grade	Measured and Indicated			Inferred		
	Quantity	Gold		Quantity	Gold	
AUM1 (g/t Au over 1 m)	(kt)	Grade (g/t)	Metal (koz)	(kt)	Grade (g/t)	Metal (koz)
1.0	253	6.6	54	297	6.7	64
1.5	229	7.2	53	266	7.3	62
2.0	197	8	51	235	7.9	60
2.5	171	8.9	49	207	8.6	57
3.0	154	9.7	48	178	9.3	53
3.5	146	10.1	47	152	10.1	50
4.0	130	10.9	45	136	10.8	47
4.5	123	11.2	44	121	11.4	44
5.0	113	11.7	43	107	12.1	42

Source: SRK, 2019

14.12.2 Comparisons to Previous Estimate

In comparison to the previous (December 31, 2018) Mineral Resource estimate for the Segovia Project at a cut-off grade of 3 g/t Au over a width of 1 m, a summary of the key changes is shown in Table 14-18. The most notable changes include:

<u>Measured and Indicated (M&I) Comparison</u>

- Minor increase in M&I at the three mines +29 thousand ounces (Koz) (which represents a balance of replacing the Mineral Resources mined during 2019)
- Largest gains are at Sandra K with a net increase of +39 Koz, with additional increases at El Silencio of +24 Koz

<u>Inferred Comparison</u>

- Overall increase in the Inferred Mineral Resources of +107 Koz
- Largest gains are at El Silencio with a net increase of +68 Koz, mainly in Veta National at depth
- Minor Increase in Providencia Inferred +26 Koz
- Minor Increases at Sandra K, primarily due to removal of hard contacts which was influenced by new drilling (+14 Koz)

Table 14-18: Mineral Resource Comparison to Previous Estimates Roll Forward Numbers for Three Mines

	Project	Deposit	Type	Measured			Indicated			Measured and Indicated			Inferred		
				Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal	Tonnes	Grade	Au Metal
				(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)	(kt)	(g/t)	(koz)
31 December, 2019	Segovia	Providencia	LTR	118	15.9	60	296	13.0	124	414	13.8	184	315	8.3	84
			Pillars	108	26.1	90	116	12.1	45	224	18.8	135	389	20	249
		Sandra K	LTR				385	10.3	128	385	10.3	128	315	8.6	87
			Pillars				152	10.9	53	152	10.9	53			
		El Silencio	LTR				824	11.5	304	824	11.5	304	1,736	8.3	462
			Pillars				1,459	10.7	504	1,459	10.7	504	395	12.1	154
		Verticales	LTR										771	7.1	176
		Subtotal Segovia Project	*LTR*	*118*	*15.9*	*60*	*1,504*	*11.5*	*555*	*1,623*	*11.8*	*616*	*3,136*	*8.0*	*809*
			Pillars	*108*	*26.1*	*90*	*1,727*	*10.8*	*602*	*1,835*	*11.7*	*692*	*784*	*16.0*	*403*
	Carla	*Subtotal Carla Project*	*LTR*				*154*	*9.7*	*48*	*154*	*9.7*	*48*	*178*	*9.3*	*53*
31 December, 2018	Segovia	Providencia	LTR	110	16.7	59	299	16.6	159	409	16.6	218	192	10.1	63
			Pillars	108	23.5	81	107	15.8	54	215	19.7	136	380	19.9	244
		Sandra K	LTR				329	9.8	103	329	9.8	103	321	7.1	73
			Pillars				105	11.5	39	105	11.5	39	0	6.7	0
		El Silencio	LTR				853	11.1	304	853	11.1	304	1,276	9.1	374
			Pillars				1,444	10.3	480	1,444	10.3	480	442	12.3	174
		Verticales	LTR										771	7.1	176
		Subtotal Segovia Project	*LTR*	*110*	*16.7*	*59*	*1,480*	*11.9*	*566*	*1,590*	*12.2*	*625*	*2,561*	*8.3*	*686*
			Pillars	*108*	*23.5*	*81*	*1,655*	*10.8*	*573*	*1,763*	*11.5*	*654*	*823*	*15.8*	*418*
	Carla	*Subtotal Carla Project*	*LTR*				*154*	*9.7*	*48*	*154*	*9.7*	*48*	*178*	*9.3*	*53*
Comparison	Segovia	Providencia	LTR	8	-0.8	1	-3	-3.6	-35	5	-2.8	-34	123	-1.8	21
			Pillars	0	2.6	9	9	-3.7	-9	9	-0.9	-1	9	0.0	5
		Sandra K	LTR	0	0.0	0	56	0.5	25	56	0.5	25	-6	1.5	14
			Pillars	0	0.0	0	47	-0.6	14	47	-0.6	14	0	-6.7	0
		El Silencio	LTR	0	0.0	0	-29	0.4	0	-29	0.4	0	460	-0.8	88
			Pillars	0	0.0	0	15	0.4	24	15	0.4	24	-47	-0.2	-20
		Verticales	LTR	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0
		Subtotal Segovia Project	*LTR*	*8*	*-0.8*	*1*	*24*	*-0.4*	*-11*	*33*	*-0.4*	*-9*	*575*	*-0.3*	*123*
			Pillars	*0*	*2.6*	*9*	*72*	*0.0*	*29*	*72*	*0.2*	*38*	*-39*	*0.2*	*-15*
	Carla	*Subtotal Carla Project*	*LTR*	*0*	*0.0*	*0*	*0*	*0.0*	*0*	*0*	*0.0*	*0*	*0*	*0.0*	*0*

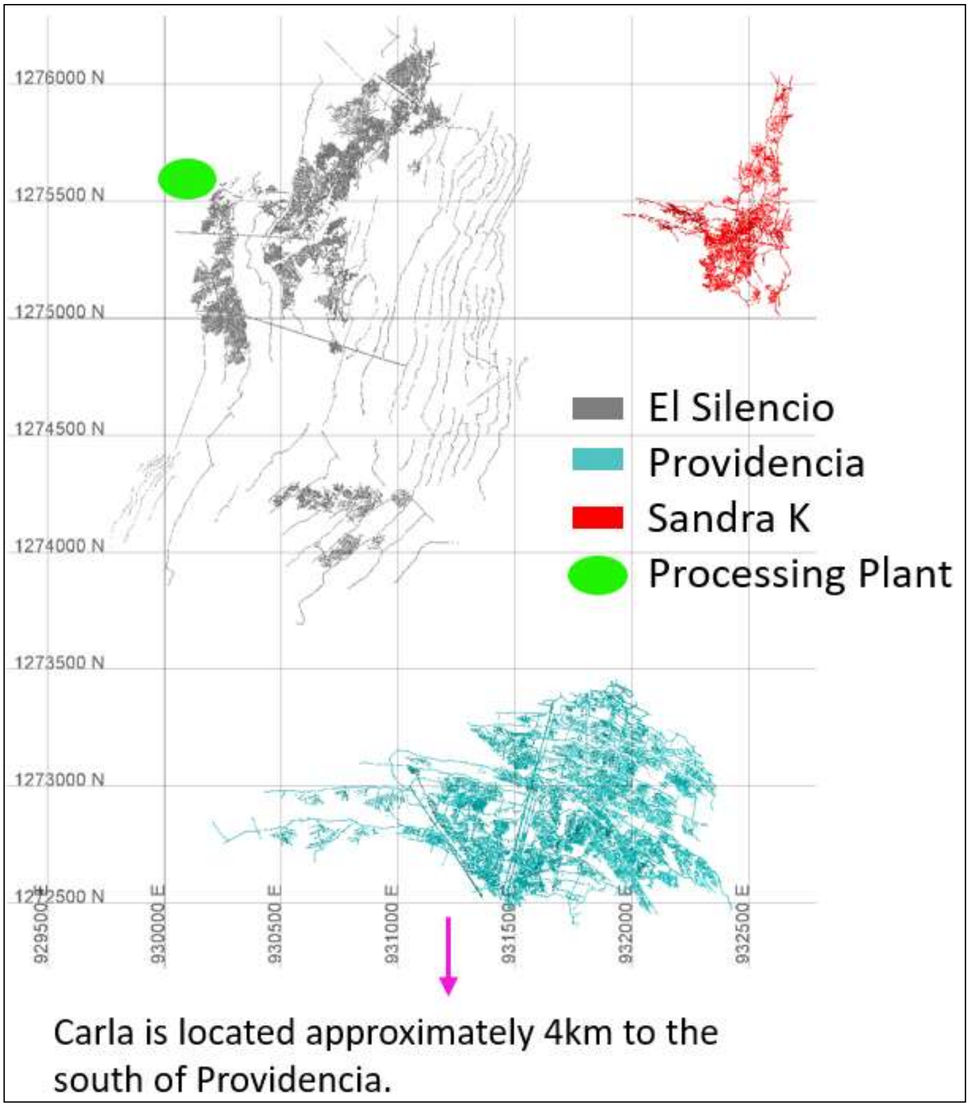
Source: SRK, 2020

14.13 Relevant Factors

Although additional studies are recommended to further develop tailings and water management strategies, SRK considers there to be no other environmental, permitting, legal, title, social, taxation, marketing or other factors that could affect the Mineral Resource Statement.

15 Mineral Reserve Estimate

Mineral Reserves stated here for the Segovia operations include four distinct areas named Providencia, El Silencio, Sandra K, and Carla as shown in Figure 15-1. There are other mines in the vicinity, owned by GCG, however there are no Indicated resources stated outside of these four areas at this time. There are also other mines in the vicinity owned by others.



Source: SRK, 2019

Figure 15-1: Segovia Reserve Areas

The general dip of the orebodies in all four areas is 30° to 40°. The veins are narrow and range from several cm to over 1 m. Providencia, El Silencio, and Sandra K are actively being mined. Carla has been mined historically however is currently not operating. Rehabilitation/enlarging of the Carla main access was recently started.

15.1 Conversion Assumptions, Parameters and Methods

Measured and Indicated Mineral Resources were converted to Proven and Probable Mineral Reserves by applying the appropriate modifying factors, as described herein, to potential mining block shapes created during the mine design process. Inferred material is treated as waste with zero grade.

15.1.1 Dilution

The stated reserves include dilution to a minimum mining width and additional expected dilution due to overbreak. Parameters used vary by area and mining method, as shown in Table 15-1, and are based on GCG's experience in the underground mine. These parameters are the same as the parameters that were used for the prior year's reserves calculation.

Table 15-1: Dilution Assumptions

Mining Area	Mining Method	Minimum Mining Height (m)	Overbreak Dilution
Providencia	Room and Pillar	1.5	0.3 m
	Cut and Fill (1)	-	Factor of 2.6
El Silencio	Room and Pillar	1.5	0.2 m
Carla	Room and Pillar	1.5	0.2 m
Sandra K	Room and Pillar	1.5	0.3 m

(1) Minimum mining height varies by mining method. Dilution factor, based on 2018 reconciliation information, accounts for variable vein heights.
Source: SRK, 2019

15.1.2 Recovery

Mining extraction ratios/recovery factors are applied to the mine design by area and by mining method as shown in Table 15-2.

Table 15-2: Mining Extraction/Recovery Assumptions

Mining Area	Mining Method	Extraction/Recovery of Designed Areas (%) (1)
Providencia	Room and Pillar	85
	Cut and Fill	95
El Silencio	Room and Pillar	60 to 85
Carla	Room and Pillar	85
Sandra K	Room and Pillar	85

(1) In small mining areas adjacent to existing mining, extraction ratios are decreased to ensure a full 2 m x 2 m pillar stays in situ. The majority of El Silencio extractions are lower largely due to survey unknowns. In one new mining area at depth where survey information is complete at El Silencio, an 85% extraction is used.
Source: SRK, 2020

The extraction ratios/recovery factors consider:

- Maximum geotechnical extraction which includes existing openings underground;
- Timber packs and cement pillars are used where necessary to achieve the stated extraction ratios;
- Material loss to mucking along the sides; and
- Additional loss factor due to rockfalls, misdirected loads, and other geotechnical reasons.

15.1.3 Additional Allowance Factors

Development extensions in the PFS design include use of apiques and ramps. No additional allowance factors are used at this time.

15.2 Reserve Estimate

Mineral Reserves were classified using the 2014 CIM Definition standards. Measured Mineral Resources were converted to Proven Mineral Reserves and Indicated Mineral Resources were converted to Probable Mineral Reserves by applying the appropriate modifying factors, as described herein, to potential mining shapes created during the mine design process.

The underground mine design process resulted in underground mining reserves of 1.98 Mt (diluted) with an average grade of 10.50 g/t Au. The Mineral Reserve statement, as of December 31, 2019, for Segovia is presented in Table 15-3.

Table 15-3: Gran Colombia Segovia Mineral Reserves Estimate as of December 31, 2019

Segovia Mineral Reserves		**Cut-off (1):**	**3.25 - 4.24 g/t**	
Category	**Area**	**Tonnes**	**Au Grade (g/t)**	**Oz (in situ)**
Proven	Providencia	164,896	16.53	87,611
	Carla	-	-	-
	Sandra K	-	-	-
	El Silencio	-	-	-
Subtotal Proven		**164,896**	**16.53**	**87,611**
Probable	Providencia	154,606	11.95	59,392
	Carla	103,843	10.03	33,489
	Sandra K	248,531	8.85	70,713
	El Silencio	1,312,942	9.93	419,150
Subtotal Probable		**1,819,922**	**9.96**	**582,744**
Total	**Proven + Probable**	**1,984,818**	**10.50**	**670,356**

Source: SRK

(1) Ore reserves are reported using a gold cut-off grade (CoG) ranging from 3.25 to 4.24 g/t depending on mining area and mining method. The CoG calculation assume a $1,350/oz Au price, 90.5% metallurgical recovery, $6/oz smelting and refining charges, $25/t G&A, $26/t processing cost, and mining costs ranging from $76 to $115/t. Note that costs/prices used here may be somewhat different than those in the final economic model. This is due to the need to make assumptions early on for mine planning prior to finalizing other items and using long term forecasts for the life of mine plan.

- Mining dilution is applied to a minimum mining height and to estimate overbreak (values differ by area/mining method) using a zero grade.
- All figures are rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.
- Mineral Reserves have been stated on the basis of a mine design, mine plan, and economic model.
-
- There are potential survey unknowns in some of the mining areas and lower extractions have been used to account for these unknowns.
- The Mineral Reserves were estimated by Fernando Rodrigues, BS Mining, MBA, MMSAQP #01405, MAusIMM #304726 of SRK, a Qualified Person.

15.3 Relevant Factors

GCG has in recent years been continually working on surveying historical workings to ensure all underground openings in the planned mining areas are well understood. This is an ongoing process and there are still areas within the various mines where uncertainties exist in the as-builts. The reserves stated here use a lower mining recovery than expected geotechnically, to provide an allowance for these types of potential unknowns.

There are approximately eight artisan mines that are located on GCG leases that are not included in the reserve estimate. Artisanal mines can provide approximately 20% of the additional plant capacity.

Note that the Mineral Reserves and stated PFS economics are based on a LoM approximate average of 1,500 t/d processing rate.

Contractor mining supplied ore is well documented at the plant through a detailed sampling system. The owner operated mines ore is not as well documented and historically produces on a consistent basis more than the mine plan model predicts.

The mine plan is based on improved productivities that incorporate improvements in mechanization and includes the purchasing of new mining equipment and improved ventilation.

GCG has constructed a new TSF with a dry stack storage method incorporating a filter press. The new area has enough capacity for the Mineral Reserves.

16 Mining Methods

The Segovia operations are located in a historic mining district that has been mined for over 150 years. The majority of the mineralization has a dip of approximately 35°. The current mining methods used at the Segovia operations include room and pillar mining as well as cut and fill. Material is typically removed from the mine through use of an apique hoist system (angled hoisting system which follows the dip of the vein structure.)

16.1 Current Room and Pillar Mining Method

Room and pillar mining consist of a primary and secondary phase. The primary phase mines a traditional room and pillar layout to a stated extraction ratio and the secondary phase extracts additional material from pillars. The overall extraction from both phases is as stated in Section 15.1.2.

Primary Mining

Primary mining applies a conventional room and pillar technique using manual mining methods. The panels are accessed from the overlying and underlying haulage levels as well as from down-dip development that breaks up the panels into discrete mining blocks. A loading chute from which the mined rock can be loaded into the materials handling system is constructed within the lower haulage level access. Sublevels are then developed along strike with a slight upwards gradient to make materials handling as well as using a slusher easier. A slusher is an air powered or electric scraper that is used to pull muck from the face back to the loading chute. Rooms between the sublevels are mined creating the room and pillar layout. The inclined sublevels from the central loading chute gives the mine a slight herringbone look as shown in Figure 16-1. The layouts follow the typical dip of the vein (~35°).

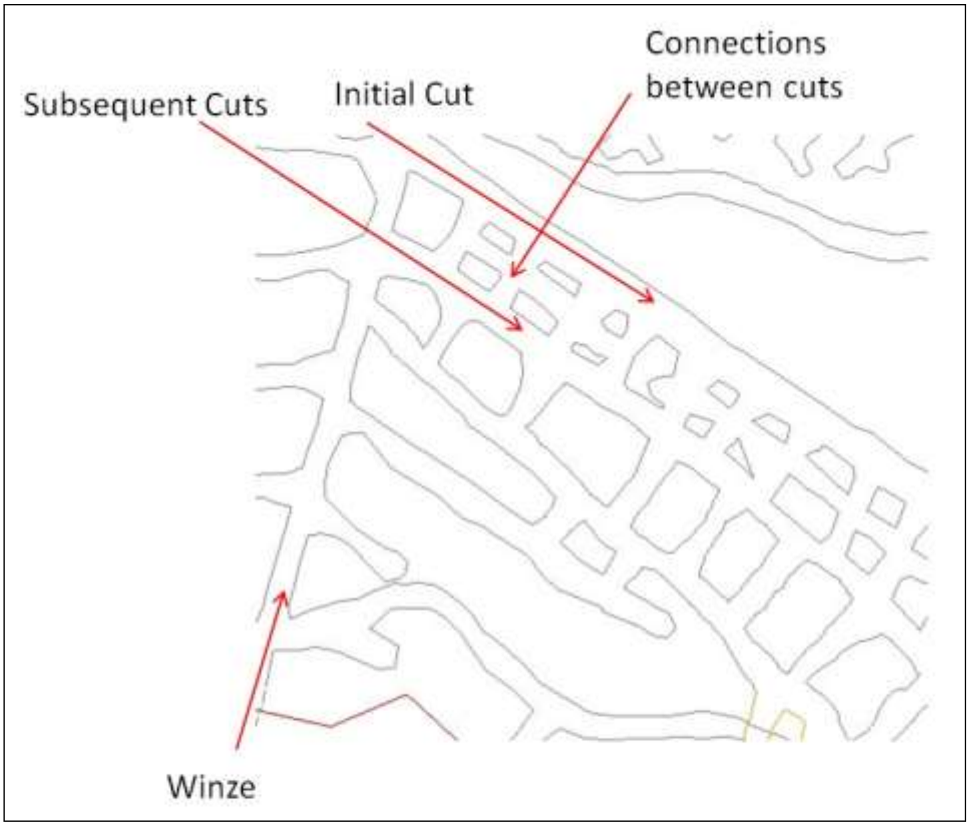
Source: SRK, 2019

Figure 16-1: Typical Mining Block Layout at the Providencia Mine

Historically ramps are located within the mineralization and winzes are angled to follow the dip of the mineralized zone and are used for moving material and for access to the various levels. The subsequent cuts are developed and then connected by cross drifts as shown Figure 16-2. More recently, ramps have been located in waste rock.

If the height of mineralization is smaller than the minimum mining dimensions (1.5 m by 1.5 m), yet still economic (i.e., above CoG) when diluted, then a “resue” methodology is used where horizontal holes are drilled in the face and the mineralization is blasted and mucked out. After the mineralization has been removed, the waste is blasted and mucked (to a previously mined area) to expand the size of the heading before the next round is mined. The purpose of the resue method is to minimize the amount of waste that is sent to the processing plant.

The mining at Segovia is very labor intensive and uses mostly slushers and jacklegs. Pillars are typically 4 m by 4 m and rooms are from 4 to 6 m wide; down to 2 m by 2 m; however, pillar sizes and shapes vary significantly as shown in Figure 16-2. Ground support, in most areas of the mines, is typically helical rock bolts, split sets, timber, mesh and shotcrete. Timber packs and cement pillars are used to achieve planned extraction ratios during pillar recovery.



Source: SRK, 2019

Figure 16-2: Typical Mining Layout

Sill pillars are left in situ to protect the haulage levels. A GCG geomechanics team sizes these pillars and completes a stability analysis. During 2018, Segovia conducted several specific window mappings and laboratory tests to better understand the pillar requirements to maximize recovery during primary mining. A portion of the current production comes from the reduction of pillars.

SRK notes that the majority of the workings (as seen from existing mining) do not follow this template and there is a high variability in the approach to mining each block. However, the vast majority of historic mining was undertaken by companies other than GCG and therefore cannot be considered representative of GCG's approach going forward. SRK recognizes that processes are being implemented to improve the operational efficiencies of the mine which is intended to deliver more standardized mining practices.

Production is achieved using 38 mm blastholes drilled using airlegs. Blastholes are usually drilled to a 2 m depth although shorter drill steels are also used. The blastholes are charged using predominately emulsion cartridges although some ammonium nitrate fuel oil (ANFO) is used. A combination of detonators (electric and nonelectric or "Nonel") and safety fuses are used in the various mining operations. Typically, around 30 drillholes will be used per round, although the drilling pattern is adjusted to suit the geometry and ground conditions. Powder factors average around 1 kg/t. Blasting times are scheduled to coincide with shift changes. Development ramps use mechanized drills (jumbos) with 3 m drill steels.

The mined rock is mucked from the working face to the haulage level using slushers, from where it is loaded into a small rail network via a loading chute. The battery-powered locomotives haul 6 to 10 rail cars, with a capacity of approximately 2 t, to a grizzly that feeds an inclined shaft. The inclined shafts use 3 t skips to transport the material between multiple levels. As the inclined shafts follow the vein, intermediate rail levels are required to transport the payable material between shafts where the veins are offset by faulting.

Secondary Mining

Secondary mining is achieved using pillar recovery methods. Conventionally, two wooden supports (approximately 200 mm by 200 mm, equivalent to 8-inch by 8-inch) are installed adjacent to the pillar prior to mining. In areas of poor ground, additional support which includes split sets and mesh, may be added. The pillar is then either completely or partially removed depending on the geotechnical conditions. Minimum mining heights are approximately 1.2 m, limited by the space required for miners to work effectively. As secondary mining is more labor intensive, dilution is kept to a minimum to reduce the amount of material that requires loading by hand.

Drill and blast techniques for pillar extraction are similar to that used for production. Manual methods, including an airleg with a chisel bit and hand-held picks, are used where the pillars are in poor condition or have begun to fail.

Payable material is hauled by hand from the work face to the haulage levels in sacks of around 40 kg. The bags are stacked in the rail cars and use the same materials handling system to the surface as for primary mining.

Where primary and secondary mining occurs in the same mine, the methods are separated into distinct production areas to limit interaction. Occasionally, when secondary mining does occur within the primary mining work areas, it is strictly regulated to minimize the potential impact on stability in the immediate vicinity of recovered pillars.

GCG plans to undertake investigations into alternatives to timber supports to improve safety and maximize recovery from secondary mining as there is a lack of planning and reconciliation in areas where pillar recovery contractors have mined. The pillar extraction sequence is determined by the individual contractors and GCG provides basic maps showing which areas pillars have been mined and which are still in place. GCG informed SRK that plans are in place for improvements to be implemented; however, to SRK's knowledge this has not yet occurred. The mine plan includes significant secondary mining material, with assumed tonnage and grade. This adds uncertainty to the achievability of the mine plan as there is no defined plan for this material and reconciliation work is not completed. This occurs mainly at the El Silencio mine, which is a very old mine within historically mined areas.

16.2 Current Cut and Fill Mining Method

GCG uses two methods of cut and fill. The primary cut and fill method use diesel LHD's and electric/hydraulic jumbo drills with development located in waste in the hangingwall. Access to the vein is via crosscuts and drifting along the vein. The first cut in the vein is made using a jumbo drilling horizontally. The round is then blasted and mucked out with a diesel LHD. The back is bolted using jacklegs as required with attention paid to not bolting in the mineralized material unless required. The second cut and subsequent cuts are completed as follows. The jumbo drill is used to drill upholes in the vein. The entire length of the stope is drilled as a backstope, charged and timed to allow proper breakage of the mineralized material. A 1.5 m^3 LHD is used to muck out the mineralized material from the backstope round. The waste material in the vein is drilled with the jumbo and advanced as a normal breast down round and left in place. The LHD is used to level the floor of broken waste with jacklegs used to bolt the back as required for each round. SRK notes that currently GCG has one Sandvik 210 jumbo drill, used for development. Other jumbos are on order and will be used as described above.

The secondary cut and fill method used by GCG is a modified resue method whereby the mineralized vein material is drilled and blasted using jackleg drills and then removed manually or with a slusher. The remaining waste rock material is then shot down to the floor and becomes the new working surface.

Both cut and fill methods used do not require backfill as the waste from the cut remains in the stope.

16.3 Cut-off Grade Calculations

CoG's used for the reserves are based on LoM projected costs as shown in Table 16-1. The El Silencio mine has higher annual production tonnage than the others and hence a lower overall mining cost.

Table 16-1: Underground Cut-off Grade Calculation

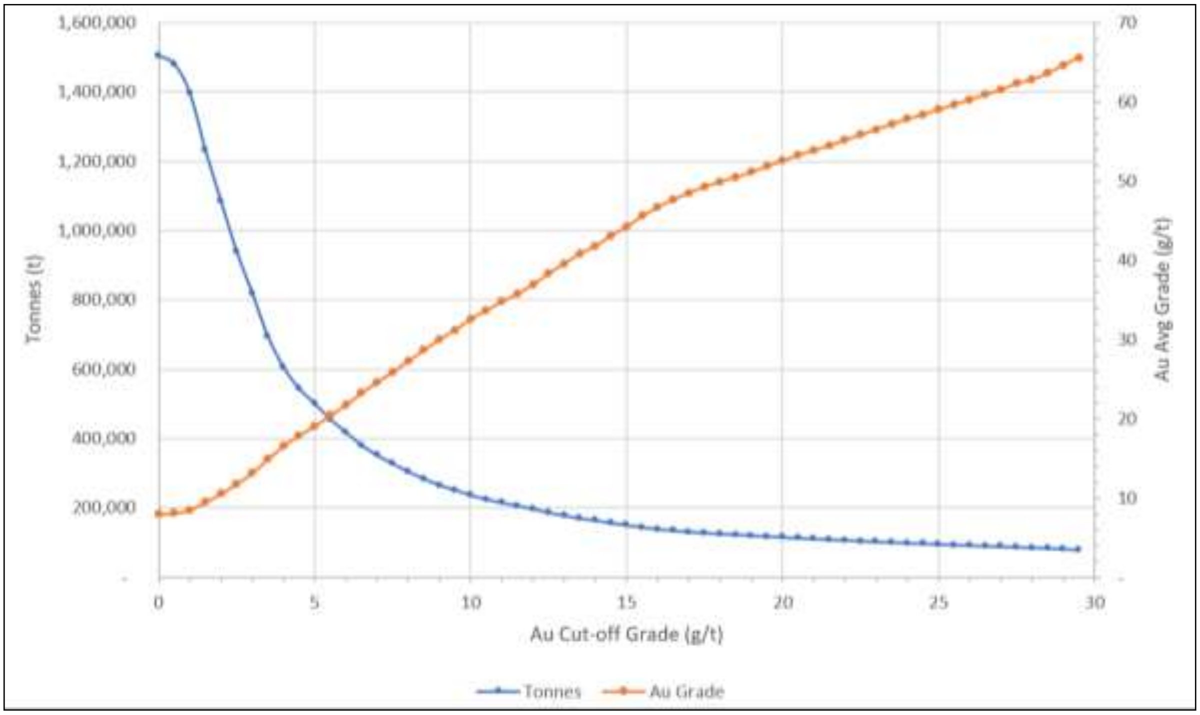
Parameter	El Silencio	Sandra K, Carla, Providencia	Unit
Mining cost [1,2]	76	115	US$/t
Process cost	26	26	US$/t
G&A	25	25	US$/t
Total Cost	127	166	US$/t
Gold price	1,350	1,350	US$/oz
Au mill Recovery	90.5%	90.5%	%
Smelting & Refining	6	6	US$/oz
CoG	3.25	4.24	g/t

Source: SRK, GCG, 2019

(1) Note that costs/prices used here may be somewhat different than those in the final economic model. This is due to the need to make assumptions early on for mine planning prior to finalizing other items and using long term forecasts for the life of mine plan.

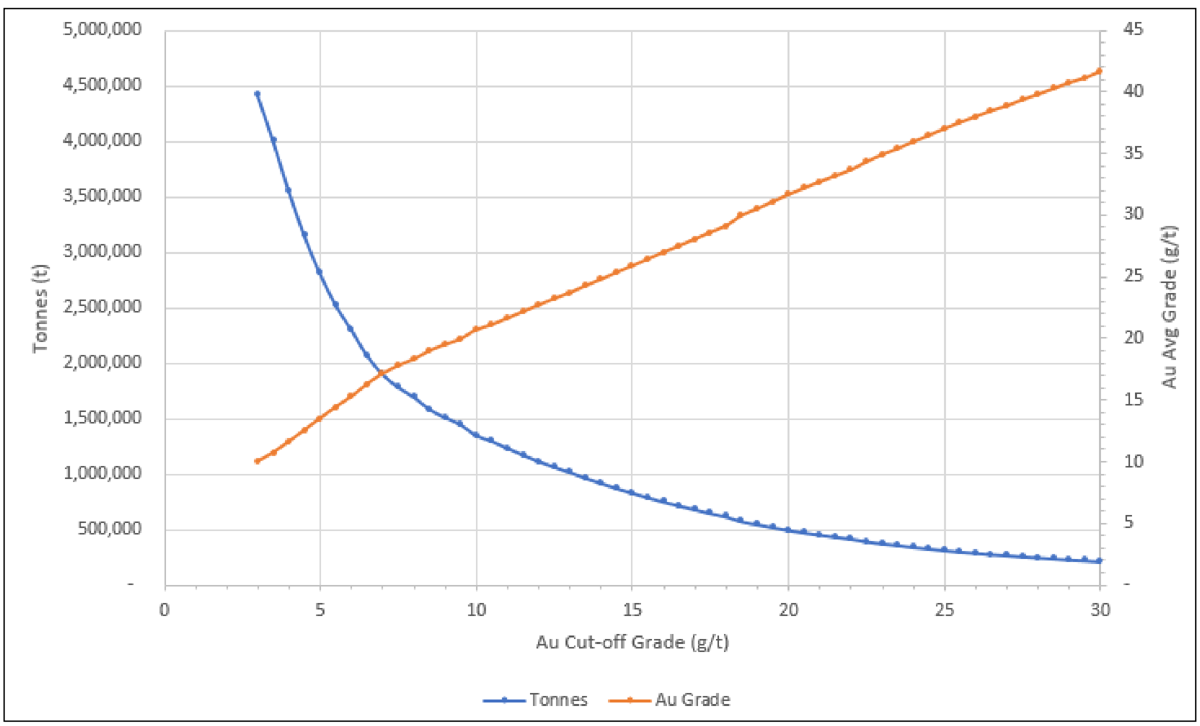
(2) At this time there is no breakout of mining costs for room and pillar vs. cut and fill. In the future these costs should be tracked separately to allow for using variable CoG's for design.

The basis for the PFS mine design work is the resource models described in Section 14. Grade/tonne curves showing Measured and Indicated material for each mine area, based on Au cut-offs, are shown in Figure 16-3 to Figure 16-6.



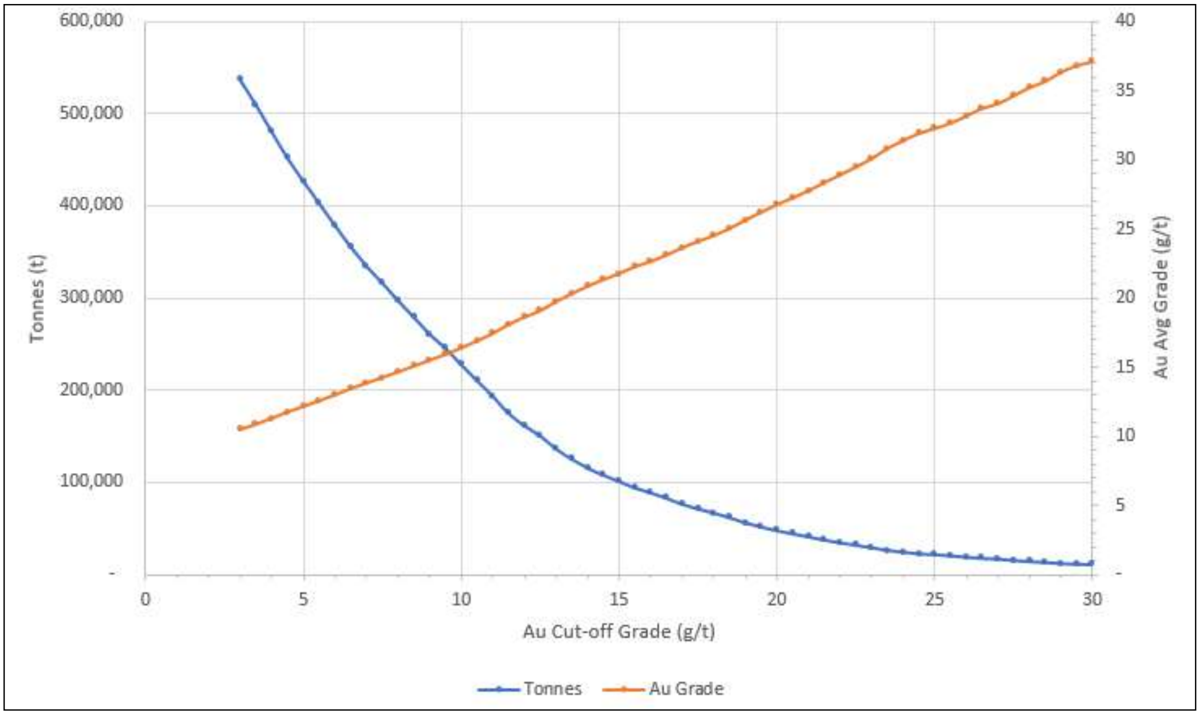
Source: SRK, 2020

Figure 16-3: Providencia Grade/Tonne Curve (Measured and Indicated Material)



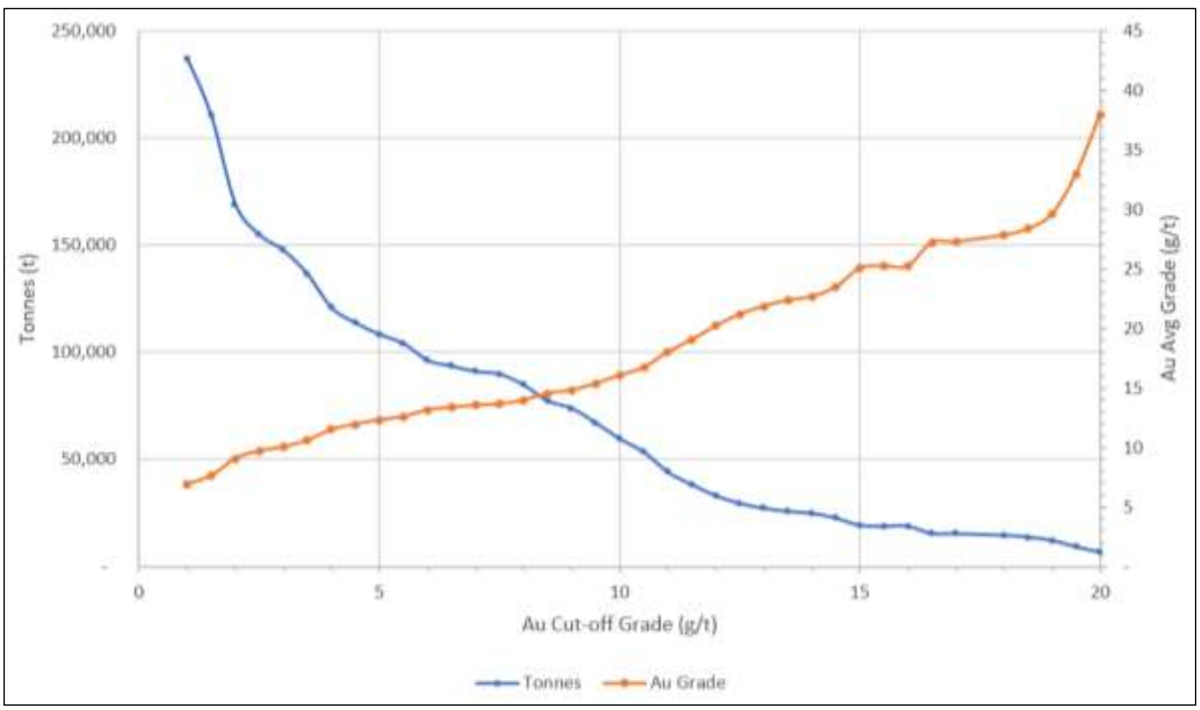
Source: SRK, 2020

Figure 16-4: El Silencio Grade/Tonne Curve (Measured and Indicated Material)



Source: SRK, 2020

Figure 16-5: Sandra K Grade/Tonne Curve (Measured and Indicated Material)



Source: SRK, 2020

Figure 16-6: Carla Grade/Tonne Curve (Measured and Indicated Material)

16.4 Geotechnical

SRK has prepared a separate geotechnical report to support the PFS (SRK, 2018) level mine designs based on the site investigation conducted by Segovia personnel, Geomecanica del Peru E.I.R.L (Geomecanica del Peru) and a site visit conducted by SRK's geomechanics specialist. In addition to the work conducted by Geomecanica del Peru, Segovia personnel in conjunction with SRK developed a geotechnical block model based on exploration drillholes, which included a total of 155,245 m of geotechnical data. SRK reviewed and validated the geotechnical data collected by the Segovia exploration group and endorses the results at a PFS level. SRK has recommend that Segovia continue conducting core logging and window mapping to validate the current geotechnical model.

In addition to the block model created in 2018 and updated during 2019, Segovia conducted a laboratory testing program with SRK's guidance. The laboratory testing program consisted of 51 uniaxial compressive strength (UCS) tests, 99 multiaxial compressive strength (TXT) tests, 23 indirect tensile tests, and 10-point load tests (PLT).

Table 16-2 summarizes the 2018 lab testing conducted by Segovia with SRK's guidance.

Table 16-2: 2018 Laboratory Test Program

Mine	UCS	TXT	Indirect Tensile (Brazilian- BST)	PLT
Providencia	13	24	7	3
Carla	13	27	5	1
Silencio	15	24	6	3
Sandra K	10	24	5	3
Total	**51**	**99**	**23**	**10**

Source: SRK, GCG, 2018

Segovia has also implemented systematic traverse mapping with the objective to estimate the rock mass rating (RMR) using the Bieniawski,1989 system. At the time of this report, Segovia has conducted a total of 193 face mapping stations, following international standards. Table 16-3 summarizes the total number of windows mapping and the lithology mapped.

Table 16-3: Window Mapping, 2019

Mine	No. of Mapping Stations 1
Providencia	192
Silencio	148
Sandra K	110
Carla	-
Total No. of Stations	**450**

Source: SRK, GCG, 2019

For the PFS study, SRK reviewed and validated all geotechnical data acquired by Geomecanica del Peru Consulting (Geomecanica del Peru, 2017) and all new data collected during 2018 and 2019. SRK's specific responsibilities with respect to the geotechnical study consisted of:

- Reviewing Geomecanica del Peru, 2017 geotechnical studies
- Correlating field observations with the documented data
- Reviewing structural geology reports and underground cell mapping
- Reviewing the cell mapping (2018 standards)
- Reviewing of laboratory test results
- Confirming the design recommendations provided by Geomecanica del Peru, 2017

- Providing PFS room and pillar design parameters for new areas of the mines
- Presenting a conceptual pillar recovery plan
- Identify geotechnical data gaps that must be addressed to progress the design to FS level

SRK believes that the data from the field geotechnical investigation is appropriate for supporting a PFS based on field observations and the work conducted by GCG. Efforts were tailored to focus on understanding of the mining operations, proposed designs and the geotechnical models that support the design (e.g., databases, rock mass strength, rock mass fabric, structural model).

Table 16-4 summarizes the rock mass strength parameters obtained for each geotechnical unit.

Table 16-4: Rock Mass Rating Summary

Mine	Lithology	UCS (Mpa)		Young's Modulus (Gpa)		Poisson's ratio		Density Ton/m^3		RMR89		GSI	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Providencia	Granodiorite	85	116	36	50	0.12	0.17	2.3	3.2	45	65	40	60
	Quartzite	69	95	29	40	0.06	0.08	2.3	3.1	56	61	51	56
Carla	Granodiorite	74	102	48	65	0.16	0.21	2.3	3.1	-	-	-	-
	Quartzite	51	70	35	48	0.06	0.08	2.3	3.2	70	80	65	75
El Silencio	Granodiorite	44	61	35	47	0.19	0.26	2.3	3.1	60	70	55	65
	Quartzite	35	48	41	57	0.07	0.1	2.3	3.1	60	80	55	75
Sandra – K	Granodiorite	66	90	47	65	0.18	0.25	2.3	3.1	55	65	45	60
	Quartzite	36	49	58	80	0.14	0.19	2.3	3.1	55	75	45	70

GSI: Geological Strength Index
Source: SRK, 2019

SRK has provided PFS design parameters (Table 16-5). The design parameters are suitable for a PFS and should not be used for final design without additional engineering analysis of room and pillar stability. The empirical tributary area methods used for assessing pillar design should be augmented with numerical analyses of mining-induced stress conditions due to the depth of the mines and the mine layouts. There are more appropriate empirical methods that should be considered for pillar design (e.g., S-Pillar program). SRK notes that the current mine design is based on extraction ratios and does not include detailed pillar design. Site personnel state that various smaller pillar sizing is used. SRK recommend using these design parameters for long term planning work and additional geotechnical study work should occur to determine if smaller pillar sizing may be appropriate.

Based on the identified mining areas, development was designed as necessary to provide access. In the room and pillar areas, development consists of a 3 m by 3 m development access to the area and a raise/access along the vein (referred to as a tambores). Tambores are developed along the dip of mineralization (~35°) and serve as a material handlings area where material is slushed to and subsequently moved out of the panel. Tambores were not designed into a mining panel, however these should be completed in detailed design prior to mining. In many cases development accesses to panels exist through current working and did not need to be specifically designed.

Table 16-5: PFS Design Parameters

Mine	Pillar Width, WP (m)	Pillar Length, LP (m)	Max Pillar Height, HP (m)	Room Width, MP (m)
Providencia	2.5	2.5	2.5	2.5
El Silencio (*)	4.0	5.0(**)	3.0	5.5
Sandra K	3.5	3.5	2.5	2.5
Carla	3.5	3.5	2.5	3.5

(*) Pillar dimensions do not include previously unmined areas
(**) Good opportunities for pillar optimization after detailed stability assessment
Source: SRK, 2018

SRK considers that there is an opportunity for implementing a pillar recovery plan, which could increase the extraction ratio up to 90%. Pillar recovery is among the most complex operations in underground mining and can place workers at risk if not performed correctly. The pillar recovery plan should be reviewed in more detail by a geotechnical engineer with experience in pillar recovery and ground control practice in extreme ground conditions. A detailed plan is key to reducing the risk of overall mine instability that could jeopardize future mine plans and worker safety.

The use of timber packs and cement pillars at Carla, Sandra K and Providencia helps to increase the extraction ratios. The use of timber packs (Figure 16-7), monitoring, and a good pillar recovery plan can increase the overall extraction up to 90%. SRK considers that for the purposes of the PFS, the assumed 90% extraction is acceptable. However, for feasibility level study, it will be important to investigate in more detail the need for ground support implementation and to prepare a recovery plan program.

Figure 16-7: Timber Packs Example Used by Segovia

Providencia at depth has places where the veins are stacked. Sometimes room and pillar mining are above cut and fill mining, and sometimes it is vice versa. Spacing on the veins ranges from multiple m to nearly touching. In the cases where the lower veins will be mined before the top veins, SRK recommends defining active ground support (cables) to warranty the stability of the crown pillars.

Due to El Silencio's mine depth, SRK considers that there is potential for increasing the pillar sizes in previously unmined areas because of the increased stresses resulting from the depth below ground. At the time of this report, no pillar stability assessment to determine the correct pillar dimensions has been conducted. SRK recommends initiating the pillar design for feasibility and execution.

16.4.1 Geotechnical Gap Assessment

It is SRK's opinion that the current rock mass understanding and the recommended mine design are suitable for a PFS. However, SRK has identified some geotechnical gaps that must be addressed for feasibility and execution:

- There is limited geotechnical monitoring instrumentation. SRK recommends implementing a full monitoring plan, which initially should focus on mine access and critical infrastructures.
- The pillar design methodology needs to be reviewed based on stress-deformation analysis. The empirical methods used for pillar designs are not fully applicable to the GCG mines due to the depth of the mines and the current mine layouts.
- The data collection process is adequate and up to international standards. However, the number of traverse mapping locations are limited. Therefore, it is not possible to create a geotechnical model to cover new mining areas. SRK recommends that GCG update the current geotechnical block models using the new available geotechnical database collected from exploration drillholes.
- GCG's geotechnical team is developing a ground control management plan. SRK recommends incorporating the standards and procedures in the ground control management plan.
- There is not a centralized geotechnical database. SRK recommends that GCG implement a full integrated geotechnical database which should include at a minimum:
  - Geotechnical traverse mappings
  - Laboratory test results
  - Field inspections
  - Ground support tests
  - Instrumentations
- SRK believes that there is an opportunity for implementing a pillar recovery plan. The plan should be reviewed in more detail by a geotechnical engineer with experience in pillar recovery ground control practice. A detailed plan is the key to reducing the risk of overall mine stability that could jeopardize future mine plans and worker safety.
- The current design methodology is acceptable for a PFS. However, the design method does not take into consideration the effect of stress distributions due to the current mine layout and mining abutments. SRK recommends that GCG review the design methodology.
- The empirical methods and the tributary area design methods currently used for the mine design do not fully capture the effect of stresses. The current design method could underestimate or overestimate the effect of stresses, which could result in unsuitable conditions.
- Stress measurement in various areas of the mines needs to be implemented for feasibility and execution.

16.4.2 Future Works

For feasibility and execution, SRK recommends that GCG conduct the following works:

- Preparation of a geotechnical block model using the exploration geotechnical data
- Estimate the mine induced stresses
- Prepare a full instrumentation plan
- Prepare a 3D numerical model at mine scale for simulating the changes on the stress conditions due to new mining areas
- Optimize pillar sizes and/or re design the PFS pillar designs
- Simulate the effect of the pillar recovery in other areas of the mine
- Prepare a detailed pillar recovery plan, which should include:
    - Timber packs and/or cemented pillar design specifications
    - Ground support specifications
    - Pillar recovery sequencing
    - Pillar recovery safety procedures and implementation protocols
    - Instrumentation plan
- Conduct a detailed sill pillar assessment. Current sill pillar designs are based on experience, which does not fully consider the mine induced stress condition
- Conduct laboratory tests to reduce the intact rock strength uncertainties and reduce the current data variability
- Prepare a full geotechnical FS to support the mine design
- Continue collecting geotechnical data from the exploration drill holes
- Integrate major faults models and geotechnical models
- Update the current geotechnical block model

16.5 Hydrogeology

The mine area is in the hydrogeological regional area of Magdalena Cauca. Most of this region is comprised of igneous and metamorphic rocks with limited groundwater storage capacity and hydraulic conductivity. The fractured rocks within the Antioquia Department might host local aquifers (IDEAM, 2013).

Preliminary hydrogeological characterization developed for the environmental study in the RPP 140 district (Zandor, 2015) describes saprolite and bedrock as the two major hydrogeological units in the mine area. The saprolite is draped on the top of the bedrock as a surficial layer and has a thickness from 5 to 45 m. It is formed by clayey material generated through intense weathering processes; consequently, it is considered to have a low hydraulic conductivity unit. The bedrock is formed primarily by the Segovia Batholith and dikes, covering almost all the mine levels. There is a high density of fractures and cracks in the unit, an assumed consequence of the long-term mine activity. Likewise, the mine developments are themselves lineal elements of very high permeability which connect different zones of this unit. Currently, GCG is developing a field campaign to collect hydrogeological data in El Silencio, Sandra-K and Providencia mines. The field campaign includes hydraulic tests and water level collection in five new piezometers. Preliminary results confirm relatively low hydraulic conductivity values (K) in the bedrock, 0.03 to 0.05 m/d, with a reduction in depth, and higher values in faults/fractured zones (0.25 to 1.7 m/d) (HSA, 2020). There is evidence of moderate-pressured water in the fracture/fault zones. An example of this is the artesian conditions found on level 38 of the El

Silencio mine. Therefore, the potential presence of deep aquifers and high-pressured water in structures cannot be ignored and further studies are recommended after the current campaign is completed.

SRK has received new hydrogeological information as part of the hydrological and hydrogeological investigation developed for GCG by HSA (HSA, 2020). The absence of water level data and permeability tests in the hydrogeological unit make it difficult to describe the groundwater dynamics in this area of study. Because the mines have been in operation for a significant amount of time, it is likely that a large cone of drawdown exists around each of the mines, and the combined drawdown seems to dominate the mining district. The recharge from precipitation and surface water flows occur primarily in the bedrock unit (Zandor, 2015), draining toward the bottom of the mine due to the cone of drawdown where it is ultimately pumped out to the surface streams close to the mines.

HSA developed a preliminary hydrological study for GCG (HSA, 2020). The main results are summarized below:

- Based on five meteorological stations, the annual average precipitation in the Segovia area is estimated to be 2,925.26 mm/year
- The rain season is from May to November, the rainiest month is October with 335 to 347 mm
- Measured annual evaporation is 1,127 mm/year
- Real Evapotranspiration has been estimated as 1,538.1 mm/year
- Recharge from precipitation has been estimated between 11 to 21.6% of the annual precipitation (320.69 to 632.2 mm/year)

16.6 Surface Water

No information related to surface water impacts to the mine was provided to SRK. The mine facilities do not appear to be impacted by excess surface water run-off. No diversion was evident around the older TSFs. The El Chocho TSF includes surface water diversions in the design, preventing run-on from the surrounding hillsides mixing with the tailings water. The mine appears to be including design elements to address exclusion of surface water from the newer mine facilities. Further discussion of surface water management is described in Section 18.

16.7 Mine Dewatering

The dewatering strategy for the mines allows passive inflow of groundwater into the underground mine. The water flows under gravity to the lower levels of the mine, where it is collected and pumped to the surface. There is no active dewatering infrastructure (wells or galleries) in place that attempts to intercept groundwater before it enters the underground mine.

16.7.1 Water Data Sources

The underground dewatering systems for Providencia, Sandra K, and El Silencio are relatively well documented in reports produced by GCG in 2017, entitled Sistema de Bombeo Minas Zandor Proyecto Segovia Remedios. The report includes tank capacities, pump specifications, cross sectional diagrams showing levels and dewatering infrastructure and plan-view maps. No further information has been received since 2017.

GCG has provided mine discharge data for the Providencia, Sandra K, and El Silencio mines on a daily basis from May 2016 to December 2018. The average effective pumping rate for this period are:

- El Silencio: 978 gpm
- Providencia: 1,171 gpm
- Sandra K: 487 gpm.

In 2019, the dewatering rates delivered by GCG are incomplete or absent. The records correspond to measurements at the ground surface; however, no further methodology details or locations have been received. During this period, the Providencia and Sandra K mines average 1,309 gpm and 499 gpm respectively, which is very consistent with the historical records from 2016 to 2018. No information for El Silencio mine has been received for the year 2019. Figure 16-8 shows the dewatering records for each mine.

In February 2019, GCG carried out a preliminary mine reconnaissance to identify and quantify the points of groundwater inflow into the operative mines. Plan view maps were generated showing the location and flow rates of the sources of water (Figure 16-10 through Figure 16-12). Maximum flow rates were recorded:

- Providencia: 122 gpm
- El Silencio:180 gpm
- Sandra K: 45 gpm
- Carla: 100 gpm

Source: GCG, 2017 and 2019

Figure 16-8: Measured Dewatering Rates

Records of dewatering rates for the Carla mine have not been provided.

The mine discharge data also provides mine water effluent chemistry data from Sandra K, El Silencio and Providencia in spreadsheet format. Samples have been collected and analyzed twice a year from 2011 to 2017. The typical list of analytes includes a short list of metals, pH, conductivity, temperature, oxygen demand, total suspended solids, total solids, E-coli, total hydrocarbons, and sulfate. Additionally, the Environmental group at GCG conducts periodic analysis that includes pH (daily) and quantity of solids in suspension (weekly).

16.7.2 Dewatering System

The mines allow a passive inflow of groundwater, using gravity to drain the groundwater to the bottom levels where sumps are used to capture and settle the water. Water is progressively pumped to the surface using a network of water storage tanks at strategic locations. Pumping infrastructure consisting of pipes and hoses ranging from 2-inch to 12-inch diameter and several pumps that delivers the collected water to the surface. A summary description of the dewatering system in each mine is presented below:

Sandra K

The Sandra K Mine has six levels with Level 6 being the main one with an elevation of 340 meters above mean sea level (mamsl) at the bottom of the mine (April 2020). The dewatering system has one main pumping station on Level 3½ and two secondary stations at the Level 4 and 6. Table 16-6 shows the main features of the dewatering system installed in the Sandra K Mine.

Table 16-6: Dewatering System in Sandra K

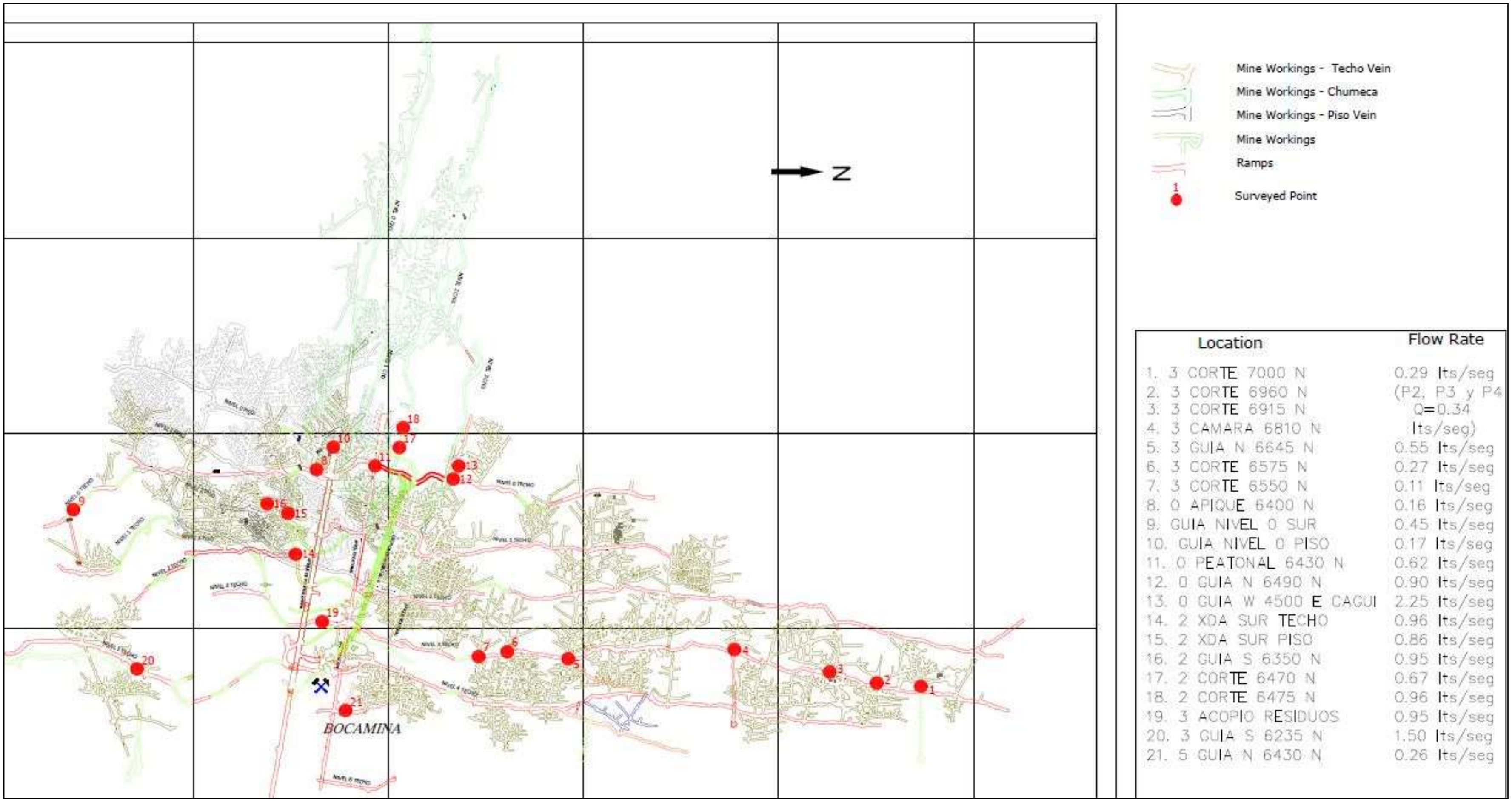
Pumping Station	Suction Point	Discharge Point	Lift Head (m)	Pump Power (hp)	Tank Capacity (m^3)
Station Level 4	Level 4 Shaft 6430	Station Level 3 ½	25	25 [(1)]	145
Station Level 3 ½	Station Level 4 Shaft 6400 Level 3	Level 0 Station Level 1 ½	130 78	150 [(1)]	250
Station Level 1 ½	Station Level 3 ½ Level 1	Level 0	52	100	145

Source: GCG, 2017
(1) Back up pump is installed

In 2020, Sandra K pumped an average of 270 gpm, keeping water levels at the bottom of the mine (340 mamsl). This flow represents the average water per minute that is evacuated to the surface

Sumps at all pumping station levels contain sediment control settling system to clarify the water before pumping.

The hydrogeological mine reconnaissance (GCG, 2019), identifies moderate groundwater inflows in Level 0 (40 gpm) and Level 2 (45 gpm) (Figure 16-9).



Source: GCG, 2019

Figure 16-9: Hydrogeological Reconnaissance - Sandra K Mine

Providencia

The Providencia Mine has 16 underground levels, with the deepest one reaching 135 mamsl (April 2020). The pumping system projected for the end of 2020, considers five main stations. Table 16-7 shows the main features of the dewatering system projected in Providencia Mine. The backup pumps for four of the stations are detailed in the table.

Table 16-7: Dewatering System in Providencia

Station	Location	Tank Capacity (m3)	Main Pump		Back-up Pump		Inflow (Station/Zone)	Discharge Point	Lift Head (m)	Flowrate Capacity (gpm)
			Brand	HP	Brand	HP				
1	Level 4E	20	Franklin	150	Franklin	150	Station 2 and 3; Level 4	Surface	110.5	900
			Franklin	150	Franklin	150	Station 2 and 3; Level 4	Surface	110.5	900
2	Level 8	25,000	Durco	150	Durco	150	Levels 6-7 and Shaft 3120	Station 1	120.8	640
3	Tank 3700 (Level 11)	240	Hidromac	340	Hidromac	340	Station 4; levels 9, 10 and 11	Station 1	120.0	1,300
4	Tank 3 (Level 14)	136	Durco	200	Durco	150	Station 5	Station 3	80.0	570
5	Level 16	220	Grindex	50	-	-	Mine Bottom	Station 4	52.0	230

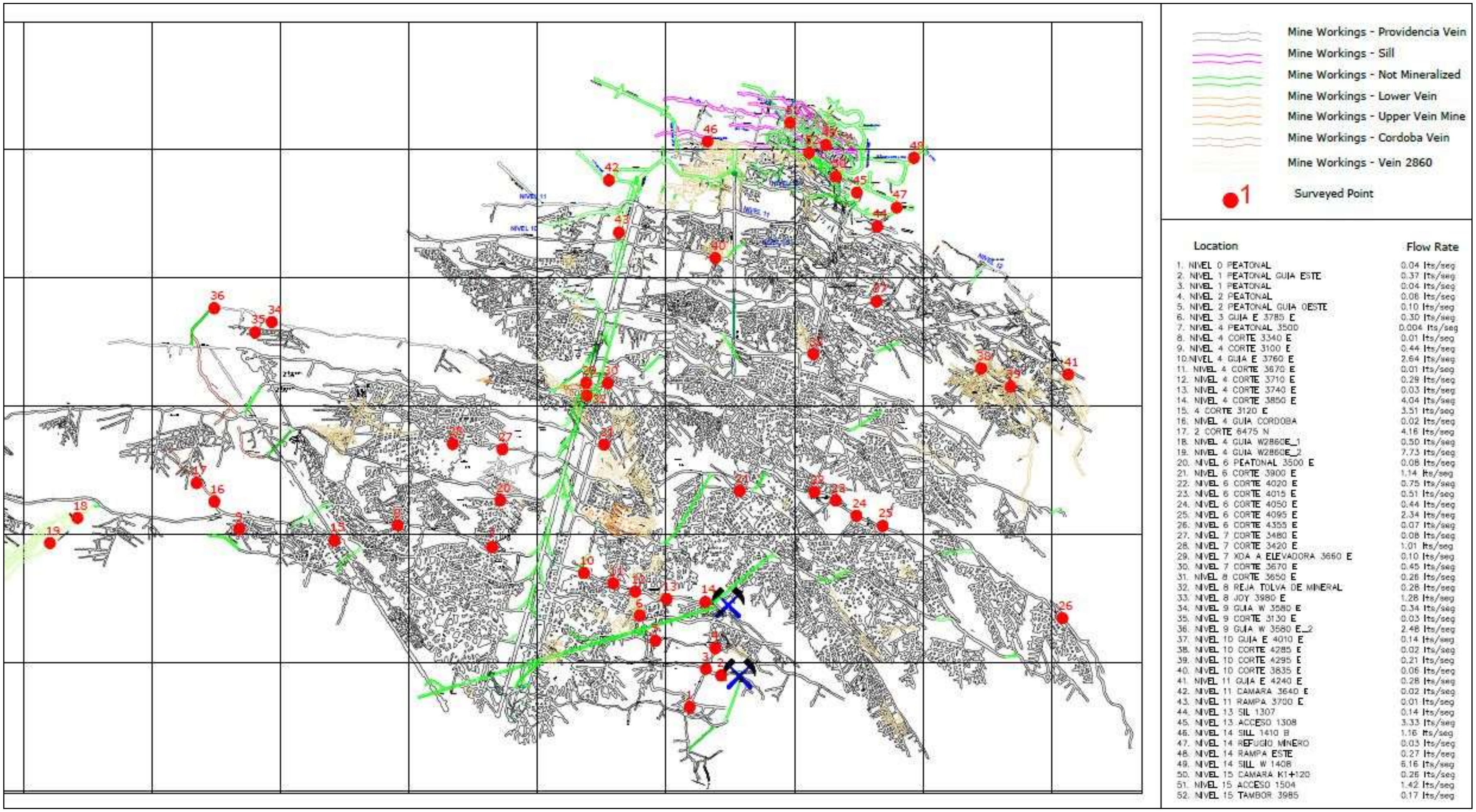
Source: GCG, 2020

All of the tanks have a regular maintenance and cleaning schedule, as well as a system to settle suspended solids.

To reduce suspended solids from the mine water, future projects under evaluation include installing a principal settlement tank on Level 4, before the last pumping stage to the surface.

In 2016 and 2017, Providencia pumped an average of 1,068 gpm, keeping the water levels at the bottom of the mine (150 mamsl). In 2018, the average pumping rates increased to 1,342 gpm and 1,309 gpm in 2019 (incomplete). The combined total from 2016 to 2018 averaged 1,171 gpm. Providencia pumped an average of 1350 gpm in 2019. Secondary pumps have been installed in all the pumping stations as an emergency backup system.

The hydrogeological mine reconnaissance (GCG, 2019), identifies relatively high groundwater inflows at Level 6 (63 gpm), Level 4 (75 gpm), Level 2 – 6475 (77 gpm), western end of Level 4 (122 gpm) and Level 14 – Sill (97 gpm) (Figure 16-10).



Source: GCG, 2019

Figure 16-10: Hydrogeological Reconnaissance - Providencia Mine

El Silencio

The El Silencio mine is the oldest and deepest in the Segovia district, with operations extending back more than 100 years, and a bottom elevation of -290 mamsl (December 2019 Artisanal mine operations occur on Levels 26 to 46, and the mechanical mining equipment is housed on Level 24 north and south. The three major shafts are Shaft Zero (Level 32 to surface), Shaft Bolivia (Level 23 to surface) and Shaft 450 (Level 43 to 28); all of them are used as major pumping pathways for dewatering. Shaft Zero evacuates to the surface all the water collected from shafts 450 and Bolivia through Levels 26 and 23 respectively. The pumping system in the bottom of the mine (Level 43) uses Shaft 120 to evacuate the water to the transfer location on Level 28, and then to Shaft 450. The total lift head is approximately 853 m.

The dewatering system has seven major pumping tanks and two transfer stations distributed from Level 43 to Level 7. Table 16-8 shows the main features of the dewatering system installed in El Silencio mine.

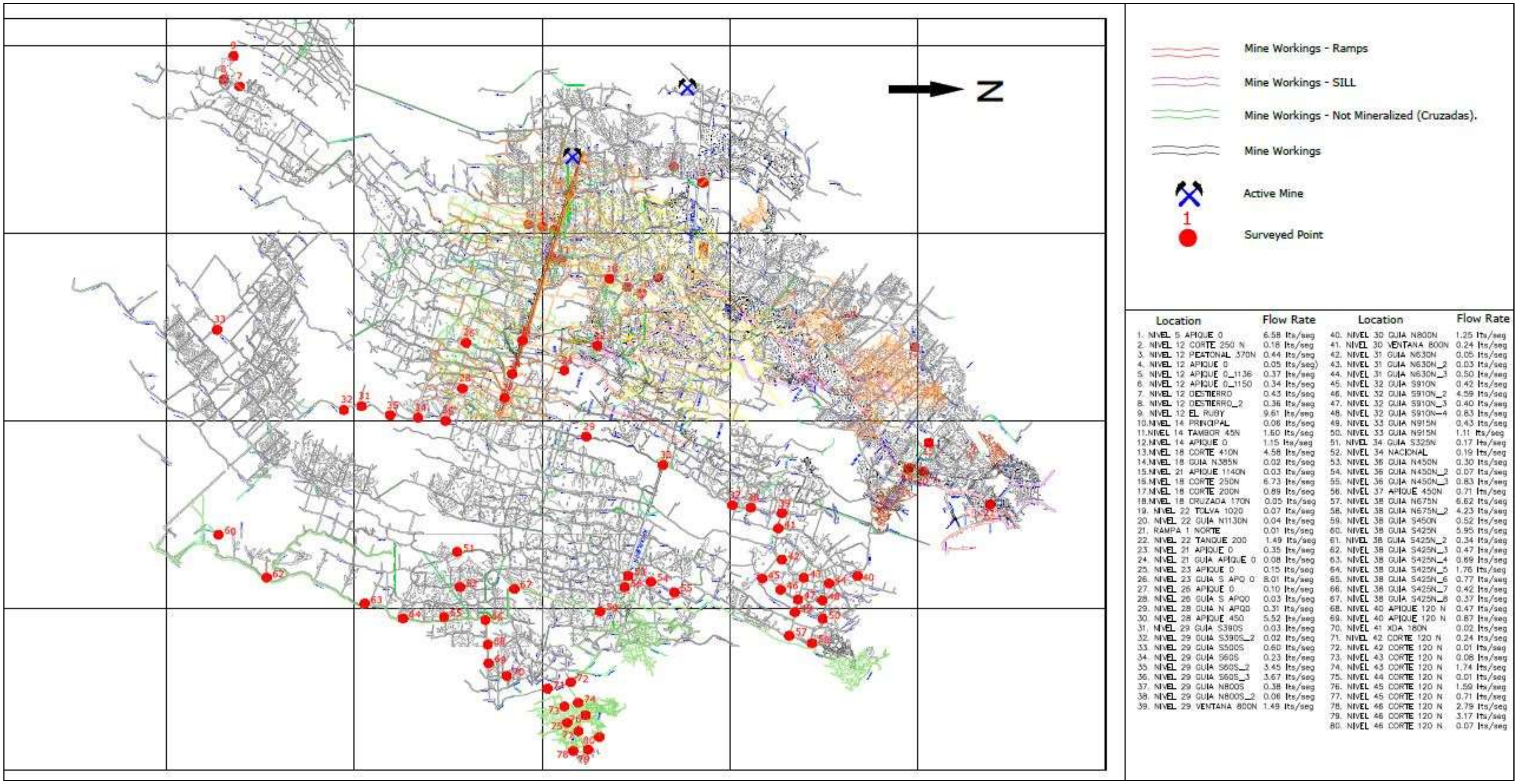
Table 16-8: Dewatering System in El Silencio

Pumping Station	Suction Point	Discharge Point	Lift Head (m)	Pump Power (hp)	Tank Capacity (m³)
Level 43 Shaft 120	Level 43 (Shaft 120)	Level 39 (Shaft 450)	105	125	Shaft Bottom
Level 39 Shaft 450	Level 39 (Shaft 450)	Level 34 (Shaft 450)	117	200	408.24
Level 34 Shaft 450	Level 34 (Shaft 450)	Transfer level 31 (Shaft 450)	118	200	363
Level 31 Shaft 450	Transfer level 31 (Shaft 450)	Transfer level 28 (Shaft 450)	90	200	-
Level 28 Shaft 450	Transfer level 28 (Shaft 450)	Level 23 (Shaft 0)	96	200	-
Level 23 Shaft 0	Level 23 (Shaft 0)	Level 19 (Shaft 0)	85	275	1905.12
Level 19 Shaft 0	Level 19 (Shaft 0)	Level 16 (Shaft 0)	45	200 150	680
Level 16 Shaft 0	Level 16 (Shaft 0)	Level 7 (Shaft 0)	147	200 200	1905.12
Level 7 Shaft 0	Level 7 (Shaft 0)	Ground Surface	50	200 200	737.1

Source: GCG, 2017

In 2016 and 2017, El Silencio pumped an average of 1,007 gpm, keeping the water levels at the bottom of the mine (-268 mamsl). During 2018, the average pumping rate decreased to 930 gpm. The combined total from 2016 to 2018 averaged 978 gpm. The maximum operational pumping rate was above 3,106 gpm for 8 hours (June 2018). Secondary pumps have been installed in the pumping stations as an emergency backup system.

The hydrogeological mine reconnaissance (GCG, 2019), identifies high groundwater inflows in the northeastern part of Level 38 (180 gpm), Level 18 (180 gpm) and in the western end of the Levels 43, 45 and 46 (150 gpm). Lower flow rates can be found in the southern part of Level 12 (150 gpm), Level 23 (130 gpm), and Level 29 (120 gpm) (Figure 16-11).



Location	Flow Rate	Location	Flow Rate
1. NIVEL 5 APIQUE 0	6.58 lts/seg	40. NIVEL 30 GUIA N800N	1.25 lts/seg
2. NIVEL 12 CORTE 250 N	0.18 lts/seg	41. NIVEL 30 VENTANA 800N	0.24 lts/seg
3. NIVEL 12 PEATONAL 370N	0.44 lts/seg	42. NIVEL 31 GUIA N630N	0.05 lts/seg
4. NIVEL 12 APIQUE 0	0.05 lts/seg)	43. NIVEL 31 GUIA N630N_2	0.03 lts/seg
5. NIVEL 12 APIQUE 0_1136	0.37 lts/seg	44. NIVEL 31 GUIA N630N_3	0.50 lts/seg
6. NIVEL 12 APIQUE 0_1150	0.34 lts/seg	45. NIVEL 32 GUIA S910N	0.42 lts/seg
7. NIVEL 12 DESTIERRO	0.43 lts/seg	46. NIVEL 32 GUIA S910N_2	4.59 lts/seg
8. NIVEL 12 DESTIERRO_2	0.36 lts/seg	47. NIVEL 32 GUIA S910N_3	0.40 lts/seg
9. NIVEL 12 EL RUBY	9.61 lts/seg	48. NIVEL 32 GUIA S910N—4	0.83 lts/seg
10.NIVEL 14 PRINCIPAL	0.06 lts/seg	49. NIVEL 33 GUIA N915N	0.43 lts/seg
11.NIVEL 14 TAMBOR 45N	1.60 lts/seg	50. NIVEL 33 GUIA N915N	1.11 lts/seg
12.NIVEL 14 APIQUE 0	1.15 lts/seg	51. NIVEL 34 GUIA S325N	0.17 lts/seg
13.NIVEL 18 CORTE 410N	4.58 lts/seg	52. NIVEL 34 NACIONAL	0.19 lts/seg
14.NIVEL 18 GUIA N385N	0.02 lts/seg	53. NIVEL 36 GUIA N450N	0.30 lts/seg
15.NIVEL 21 APIQUE 1140N	0.03 lts/seg	54. NIVEL 36 GUIA N450N_2	0.07 lts/seg
16.NIVEL 18 CORTE 250N	6.73 lts/seg	55. NIVEL 36 GUIA N450N_3	0.83 lts/seg
17.NIVEL 18 CORTE 200N	0.89 lts/seg	56. NIVEL 37 APIQUE 450N	0.71 lts/seg
18.NIVEL 18 CRUZADA 170N	0.05 lts/seg	57. NIVEL 38 GUIA N675N	6.62 lts/seg
19. NIVEL 22 TOLVA 1020	0.07 lts/seg	58. NIVEL 38 GUIA N675N_2	4.23 lts/seg
20. NIVEL 22 GUIA N1130N	0.04 lts/seg	59. NIVEL 38 GUIA S450N	0.52 lts/seg
21. RAMPA 1 NORTE	0.01 lts/seg	60. NIVEL 38 GUIA S425N	5.95 lts/seg
22. NIVEL 22 TANQUE 200	1.49 lts/seg	61. NIVEL 38 GUIA S425N_2	0.34 lts/seg
23. NIVEL 21 APIQUE 0	0.35 lts/seg	62. NIVEL 38 GUIA S425N_3	0.47 lts/seg
24. NIVEL 21 GUIA APIQUE 0	0.08 lts/seg	63. NIVEL 38 GUIA S425N_4	0.69 lts/seg
25. NIVEL 23 APIQUE 0	0.15 lts/seg	64. NIVEL 38 GUIA S425N_5	1.76 lts/seg
26. NIVEL 23 GUIA S APQ 0	8.01 lts/seg	65. NIVEL 38 GUIA S425N_6	0.77 lts/seg
27. NIVEL 26 APIQUE 0	0.10 lts/seg	66. NIVEL 38 GUIA S425N_7	0.42 lts/seg
28. NIVEL 26 GUIA S APQ0	0.03 lts/seg	67. NIVEL 38 GUIA S425N_8	0.37 lts/seg
29. NIVEL 28 GUIA N APQ0	0.31 lts/seg	68. NIVEL 40 APIQUE 120 N	0.47 lts/seg
30. NIVEL 28 APIQUE 450	5.52 lts/seg	69. NIVEL 40 APIQUE 120 N	0.87 lts/seg
31. NIVEL 29 GUIA S380S	0.03 lts/seg	70. NIVEL 41 XDA 180N	0.02 lts/seg
32. NIVEL 29 GUIA S390S_2	0.02 lts/seg	71. NIVEL 42 CORTE 120 N	0.24 lts/seg
33. NIVEL 29 GUIA S500S	0.60 lts/seg	72. NIVEL 42 CORTE 120 N	0.01 lts/seg
34. NIVEL 29 GUIA S60S	0.23 lts/seg	73. NIVEL 43 CORTE 120 N	0.08 lts/seg
35. NIVEL 29 GUIA S60S_2	3.45 lts/seg	74. NIVEL 43 CORTE 120 N	1.74 lts/seg
36. NIVEL 29 GUIA S60S_3	3.67 lts/seg	75. NIVEL 44 CORTE 120 N	0.01 lts/seg
37. NIVEL 29 GUIA N800S	0.38 lts/seg	76. NIVEL 45 CORTE 120 N	1.59 lts/seg
38. NIVEL 29 GUIA N800S_2	0.06 lts/seg	77. NIVEL 45 CORTE 120 N	0.71 lts/seg
39. NIVEL 29 VENTANA 800N	1.49 lts/seg	78. NIVEL 46 CORTE 120 N	2.79 lts/seg
		79. NIVEL 46 CORTE 120 N	3.17 lts/seg
		80. NIVEL 46 CORTE 120 N	0.07 lts/seg

Source: GCG, 2019

Figure 16-11: Hydrogeological Reconnaissance - El Silencio Mine

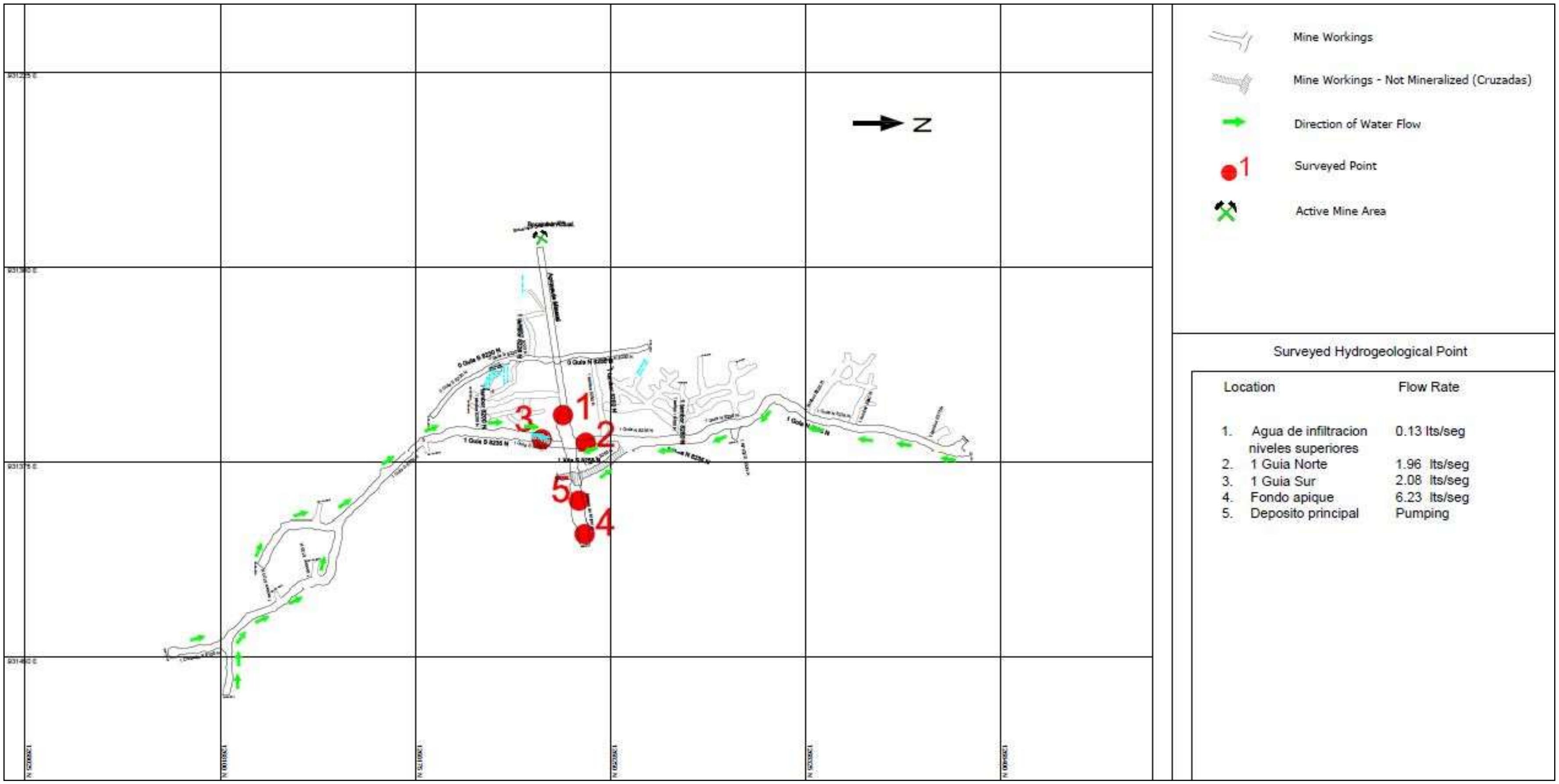
Carla

The Carla mine is located 4.2 km south of Providencia mine. It is a shallow mine with a projected bottom elevation 180 m below ground level. Given the mine bottom elevation (490 mamsl) and the distance from the major mines in the Segovia district, it can be considered independent from the dewatering influences at the El Silencio, Providencia, and Sandra K mines. No details of Carla's dewatering systems were available for SRK review. It is SRK's opinion that a dewatering system needs to be evaluated and presented in a similar way as those described above.

The hydrogeological mine reconnaissance (GCG, 2019), identifies moderate groundwater inflows in the bottom of the shaft (100 gpm) (Figure 16-12).

Dewatering System Conclusions

The current dewatering system fits the needs for the mine operations at Sandra K, Providencia and El Silencio mines. Future mine plans are up to 35 m deeper than the current mine; this will increase the groundwater inflow into the mine as well as the lift head. The mine dewatering system will in the future need to accommodate the new development. The design should consider potential inrush flow from deep aquifers, and/or high-pressure water in fracture/fault systems. Such a design will need to be based on drilling and hydraulic testing to estimate static heads and the potential for large inrush events from faults or fracture sets



Source: GCG, 2019

Figure 16-12: Hydrogeological Reconnaissance – Carla Mine

16.8 Geochemical

A substantial effort is needed to bring the mine into conformity with international best practices of data collection, management, and geochemical characterization. Implementation of a comprehensive data collection and management program will form the quantitative basis for understanding the current status, forecasting future impacts, and designing concurrent and post-closure mitigation measures to minimize environmental impacts. The primary areas of risk related to geochemistry are presented in Section 20.1.3.

16.9 Identifying Minable Areas

The block models were constructed in such a way that there is a single block in the z direction through the mineralization. The block is assigned a thickness based on the geological wireframes. Due to this type of block model construction, a stope optimization type of approach was deemed unnecessary and more of a grid type model approach was used for mine planning.

To determine minable areas, the grades in the block model were diluted to include a minimum mining height and expected overbreak dilution, as discussed in Section 15.1.1. The diluted grades above cut-off, based on mining method, were then displayed on the screen and polygons were drawn around minable panel areas. This was done for each individual vein (as some veins are stacked on top of each other). Panel sizes vary considerably from small panels around existing workings to larger panels in new mining areas.

Once mining areas were identified, the geologic vein triangulations were cut to the polygons giving a 3D shape showing the mining area (without dilution). Cut and fill area triangulations were further cut into 3 m high levels to provide specific tonnage/grade information for each cut. Tonnages and grades for each of the shapes was then reported based on the diluted tonnages and grades in the block model. As discussed in Section 15.1.2, recovery/extraction was applied to the tonnes/grade of each mining shape to determine the reserve.

There are ownership boundaries at the various areas which have been considered in the design process. Land ownership is discussed in Section 4.3.

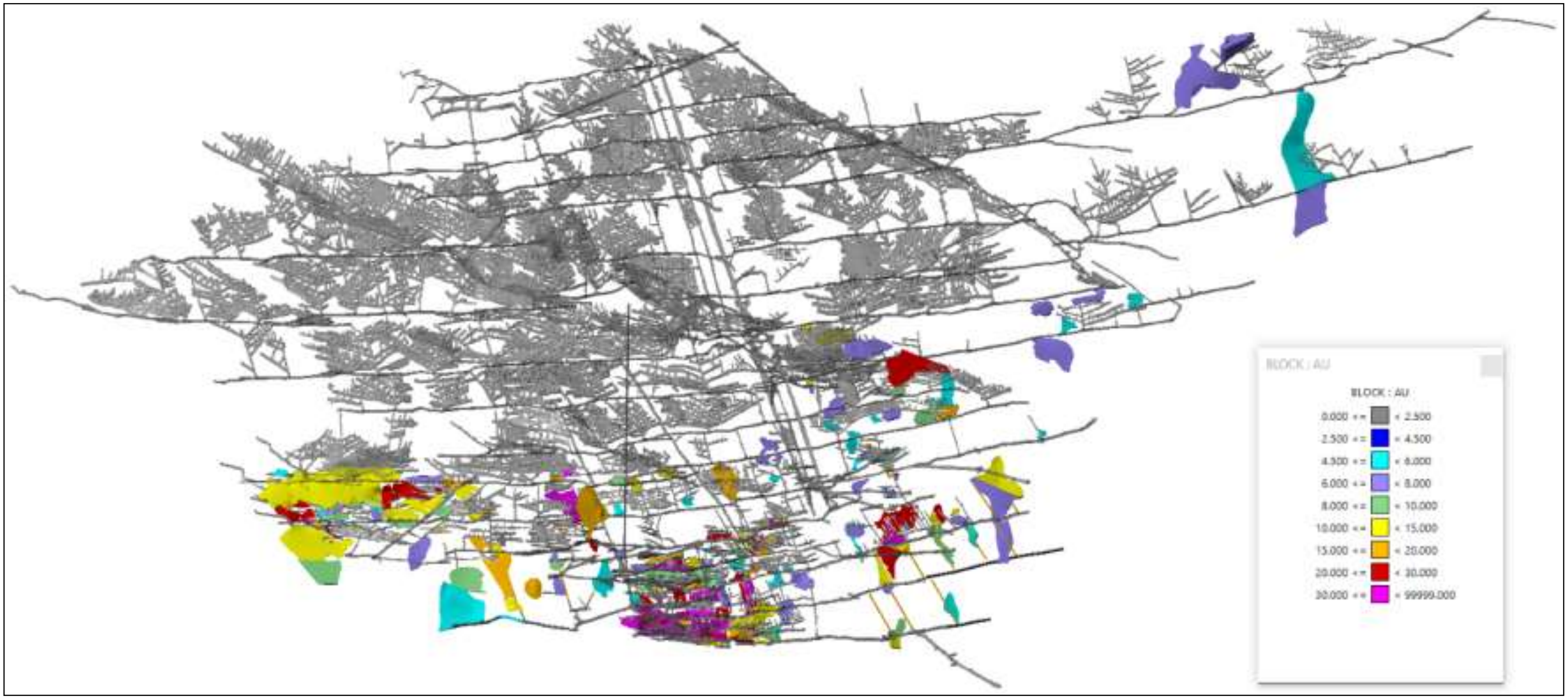
16.10 Mine Design

Based on the identified mining areas, development was designed as necessary to provide access. In the room and pillar areas, development consists of a 3 m by 3 m development access to the area and a raise/access along the vein (referred to as a tambores). Tambores are developed along the dip of mineralization (~35°), using approximate dimensions of 1.5 m by 1.5 m, and serve as a material handlings area where material is slushed to and subsequently moved out of the panel. Tambores were not designed into all mining panels, however these should be completed in detailed design prior to mining. In many cases development accesses to panels exist through current working and did not need to be specifically designed.

In cut and fill areas, main ramps are designed either in the hangingwall or the footwall (footwall vs hangingwall determined based on existing underground openings) and are offset approximately 35 m from the veins. Main ramp sizes range from 3 m by 3 m to 4.0 m by 3.5 m dependent on mining area. Main ramp grades are 13 % with turning radius ranging from 11 m to 15 m. The main ramps connect to the veins via attack ramps which are all sized as 3 m by 3 m openings. Currently the ramp has been developed to the lowest cut and fill level and attack ramps have been completed to select levels.

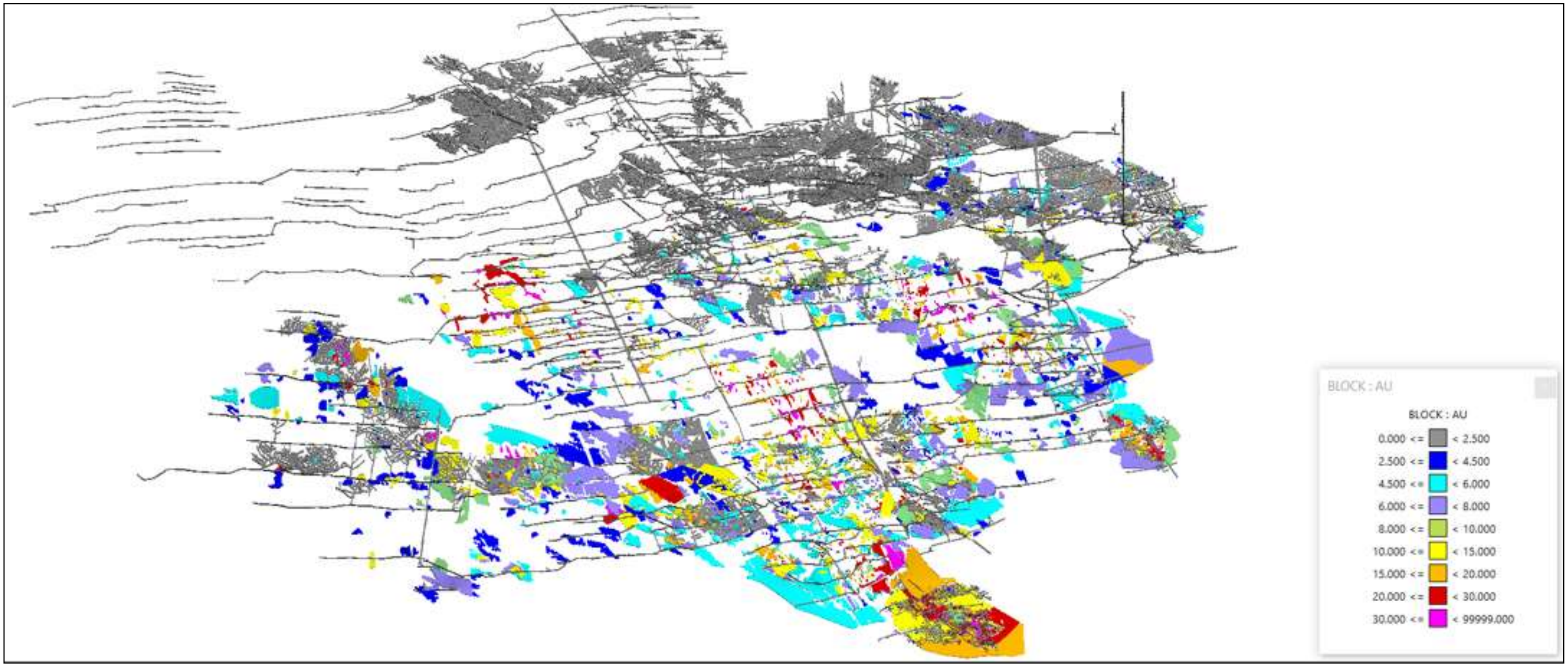
Additional infrastructure such as raises, and ventilation connections were designed as necessary. Waste tonnages were calculated using a density factor of 2.7 t/m^3.

Figure 16-13 to Figure 16-16 show the completed mine design, colored by Au grade, for each mining area.



Source: SRK, 2020

Figure 16-13: Providencia Mine Design, Colored by Au Grade (Rotated View)



Source: SRK, 2020

Figure 16-14: El Silencio Mine Design, Colored by Au Grade (Rotated View)

Source: SRK, 2020

Figure 16-15: Sandra K Mine Design, Colored by Au Grade (Rotated View)

Source: SRK, 2020

Figure 16-16: Carla Mine Design, Colored by Au Grade (Rotated View)

The mine design total tonnage and Au quantities are summarized in Table 16-9. The mining areas are mined by the owner and by contractors and include mining of remnant pillars.

Table 16-9: Summarizes the Mine Design for Each Area

Area	Mining Type	Tonnes (t)	Au Grade (g/t)	Ounces Mined (oz)
Providencia	Owner Cut & Fill	44,193	24.19	34,366
	Owner Room & Pillar	207,958	11.14	74,497
	Subtotal	252,151	13.43	108,864
	Masora - Contractor Remnant Pillar	67,350	17.61	38,139
	Providencia Ore Total	319,502	14.31	147,003
	Waste Development	20,518		
Carla	Owner Cut & Fill	-	-	-
	Owner Room & Pillar	103,843	10.03	33,489
	Carla Total Ore	103,843	10.03	33,489
	Waste Development	36,891		
Sandra K	Owner Cut & Fill	-	-	-
	Owner Room & Pillar	248,531	8.85	70,713
	Sandra K Total Ore	248,531	8.85	70,713
	Waste Development	85,891		
El Silencio	Navar -Contractor Room & Pillar	243,802	16.43	128,813
	Owner Room & Pillar	1,069,140	8.45	290,337
	El Silencio Total Ore	1,312,942	9.93	419,150
	Waste Development	121,037		
Total Ore		**1,984,818**	**10.50**	**670,356**
Total Waste Development		**264,338**		

Source: SRK, 2020

16.11 Productivities

Productivities are developed from the existing operations and based on productivity improvements that mine personnel think are achievable given additional equipment/training. The current productivities are low if benchmarked against other projects in Mexico and South America but are improving. A pilot mining program is being tested at the Sandra K mine to increase productivities that is a variant of the inclined panel mining to test the modified methodology.

General schedule parameters applicable to all underground mining activities are presented in Table 16-10.

Table 16-10: Schedule Parameters for Underground Mining

Schedule Parameters	Units	Value
Annual mining days	days/year	360
Mining days per week [1]	days/week	7
Shifts per day	shifts/day	3
Scheduled shift length	hrs/shift	8
Scheduled Deductions		
Travel to/from the underground working area from the surface	hrs/shift	1
Workplace examinations/equipment pre-shift inspections	hrs/shift	0.25
Lunch	hrs/shift	0.5
Breaks	hrs/shift	0.5
Total Scheduled Deductions	**hrs/shift**	**2.25**
Operating time (scheduled shift length less scheduled deductions)	hrs/shift	5.75
Effective time (operating time reduced to a 50-minute hour, i.e., multiplied by 83.3%)	hrs/shift	4.79

(1) 50% of mine personnel work on Sundays, extracting normal production.
Source: SRK, 2019

Table 16-11 summarizes the productivities used in the production schedule. Note that these rates are based on full months (i.e. operating every day of the month).

Table 16-11: Productivities Used in the Prodcution Schedule (1)

Area	Activity Type	Cross Section (m)	Rate
Providencia	TBR (Tambores)	2.5x1.8	20 m/month
	SIL (Horizontal Development)	3x3.5	25 m/month
	XC (Horizontal Development)	3x3.5	30 m/month
	MAS (Masora Contractor)		30 t/d
	CAF (Owner Cut and Fill Mining)		30 t/d
	RAP (Owner Room and Pillar Mining)		30 t/d
El Silencio	ACC (Horizontal Development)	4.0x3.5	40 m/month
	APQ (Apique)	2.5x2.5	30 m/month
	APQ (Apique)	3.7x3.0	25 m/month
	APQ (Apique)	4.2x2.2	25 m/month
	APQ (Apique)	4.2x3.0	25 m/month
	CAM (Horizontal Development)	3.0x3.0	40 m/month
	CAM (Horizontal Development)	4.0x3.5	40 m/month
	CHM (Vertical Development)	3.0x3.0	20 m/month
	PKT (Pocket Development)	2.5x2.5	20 m/month
	RMP (Horizontal Development)	4.0x3.5	50 m/month
	SIL (Horizontal Development)	2.5x2.5	40 m/month
	SIL (Horizontal Development)	4.0x3.5	40 m/month
	TBR (Tambores)	2.0x1.4	40 m/month
	Room and Pillar Mining		30 t/d
Sandra K	ACC (Horizontal Development)	3.5x3.5	20 m/month
	APQ (Apique)	various	25 m/month
	CH (Vertical Development)	3x2.6	30 m/month
	PKT (Pocket Development)	2.5x2.5	10 m/month
	RMP (Horizontal Development)	3.5x3.5	40 m/month
	SIL (Horizontal Development)	2.5x2.5	30 m/month
	TBR (Tambores)	2x1.5	30 m/month
	Room and Pillar Mining		30 t/d
Carla	Apique (6 m x 2.5 m)		30 m/month
	Development Accesses (2.2 m x 2.3 m)		40 m/month
	Tambores (2 m x 2 m)		40 m/month
	Room and Pillar Mining		35 t/d

Source: SRK/GCG, 2020
(1) Note that dimensions used in this mine design may vary slightly from actual development (i.e., 3 m by 3 m vs 3 m by 3.2 m) These minor dimension changes can be made at the detailed mine planning stage.

16.12 Mine Production Schedule

Production schedules were generated using Vulcan Gantt scheduling software and were completed by GCG personnel. The mill is expected to operate 92% of the time, or 335 days/year with a capacity of 502 kt per year (1,500 t/d). Ore material quantities from each mine vary over time with approximate targeted averages as follows:

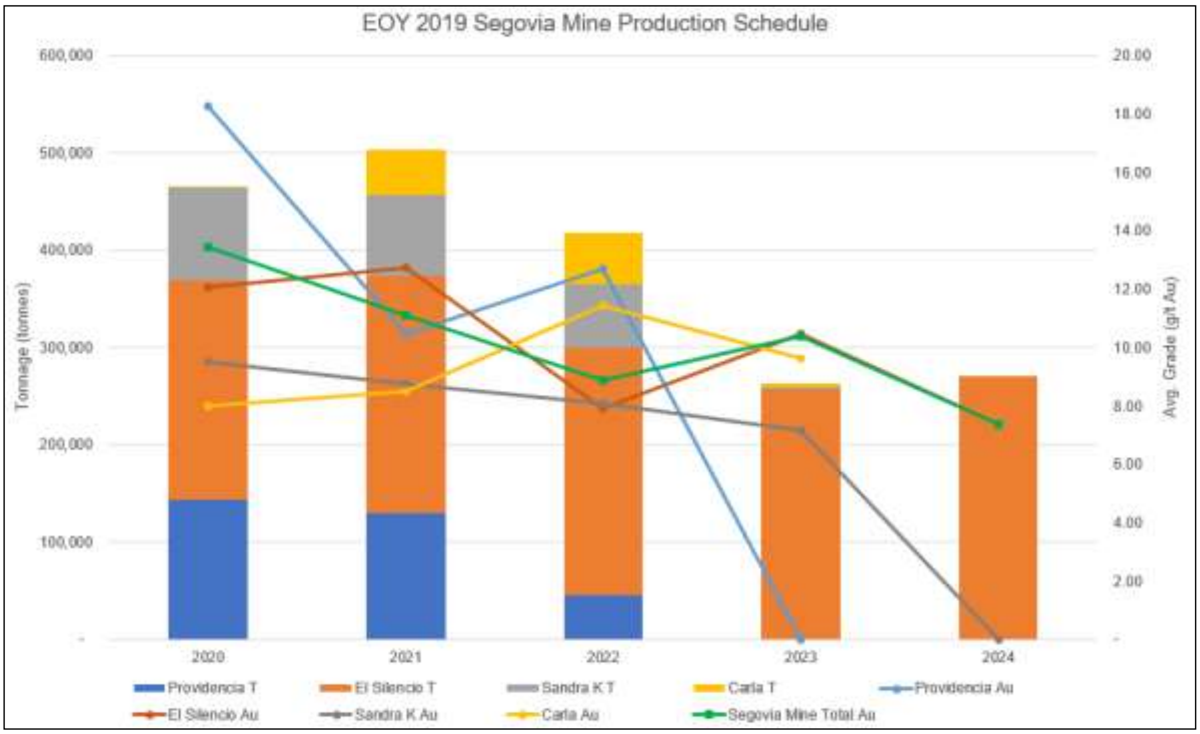
- Providencia (owner and contractor): 400 t/d
- Sandra K: approximately 250 t/d
- Carla: approximately 150 t/d
- El Silencio – initially 670 t/d, increasing to 800 t/d

Table 16-12 and Figure 16-17 present the production schedules. Figure 16-18 to Figure 16-21 show the annual mining schedule for each area. Figure 16-22 shows the in situ gold ounces by mine. Additional detailed mine planning is recommended at El Silencio to ensure appropriate blending similar to that presented in this PFS schedule.

Table 16-12: Segovia Mine Production Summarized Schedule

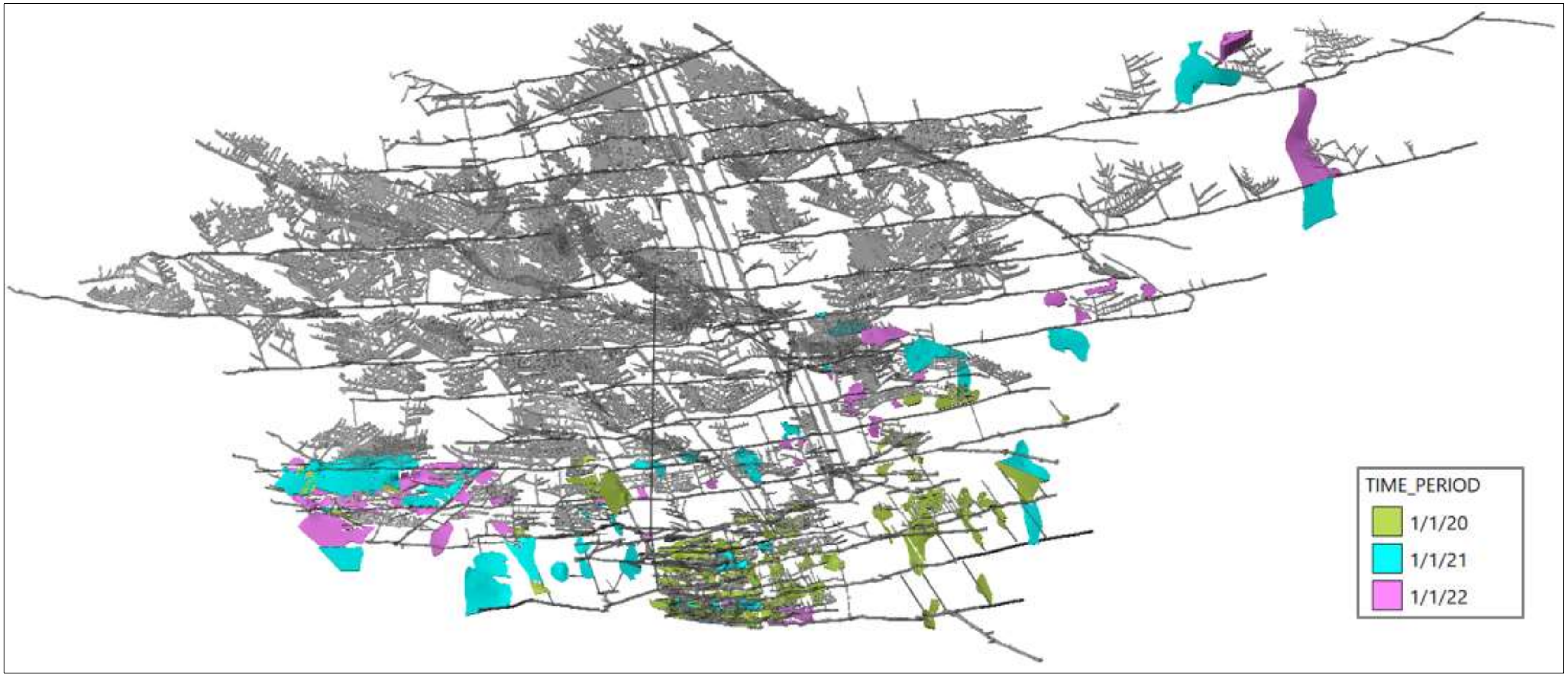
Description	Units	2020	2021	2022	2023	2024	2025	Total
Tonnes	(t)	464,911	504,087	417,750	263,586	271,533	62,953	1,984,818
Au In Situ	(oz)	201,141	180,086	119,552	88,243	64,301	17,032	670,356
Au Grade	(g/t)	13.46	11.11	8.90	10.41	7.37	8.42	10.50
Waste Tonnes	(t)	111,063	92,806	59,428	1,040	-	-	264,338

Source: SRK, 2020



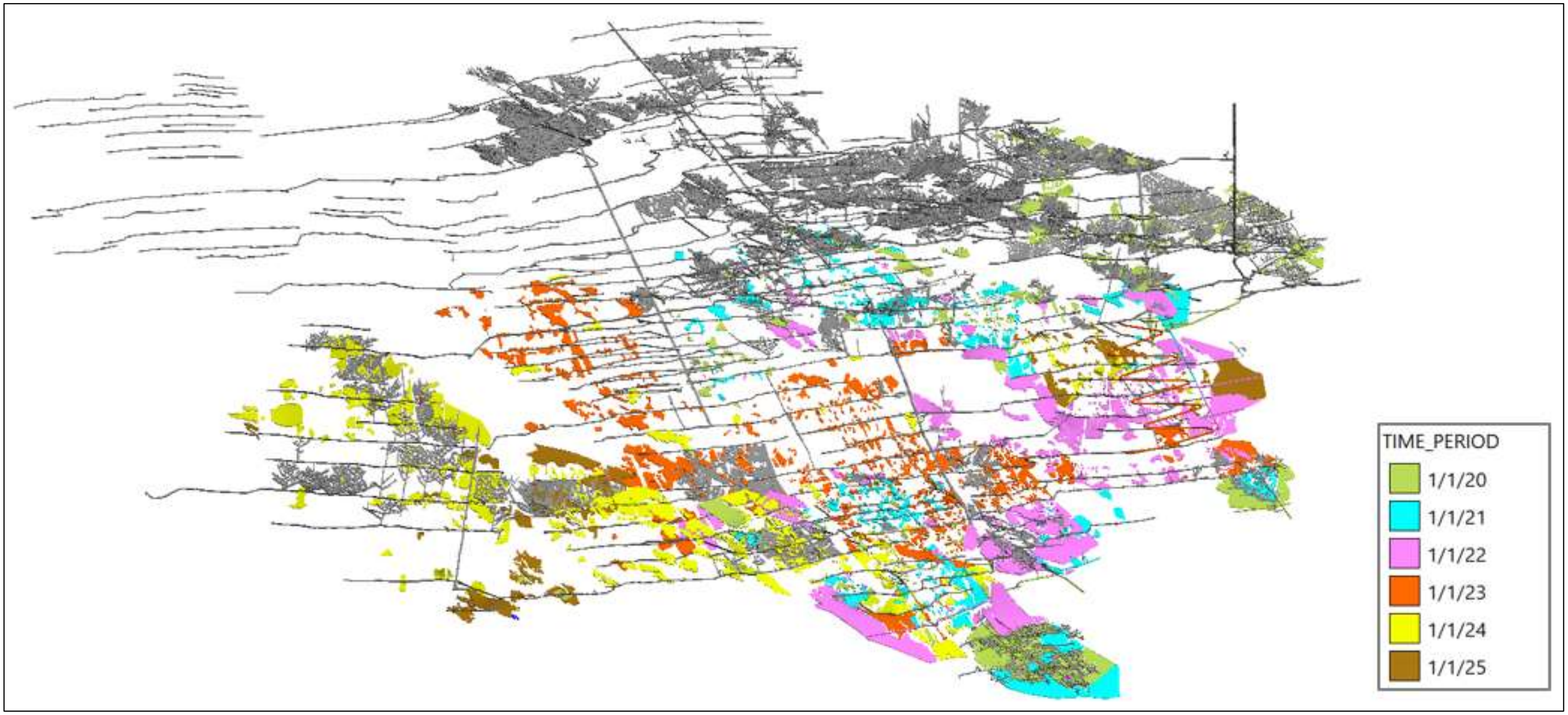
Source: SRK, 2020

Figure 16-17: Segovia Mine Production by Area



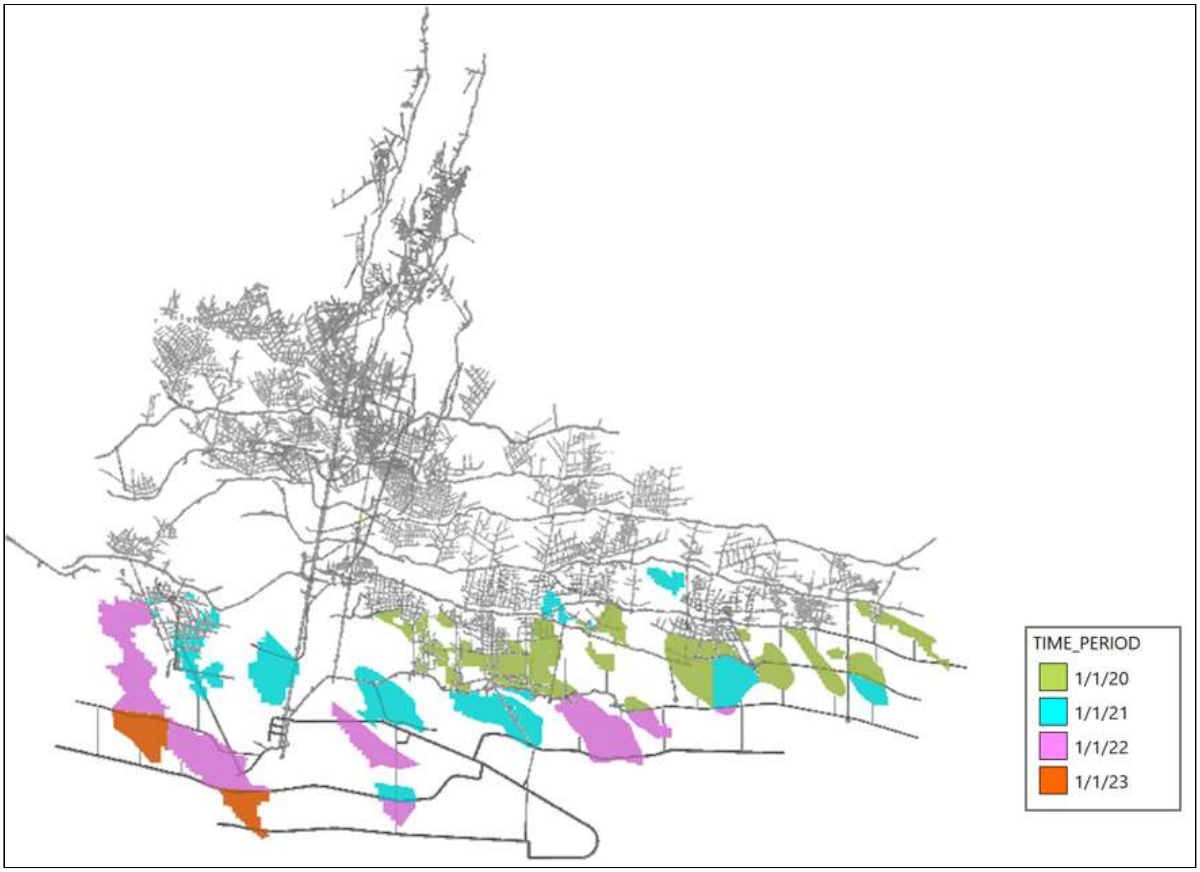
Source: GCG, 2020

Figure 16-18: Providencia Mine Production Schedule Colored by Time Period (rotated view looking south)



Source: GCG, 2020

Figure 16-19: El Silencio Mine Production Schedule Colored by Time Period (rotated view looking west)

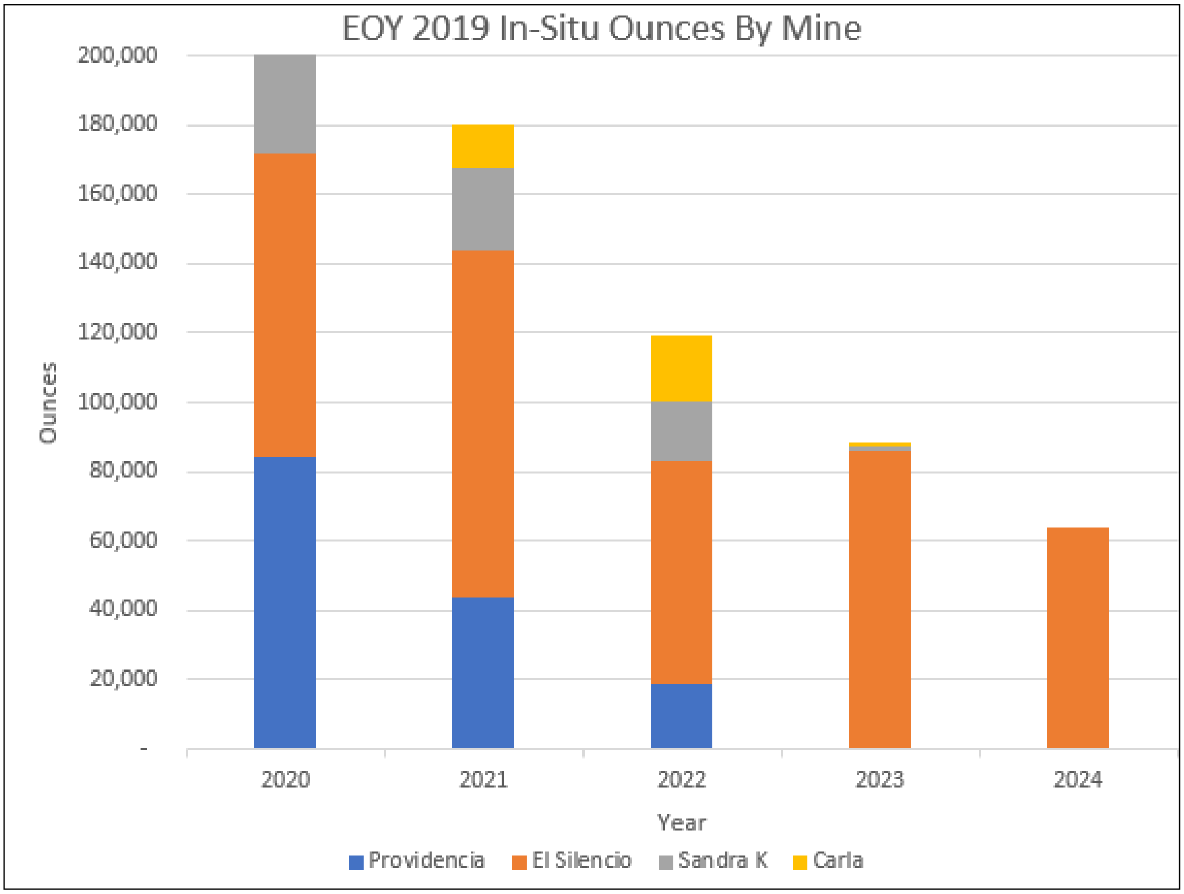


Source: GCG, 2020

Figure 16-20: Sandra K Mine Production Schedule Colored by Time Period (rotated view looking west)

Source: GCG 2020

Figure 16-21: Carla Mine Production Schedule Colored by Time Period (rotated view looking west)



Source: SRK, 2020

Figure 16-22: In Situ Au Ounces by Mine

Appendix C contains tables with detailed scheduled information for each area as well as yearly mine progression for each area.

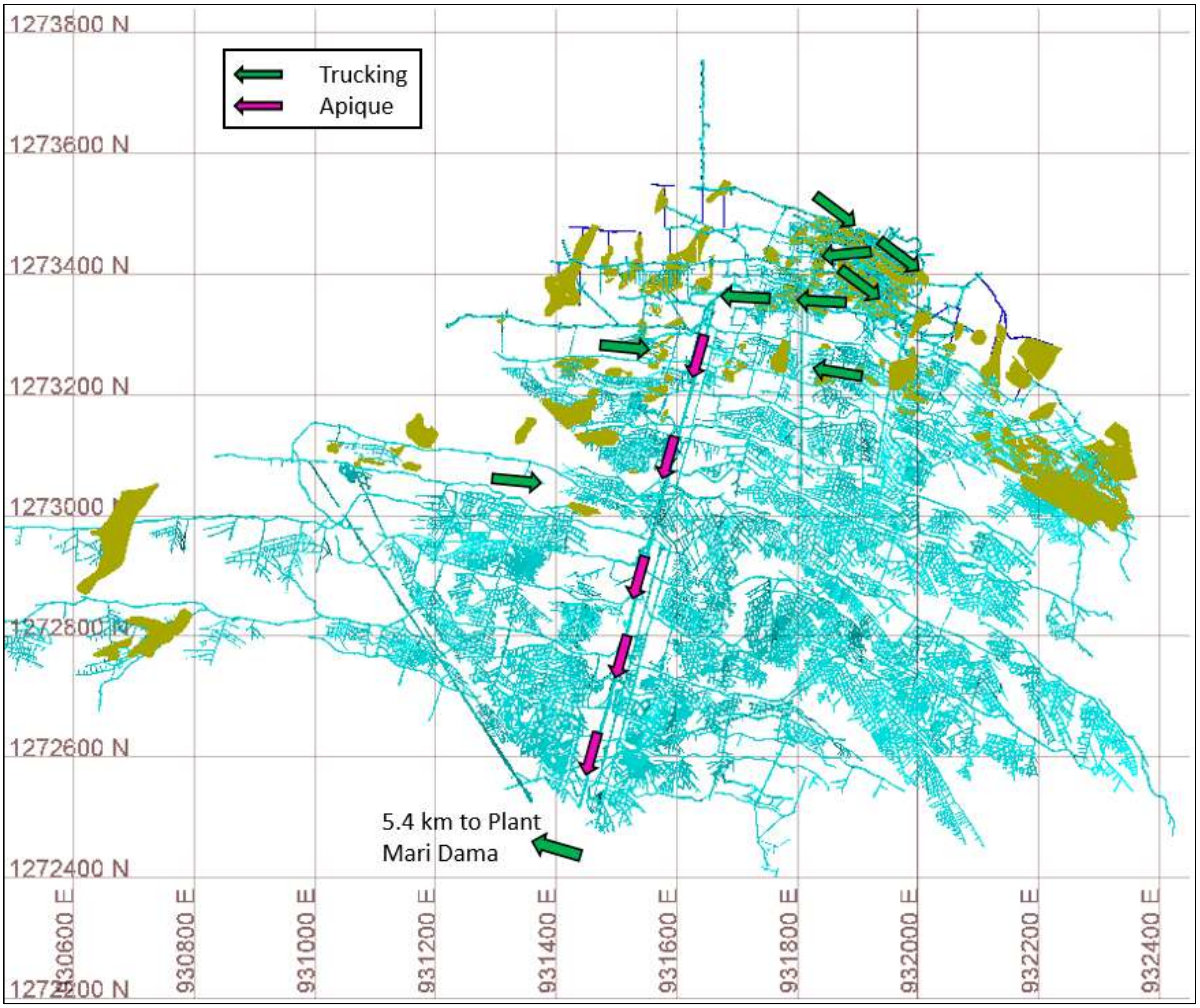
16.13 Mining Operations

16.13.1 Mine Access

SRK has reviewed the current limitations of the apique hoist systems and has the following comments:

- Providencia apique system has a capacity of 550 t/d. This system is currently being used by the owner and contract miners. The mine plan has combined ore and waste production of 350 to 450 t/d (based on year-round operations). The current apique system capacity will be sufficient to handle the proposed tonnage. Apique 3530 provides access from Level 12 to the Cero Level and has a capacity of 650 t/d. Apique 3660 has a capacity of 550 t/d and provides service from Level 11 to Level 8.

Figure 16-23 shows a general Providencia material flow.

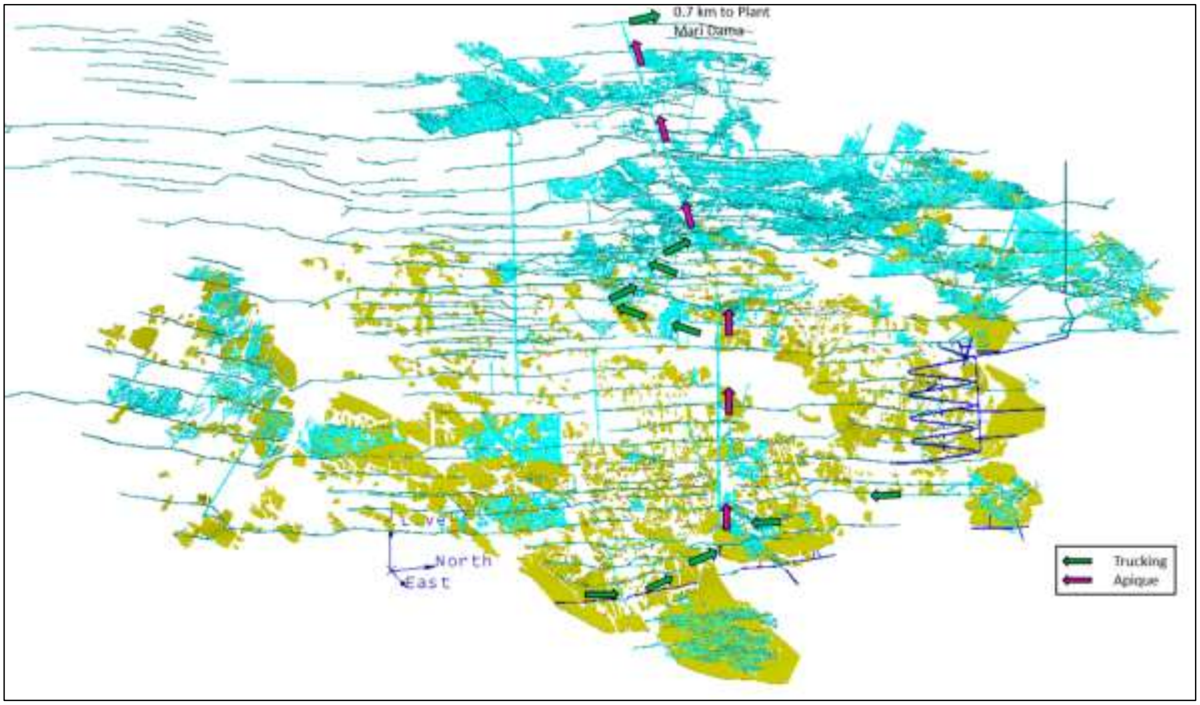


Source: SRK, 2020

Figure 16-23: Providencia Mine Ore Path to Surface (rotated view)

El Silencio Mine is accessed via several apique systems. Apique Bolivar provides access from the surface to Level 18, with a project to extend it to Level 21. The project is 80% complete. Apique Bolivar has a capacity of 825 t/d. It used for GCM production. Apique Cero is used primarily by the contractor Navar and provides access from the surface to Level 28 and has a capacity of 480 t/d. Apique 450 provides Navar access to the deepest portions of the mine at Level 28. The 450 apique will be re-powered to provide a 600 t/d capacity in Q3 2020. There are ramps in some areas connecting various apique systems. Current projects at the mine include deepening of Apique Bolivia, completing a ramp near Apique 0, and a new apique at depth to the northeast. There is a raise to surface in the northern part of the mine which has just been completed. The mine plan has combined ore and waste production of 720 to 970 t/d (based on year-round operations).

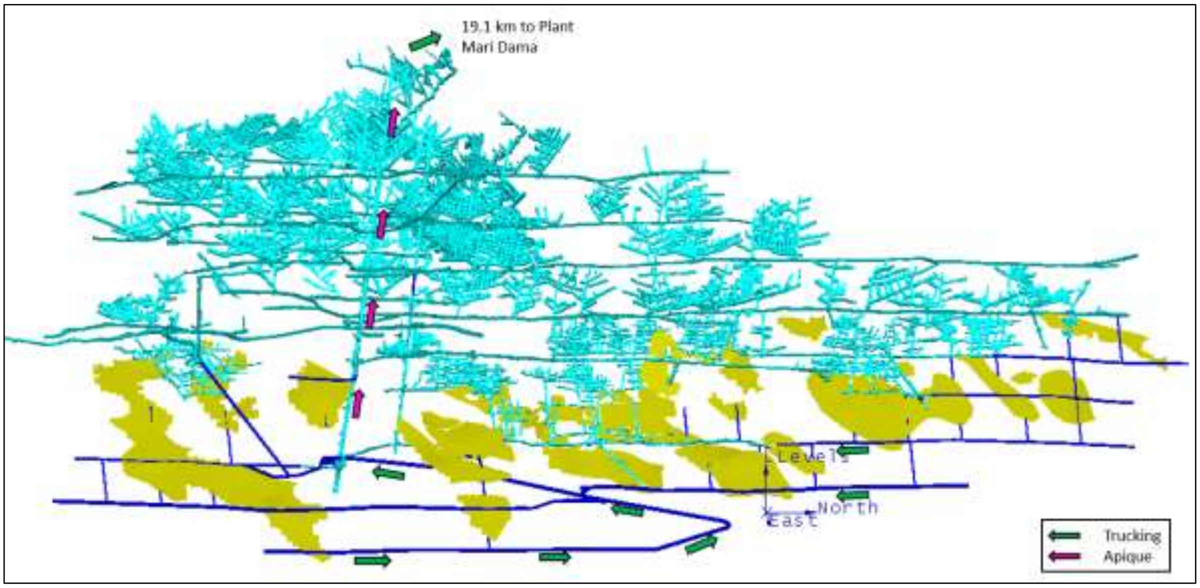
Figure 16-24 shows a general El Silencio Mine material flow.



Source: SRK, 2020

Figure 16-24: El Silencio Mine Ore Path to Surface (rotated view)

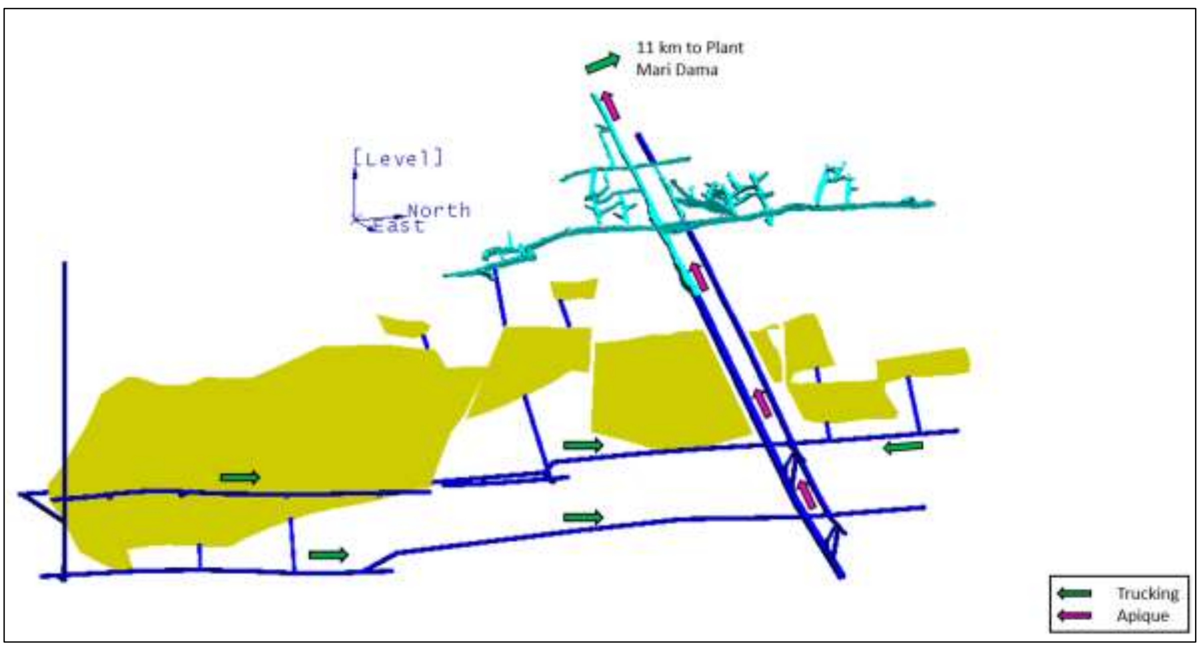
Sandra K apique system has a capacity of 522 t/d. The mine is serviced by two apiques. Apique 6400 operates at 690 t/d and provides access from the surface to Level 3 and is being extended to Level 6. Apique 6430 operates at 350 t/d, is being converted for personnel access, and operates from Level 6 to Level 4. All mining at Sandra K is owner miner and contract miners are not currently mining in these areas. The mine plan has combined ore and waste production of 200 to 250 t/d (based on year-round operations). Figure 16-25 shows a general Sandra K material flow.



Source: SRK, 2020

Figure 16-25: Sandra K Mine Ore Path to Surface (rotated view)

Carla will have a new apique from surface, with a planned capacity of 600 t/d. All mining at Carla will be by contract mining. The mine plan has combined ore and waste production of 40 to 200 t/d (based on year-round operations). Figure 16-26 shows a general Carla material flow.



Source: SRK, 2020

Figure 16-26: Carla Mine Ore Path to Surface (rotated view)

16.13.2 Mine Development

At Sandra K, the majority of the development is achieved using airleg drills boring 2.2 m horizontal drillholes. The faces are charged with INDUGEL Plus AP and ANFO for blasting. Broken material is loaded using a rail-mounted loader (rocker shovel) that pneumatically loads the material into adjacent rail cars. Once the material is removed, rail tracks and suitable rock support are installed, and the process repeated. The development cycle is typically completed once per shift.

At El Silencio and Providencia, jumbos are used to develop the main ramps. The jumbos drill 3 m rounds that are loaded with INDUGEL Plus AP and ANFO for blasting. Material is loaded with 2 to 3 yd^3 LHD's into 7 to 15 t nominal trucks (5.5 to 12 t effective) that move the material to the apique systems.

Rock bolting is completed on an as needed basis with jacklegs. Additionally, rock support utilizes steel mesh, shotcrete, timbering or steel frames. Much of the development is left unsupported due to the good quality of the walls rock (granodiorite Type I and II)

Ventilation raises are developed using airlegs drilling vertical holes from a constructed staging area. In some cases, contract Alimak raises are constructed. As the raise progresses upward the blasted rock is loaded below using an overshot mucker or LHD. 1.5 m by 1.5 m raises are mined initially and then enlarged to 4 m by 4 m raises.

SRK notes that if these mining methods are used in the future, additional geotechnical work should be completed to assess the stability of working areas to ensure safe working conditions for the many personnel working underground. The extraction ratios are explained in other sections of this report.

16.13.3 Grade Control

Grade control is performed by a grade control geologist using a disk cutter to remove material from vein and surrounding rock. The sampling intervals are marked on the face using spray paint by the grade control geologist prior to sampling. All sampling is stopped along key geological contacts which are labeled as separate samples. The samples are taken from footwall to hangingwall with sampling approximately every 2 m along the drift or development raise. Samples are cut onto a plastic sheet to ensure a complete sample is captured and are then placed into a plastic sample bag. Areas where incomplete intersections exist are logged in the database such as vein in the hangingwall or footwall of the drift. These samples should be excluded from the geological modeling process as they would likely result in pinching of the vein on a local scale. In areas operated by contractors, a similar process is used but sampling uses a hammer and chisel and is considered a continuous chip sample. SRK considers the quality of these samples to be lower than using the disk cutter to ensure sample representativity.

The material placed in bags, is labeled by sample ID, location, and the location survey. The samples are shipped to a local laboratory operated by GCG (mine and contractors) and also to SGS Medellín (for exploration channels). Once analyses are received, the short-term planning geologists use polygonal methods, based on solely the mine control samples, to estimate the tonnes and grade for an area. SRK recommends the mine move to an active database and estimation process using the grade control samples to update the block models continuously as the sample information is available. This would allow for using standard estimating techniques, using grade control samples and exploration samples, to report tonnes and grade for an area. These models could then be evaluated on a local scale by polygons delineating the production panel for any given period. Currently grade control samples are only incorporated into the resource block model a few times a year, which SRK does not consider as appropriate for short term planning. The introduction of short-term models will also enable the ability to monitor the performance of the Mineral Resource model though out the year and allow management more flexibility.

16.14 Ventilation

The layout and evaluation of the existing ventilation systems for the Providencia Mine, El Silencio Mine and Sandra K Mine has been described in SRK's report entitled "Review of Existing Ventilation Systems for the Providencia, El Silencio, and Sandra K Mines" (SRK, 2018). The expansion of the existing ventilation systems to meet the new equipment loads and mining areas is described in the following sections.

16.14.1 Basic Airflow Quantity Considerations

Several factors must be considered when determining the airflow requirements for the mine such as gas dilution, diesel particulates, heat, maintaining minimum air velocities and meeting government regulations. These factors need to be applied to target areas to determine the actual total mine airflow requirement.

Personnel Airflow Requirement

As the operation is less than 1,500 mamsl, Colombian regulations state that the minimum airflow per worker is at least 0.05 m^3/s. This airflow requirement is typically used in areas without diesel equipment, as the requirements for ventilating diesel equipment far exceeds this value. This requirement includes the traditional room and pillar mining areas.

Diesel Dilution

As the operation is less than 1,500 mamsl, Colombian regulations state that the minimum airflow for diesel equipment is 4 m^3/minute per hp which relates to 0.09 m^3/s per kW of engine power to ensure gaseous and aerosol contaminants from diesel equipment are sufficiently diluted, which is a typical minimum design value for many ventilation systems. This will be used to determine the airflow in the ramps/haulage routes, and on the mining levels.

Ventilation Raises

Two types of ventilation designs are used in the development of the underground ventilation system. Raise bore raises or Alimak raises, and room and pillar stope raises. The Alimak raises are modeled with dimensions ranging from 2 m by 2 m for inter level access raises to 3.5 m by 3.5 m for the long El Silencio main exhaust raise to surface (the top 36.75 m of the raise is over bored with a diameter of 5 m). The room and pillar raises are developed through the vein and will only have the height of the vein, but their width may be larger. These were modeled at an equivalent area of 1.5 m by 1.5 m. Smaller surface exhaust raises were considered at 2.5 m diameter.

Horizontal Airways

Horizontal room and pillar accesses are sized at 3 m by 3 m to allow for the operation of an LHD. The cut and fill levels are designed at 3 m by 3 m to allow for the operation of an LHD with the access are designed at 4 m by 4 m to allow for the loading of the truck. The ramps are designed at 4.5 m by 4.5 m.

For the room and pillar accesses where LHDs are not used, the access drifts will be approximately 2.4 m by 2 m. A notch will be required in the ramp just above the level to allow for the placement and operation of the level auxiliary fan.

Air Velocities

Air velocity limitations vary according to airway type. In areas such as return airways and shafts where personnel are not expected to work, higher velocities are acceptable. Table 16-13 shows airway velocities typically used by SRK for various airway types. Air velocity limits and recommended value s for travel ways are established to accommodate work and travel by personnel and equipment, optimizing dust entrainment and temperature regulation.

Table 16-13: Recommended Maximum Air Velocities for Various Airway Types

Airway Type	Air Velocity (m/s) Maximum
Travel Ways (As Required by Colombian Regulations)	6
Primary Ventilation Intake and Exhaust Entries (No Personnel)	10
Primary Ventilation Shaft(1)	20
Ventilation Shaft with Conveyance or Escape	10

Source: SRK, 2020
(1) The typical value of 20 m/s is used to represent the maximum air velocity in a raise/shaft, for design purposes a value of 18 m/s is generally used to allow for flexibility in the design.

Low airflow volumes may insufficiently dilute/remove airborne dust, but high air velocities will entrain larger dust particles, resulting in a potentially hazardous environment for personnel. An air velocity between 1.5 m/s and 2.5 m/s should be maintained to minimize dust in areas affected by dust generation. Air velocities in this range represent the provision of sufficient airflow to dilute the dust, without excessive air velocity to re-entrain dust.

In general, the minimum air velocity in a heading (without diesel equipment in operation) is based on the perceptible movement of airflow which is between 0.3 m/s and 0.5 m/s. The higher value of 0.5 m/s is used to comply with Colombian regulation.

Heat

Especially in areas ventilated with minimal air velocity, the heat produced by equipment (diesel or electric) may not dissipate quickly enough and could result in high air temperatures which could pose a hazard to workers. SRK recommends that a wet bulb temperature of 28°C be used as the design maximum for acclimated workers in areas where personnel will be active. Colombian regulations allow for an effective temperature 28°C above which work/rest cycles are required up to a maximum of 32°C. If conditions exceed this value in an active working area, work should be stopped, and the equipment load reduced or auxiliary ventilation systems adjusted. If this is not possible (i.e. auxiliary systems are already at maximum capacity or equipment load in the area cannot be further reduced), the establishment of a work-rest regimen (regular scheduled rest breaks) for workers may be required to maintain safe working conditions for miners working in elevated temperatures. Providing workers with cool water also helps to reduce the effects of heat on workers.

16.14.2 Airflow Calculations

SRK and GCG compiled a schedule of development and production equipment that will be in operation over the LoM. Airflow volume requirements for each vehicle were established based on vehicle motor power (kW) at 0.09 m^3/s per kW and the airflow requirement for personnel was allocated at 0.05 m^3/s

per person. The airflow allowance for leakage is identified through the ventilation models and is not represented by a fixed percentage. A level of conservativeness is built into the airflow calculation as it assumes that all equipment is in operation at a 100% utilization rate.

The airflow requirement in cubic meters per second (m^3/s) for the various mining areas, based on personnel and the diesel equipment fleet, is shown in Table 16-14. The airflow requirement expressed as cubic feet per minute (cfm) is included for reference.

Table 16-14: Airflow Calculation for the Providencia Mine

Mine	Quantity	Equipment	Power (Hp)	Airflow (m^3/s)	Total Airflow (m^3/s)	Total Airflow (kcfm)
El Silencio	1	Jumbo D201 12 ft	54	3.6	133.4	282.7
	1	Muki LHB 8 ft	74	5		
	1	Volqueta T 12	173	11.7		
	2	Volqueta Sandvik TH 315	220	29.7		
	1	Scoop Sandvik LH203	95	6.4		
	1	Scoop MTI LT210	55	3.7		
	1	Scoop Sandvik LH307	201	13.6		
	1	Bulldozer 550 J	85	5.7		
	1	Camioneta Toyota	230	15.5		
	2	Utilitario Kubota	25	3.4		
	1	Camion NPS de Personnel	153	10.3		
	495	Personnel (0.05 m^3/s per worker)		24.8		
Providencia	1	Jumbo	54	3.6	75.9	160.9
	1	Volqueta YMC	86.5	5.8		
	1	Volqueta YMC	86.5	5.8		
	1	Volqueta YMC	86.5	5.8		
	1	Volqueta Joy	96	6.5		
	1	Scoop LH203	112	7.6		
	1	Scoop LH203	112	7.6		
	1	Scoop MTI Diesel	50	3.4		
	2	Utilitario Kubota RTV	24.8	3.3		
	1	Camioneta	150	10.1		
	1	Bobcat	49	3.3		
	260	Personnel (0.05 m^3/s per worker)		13		
Sandra K	1	Jumbo	54	3.6	68.6	145.4
	1	Scoop	201	13.6		
	3	Volqueta Sandvik TH315	220	44.6		
	1	Bobcat	46	3.1		
	75	Personnel (0.05 m^3/s per worker)		3.8		
Carla	3	Jumbo	54	10.9	71.5	151.6
	2	Camion MTI Modelo TH315	220	29.7		
	2	Cargador Sandvik LH307	201	27.1		
	75	Personnel		3.8		

Source: SRK, 2020

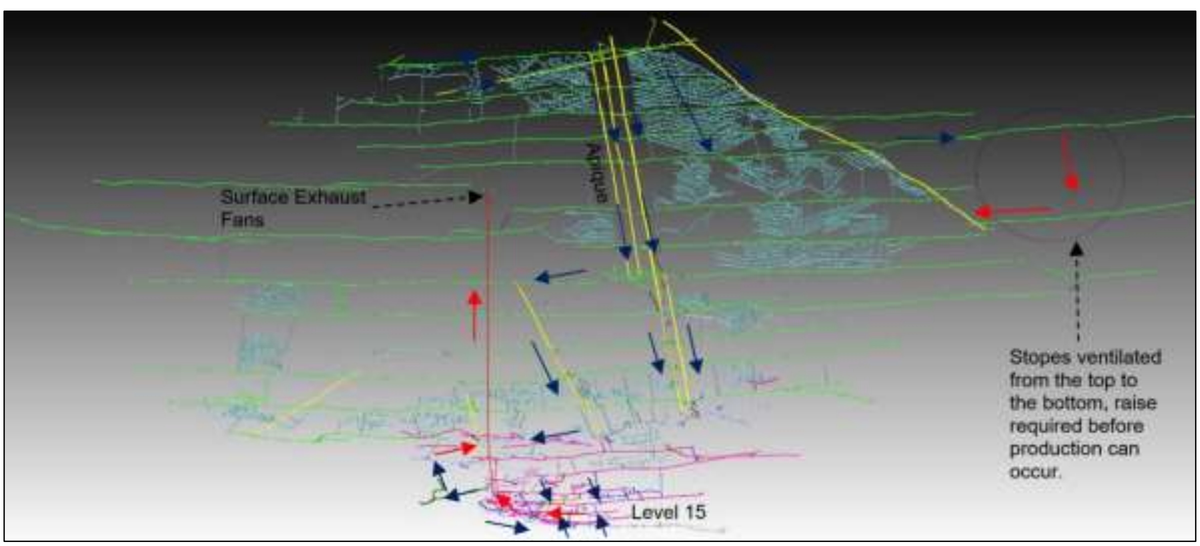
16.14.3 Ventilation System Design and Layout

In 2019, ventilation models were developed for each of the four mines at representative maximum-case layouts. The mine plans have since been revised significantly for Sandra K and Carla mines. The El Silencio mine has been revised to incorporate a ramp extending from the base of the Alimak to approximately Level 36 with an internal exhaust raise connected to the base of the Alimak. The main ventilation differences for the updated mine plans are the amount of diesel equipment used in the mines. The overall approach to the ventilation system at each mine is identified in the following sections.

Providencia Mine

The basic ventilation circuit for the Providencia mine exists, however, the system needs to be continually upgraded with improved bulkheads to counter the normal wear on the system and to reduce leakage. The surface exhaust raise fan collar house will require continued maintenance and re-flashing to minimize leakage and maximize efficiency to allow the exhaust fans to operate at their full pressure. Fresh air is provided by the three surface openings and reaches the lower areas through both the apiques and the open workings. Once the air reaches the lower levels it is confined to the ramp and then is drawn through the stopes, up to Level 15, and then into the exhaust raise to surface (contra pozo). Level 15 will act as an exhaust plenum or transfer level to gather the exhaust airflow from the lower levels to move it into the contra pozo to surface. A 2.5 m by 2.5 m exhaust raise was developed between level 13 and level 15 and will be extended as new levels are developed.

The room and pillar stopes will be ventilated with fresh air supplied from the bottom and exhausted out the top, the cut and fill stopes will be ventilated from the stope access to the raises at the stope perimeter. Figure 16-27 shows the key infrastructure additions required to achieve the airflow distribution, along with the types and locations of the mining areas.



Source: SRK, 2020

Figure 16-27: Providencia Mine Infrastructure Additions

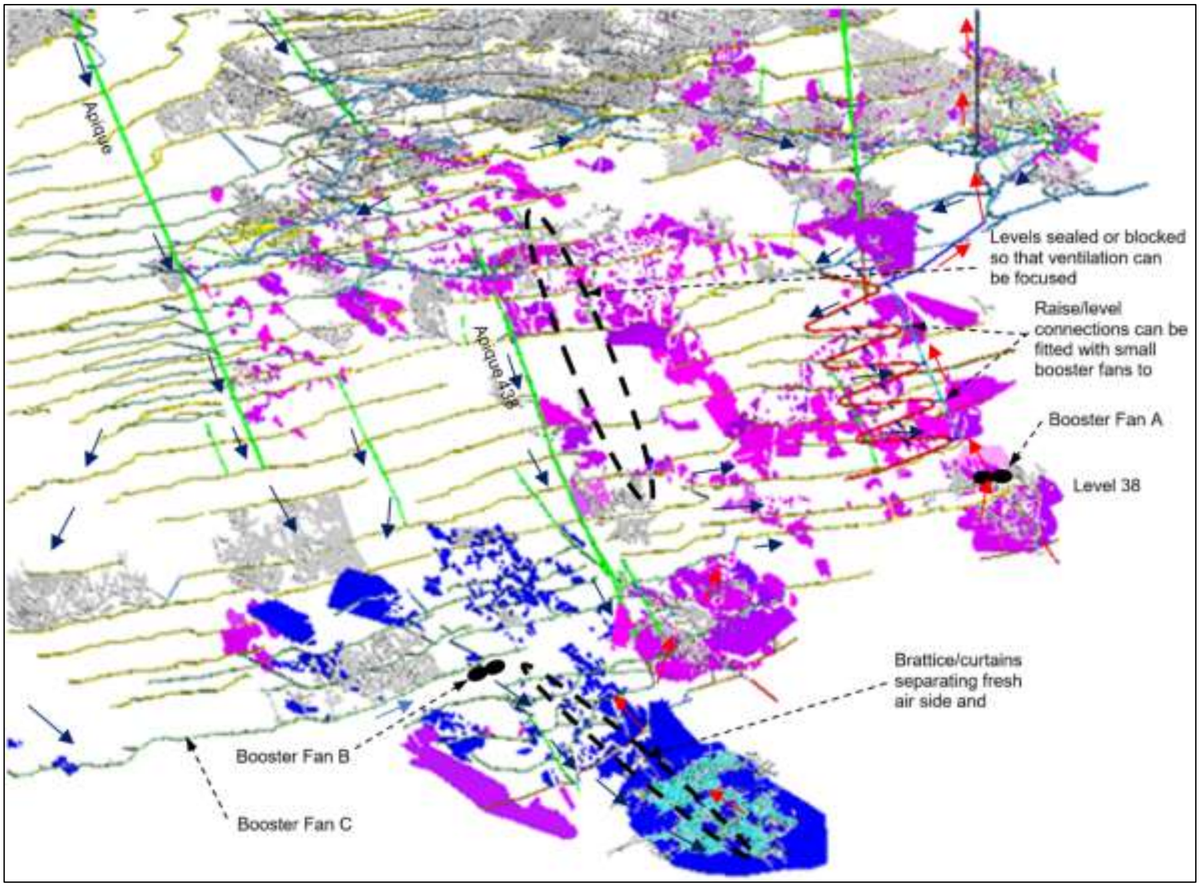
The stopes in the upper areas representing remnant mining will be ventilated from the top down. The blasting in these stopes will be required to be scheduled as the stope exhaust will be drawn down to the lower workings. For those stopes located on the perimeter of the mine, small booster fans will be required to force the airflow out to the extremities through the ventilation loops.

El Silencio Mine

The El Silencio mine generally has two working areas, located far away from each other, complicating the ventilation system. The El Silencio ventilation system will consist of several different air splits:

- One area (north) will be ventilated by drawing airflow down Apique Bolivia and parallel open stopes to the ramp system which will supply airflow to the stopes. The exhaust will be through the stope raises up to the base of the Alimak, then to the surface. The mining areas to the North will continue to be ventilated as they currently are with fresh air being provided through both the ramp and through the parallel stopes. The air is drawn to the bottom of the ramp and is directed into the exhaust raise. As new mining levels are developed deeper, the exhaust raise will be deepened in segments as is the current plan. The airflow entering the base of the raise will likely need to be regulated so that airflow may also be drawn from the south area.
- The second area (lower south) will be ventilated by drawing airflow down Apique 0 and lower apiques to the working areas. The stopes in this area are all room and pillar which will be ventilated with fresh air supplied from the top and exhausted through the base of the stope. The working areas will exhaust toward the north through a set of new perimeter raises and open stopes. As levels are developed below Level 38, fresh air can be drawn from the Apique system northern level extremities, and spiral ramp and brought onto the levels to be exhausted through the stope accesses leading to the upper level. The stope accesses/raises would be developed in segments to the levels above, with a larger exhaust raise developed at the end of the level so that exhaust air from levels further below could be exhausted in a manner bypassing an actively producing level. It is anticipated that only one or two levels would be in active production at any one time in this area, however multiple stopes along a level could be operated simultaneously.

The current design incorporates a ramp extending from the Alimak area down to Level 38. Fresh air will be supplied down this ramp and will be exhausted up a parallel raise to the base of the Alimak. One booster fan “A” located on approximately Level 36 or Level 38 will take airflow from the open stopes, ramp, and level, draw it into the raise, and exhaust it up to the Alimak to surface. A second booster fan/jet fan will be required to draw fresh air down to the lower levels which will then be exhausted back up to Level 38 and then toward booster fan “B”. Booster fan “C” was previously specified to be operational on Level 28 to draw fresh air from the perimeter to the access to the lower areas. Figure 16-28 outlines the proposed ventilation infrastructure layouts required to achieve the airflow distribution.

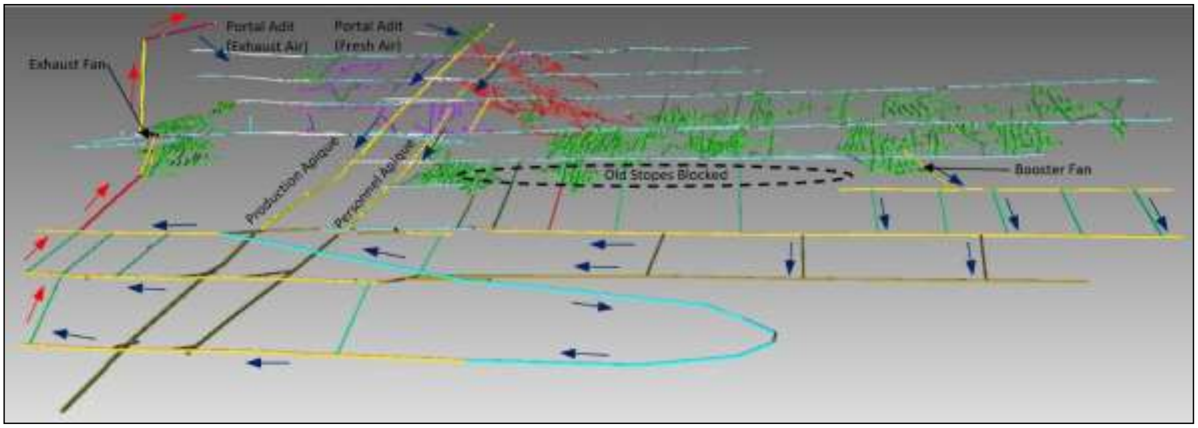


Source: SRK, 2020

Figure 16-28: El Silencio Base of Alimak Infrastructure Layout

Sandra K Mine

The basic ventilation routing for the Sandra K mine will have fresh air supplied through the existing portal adit and a short raise bypassing the blocked portal on Level 0 to the apique system. The exhaust will be through a new Alimak raise extending to surface with the exhaust fans located underground (currently installed). A zone between levels will need to be isolated so that a significant portion of the airflow can be drawn through the perimeter stopes, and then to the lower levels. This will require the installation of a booster fan. Figure 16-29 shows the model layout and ventilation routing. The maximum airflow through the mine is approximately 80.4 m^3/s, however, at this airflow the portal velocity will be approximately 8.4 m/s for a 25m section of drift but is reduced to 5.5 m/s for the rest of the portal adit. An ongoing program has been initiated to increase the portal dimensions to decrease the air velocity to 5 m/s.



Source: SRK, 2020

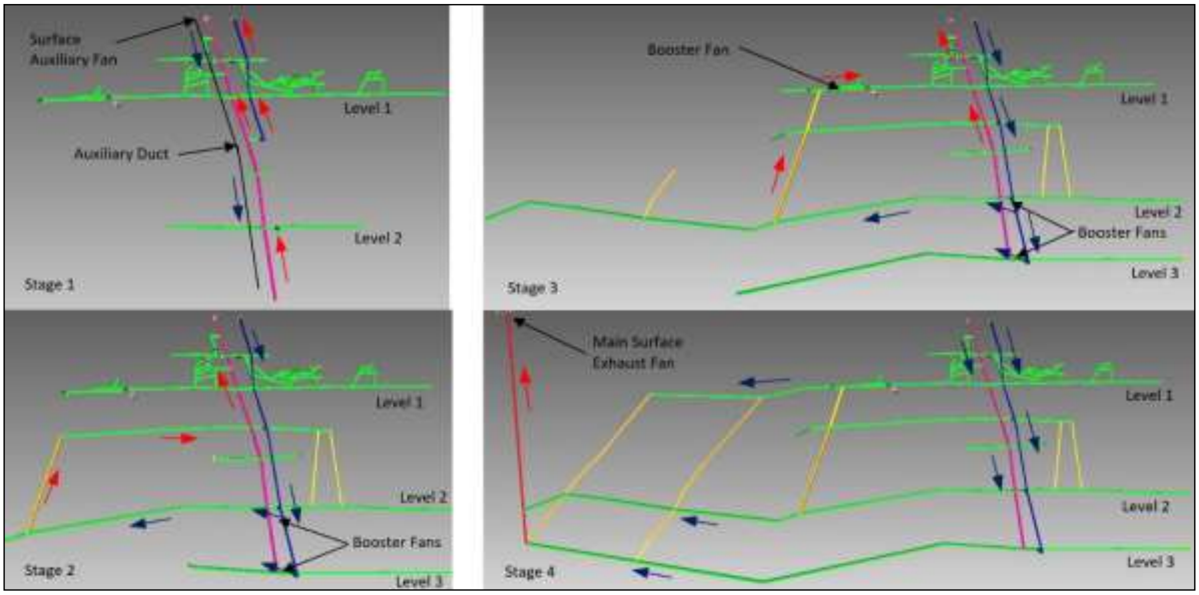
Figure 16-29: Sandra K Ventilation Model Layout and Identification

Carla Mine

The Carla Mine has less extensive developed workings than the other mines, and less leakage is expected, allowing the ventilation system to be developed more rapidly. The ventilation system will be developed in four stages:

- Upgrade auxiliary ventilation system from 0.6 m diameter to 1 m diameter duct
- New personnel apique with booster fans installed on Level 2 and Level 3 (with the auxiliary ventilation system in the production apique removed), preferably advanced along with production apique deepening
- Installation of booster fan on Level 1 and exhaust raise from Level 3 to Level 1 to increase the ventilation loop
- Development of an exhaust raise to surface and installation of long-term exhaust fan with the boosters removed

The ventilation sequences for the Carla Mine are shown in Figure 16-30. The duct installed in the production apique will only be used until the personnel apique is developed. Once the personnel apique is developed, booster fans will be installed in the level accesses leading from the apique on Level 2 and Level 3, and the other level accesses will be controlled with doors to limit leakage and recirculation. Once the production raises are extended to Level 1, an additional booster fan will be installed on Level 1 to provide distribution without significant regulation on the levels. Once the exhaust raise to surface is developed and the surface exhaust fan installed, all of the booster fans will be removed and both the production apique and the personnel apique will be configured as fresh air sources.



Source: SRK, 2020

Figure 16-30: Ventilation Sequences for Carla Mine

16.14.4 Auxiliary Ventilation Systems

There are three types of auxiliary ventilation systems that will be used in both development and production at the four mines. In order to standardize the systems, they will all be grouped together based on general conditions.

Ramp Development

The ramp development was assumed to require an airflow to support the simultaneous operation of both a truck and an LHD listed in Table 16-15. Providing airflow to support two pieces of equipment will provide flexibility. It was assumed that the length of the heading is 310 m with a flexible duct diameter of 1 m. Currently the mine is using 0.75 m duct, however, with the larger dimensions required for the operation of both a truck and LHD, the diameter of the duct should be increased to improve the conditions at the face.

Table 16-15: Ramp Development Equipment

Equipment	Power (kW)	Airflow (m^3/s)	Duct Size (m)	Airflow (m^3/s)	Pressure (kPa)
Sandvik LH 307	160	10.7	1	24.9	3
Dumper TH 315	164	10.9			

Source: SRK, 2020

A total of 21.6 m^3/s must be delivered to the face of the ramp development. In order to achieve the airflow at the face, a fan pressure of approximately 3.0 kPa is required with an airflow of approximately 24.9 m^3/s (face airflow quantity plus joint leakage and 10% rip leakage).

Single Heading Stope Ventilation

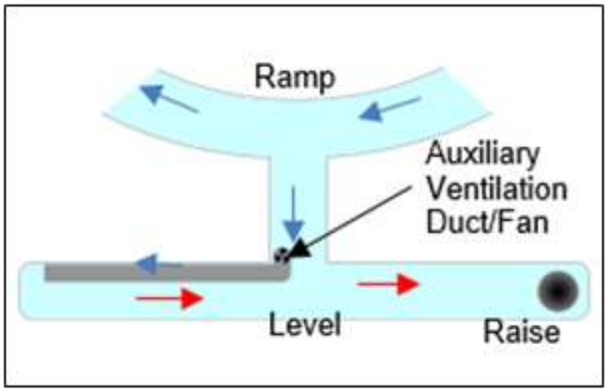
The single side stope ventilation was assumed to require an airflow to support the operation of an LHD listed in Table 16-16. It is assumed that the loading of the haul truck will take place in the ramp or access. Figure 16-31 shows a diagram of the system layout. It was assumed that stope would be a maximum length of 80 m with a 20 m access length with a flexible duct diameter of 0.7 m.

Table 16-16: Single Heading Stope Equipment

Equipment	Power (kW)	Airflow (m^3/s)	Duct Size (m)	Airflow (m^3/s)	Pressure (kPa)
Sandvik LH 203	71.5	6.4	0.7	8.3	1.5
Sandvik LH 307	160	14.4	1	16.1	1.4

Source: SRK, 2020

A total of at least 6.4 m^3/s must be delivered to the face of the production stope.



Source: SRK, 2020

Figure 16-31: Layout of Single Side Auxiliary Ventilation System

In order to achieve the airflow of 6.4 m^3/s at the face, as required for the small LHD, a fan pressure of approximately 1.5 kPa will be required with an airflow of approximately 8.3 m^3/s (face airflow quantity plus joint leakage and 25% rip leakage). In order to achieve the airflow of 14.4 m^3/s at the face, as required for the large LHD, a fan pressure of approximately 1.4 kPa will be required with an airflow of approximately 16.1 m^3/s (face airflow quantity plus joint leakage and 25% rip leakage).

16.14.5 Main Fan Summary

Based on the ventilation modeling, the operating points for the main fans are estimated. A basic summary of the main exhaust fans and booster fans is shown in Table 16-17Table 16-18. The fan installations are shown further identified as single, or parallel if two fans operating together can be used.

Table 16-17: Summary of Main Fan Operating Points

Area	Infrastructure	Location	Fan Requirements			Type of Installation
			Airflow (m3/s)	Pressure (kPa)	Power (kW)	
Providencia	Main Fans	Contra Pozo Exhaust (Existing on Site)	85	2.2	290	Parallel (Installed)
El Silencio	Main Fans	Alimak Raise Surface Exhaust (Installation in Progress)	180	2	555	Parallel (Installed)
	Booster Fans[1]	Booster Fan A	75	2.4	275	Parallel
	Booster Fans[1]	Booster Fan B	50	0.4	30	Single (jet)
	Booster Fans[1]	Booster Fan C	50	0.4	30	Single
Sandra K	Main Fans	Exhaust Raise Fan	40	0.7	45	Parallel (Subsurface) (Installed)
	Main Fans	Level 3 and 4 Booster	25	0.4	15	Single
Carla	Main Exhaust Fans[1]	Exhaust Raise Fan	71	1.1	120	Parallel
	Dev Booster	Personnel apique	30	0.5	20	Single

Source: SRK, 2020
Power based on system efficiency of 75%
[1] Required to be procured

16.14.6 Component Costing Information

The fan and fan housings are often the most expensive components in the ventilation system aside from the development of the actual ventilation raises and dedicated ventilation drifts. The manufacturers contacted included: Advanced Fan (now Howden), ABC, Howden, Spendrup, Clemcorp, and Zitron. Currently the mine uses auxiliary ventilation fans from Zitron and has procured the main surface exhaust fans for the Providencia and El Silencio mines from Howden. Due to the different operating points required for the new surface exhaust fan installations, SRK recommends considering or comparing different manufacturing companies to ensure that the cost is held reasonable and the operating points can be achieved. In addition to the cost of the main surface exhaust fans there will be the cost for the connection duct from the raise collar to the fan, and the electrical substation. This has already been purchased for the Providencia mine. The underground booster fans will require a substantial bulkhead for the fan to be mounted in. A double walled concrete block bulkhead should sufficient for this type of bulkhead.

16.15 Mine Services

The primary mine services at the Segovia mines include compressed air systems, apique hoisting systems, electrical power distribution, and ventilation services. The systems are fully developed with ongoing expansion of the systems to support new development. The electrical system and compressed air equipment are discussed in Section 18. Ventilation is discussed in Section 16.4.

16.15.1 Health & Safety

GCG has a health & safety management team and their program includes the following:

- New miner training
- Certification for equipment use
- PPE supply and instruction on use
- Safety refresher courses for existing miners
- Mine rescue team
- Site ambulance and fire equipment
- Tag in/Tag out system for mine egress
- Provide bottled water for miners
- Blasting clearance protocols

16.15.2 Manpower

Direct Employment

Segovia has 1,700 employees (no contractors are included in this number), 1,382 of which are contracted directly to GCG as their employer, and the remaining 318 workers are contracted though external companies called "Empresas de servicios TEMPORALES" (normally workers have one-year contracts).

Included in the 1,700 employees, are 916 workers (staff & mine workers) who are working as part of the General Mine Management at Providencia, El Silencio, Sandra K, Carla, Planning Department, Geology Department, and Small Mining Department. The remaining 786 work in the Mill, Health and Safety, Security, Finance, Purchases, Lab, and various smaller departments.

GCG operates three eight hour shifts each day, working seven days per week (approximately 360 workdays per year). GCG states that the average underground miner has four to five years' experience; however, there are large numbers of workers with considerably more experience than this.

Contract Labor

Contract labor is composed of a local mine contractor who carries out the primary mining and a number of local co-operatives of miners, mostly former employees of GCG and its predecessors, with significant local experience, who carry out the secondary mining. There are three major contractors currently operating at GCG's mines:

- Providencia Mine – Masora
- El Silencio Mine – Navar
- Multiple contractors (these contracts are based on mining material that has not been included in the Mineral Reserve; however, these contracts have been fulfilled for the last decade).

The Masora and Navar contractors mine 20% of the LoM total tonnage in the current mine production schedule presented herein.

Typically, these contracts are renewed annually for one-year terms. The total contract labor for all mines is approximately 1,500 miners. However, only the three contractors mentioned above make a significant contribution to production at this time. The remaining 28 contracts have contributed less than 15% of the contractor-supplied gold ounces in the past 12 months. The contractors are paid a percentage of the value of the recovered gold from the payable material delivered to the plant. The gold content is determined by assaying (verified independently by SGS laboratories) the RoM as it is supplied. A new assay facility is being constructed at the plant site to assist with this process.

Currently, GCG currently pays approximately US$615/oz of recovered gold, which is approximately 45% of the gold price, to the two largest contactor miners (Navar and Masora). The contractors are responsible for supplying and maintaining all required equipment.

GCG directly employs a team, currently comprised of approximately 36 employees, who coordinate and direct the operations of the contractors. This team conducts visits and audits of the various contractors operating within GCG's mines to verify compliance with GCG's health, safety, environmental and administrative policies, to verify that they are working in designated areas in compliance with technical specifications, and to verify compliance with GCG's protocols for obtaining explosives permits and the appropriate use and storage of explosives within the mines.

Although the Company does provide an indicative schedule for production, listing production tonnage and grade, the key measurable for the contractors' payments is gold content. As the contract labor is able to determine its own pillar extraction sequence, the priority is on mining only the high-grade pillars where the physical work required to meet the monthly production targets can be minimized. GCG has been working to limit contractors to certain areas of a mine to allow for tighter controls in owner mining areas.

Pillars are sampled and lab assayed to determine those with the highest grade; however, the association between gold and sulfides in the quartz vein means it is relatively simple to determine visually which pillars these might be. The resulting pillar extraction sequence is therefore not optimized for geotechnical reasons. GCG stated its intention on changing the current system to create a more predictable extraction sequence, however, there is uncertainty over the limitations that could result from the existing work contracts; mainly because a percentage of the workers' payment is proportional to extracted ore grade.

The current nature of the contractors' operations reduces the planning requirements for GCG; however, it presents the following operational risks:

- Lack of control over sequencing of pillar extraction, potentially resulting in sterilization of some areas due to geotechnical reasons
- Difficulty in reconciling production versus plan
- Safety risks as poor sequencing may result in roof and/or pillar failure
- Lack of clarity over accountability in the event of serious injury or death in a Company operated mine
- Difficulty in determining resource grade and tonnage as there is no survey of total of mined pillars. At this moment GCG only can accurately measure reserves located in the main area of the contractor at EL SILENCIO Mine.
- Potential for undetected gold theft

As noted, GCG employs a team to coordinate and direct the operations of the contractors and is in the process of implementing additional resources and procedures to reduce the risks associated with the contractors operating within its mines.

16.15.3 Mobile Equipment

The PFS design incorporates additional equipment to support additional development and to further mechanize production in the cut and fill mining areas. The existing diesel operated mobile equipment list, provided by GCG, is shown in Table 16-18.

GCG has a large number of track and air powered overshot muckers and jackleg style drills that are used for general production as well as air and electric slushers. Primary haulage on the levels is by battery operated locomotives that move rail cars with ore, waste, and supplies along the various levels of the mine.

Table 16-18: Mobile Equipment by Mine Area

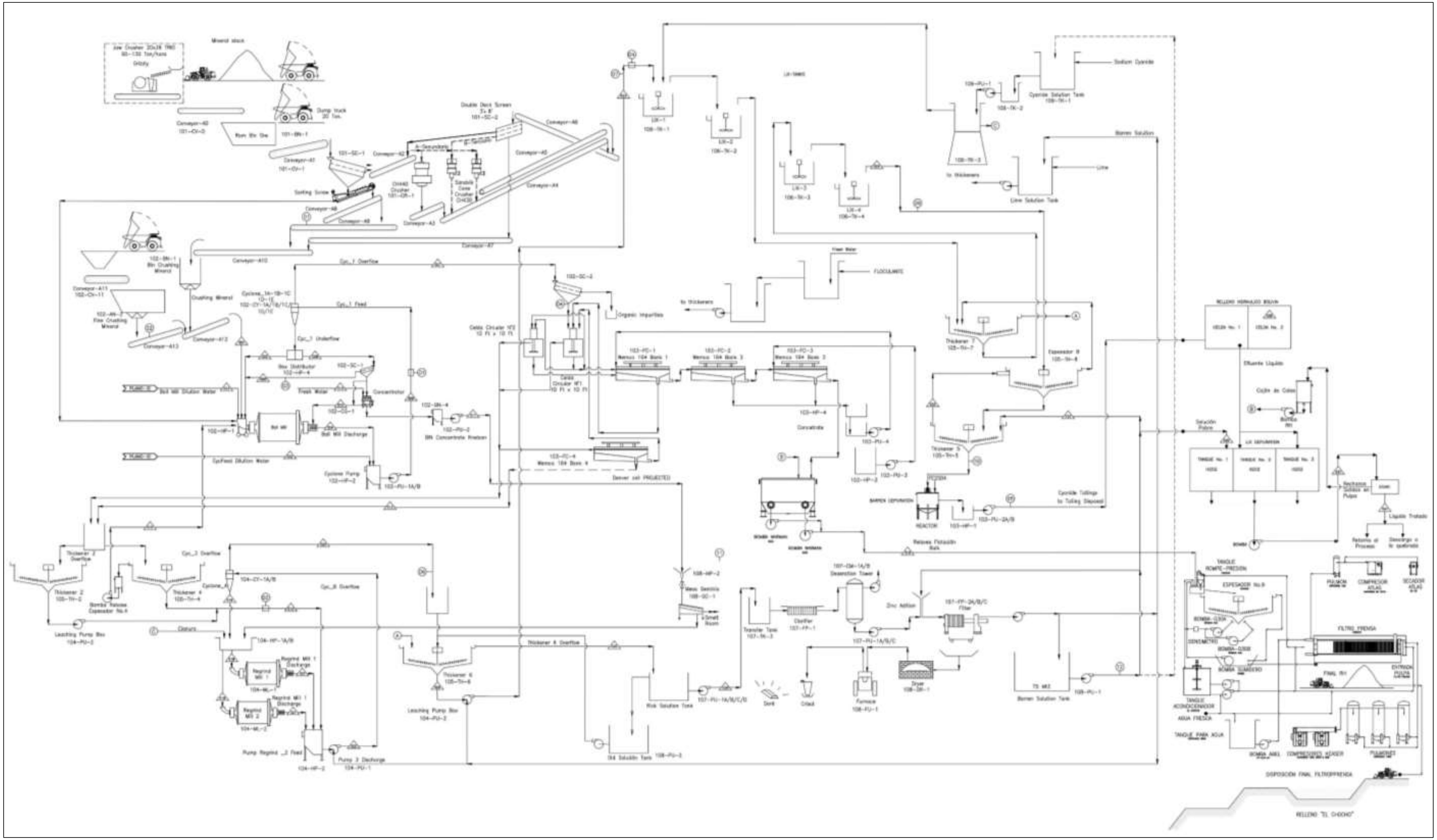
Location	Description	Engine Type	Power (HP)	Existing
El Silencio	Jumbo Sandvik DD210	F4L 912 - 54 HP @ 2300 RPM	54	1
	Muki LHBP	DEUTZ BF4L2011 - 73.9 HP at 2300 RPM	73.9	1
	Volqueta (YM 470 T7)	D914 L06 SERIE 08868175 - 86.5 HP at 2300 RPM	86.5	1
	Cargador Sandvik (LH 203)	BF6L914 SERIE 0888275 - 112 HP at 2300 RPM	112	1
	Cargador (MTI LT) Diesel	D914L04 SERIE 08875206 - 55 HP at 2300 RPM	55	1
	Cargador TEREX TSR-70	PERKINS 804D-33T - 74 HP at 2500 RPM	74	1
	Camion MTI Modelo TH 315	QUMMINS QSB6.7 – 220 HP at 2200 RPM	220	1
	Cargador SANDVIK LH307	MERCEDES BENZ OM 906 LA - 201 HP at 2300 RPM	402	1
	Utilitario Toyota Hilux	TOYOTA 2.4 DIESEL 2GD - 160 HP	160	1
	Utilitario Toyota Landcruiser	TOYOTA DIESEL – 128 HP at 3800 RPM	128	
	Motoniveladora (Bulldozer) John Deere	John Deere PowerTechTM 6068H	185	1
	Camion Bajo Perfil Modelo 474 T12	DEUTZ BF4M1013FC – 173 HP at 2300 RPM	173	1
	Jumbo (DD 210)	F4L 912	54 at 2,300 RPM	1
	Volqueta (YM 470 T)	D914 L06 SERIE 08868175	86.5 at 2,300 RPM	3
Providencia	Cargador (LH 203)	BF6L914 SERIE 0888275	112 at 2,300 RPM	1
	Cargador (MTI LT) DIESEL	D914L04 SERIE 08875206	55 at 2,300 RPM	1
	Scoop MTI	BF6M1013EC (electric)	210 at 2,300 RPM	1
	Utilitario SD30	NB485/F3L912_Xinchang 485 agua-4 Deutz F3L912 aire-3	50	1
	Minicargador BobCat	Motor Kubota / V2403_Modelo equipo S530	49	
	Cargador (LH 203)	BF6L914	112 at 2,300 RPM	1
	Scoop MTI	BF6M1013EC (electric)	210 at 2,300 RPM	2

Source: SRK, 2018

17 Recovery Methods

17.1 Processing Methods

GCG processes ore in its 1,500 t per day Maria Dama process plant from the Providencia, El Silencio and Sandra K Mines, in addition to mineral from small mining units. The Maria Dama process plant includes crushing, grinding, gravity concentration, gold flotation, cyanidation of the flotation concentrate, Merrill-Crowe precipitation and refining of both the Merrill-Crowe precipitate and gravity concentrate to produce a final doré. Hydrogen peroxide is used for cyanide detoxification. The process flowsheet is shown in Figure 17-1 and a list of major equipment is shown in Table 17-1. A general arrangement drawing is displayed in Figure 17-2.



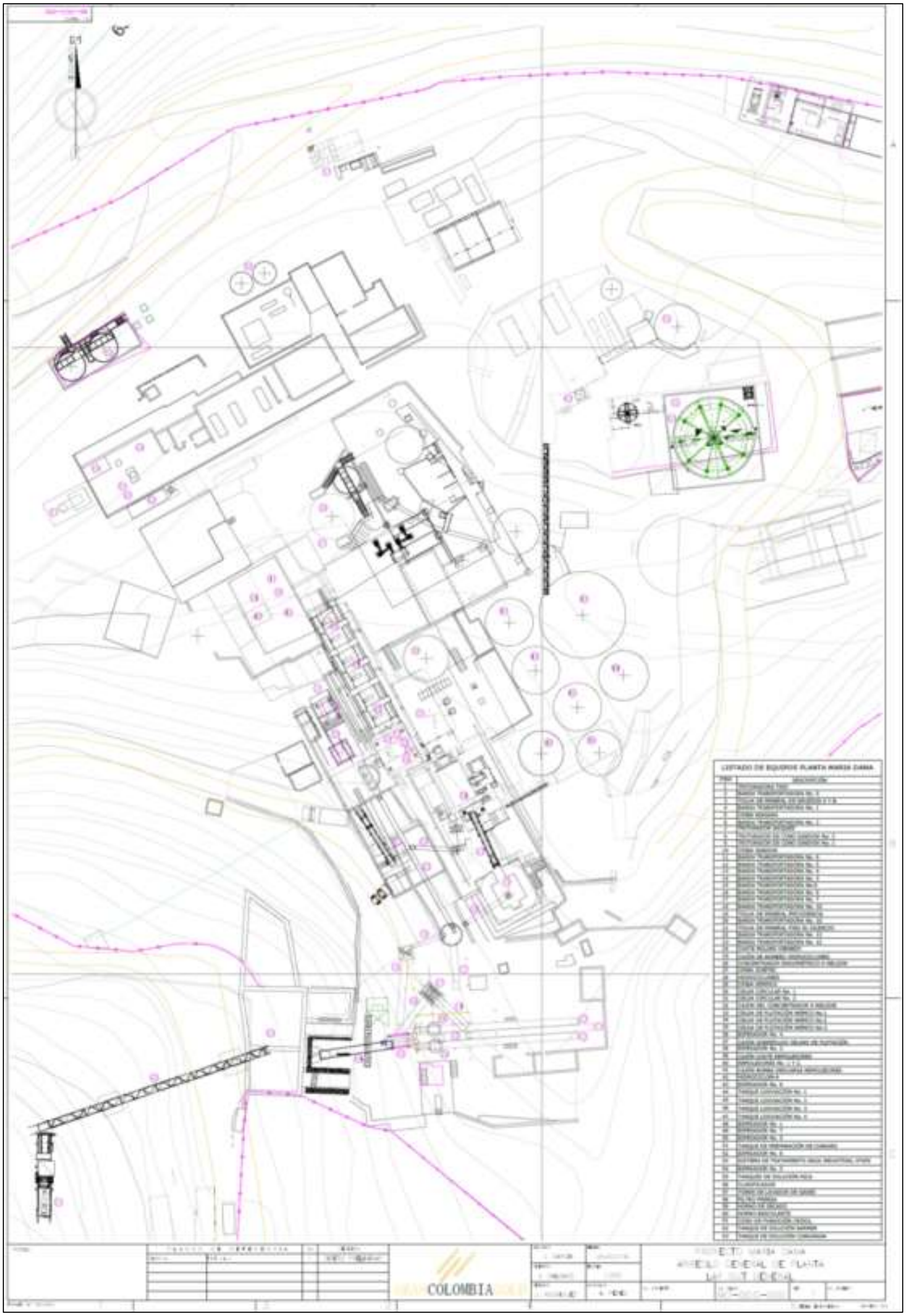
Source: GCG, 2020

Figure 17-1: Process Flowsheet

Table 17-1: Segovia Process Plant Major Equipment List

Equipment	Quantity	Size	HP	Manufacture
Crushing Circuit				
Primary Jaw Crusher	1	20" x 36"	150	Weir
Secondary Cone Crusher	1	4 ft CH-440	300	Sandvik
Secondary Screen (double deck)	1	1.8 m x 6 m	30	Sandvik
Secondary Cone Crusher (extra coarse)	1	CH-430	200	Sandvik
Tertiary Cone Crusher	1	CH-430	200	Sandvik
Primary Screen (double deck)	1	1.9 m x 4.7 m	20	Dismet
Grinding Circuit				
Ball Mill	1	12.5 ft x 23 ft	1500	KVS
Cyclone	3 operating, 3 stand-by	10 "		Cavex 250
Centrifugal Gravity Concentrator	1	XD-20	7.5	Knelson
Flotation Circuit				
Rougher Flotation	2	10 ft x 10 ft	30	
Scavenger Flotation	3	30 m3	65-70	WEMCO
Cleaner Flotation	1	30 m3	65	CHINA
Concentrate Regrind				
Ball Mill	1	4ft x 4 ft	30	
Ball Mill	1	4 ft x 8 ft	68	
Cyclone	1 operating, 1 stand-by	10"		Krebs
Concentrate Cyanidation				
Flotation Concentrate Thickener	1	24 ft x 10 ft	5	
Pre-leach Thickener	1	45 ft x 10 ft	5	
Leach Tanks	4	25 ft x 30 ft	40	
Counter-Current Decantation				
CCD Thickeners	2	24 ft x 10 ft	5	
CCD Thickeners	1	42 ft x 7.8 ft		
Merrill -Crowe				
Clarifier	1			
Deaeration Tower	1 operating 1 stand-by			
Precipitate Filter	1	30-inch x 30-inch x 30 plate		
Precipitate Filter	1	39-inch x 39-inch x 21 plates		
Precipitate Filter	1	36-inch x 36-inch x 30 plate		
Gold Room				
Gravity Concentrate Gemini Table	1			
Furnace	1	38" x 59"		
Detoxification				
Reaction Tank	1	17 m3		
Detoxification Tank 1	1	100 m3		
Detoxification Tank 2	1	50 m3		

Source: GCG, 2019



Source: GCG, 2019

Figure 17-2: Maria Dama General Arrangement Drawing

Ore from GCG's mining operations is crushed to -15 mm in a three-stage crushing circuit that includes a 20 inch by 36-inch primary jaw crusher, which discharges to a RoM ore bin. Primary crushed ore is screened at 15 mm on a 1.9 m by 4.7 m double-deck screen (1 ½ inch top deck and ¾ inch bottom deck) and the screen oversize is conveyed to a 4 ft secondary cone crusher (CH-440 Sandvik), which is operated in closed circuit with a secondary vibrating screen (1.8 m by 6 m). The final 15 mm crushed product is sampled with a primary cross-cut sampler and a secondary rotary sampler as it is conveyed to the fine ore bin. GCG ore samples are assayed by the on-site analytical laboratory. A Sandvik CH-430 cone crusher serves as backup when the CH-440 crusher is down for maintenance.

Ore delivered to the Maria Dama process plant by the mining contractors is already crushed before it arrives and is dumped into a receiving bin. The contractor ore is sampled with both a primary cross-cut sampler and a secondary rotary sampler as it is conveyed from the receiving bin to a separate fine ore bin. Contractor ore samples are assayed by an outside commercial laboratory (SGS).

17.1.1 Grinding Circuit

GCG's and the contractor's ore are conveyed to a single conveyor belt feeding the grinding circuit, which consists of a 12.5 ft by 23 ft ball mill operated in a closed circuit cluster of Cavex 250 cyclones to produce a final grind of 65% passing 75 µm in the cyclone overflow, which is advanced to the flotation circuit. A portion of the cyclone underflow is diverted to the gravity concentration circuit, which consists of a single XD-20 Knelson centrifugal concentrator, which is operated in closed circuit with the grinding circuit. Approximately 30% of the contained gold is recovered into a primary gravity concentrate, which is further upgraded in the refinery on a Gemini table. Feed to the grinding circuit is continuously weighed on a belt-scale and hand-sampled every hour.

17.1.2 Flotation and Regrind Circuit

Cyclone overflow from the grinding circuit advances to the flotation circuit where it is first conditioned with the flotation reagents. Conditioned slurry is then subjected to two stages of rougher flotation in 10 ft diameter by 10 ft high tank cells, one stage of scavenger flotation in a bank of three 30 m^3 WEMCO flotation cells and finally one cleaner cell to recover the contained gold values. A total rougher/scavenger/cleaner flotation retention time of 30 minutes is provided. Rougher/scavenger flotation concentrate is upgraded in one stage of cleaner flotation and combined with the rougher flotation concentrate. The combined rougher/scavenger cleaner concentrate, which represents about 7 wt% of the plant feed is thickened to about 55 to 60% solids (w/w) and reground in a 4 ft by 8 ft ball mill to approximately 90% -50 µm prior to being advanced to the cyanidation circuit. The regrind ball mill is operated in closed circuit with 10-inch Krebs cyclones.

17.1.3 Cyanidation and Counter-Current-Decantation (CCD) Circuit

The reground flotation concentrate is thickened and then processed through a conventional cyanidation circuit consisting of four agitated leach tanks operated in series to provide a total leach retention time of about 125 hours. The cyanide concentration is adjusted to 450 ppm NaCN in the first leach tank and is allowed to naturally attenuate to about 200 ppm NaCN in the last leach tank. The pH of the leach slurry is maintained at about 10.5 to 11 with lime.

Discharge from the fourth agitated leach tank flows to the CCD circuit, which consists of two 24 ft diameter thickeners and one 42 ft diameter thickener and serves to wash the pregnant leach solution (PLS) from the leach residue. The PLS from the first thickener overflow is advanced to the Merrill-Crowe gold recovery circuit and the thickener underflow from the third thickener is discharged to the TSF.

17.1.4 Merrill-Crowe and Refining

The PLS is processed in the Merrill Crowe circuit to recover the solubilized gold and silver values from solution. This is accomplished by clarifying the PLS to remove any remaining suspended solids, de-aerating the solution to less than 1 ppm dissolved oxygen and then precipitating the gold and silver values by the addition of zinc dust. The resulting gold and silver precipitate are then recovered in three plate and frame pressure filters. The gold and silver precipitate is smelted using a flux with the following composition:

- Concentrate
    - Borax: 40%
    - Sodium Nitrate: 30-33%
    - Soda Ash: 7.5%
    - Silica: 6%
- Precipitate
    - Borax: 40%
    - Sodium Nitrate: 30%
    - Soda Ash: 15%
    - Silica: 3%

Approximately 650 kg of flux is blended with 600 kg of precipitate and smelted in a gas-fired furnace to produce a final doré product. The gravity concentrate produced from the Gemini table located in the refinery is also directly smelted using the same flux formula, but in the ratio of one-part gravity concentrate to two parts flux. Fumes from the smelting furnace are captured in the recently installed (2017) gas extraction system.

17.1.5 Tailings

Final leached tailings from the CCD circuit are detoxified with hydrogen peroxide and then pumped to lined dewatering cells identified as Bascula, Bolivia-1, Bolivia-2 and Bolivia-3. Effluent from the dewatering cells is then recycled back to the process plant. Flotation tailings are pumped to the El Chocho TSF where they are thickened and filtered prior to dry stack placement at the TSF. Thickener overflow and filtrate solutions are recycled back from the TSF to the process plant. A detailed discussion of tailings management is provided in Section 18.2.

17.2 Production Performance

17.2.1 Historical Plant Production

Historical plant production for the period from 2002 to 2016 is summarized in Table 17-2. During this period the ore tonnes processed increased from 168,220 t (average 460 t/d) to 284,896 t (average 780 t/d). During this period gold production increased from 42,692 to 126,261 oz.

Table 17-2: Historic Production Summary

Year	Ore Tonnes	Grade Au (g/t)	Au Produced (oz)
2002	168,220	7.8	42,692
2003	144,141	9.2	37,830
2004	158,304	10.1	48,871
2005	178,528	9.6	49,677
2006	202,168	9.4	52,290
2007	218,963	5.8	38,244
2008	185,816	5.6	33,460
2009	175,230	10.9	55,126
2010	149,214	9.8	50,313
2011	173,684	6.0	69,179
2012	260,806	11.0	79,177
2014	237,740	10.6	75,506
2015	211,049	14.3	92,894
2016	284,896	13.8	126,261

Source: SRK, 2016

17.2.2 Current Plant Production

Plant production for the period 2017 to 2019 is summarized in Table 17-3. During this period ore tonnes processed increased from 293,395 t at an average gold grade of 16.85 g/t Au in 2017 to 451,450 t at an average gold grade of 15.48 g/t Au in 2019. Gold production increased from 149,037 to 214,036 oz with gold recoveries ranging from 93.8 to 95.9% over this period. Reported gold recovery is based on actual refinery gold production. Although silver occurs in the ore, silver recovery is not monitored.

Table 17-3: Summary of Maria Dama Process Plant Production (2017 to 2019)

Parameter	2017	2018	2019
Plant Feed			
Ore tonnes	293,395	369,836	451,450
Average tonnes/day (1)	804	1,013	1,237
Reconciled Au grade (g/t)	16.85	16.92	15.48
Contained Au (Oz)	158,910	201,207	224,714
Plant Tailing			
Au (g/t)	1.05	0.69	0.74
Contained Au (Oz)	9,873	8,254	10,678
Refinery Au Oz produced (2)	149,037	192,953	214,036
Au Recovery (%)	93.8	95.9	95.2

Source: GCG, 2020
Note:
1 365-day basis
2 Net of inventory

17.3 Process Plant Consumables

Reagent and grinding media consumption for 2017 to 2019 are summarized in Table 17-4. Reagent usage and consumption are typical of and in the same range as other similar process plants.

Table 17-4: Process Plant Reagent Usage

Consumable	Function	2017 (g/t ore)	2018 (g/t ore)	2019 (g/t ore)
Flotation Reagents				
Copper Sulfate	Mineral Activator	10	20	19
Aerofroth A65	Frother	26	19	16
A-131	Collector	12	-	10
MX5160	Collector	-	11	
Isopropyl Xanthate	Collector	33	34	34
Aero 404	Collector	12	12	11
Thickening Circuit				
Super floc A-100	Flocculant	2	2	
Hengfloc	Flocculant	3	3	3
Nalco 9901	Flocculant	0.7	5.1	20
Cyanidation Circuit				
Sodium Cyanide	Lixiviant	442	493	361
Lime	Ph Control	681	363	266
Merrill-Crowe				
Zinc Dust	Precipitant	53	33	20
Cyanide Detoxification				
Hydrogen Peroxide	Oxidant	28	641	307
Refinery				
Borax	Flux	49	32	27
Soda Ash	Flux	18	11	9
Sodium Nitrate	Flux	37	24	20
Silica	Flux	39	24	20
Lead Acetate	Flux	0.8	1.4	1.9
Grinding Balls				
3"	Primary	1312	1551	1,600
1"	Regrind	74	21	90
General				
Hydrochloric Acid	Acid	6	4	5
Caustic Soda	Base	6	3	4
Antifoam	Foam Dispersant	7	6	7
Nitric Acid	Acid	15	15	13
Iron Sulfate		-	11	55

Source: GCG, 2019

17.4 Process Plant Operating Costs

Process plant cash operating costs for 2017 to 2019 are summarized in Table 17-5. During 2017, plant operating costs averaged US$29.51/t ore processed. During 2018, cash operating costs averaged US$28.34/t and during 2019 averaged US$24.42/t. The major cost drivers included labor (14%), electrical power (22%), consumables (18%), maintenance (23%) and freight (10%).

Table 17-5: Summary of Process Plant Cash Operating Costs

Cost Area	2017		2018		2019	
	US$ (1,000)	US$/t	US$ (1,000)	US$/t	US$ (1,000)	US$/t
Labor	2,296	7.83	1,695	4.58	1,553	3.44
Weighing & Logistics					190	0.42
Electrical Power	1,502	5.12	1,964	5.31	2,426	5.37
Reagents and Consumables	1,270	4.33	2,016	5.45	1,950	4.32
Freight	2,055	7.00	2,073	5.61	1,107	2.45
Maintenance & Repair	1,250	4.26	1,886	5.10	2,480	5.49
Minor Repair			577	1.56	860	1.90
Other	286	0.97	269	0.73	460	1.02
Total Cash Cost	**8,659**	**29.51**	**10,480**	**28.34**	**11,026**	**24.42**
Ore Tonnes Processed	293,395		369,836		451,450	

Source: GCG, 2019

18 Project Infrastructure

18.1 Infrastructure and Logistic Requirements

18.1.1 Access, Airports, and Local Communities

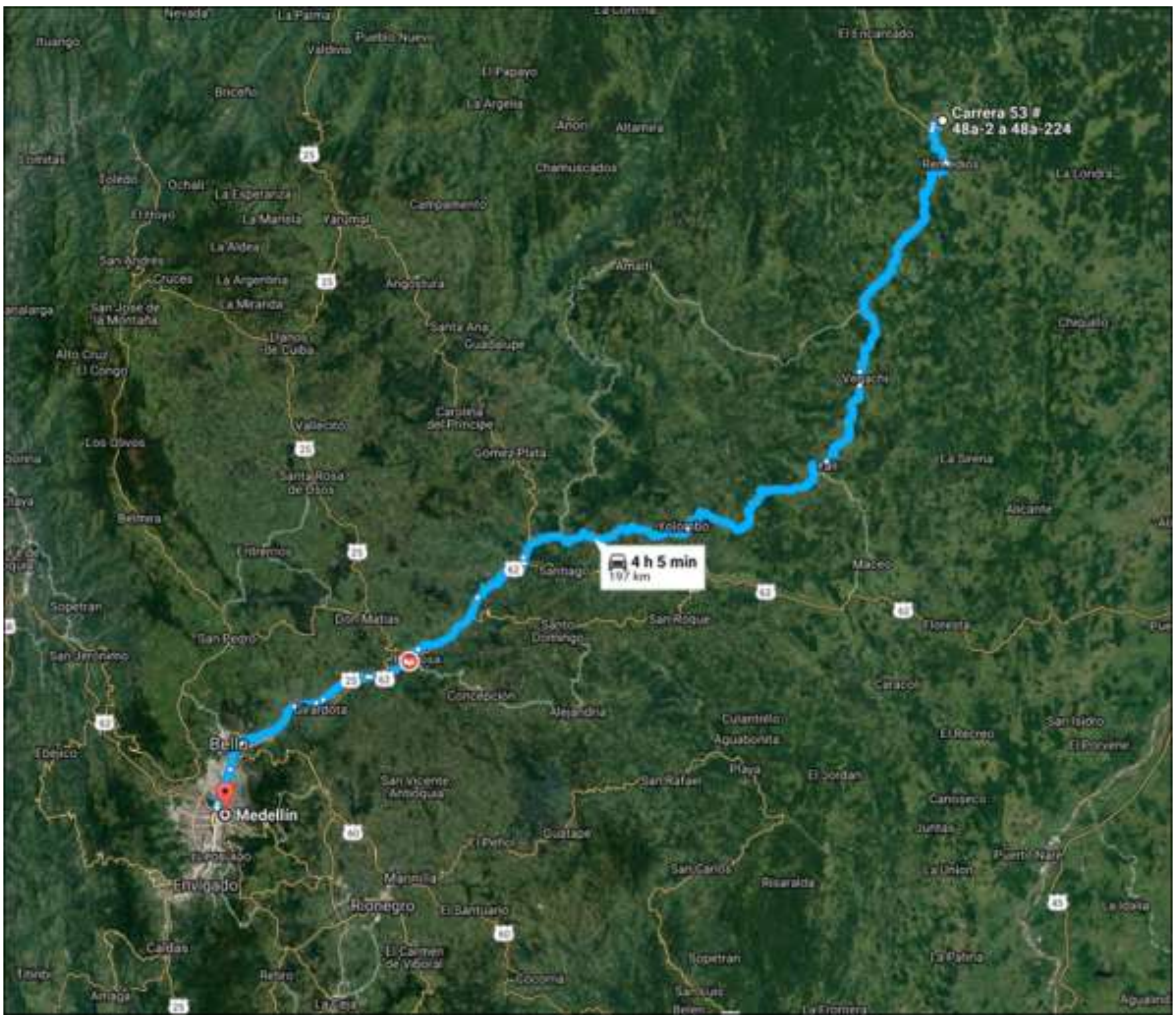
Segovia is an active mining project with the majority of the infrastructure required for its ongoing operation already in place. The Project is located in north central Colombia approximately 200 km northeast of Medellín. Figure 18-1 shows the general location.

Source: SRK-Google Maps, 2017

Figure 18-1: General Location

Medellín (population approximately 2.5 million) is the capital of the Department of Antioquia. The Project is close to the communities of Remedios (population approximately 8,100), Segovia (population approximately 40,000), and the small community of La Cruzada (population approximately 2,700). The communities have supported the mining industry in the area for well over 50 years with the history of mining in the area dating back to the mid-1800s. Approximately 1,300 employees live in the area. Some employees live as members of the communities and others in Company supplied housing (approximately 230 houses) in the communities. GCG provides a cafeteria in the area of the Company owned housing. GCG also operates a main camp that includes a restaurant, pool (billiards), and training area. A contractor, Duflo, operates the facilities for GCG.

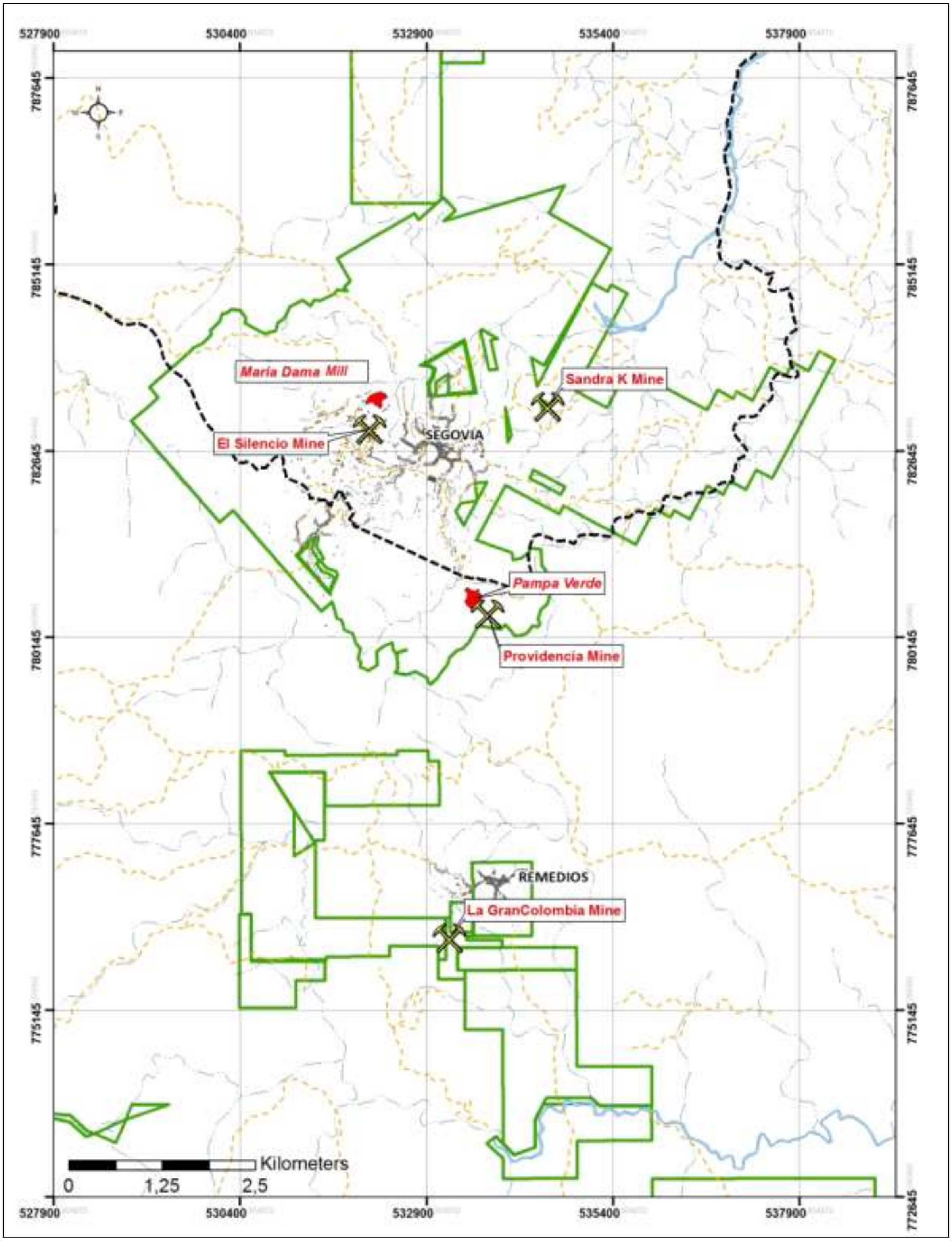
Access to the Segovia/Remedios area is four hours by paved highway from Medellín. The route can be seen in Figure 18-2. From the communities to the mine, access is by dirt road and as the mines are under the communities the distance is quite short.



Source: SRK-Google Maps, 2017

Figure 18-2: Project Access

The shops/facilities are located near the mine portals and the Maria Dama mill site. Figure 18-3 shows the proximity of the mines and mill to the communities.



Source: GCG, 2017

Figure 18-3: Site Map

Air access is by a 30-minute commercial flight from Medellín to Otú, 15 km south of Segovia, which has an asphalt-surfaced airstrip. From Otú, it is a 20-minute drive to Segovia via the towns of Remedios and La Cruzada. A major international airport is located in Medellín.

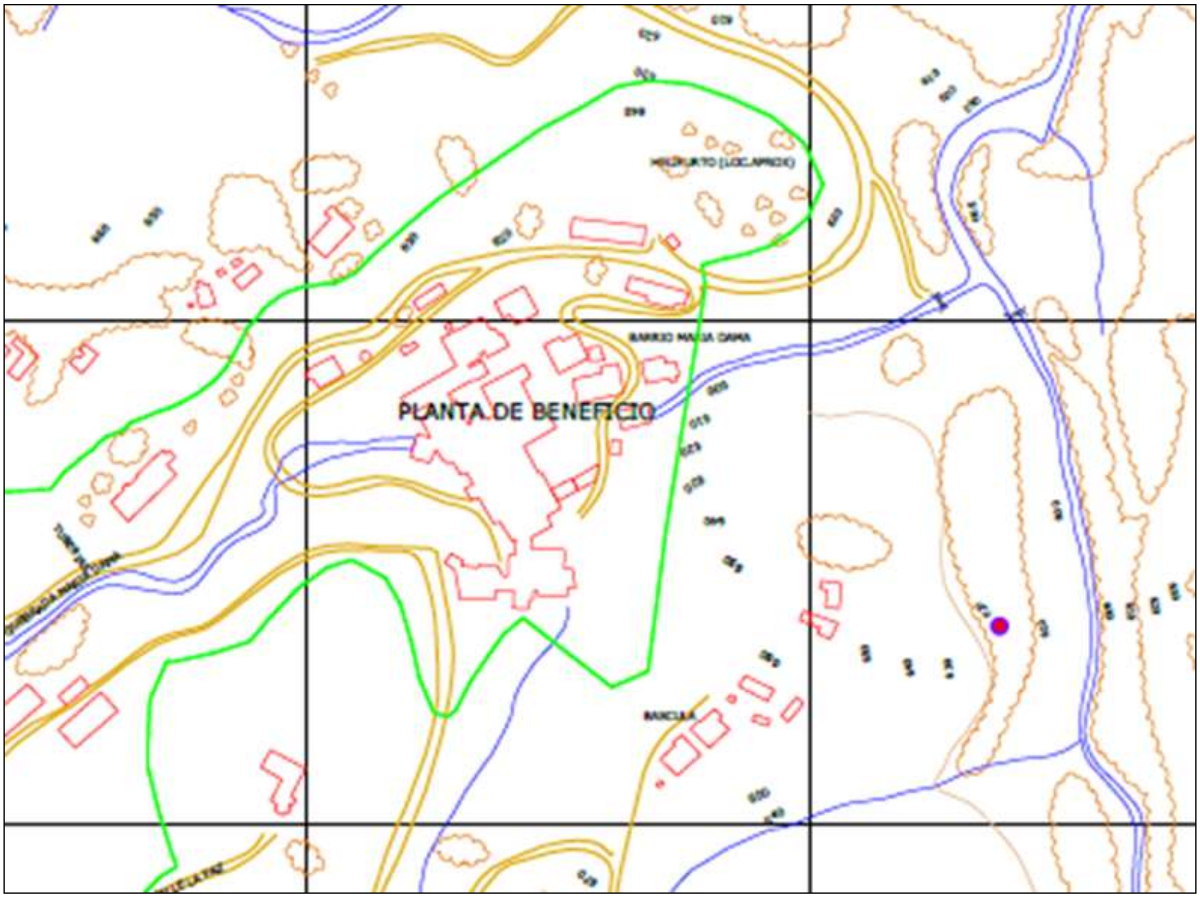
18.1.2 Facilities

The primary facilities that are associated with the Segovia site are the Maria Dama plant, the El Silencio Mine, the Providencia Mine, the Sandra K Mine, and the future Carla Mine. The Segovia site also has a partially constructed processing facility, Pampa Verde that is not used and not planned for use in the LoM plan. Additional key facilities are the tailings storage areas at Shaft and El Chocho.

A general facilities listing is as follows:

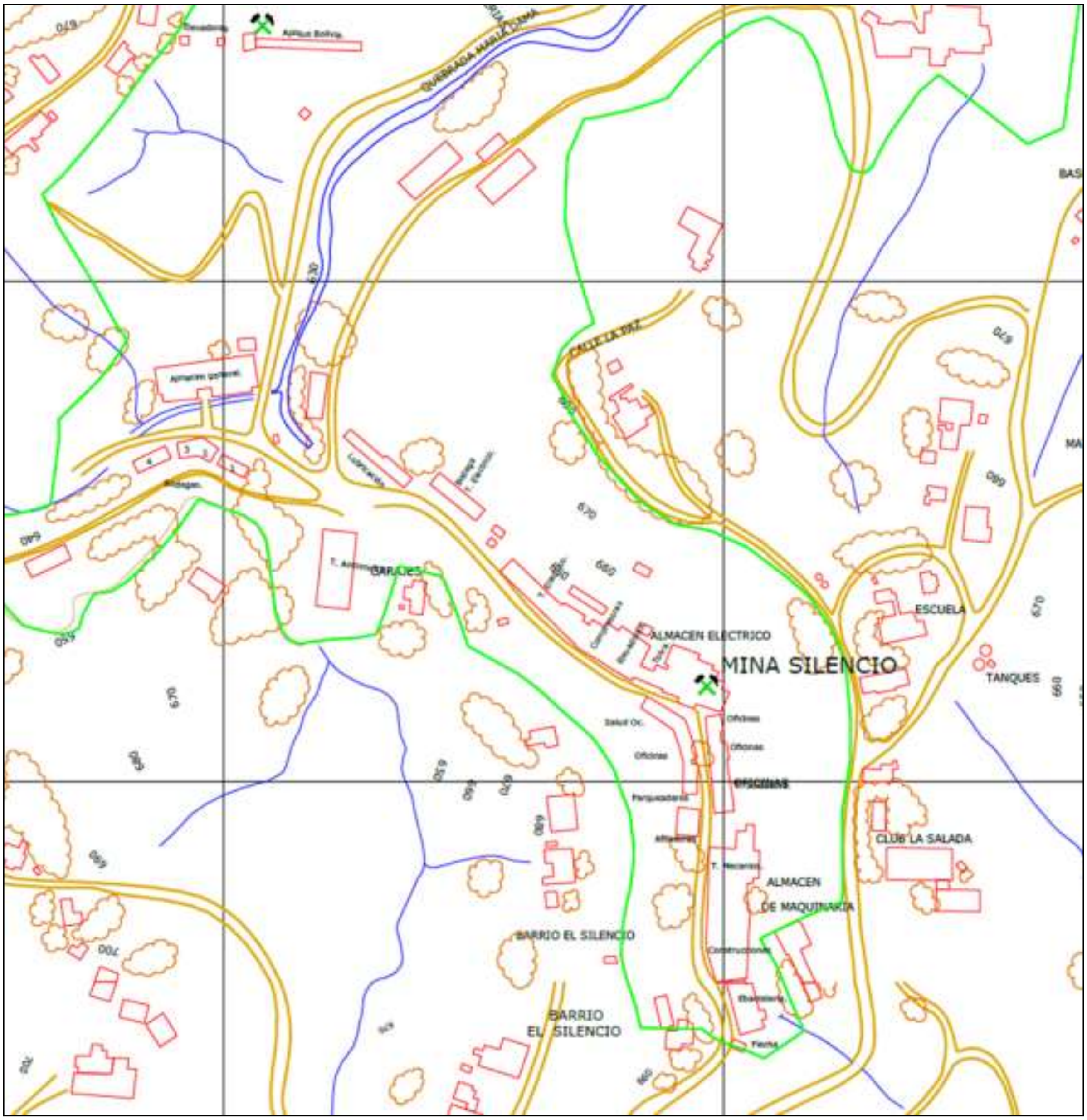
- Powder and primer magazines storage
- Shops
- Geology core shack and principal geology office near Bolivia apique
- Third-party (SGS) laboratory
- Water treatment plant
- Warehouses
- Compressor buildings
- Welding shops
- Contractor shops (where contract miners are utilized)
- Waste disposal faculties
- Entry guard shack plus multiple guard houses on the perimeter fence line
- Ventilation system surface fans
- Substations and electrical distribution systems
- Backup generators
- Fuel and oil storage tanks
- Water storage tanks (service water)
- Potable water treatment system
- Waste rock storage facilities
- Change houses
- Mine portals and apique headframes by site
- Maintenance and operations offices
- Lamp rooms
- Tailings storage facilities (El Chocho)

The facility layouts are shown in Figure 18-4 through Figure 18-8.



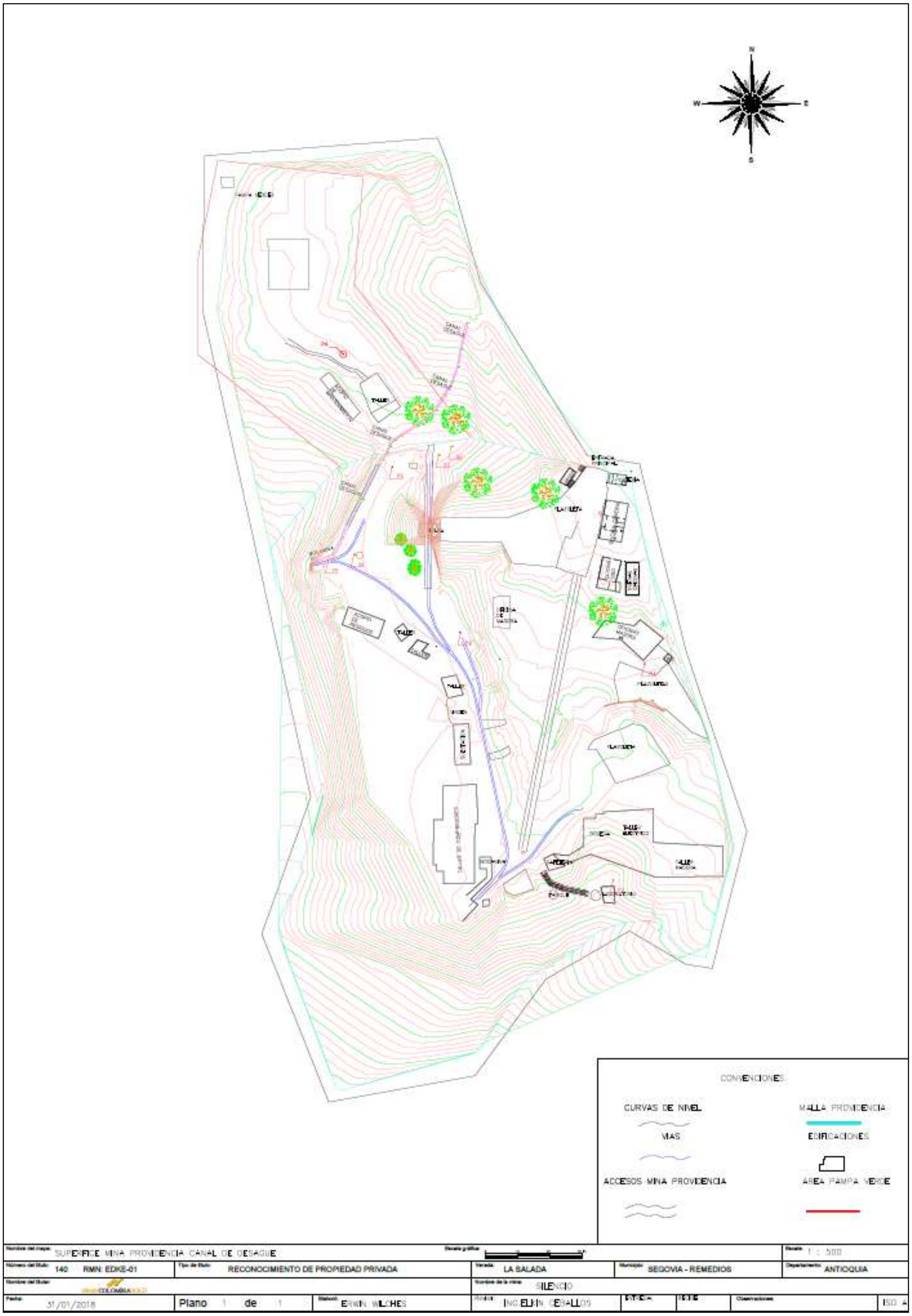
Source: GCG, 2018

Figure 18-4: Maria Dama Plant Facilities



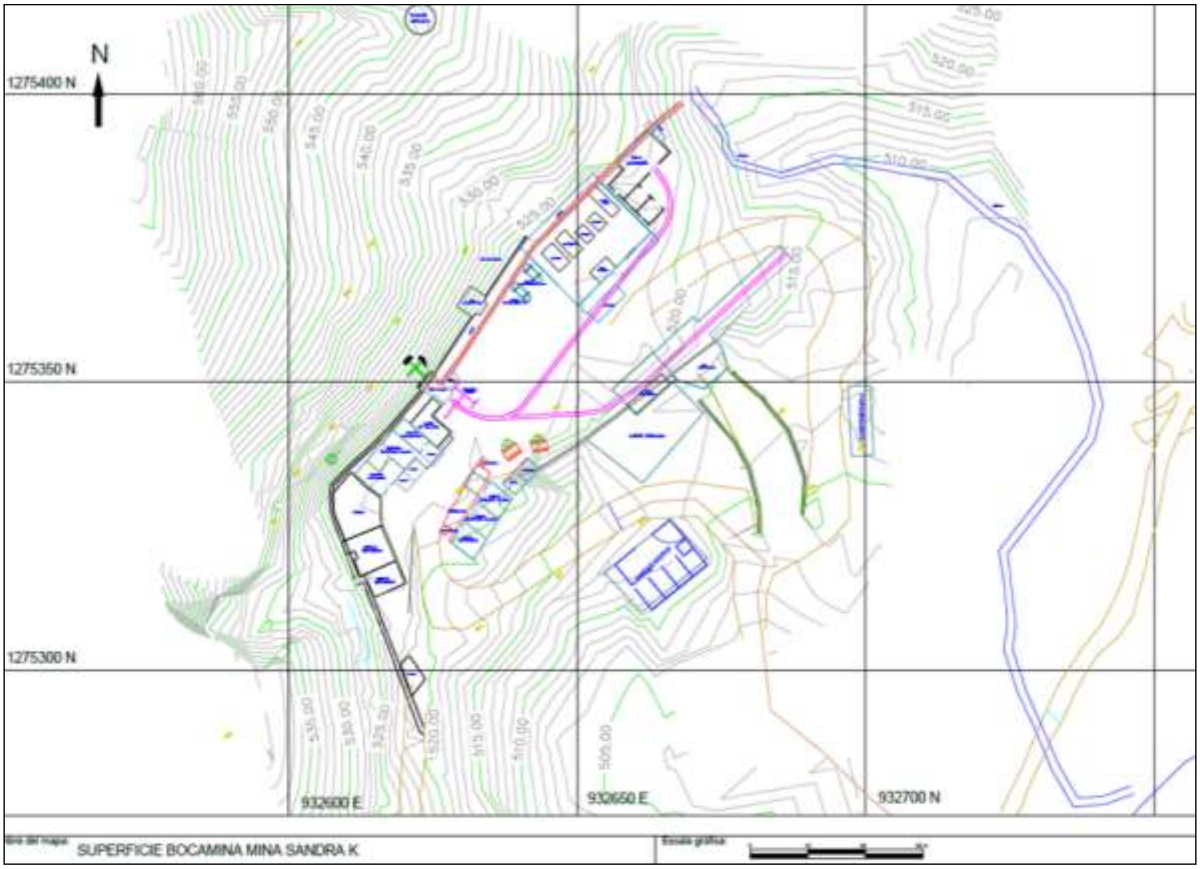
Source: GCG, 2018

Figure 18-5: El Silencio Facilities



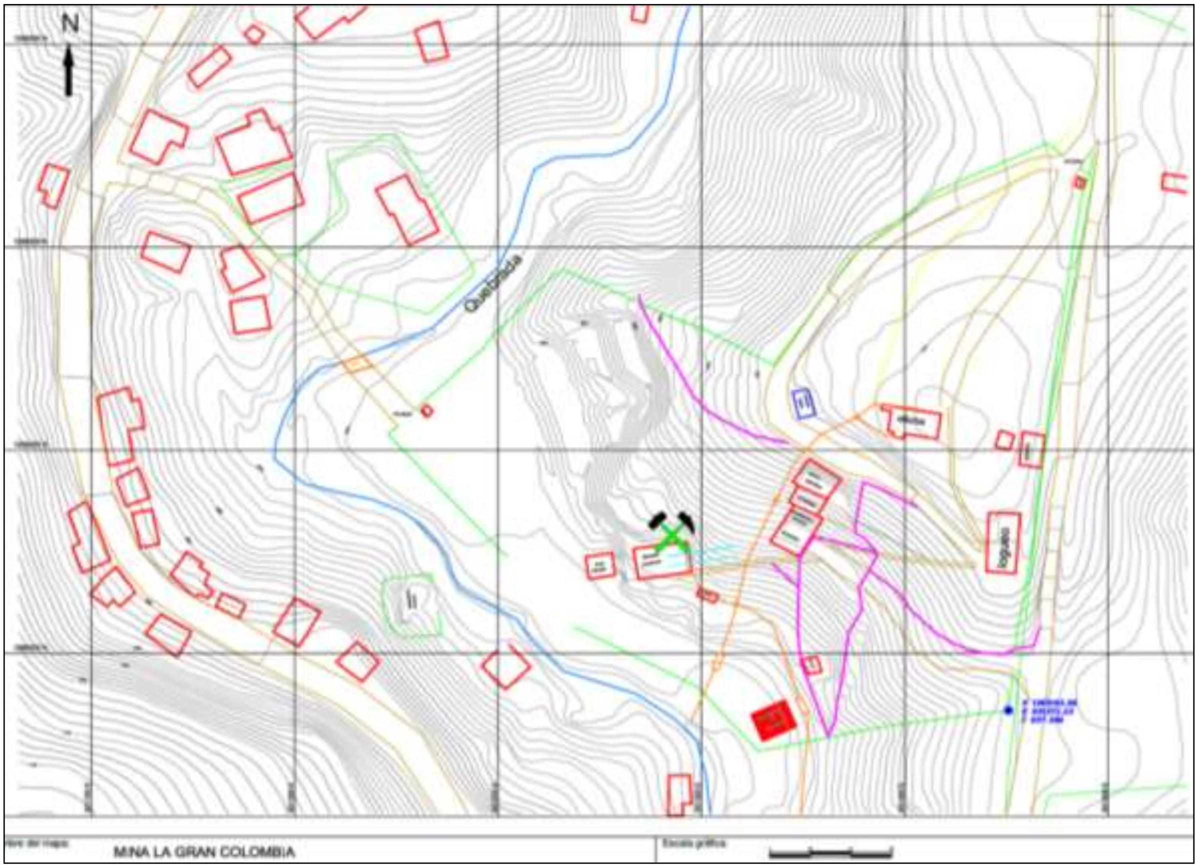
Source: GCG, 2018

Figure 18-6: Providencia Mine Facilities



Source: GCG, 2018

Figure 18-7: Sandra K Facilities



Source: GCG, 2018

Figure 18-8: Carla Facilities

18.1.3 Compressed Air Systems

A substantial compressed air system is also present at each mine site to support mining activities. A compressed air system is also present at the processing facility.

Table 18-1 provides a summary of the compressors at El Silencio and Providencia.

Table 18-1: Compressors Listing for El Silencio and Providencia

Location	ID	Compressor Manufacturer	HP	CFM
El Silencio	1	Ingersoll Rand	300	1,363
	2	Ingersoll Rand	300	1,363
	3	Atlas Copco	200	987
	4	Kaeser	175	850
	5	Kaeser	250	1,052
	6	Kaeser	75	345
	7	Kaeser	175	882
Sandra K	1	Atlas Copco	125	545
	2	Atlas Copco	75	320
	3	Kaeser	75	345
	4	Kaeser	175	882
Providencia	1	Ingersoll Rand	250	1,249
	2	Ingersoll Rand	250	1,249
	3	Atlas Copco	125	545
	4	Atlas Copco	200	987
	5	Kaeser	175	882

Source: SRK, 2018

Figure 18-9 shows the compressor room at Sandra K and the three compressors and backup generators.

Source: SRK, 2018

Figure 18-9: Compressor Room at Sandra K

18.1.4 Diesel Supply and Storage

Fuel is supplied by Terpel, who provides the contracted supply from Medellín directly to the mine and mill where the fuel is stored in tanks at each site. Diesel deliveries are typically in 30,000-liter trucks. There are two tanks that hold a total of 850-gallons at both El Silencio and at Providencia. Diesel tanks are filled every two days at El Silencio and every three days at Providencia. Fuel can be obtained locally through either Terpel or Zeus filling stations.

18.1.5 Natural Gas and Propane Supply

The site uses propane for miscellaneous heating processes site wide, but primarily at the lab refining furnace. Propane is supplied by Vidagas, a local company that receives propane from Medellín. Natural gas is not used at Segovia.

18.1.6 Power Supply and Distribution

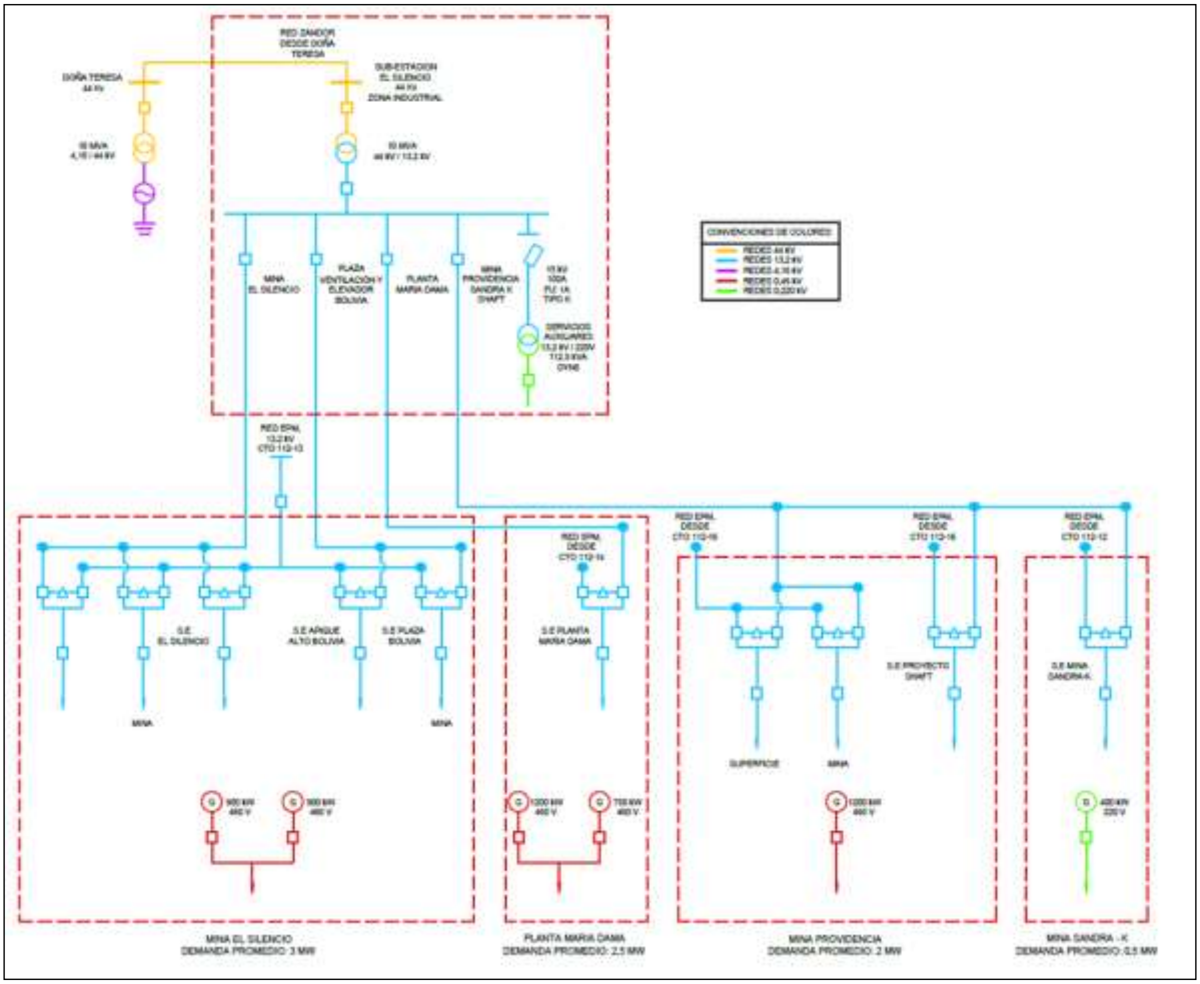
Power is supplied through two sources. The first power supply is provided from the national grid through a 13.2 kV powerline to the Company substations at the mill location and mine locations. The power is supplied by Empresas Públicas de Medellín E.S.P (EPM). EPM is a major utility that in addition to power, supplies natural gas and water. EPM supplies about 20% of Colombia's power.

The Company also has contracts with a secondary supplier, Proveniente de Central Dona Teresa (PCH), that is a smaller independent producer that operates the 8.5 MW Doña Teresa hydroelectric project approximately 20 km from the Segovia site. Before November 2014, PCH was owned by GCG. The facility was constructed in the 1930s by FGM, with poor performance. The poor performance of the PCH facility provided impetus for GCG to contract with EPM. The power is transmitted through a 44-kV power line to the site. PCH began delivering power in November of 2017 and continues today. PCH delivered 20.5 M kWh in 2019. The consumption was split with 66% at El Silencio, 22% at Providencia, 12% at Sandra K.

Figure 18-10 shows the one-line electrical diagram of the power system at the Segovia mine and the two separate feeds providing power to the Project. GCG plans in the future to create a fully looped system to establish full redundancy. The Company has detailed records on power outages since contracting with EPM in November 2014. The power early in the early producing years was very unreliable but has improved over time, although backup generation is still required. The reliability has been much improved in recent years with minimal down time due to electrical power loss. Even with the dual power supply system, backup generation is still required due to transmission lines from both power sources being affected by weather conditions.

The Company has backup generation available to support the main lines if needed. The backup generation includes the following diesel plants:

- Two 900 kW Gensets at El Silencio
- One 1200 kW Genset and one 750 kW Genset at Maria Dama
- One 400 kW Genset at Sandra K
- One 1200 kW Genset at Providencia



Source: GCG, 2018

Figure 18-10: Segovia One-Line Electrical Schematic

A more detailed discussion on the power system follows by site.

<u>Providence Mine</u>

- The mine has several surface substations including a 1,500-kVA substation (in three 500 kVA transformers), Transfer equipment is currently being installed for the interconnection with the PCH and EPM systems with which GCG supplies compressors, crushers, hoist equipment and ventilation among other loads. GCG also has another surface substation located near the shaft fan with a 750-kVA transformer.
- Level 4: there are two 500 kVA transformers which feed the pumping systems on Level 4 as well as the mine loads of this level.
- Within Level 6: there is one 500 kVA transformer that feeds the pumping system on level 7 as well as the mine loads on this level.
- Level 8: the main substation has 750 kVA and 500 kVA transformers as this is where power is concentrated to distribute to all the medium voltage loads that supply the smaller substations at locations underground in the mine. Additionally, there is a separate transformer that feeds

pumps on Levels 7, 8, 8 ½, and 9, as well as hoists on apique 3660, apique 3860 and mine loads on Level 9 and 10.

- A 500-kVA substation on Level 10 feeds fans, pumps and other equipment on Levels 10 and 11.
- On Level 12 there is a 1,000-kVA system with two 500 kVA transformers. It currently feeds all the electro diesel equipment, pumps, fans and other electrical requirements from the ramp from this level downwards.

El Silencio Mine

- There is a 10 MVA substation installed that takes power from PCH. The substation has a 10 MVA transformer with 44 KV input voltages and 13.2 KV outputs which were taken to all the centers of consumption (Providencia, Sandra K, El Silencio and Maria Dama) for interconnection and use by medium voltage transfer.
- For the surface compressors there is a 2 MVA transformer that feeds all the compressors, ore hoist, personnel and all the peripherals of the industrial area. GCG is currently feeding Level 18 with a 1 MVA transformer also installed in this substation.
- Inside the mine the Navar group has a number of substations:
  - 500 kVA substations on Levels 10, 17, 19, and 23
  - Two 450 kVA transformers on Level 28
  - 450 kVA transformers on Levels 32, 38 north and 38 south
  - 450 kVA transformer on Level 38 north and 38 south
  - 300 kVA transformer Level 28
  - 500 kVA transformer Level 43
  - These transformers feed all the pumps, hoisting equipment, and fans along with other equipment
  - On the Zandor (GCG) near the Bolivia Apique:
    - 630 kVA transformer on the surface
    - 500 kVA transformer in the substation at Level 18-Bolivia Apique.
    - Two 500 kVA transformers in the substation at Level 23 near ramp 1.
    - 500 kVA transformer and another 300-kVA transformer on Level 21 with a 500-kVA transformer on Level 38 north which feeds the internal lift, mechanized equipment, fans and other equipment

Sandra K Mine

At the surface substation there are two 500 kVA transformers that feed the compressors, apique hoists, and other services required. Inside the mine on Level 3 there is a substation with 750 kVA and 500 kVA transformers which feeds the hoist, pumps, fans, and other services required.

18.1.7 Security

Security at the Project is primarily provided by a contract security company, Fidelity, that provides 24-hour per day security services for all of the GCG Project sites including the administrative facilities, El Silencio, Providencia, Sandra K, and Maria Dama Plant. The security service includes manned fixed guard stations at the various sites plus a roving service that travels throughout the property and local communities around the Project area. Fidelity has approximately 140 people on staff for 24-hour coverage with approximately 46 people at the sites each shift.

18.1.8 Communications

The Project has several communications systems that are utilized. Handheld two-way radios are used on the surface and underground at El Silencio, Providencia, and Sandra K where a leaky feeder system has been installed. A hardwire telephone system is in use in the mines and plant as well as the administrative areas. A fiber optic internet system is installed to support the Project needs. Video cameras are utilized in certain locations to monitor key systems and secure zones. A facial recognition system has been installed at the Maria Dama plant and is being implemented at Providencia.

18.1.9 Logistics Requirements

Supplies, equipment, and materials are trucked to the sites via the paved and dirt road. As this is a gold project there are no concentrate shipping constraints. No material logistic limitations impact the Project other than the typical challenges.

18.1.10 Site Water Management

The management of wastewater in and around waste management facilities and the plant area has historically been a challenge for the Project. At present, GCG unloads the bulk tailings directly to the El Chocho TSF, and the cyanized tailings are temporarily stored in the Bolivia TSFs to assist in managing the water associated with the cyanized tailings. The liquid portions of the Boliva TSFs is pumped to the María Dama plant, where the liquids comingle with the barren solutions from the plant. The combined liquids are then pumped to the industrial wastewater treatment system (STARI) where they are treated and recirculated in María Dama, or if not required for makeup water, discharged maintaining the Colombian water quality standards. The fluids from the El Chocho TSF are recirculated to the María Dama plant.

The El Chocho TSF site has surface water diversions incorporated into the perimeter roadways that will allow storm water to be diverted around the facility.

18.1.11 Water Management

Operational water for the Maria Dama plant is provided mainly from a freshwater surface storage pond known as La Tupia and supplemented during the dry season using the dewatering water from the underground mine. With the recent start of operations at El Chocho TSF, the TSF water is recycled from the TSF to the Maria Dama plant. Likewise, the waters from the Bolivia TSFs that store cyanized tailings are reincorporated into the Maria Dama plant after detoxification and treatment process in the STARI System. These systems reduce the use of fresh makeup water. All the infrastructure for surface water management has been added since mid-2017 and the new facilities under construction include surface water controls that will limit the amount of incidental runoff added to the water that must be managed by the site.

Recent effort appears to be directed toward storm water management and the prevention of contact with mine equipment and facilities. Some concrete channels and energy dissipation structures for the management of run-off are already constructed, and some others are being considered. SRK has observed that GCG is in the process of implementing improved surface water controls around the new El Chocho TSF.

18.1.12 Water Supply

According to the available information regarding the water supply requirements and surface water records in the area, water supply for processing and potable water does not present a significant challenge to the Project. However, there is no mine water balance or records of water use and little or no site specific or detailed analysis of the water cycle has been undertaken to date.

Water for processing, estimated at approximately 100 m^3/hr has historically been provided mainly from the pond known as La Tupia, and secondarily from underground dewatering activities. The water for the Maria Dama processing plant is stored in a small reservoir, La Tupia, shown in Figure 18-11. The water is transported by pipe and open channel for use at the plant. Recycled water from the El Choco TSF reduces the quantity of makeup water required.

Source: SRK, 2018

Figure 18-11: Maria Dama Water Storage Pond

18.2 Tailings Management Area

The following description of the El Chocho dry stack TSF was prepared by SRK for the 2020 update of the PFS. The description is based on a guided site visit and site meeting with representatives of Segovia's operations and engineering staff, and a desktop review of available information regarding existing tailings generation and management.

On January 28 and 29, 2020, Joshua Sames, a Qualified Person in accordance with Companion Policy 43-101CP to NI 43-101, conducted a personal inspection of the Segovia El Choco site under Section 6.2 of the Instrument. This inspection was intended to familiarize Mr. Sames with the conditions at the mine site and any potentially available material information that could affect mine development/expansion in this location. Information collected on site in 2020 was supplemented by GCG with the provision of relevant design and operating reports.

This annual update to the PFS included desktop review of the following documents:

- *El Chocho Tailings Storage Facility, Final Design Report*, prepared for Gran Colombia Gold Corp, Segovia Project, Knight Piésold, July 2012
- *Presa El Chocho Para Almacenamiento de Lodos, Optimización del Volumen de Almacenamiento, Revision de Diseno Definitivo*, prepared for Gran Colombia Gold Corp. Proyecto Pampa Verde, iConsult, February 2013
- *Revisión Técnica del Informe de Diseño Final – Deposito de Almacenamiento de Relaves El Chocho, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales Auríferos*, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016a
- *Análisis del Sistema de Manejo Actual de Relaves – Alterativas de Corto, Mediano, y Largo Plazo, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales Auríferos*, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016b
- *Construction drawings for Fase IB and Fase 2A of the El Chocho tailings storage facility* provided by Gran Colombia Gold Corp prepared by Wood (dated September 2019)
- *El Choco Filtered Tailings Storage Facility Detailed Design Report for Phase 1C and 2A* provided by Gran Colombia Gold Corp prepared by Wood (dated December 2019)
- *Maccaferi Geotub Stacking Drawing and Design Calculation Package* provided by Gran Colombia Gold Corp (dated June 2018)
- Data files provided by GCG to SRK

18.2.1 General Description

The El Chocho TSF has been designed as a filtered tailings dry stack. The current tailings production rate is around 1,500 t/d and with the planned addition of a second filter unit, will be increased to 1,600 t/d with no down time for maintenance. The TSF is designed with a total estimated capacity of 3.58 Mt to meet the LoM requirements.

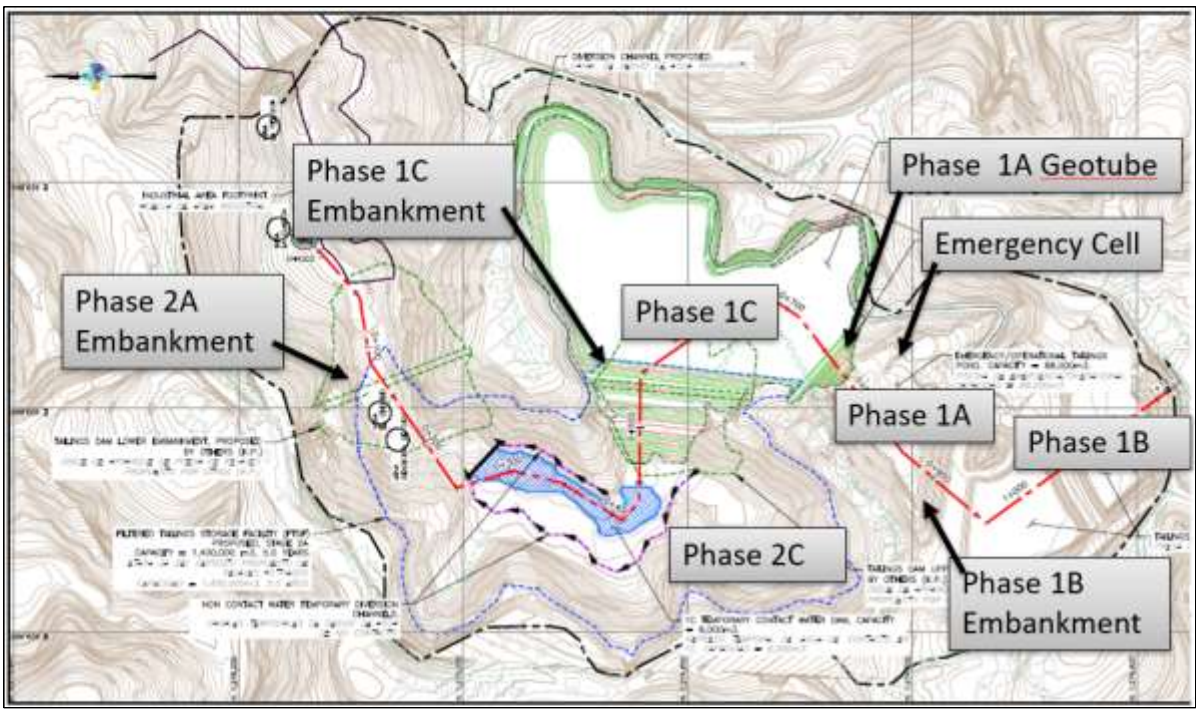
The current storage facility consists of existing phases 1B and 1A and a new phase 1C, which finished construction in early 2020. The current layout of the El Chocho TSF is shown in Figure 18-2. All TSF phases are constructed on a 0.5 m impermeable clay layer. A future phase 2A is planned for construction downstream of phase 1C.

Phase 1B was the first TSF built and was designed to accept slurried tailings. It was constructed as an earth fill embankment with a clay core and upstream chimney drain to reduce pore water pressures in the embankment. The phase 1B upper portion is currently being reclaimed by placing 1 m of growth media over the existing tailings. The lower portion of phase 1B has an internal rockfill berm dividing the storage area which acts as a filter to decant water to the current operating pool used to recirculate water to and from the filter press.

Phase 1A is a Geotube embankment constructed in 2018 and 2019 by filling Geotubes with tailings slurry. The design was prepared by Maccaferri and includes tailings-filled tubes stacked to form an embankment approximately 15 m high. The Geotube embankment is designed to provide for interim containment of tailings, while the phase 1C embankment was under construction. The placement of filtered tailings in phase 1A was due to finish in early 2020, after which tailings will be routed to the new phase 1C. Refer to Section 26.4.2 for discussion of SRK's recommendations evaluation of Geotube embankment stability.

Phase 1C, design by Wood Group, finished construction in early 2020 and includes a 15 m rockfill starter embankment in the valley, downstream of the existing phase 1A Geotube embankment. The phase 1C rockfill starter embankment was designed with an 8 m wide crest and 2H:1V upstream and downstream side slopes.

Phase 2A is located further downstream in the same valley as phase 1C, as illustrated in construction drawings prepared by Wood Group (dated September 2019). Construction methods and elements are the same as those used in phase 1C. The phase 2A filtered TSF will have a 10 m high rockfill starter dam, 8 m wide crest and 2H:1V upstream and downstream side slopes.



Source: Wood, 2019

Figure 18-12: General Layout Site Plan

18.2.2 Operation

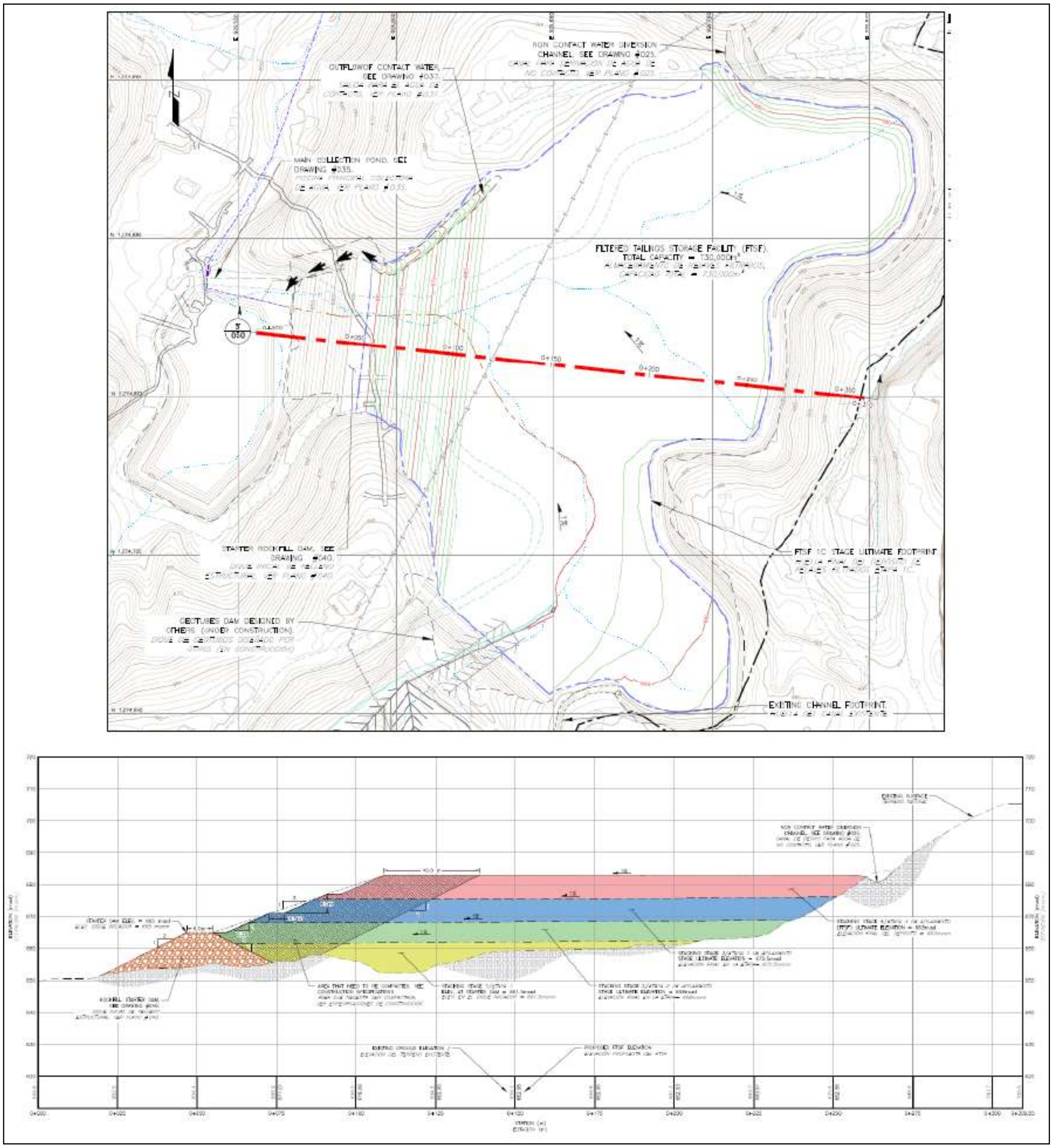
The current operation features a filter plant with one plate and frame filter press and three phases of dehydration cells capable of treating the full tailings load of 1,500 t/d of filter tailings. There is an emergency cell adjacent to the filter for temporary slurry tailings storage when the filter is down for maintenance or repair. Tailings deposited in the emergency pond are dewatered via a system of drains and ultimately removed by excavator and hauled back to the filter for dewatering and placement in the

TSF. Tailings produced by the flotation process are sent through the filter press to achieve a volumetric moisture content of approximately 12% to 18%. The filtered tailings drop out of the elevated filter and are loaded into haul trucks using a front-end loader. The filtered tailings are hauled and dumped at the TSF where a dozer is used to spread the filtered tailings into 30 cm layers. A vibratory smooth drum roller is then used to compact the filtered tailings to the specified compaction. The outer 40 m perimeter of each tailings lift is compacted to a higher relative density than the interior tailings to achieve a higher density, thereby reducing the potential for liquefaction of the tailings material and improving the mass and erosional stability of the stacked tailings.

Quality control on compacted placed tailings is achieved by regular sampling of filtered tailings to check maximum dry density. In addition, in-place compaction testing is conducted three times a day by a third-party quality assurance testing firm with a nuclear density gauge. The target moisture content is +12% or -3% per Wood in the Engineering Design Report (Wood, 2019). The following elements of phase 1C design and construction are summarized from Wood, (2019).

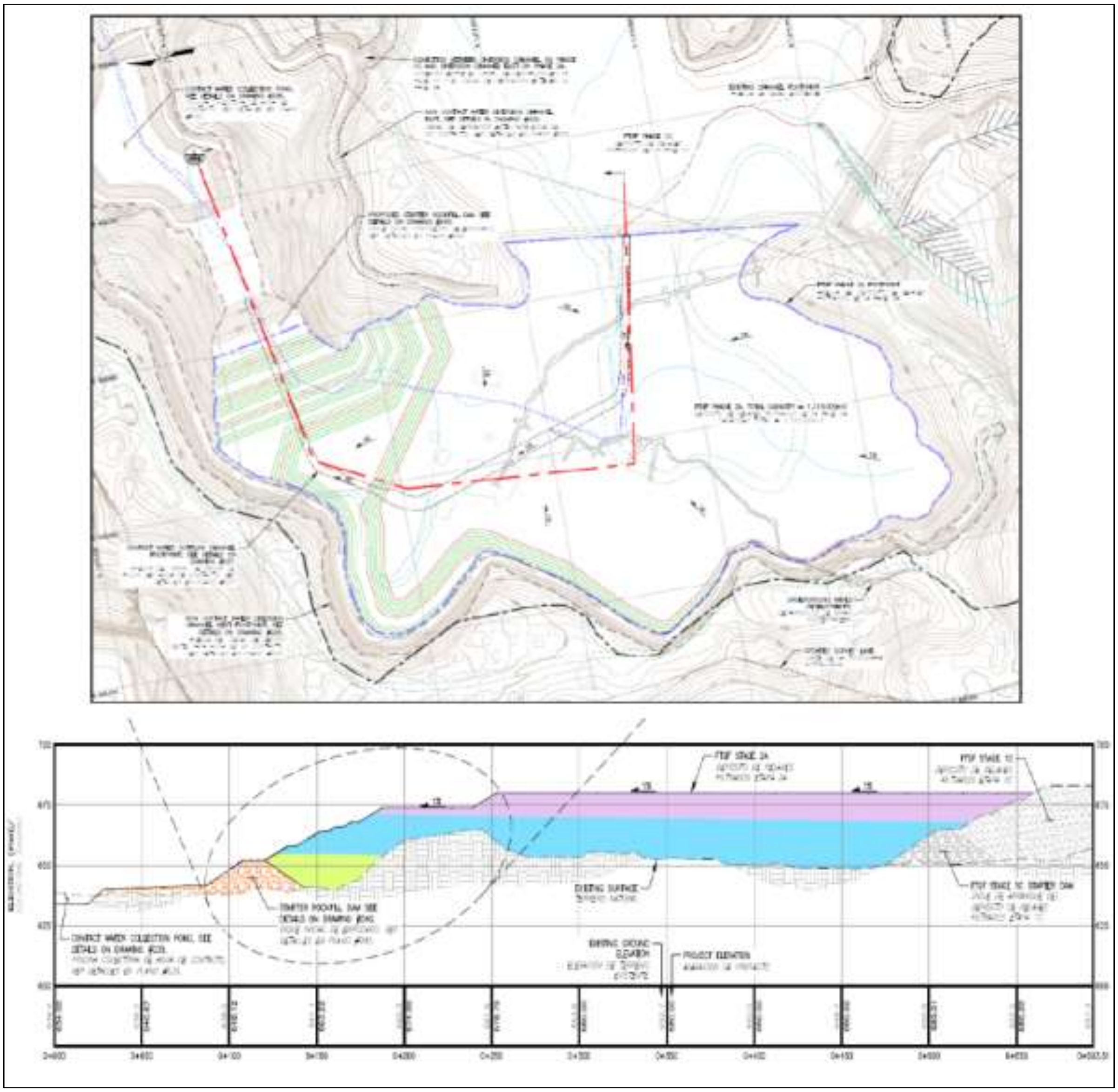
- Phase 1C filtered tailings placement will consist of 6 m high lifts with 4.5 m benches stacked to a maximum height of 33 m. The overall outer slope of phase 1C at closure will be 3H:1V. As designed, phase 1C will provide a maximum storage capacity of 1.28 Mt, with a storage life of 2.3 years at 1,500 t/d. The general arrangement is shown in Figure 18-13.
- Phase 2A will be constructed downstream of phase 1C with 6 m height lifts and bench widths of 4.5 m. The overall slope of phase 2A at closure is 3.2H:1V. Phase 2A provides a maximum storage capacity of 2.3 Mt, with a storage life of 4.2 years at 1,500 t/d. The general arrangement is shown in Figure 18-14.

Wood conducted a series of stability analyses during the design of phases 1C and 2A to determine the width of the required outer perimeter compacted structural section assuming the non-structural section was uncompacted tailings. The analyses concluded that a 40 m wide outer structural zone compacted to a specified relative density will achieve the required factor of safety (FoS) for both static and pseudo-static loading conditions. The results of Wood's stability analyses concluded that minimum FoS for phase 1C and 2A as designed will satisfy the minimum criteria recommended by Canadian Dam Association (2014) guidelines, assuming the TSF is constructed in accordance with Wood's design and follows the technical specifications and quality control plan. In the stability analyses, the material properties of the uncompacted and compacted filtered tailings were assumed based on experience and similar projects.



Source: Wood, 2019 – Construction Drawings from Wood

Figure 18-13: General Arrangment and Section View of El Choco Phase 1C



Source: Wood 2019 - Construction Drawings from Wood

Figure 18-14: General Arrangment and Section View of El Choco's Phase 1C

18.2.3 Phase 1C Construction Procedures and Phase 2A Design

Construction of phase 1C (and future phase 2A) began with foundation preparation and construction of water management structures for contact and non-contact water (Wood, 2019). The stream that flows through the lower part of the valley was diverted by diversion channels located upstream of the TSF that discharges to the Peñitas Valley creek downstream of the contact ponds. Contact water that is not diverted by the diversion channel is collected and managed through the underdrain system which discharges into the collection pond. Once the underdrain has been covered with filtered tailings, the tailings surface runoff will be managed on the top deck and routed to the collection pond for each phase.

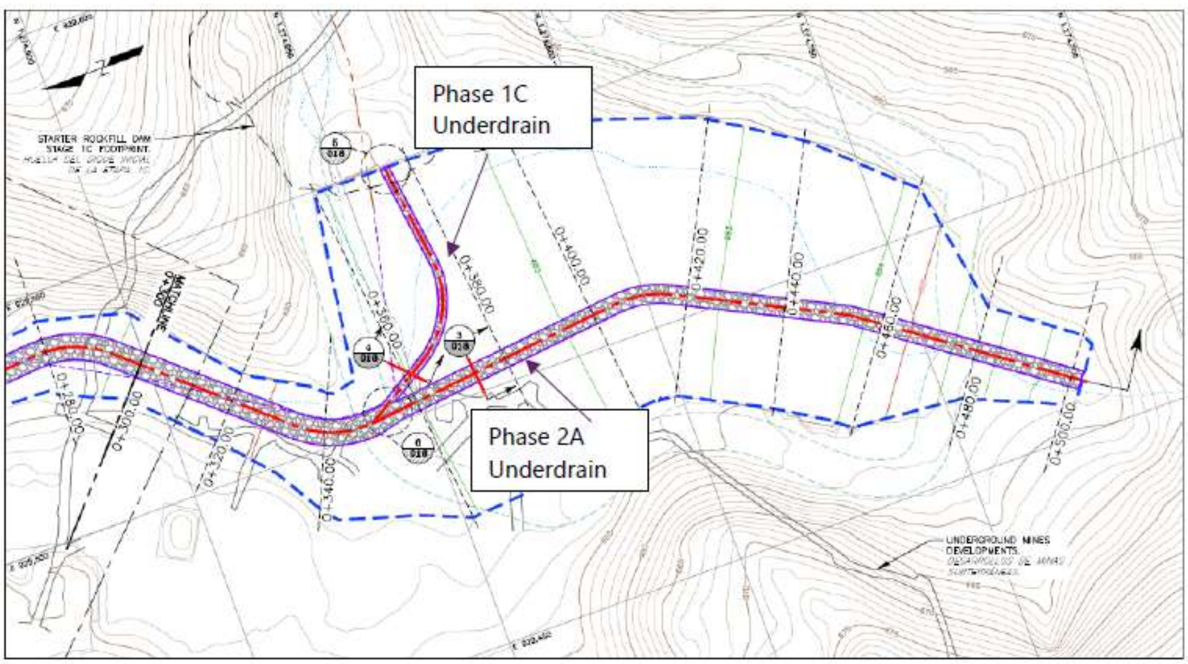
18.2.4 Foundation

According to Wood (2019), foundation preparation for phase 1C (and 2A) included removal of trees, clearing and grubbing of vegetation, and removal of topsoil to stockpiles in designated areas for future use. Pockets of unsuitable subgrade foundation material were removed, including saturated zones, soft spots, high organic zones and loose soil zones.

18.2.5 Water Management

Based on Wood (2019), the underdrain collection system for phase 1C was designed and constructed to capture shallow or perched groundwater below the tailings in the north and south natural valleys, to prevent increased pore pressures at the foundation/tailings interface. The underdrain collection system follows the natural drainages and consists of a system of corrugated 24-inch diameter perforated and solid PVC pipes. Water from the underdrain system is piped under the phase 1C embankment and into the contact water collection pond.

The phase 2A system will consist of one underdrain following the Penitas Valley main channel. At the beginning of phase 2A construction, the underdrain system will be constructed (corrugated 30-inch diameter perforated and solid PVC pipes), phase 2A diversion channels will be constructed, the phase 1C contact pond will be removed and a new phase 2A contact pond will be constructed. The phase 1C underdrain system will then be connected to the phase 2A system and routed under the phase 2A rockfill starter embankment into the new collection pond. The phase 1C and 2A underdrain layout is shown in Figure 18-15**.**



Source: Wood 2019 – Underdrain Design from Wood

Figure 18-15: Underdrain Collection System

The collection ponds are designed to settle solids and monitor and treat stored water as required, before discharge to the natural stream downstream. Note, that according to site operations personnel, monitoring data indicate the underdrain chemistry currently meets regulatory standards for discharge.

The storage capacity of the phase 1C collection pond is 5,800 m^3 and for phase 2A is 19,500 m^3. The phase 1C collection pond is lined with an 80 mm HDPE double textured geomembrane liner on top of a 10 oz/sy non-woven geotextile; the phase 2A collection pond is designed with the same liner components. The ponds were sized to catch the contact run-off from a 10-year return interval storm event.

The phase 1C stormwater diversion channel was connected to the phase 1B and 1A existing diversion channel. The single diversion channel on the north side of the facility was been constructed as a concrete lined trapezoidal channel cut into the existing slope above the TSF. The approximate length of new channel for phase 1C is 590 m with a minimum design slope of 2%.

The phase 2A design proposes the construction of two new diversion channels located on the east and west sides of phase 2A. The diversion channel from phase 1C will be connected to the new East channel. The East channel was designed to manage the phase 1C top deck runoff once it has been reclaimed.

18.2.6 Review of 2019 SRK Recommendations

The following is a summary of SRK's recommendations included in the 2019 PFS annual update with discussion of actions or documentation provided and reviewed since the issuance of the 2019 report.

- Retain qualified professional engineers to prepare detailed design and issued-for-construction drawings to ensure future growth*:*
  - GCG contracted with Wood for preparation of detailed phase 1C and 2A design documents.
- Evaluate the phreatic conditions in and below the phase 1A embankment and complete stability and liquefaction analyses to determine the current FoS against mass failure, including additional field and laboratory characterization as required:
  - This comment was originally directed at the phase 1B embankment, which is now buttressed on the downstream slope by compacted filtered tailings. As a result, this recommendation is no longer applicable.
- Perform additional geotechnical characterization within proposed embankment foundation footprints to confirm design criteria, inputs and assumptions. Confirm embankment footprint foundation design assumptions for grain size distribution, Atterberg limits, soil classification, moisture content, compaction, overburden removal depths and material strength properties;
  - The original geotechnical investigation was conducted by Knight Piesold (KP) in 2012 and consisted of a series of boreholes and test pits. Per Wood (2019), the detailed phase 1C and phase 2A designs used the KP testing data to design the phase 1C and 2A and no additional investigation was conducted.
- Confirm minimum design criteria applicable to the TSF via discussions with pertinent regulatory bodies, including those pertaining to closure and reclamation;
  - Wood (2019) references 2014 CDA Guidelines. SRK assumes that Wood and GCG have coordinated to ensure that local regulatory requirements have been satisfied through the phase 1C design and construction process.

- Confirm achievable and achieved moisture contents for filtered tailings:
  - Quality control practices are employed during placement and compaction of filtered tailings. Placed density and moisture contents are performed three times a day by a third-party quality assurance firm.
- Confirm geotechnical properties of filtered tailings including, at a minimum, grain size distribution, Atterberg limits; compacted density, permeability, consolidation, and shear strength:
  - Aside from in-place density testing as described above, SRK is not aware of additional tailings characterization testing. Per Wood (2019), tailings properties used in design were based on experience and similar projects.
- Confirm geochemical characteristics of tailings and waste rock for embankment construction to support design and closure planning;
  - GCG has performed static acid drainage prediction test reports for 20 samples including vein, waste rock and tailings samples, plus dynamic laboratory tests for 7 samples of tailings and the veins of its mines in Segovia. All these tests were and are carried out by SGS Lima. Based on conversations with site personnel, collected runoff and underdrain water chemistries are suitable for discharge without treatment from the collection pond at the base of the TSF.
- Confirm tailings containment requirements based on latest update to the mine plan to determine overall size and staging of the TSF:
  - Wood (2019) provided design capacities.
- Confirm depth to possible shallow seasonal groundwater in drainages and valley bottom and revise design recommendations for construction planning, underdrain design, and removal of unsuitable foundation materials:
  - Detailed designs by Wood (2019) include provision of tailings underdrains and collection and management of contact runoff. Based on conversations with site personnel, collected runoff and underdrain water chemistries are suitable for discharge without treatment.
- Confirm assumptions and criteria related to stability and seismic loading, including but not limited to, interface friction, internal friction and saturated foundation conditions for both rockfill and Geotube embankments:
  - Site seismicity was addressed by Wood (2019) in their stability analyses, but no material property testing was provided. Design documentation was provided for the phase 1A Geotube embankment but consisted primarily of conceptual design drawings with assumed material properties for calculations.
- Complete liquefaction and seepage analyses on embankments and foundations:
  - No analyses were performed. Wood (2019) stated that the tailings were assumed to be non-liquefiable.
- Complete a site-specific seismicity assessment, including classification of ground conditions, to provide the seismic design basis for the dam design:
  - Site seismicity was addressed by Wood (2019) in their stability analyses and reference made to KP probabilistic and deterministic seismic hazard assessment.
- Confirm basis of hydrological evaluation and hydraulic design, including all assumptions and design criteria, and provide for robust stormwater management system and erosion control design, particularly with regard to the capacity and long-term maintenance requirements of the upstream diversion channel diverting stormwater flows around the TSF basin.

  - Wood (2019) indicated the phase 1C and 2A diversion channels were designed to handle a precipitation event having a return period of 50-years.

19 Market Studies and Contracts

19.1 Summary of Information

Gold markets are mature, global markets with reputable smelters and refiners located throughout the world. Demand is presently high with prices for gold showing an increase during the past year. Markets for doré are readily available. Segovia has a gold room for the production of doré. The doré is shipped offsite for final refining.

19.2 Commodity Price Projections

Assumed prices are based on the long-term outlook for gold. This projection is below the three-year trailing averages and current spot prices and are in-line with the long term view of relevant market analysts in the precious metal sector. Table 19-1 presents the price used for the cash flow modeling and reserves estimate.

Table 19-1: Segovia Price Assumptions

Description	Value	Unit
Gold	1,350	US$/oz

Source: GCG, 2020

Treatment charges and net smelter return (NSR) terms are summarized in Table 19-2.

Table 19-2: Segovia Net Smelter Return Terms

Doré	Value	Units
Payable Gold	100%	
Doré Smelting & Refining Charges	6.75	US$/oz-Au

Source: GCG, 2020

The doré production is sold at the mine gate, therefore, no transportation costs are considered in this analysis.

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Environmental Studies

The following is a summary of the results of environmental studies and information, as well as a discussion of any known environmental issues that could materially impact the Company's ability to extract the mineral resources or mineral reserves of the Segovia Project. It is based exclusively on information provided by GCG and was not developed independently by SRK.

20.1.1 Environmental Setting

The local topography is characterized by a low-lying plateau at 600 to 850 m altitude, incised by steep valleys. The climate is tropical with an annual average temperature of 24.9°C and average annual rainfall of approximately 2,720 mm/year, predominantly falling between April and November. The drainage pattern across Segovia is dendritic; the northeast and west of the license area drains north into the Nechi River, which is influenced by artisanal mining operations. The Ité River to the east of Segovia flows southeast and then northeast into the Magdalena River. The vegetative cover across the landscape consists of disturbed grassland (used mainly for mining and livestock rearing activities) interspersed with fragmented forest patches, mainly along drainage lines within the incised valleys. Forest patches provide important habitat for wildlife.

The operations are located within the town of Segovia, which has been a center for gold mining for more than 100 years and the environmental and social setting is strongly influenced by this. Mining, both formal and informal, is the main economic activity in both Segovia and the neighboring town of Remedios, which is approximately five kilometers from Segovia. Informal processing operations in these towns using basic technology has resulted in poor health and safety conditions and widespread water contamination from discharge of tailings and waste directly into the environment. This has led to a prevalence of mercury-related health problems in the local populations. Health issues related to population influx are also common.

20.1.2 Baseline Environmental Data

The Segovia Project predates the regulatory requirements to prepare an environmental impact assessment as part of the overall permitting process. Instead, the operations were authorized through the approval of an Environmental Management Plan ("*Plan de Manejo Ambiental*") (PMA). The first PMA approval was in 2004, which was subsequently renewed in 2008.

In 2012, a PMA update was provided to the regulators, and included baseline study information and site investigations related to: geology, geomorphology, soils, hydrology, hydrogeology, climate/meteorology, air quality, noise geotechnical, landscape, flora (vegetation), birds, mammals, herpetofauna, fish, and macro-invertebrates. The 2012 PMA also included information on the socio-economic situation in the area and potential impacts from legal and illegal mining. This 2012 PMA update, however, was not formally approved by the regional environmental authority, Corantioquia.

At the request of the authorities, additional baseline information was developed in 2012, 2013, and 2014, which was consolidated into a single document and resubmitted to Corantioquia in 2015. In 2016, this information was supplemented with additional detail on the small mining operations, detailing the conditions of the abiotic, biotic and socioeconomic environments. It was also requested that the information on solid waste, mine drains and beneficiation plant conditions (including tailings management), and clarifications on contingency planning and mine closure planning, be expanded and submitted to the agency. This information was provided to Corantioquia in August 2017 for consideration. Corantioquia subsequently visited the operations in October 2018 and prepared a technical report on the findings and acceptance of the information provided to them to date. The PMA was formally accepted by Corantioquia through the issuance of Resolution 160ZF-RES1902-967 on February 22, 2019, with a renewal period of five years. GCG appealed several of the terms and conditions of the resolution, which led to the issuance of Resolution 160ZF-RES1911-6813 on November 25, 2019, accepting several of the arguments presented by the Company. As a result, resolutions 160ZF-RES1902-967 (June) and 160ZF-RES1911-6813 (November) jointly approve the PMA for operations.

20.1.3 Geochemistry

Over the past year GCG has made improvements to reduce environmental impacts from mining, especially in the areas of water management and tailings management. They have conducted additional geochemical testing to acquire data to characterize the acid rock drainage and metal leaching (ARDML) potential of tailings, ore and waste rock. A subset of the group of 20 samples analyzed in 2019 was advanced for humidity cell testing, including two tailings samples. A short-term leach test was conducted on tailings samples.

Limited data exist to fully understand the current and future ARDML potential. A substantial data collection effort needs to be designed and implemented for tailings, waste rock, and ore from the mine workings as part of Good International Industry Practice (GIIP), as the currently approved PMA does not require such a program. The primary areas of risk related to geochemistry are discussed in detail in the following sections.

In February 2018, GCG provided additional information in the form of a report from SGS Services (Peru) on 20 mineral samples from the Project. The objective of this study was to measure the potential for the generation of acid drainage using static of Acid Base Accounting (ABA) and Net Acid Generation (NAG) testing. The materials included rock samples from the El Silencio, Providence, Sandra K, and Segovia Gold (Carla) mines, as well as samples of tailings samples from each of the disposal areas (SGS del Perú SAC, October 2018). While five out of the 15 rock samples exhibited acid-generating properties (mostly from the El Silencio Mine), only one of the five composite tailings samples (Cyanized tails -Rh Scale; GCGS- CN) was shown to be potentially acid generating. Note: the results for the tailings sample from the Shaft disposal area was indeterminate. Additional ABA, NAG, mineralogical, and kinetic test work was conducted in 2019 in the SGS laboratory in Lima, which appears to support the previous mix of acid-generating, and non- acid generating samples, though more analyses of these data in relation to the previous work is still needed.

Tailings Geochemistry and Management

GCG continues to detoxify tailings using hydrogen peroxide and iron sulfate. Excess treated water is discharged to surface water in accordance with the PMA and standards established in Resolution 631 of 2015. The possibility of residual cyanide discharge to the environment is still a possibility, but the current condition represents a significant improvement over the historical discharge of whole tailings to the environment. Environmental protective measures completed or in the works include:

- GCG is closing decommissioned tailings facilities;
- Progress has been made on diversion structures to minimize contact water; and
- The current TSF construction plan includes a low-permeability soil liner.

GCG has started detailed characterization of tailings materials. A sample designated CRETIP_2019 was reportedly done on in situ tailings using EPA method 1311, the Toxicity Characteristic Leaching Procedure which is an 18-hour bottle roll leach test. The leachate pH values for the three samples are all near neutral, indicating that at least in the short term ARD is not a concern. Leachable metal concentrations of arsenic, cadmium, lead and mercury are below Permissible Limits. The following important concerns must be relayed regarding this leach test:

- Colombian regulations are not as environmentally protective as those of the World Health Organization (WHO). Constituents of concern in the leach test effluent that do not exceed Colombian MPLs, but *do* exceed WHO guideline values for drinking water, include arsenic, cadmium, and lead. According to GCG, that there is no domestic use (i.e., human consumption) of the water downstream of the operations.
- Method 1311 was developed for testing landfills and therefore is not appropriate for testing mining wastes. For all short-term leach testing, GCG should use the MEND shake flask extraction described in Price (2009).
- It is not uncommon for sulfidic ore and waste rock to generate neutral pH values in short term leachate tests such as Method 1311, even if the material is net acid generating. Sulfide minerals rarely oxidize in the short-term leach tests such as Method 1311. Thus, the long-term ARD potential of samples must be evaluated using a long-term leach test such as the humidity cell.

Tailings are currently being tested in two humidity cell tests. The bulk tailing sample through 11 weeks is producing neutral pH and low metals concentrations. However, the CN tails sample has shown a drop in pH and at week 11 reported at pH 4.1, with commensurate elevated Cd, Pb, Fe, Ni, Zn.

GCG has also started monitoring tailings contact water. Data from three samples collected in 2019 indicate that pH is circum-neutral, and metals are generally low. However, other constituents are locally elevated and represent an environmental risk, including sulfate (1,437 mg /L) and nitrate (171 mg/L).

Waste Rock

There are still uncertainties and risks associated with the ARDML of waste rock. The 2019 static test program provided useful data regarding the relative acid-generating characteristics of vein versus waste rock in the underground but no data on metal leaching potential. Furthermore, the dataset is limited and not representative of the entire system. The laboratory static test data show that seven of the 20 underground rock samples are net acid-generating, and another six are designated as uncertain, with NP/AP values falling between one and three. Given this finding and without knowing how representative waste rock samples are of the greater mass, a more detailed sampling program is recommended. According to records, vein sampling is done in advance of extraction, so perhaps the most efficient means of collecting waste rock data would be to extend the sampling to include waste rock adjacent to each vein that is sampled. This would be an effective way to build a geochemical database of waste rock, and the environmental geochemical properties would be known in advance for waste rock deposited on the surface.

Under the current TSF plan, the starter embankment will be constructed using underground waste rock. This waste rock should be characterized for ARDML properties before or concurrently with deposition. Additionally, waste rock is reportedly used on ground surface for construction and maintenance of roads. SRK recommends geochemical characterization of any waste rock materials used for these purposes.

Mine Water

Water captured by underground dewatering is used for milling and processing. Analytical data collected from 2011 to 2016 from underground mine inflows have shown locally acidic pH levels in conjunction with elevated trace metals. GCG should continue to monitor the mine inflow water quality for the foreseeable future. In general, the underground water quality should not be an issue if the water's use is limited to milling and processing. If the need for water leads to tapping this source for other needs, GCG should track the usage of the water so that it is not discharged to a potentially potable source or a watershed where the metals could be detrimental to aquatic life.

GCG reported four water samples collected in 2019 from Quebrada Peñitas. The data show neutral pH and low metal concentrations, indicating negligible mining-derived impacts from ARDML. Surface water monitoring in the mine vicinity should continue.

SRK (2019) reported that a series of monitoring wells and piezometers was proposed along the mining front. The primary objective of the proposed wells appears to be collection of water level data, but SRK recommends that a portion (or all) of the wells be completed as dual purpose, to collect both water level and water quality data.

A detailed water balance has been prepared for the operations in order to understand the quantities and management requirements for contact water. Areas of risk include mine water (e.g., dewatering effluent) and contact water associated with tailings and waste rock dumps.

Water re-use and recycling are recommended to the extent possible. While groundwater inflow to the mines may not be a critical issue, an understanding of the hydrogeological setting is important to establish the baseline environmental setting and possible impacts with respect to the overall project. This includes current mine water quality (which provides a preliminary indication of future, post-closure mine water quality).

The geochemical and hydrogeological/hydrological impacts should be evaluated at closure when dewatering ceases and water levels rebound. An important component to forecast will be the possibility of mine water discharging to surface water or groundwater and potentially impacting regional users. Reports indicate that dewatering effluent carries elevated natural concentrations of metals. The water quality of dewatering effluent must be well characterized to understand possible treatment criteria before use or discharge to the environment. A prediction of closure water quality is needed.

Closure Water Treatment

Closure scenarios may involve water treatment. Thus, detailed geochemical characterization is needed to fully understand the potential for mining wastes to generate poor quality contact water that might persist into closure. SRK observed that the largest uncertainty regarding closure cost is associated with the potential need for long-term treatment of water from the mine workings following closure. A requirement for long-term, post-closure water treatment could add significant cost to the current closure estimates provided by GCG.

Water Management

Untreated mine effluents have historically contributed to contamination of local surface water courses. GCG has made improvements in water management since mid-2017, but a detailed assessment is needed to evaluate the risk of operations contaminating surrounding surface watercourses. Surface water run-off could represent a significant water management challenge considering the difficulties in distinguishing between the impacts from the artisanal mining activities and those of the Project.

A detailed evaluation is needed on groundwater hydrogeology and surface water to establish the level of risk associated with groundwater and assist in forecasts of post-closure mine water discharge and possible treatment criteria. GCG is currently engaged in such a program, which includes:

- A series of wells/piezometers will be installed along the mining front. Each well will extend 100 m near the bottom of the mine, or in areas where expansion is planned. The wells will be completed and equipped with continuous recorders to measure hydraulic head; and
- Six deep wells will be drilled beyond the immediate mining works to a depth of approximately 700 m. Three of these new wells would be used to characterize groundwater gradients.

Two wells have been bored inside the El Silencio Mine, and data collected. No drilling has yet been completed from the surface. Information from these wells was used to develop a numerical groundwater model which is being reviewed by SRK and included in this report.

Operational water for the Maria Dama plant at Segovia is provided through a combination of underground mine dewatering water and a freshwater surface storage pond. In addition, GCG has been treating and using the underdrain water from the tailings dewatering cells in the process plant since mid-2017 and continues to do so. The industrial wastewater treatment system includes pre-treatment, advanced oxidation, electrocoagulation, high rate sedimentation, dissolved air flotation, filtration, ultrafiltration and reverse osmosis processes.

Infrastructure for management of surface water has been added since mid-2017 and the newer facilities include surface water controls that will limit the amount of incidental run-off added to the water that must be managed by the site. While the current PMA allows for the discharge of industrial wastewater, particularly at the approved El Chocho TSF, much of this water is recycled back to the process plant; though period discharges have been necessary based on the water balance of the operations at the time.

Recent efforts have been directed toward stormwater management and the prevention of contact with mine equipment and facilities. Some concrete channels and energy dissipation structures for the management of run-off are already constructed, and some others are being considered. SRK has observed improved surface water controls around the new El Chocho TSF. In addition, the filter press system at the El Chocho complex aids in the overall water management at the site.

Off-Site Impacts

Informal, unregulated processing operations in the neighboring communities using basic technology has resulted in poor health and safety conditions and widespread water contamination from discharge of tailings and waste directly into the environment. This has led to a prevalence of mercury-related health problems in the local populations.

The most significant issue identified by the assessment included in the 2012 PMA was contamination of surface water from discharge of dewatering effluent without treatment from the operating mines.

Parameters in excess of the Colombian ambient quality standards include metals such as cadmium, lead, zinc and iron and microbiological parameters including coliforms. This water (principally from the El Silencio Mine) is now being collected and treated for reuse in the beneficiation process.

Potential closure costs associated with the need for long term treatment of water from the post-closure mine workings are unknown and represent a risk.

A comprehensive baseline surface and groundwater sampling program will be important to establish the baseline condition and try to quantify the contributions from artisanal or pre-mining conditions, especially with respect to mercury from artisanal mining.

Monitoring

Laboratory reports for water chemistry and mine waste leach test analyses were included in the data package but linking them to specific sites is difficult. General comments can be made that the effluent has elevated metals/metalloids including arsenic, cadmium, lead, mercury, and zinc.

A comprehensive detailed monitoring program needs to be implemented over a broad geographic area including, at a minimum, above and below gradient from mine facilities (most importantly the TSF), surface water sites around the Project, and anywhere else that background contamination and impacts are potential issues that must be segregated from mine impacts. A comprehensive consolidated monitoring plan can them be developed and implemented.

20.2 Mine Waste Management

20.2.1 Waste Rock

Very little waste rock is generated by the underground operations at Segovia. What little waste rock is generated is used on the surface for the construction and maintenance of roads and the embankments of the various tailings disposal facilities.

20.2.2 Tailings

As discussed in Section 20.1.3 above, the Maria Dama plant at Segovia is fed with ore which is milled and processed using treated water from the underground operations, filtrate water from the tailings filtration plant, and fresh make-up water from ponds on the surface. Excess treated water not needed in the process circuit will be further treated through Reverse Osmosis (RO) and discharged in accordance with the PMA and standards established in Resolución 631 of 2015.

There are essentially two tailings streams from the Maria Dama process, with the bulk of the flotation tailings being pumped directly to the El Chocho tailings complex for filtration and placement or deposition into Geotubes for embankment construction. A smaller secondary stream of cyanide tailings is first detoxified using H_2O_2 and $FeSO_4$, then pumped to either the Báscula or one of the three Bolivia settling ponds. These are geomembrane-lined basins currently being used to store detoxified cyanide tailings; decant water from these ponds is pumped back to the Maria Dama plant for use in the process circuit. The detoxified and dewatered tailings from the four settling ponds will eventually by treated through a polymetallic plant (a.k.a., cleaning plant) to remove high levels of lead (Pb) and zinc (Zn) before being transferred to the El Chocho TSF. According to GCG, the ‘cleaning plant’ is currently under construction, and should be completed in mid-2020. Due to the effects of COVID-19, this plant will likely start operating in the second half of 2020. Once operational, the plant will treat 120 t/d of detoxified cyanide tailings from the Maria Dama production line + 80 tons/day of stored tailings from the four settling ponds.

Monitoring of the residual tailings to determine whether or not they are classifiable as ‘hazardous’ continues to be accomplished through Corrosive, Reactive, Explosive, Toxic, Inflammable, Pathogen [biological] (CRETIP) analyses. Laboratory data sheets provided by GCG through August 2019 support the current non-hazardous classification, though low-level concentrations of arsenic, cadmium, lead, and zinc (Toxic criteria) are still being detected but are below permissible limits. Monitoring of water downgradient of the El Chocho TSF in 2019 indicated minor exceedances of sulfate and biological oxygen demand in excess of the maximum limits set by Resolución 0631 of 2015, but are not considered to be consistent, significant, or problematic.

20.2.3 Site Monitoring

Various mitigation and monitoring programs are discussed in the approved PMA (see below). As noted above, monitoring of the residual tailings to determine whether or not they are classifiable as ‘hazardous’ is accomplished through CRETIP analyses. Data provided by GCG supports the current non-hazardous classification, though the limited geochemical characterization performed to date suggests that they could be potentially acid generating in the longer term. Additional analysis may be warranted.

20.3 Project Permitting Requirements

20.3.1 General Mining Authority

Since 1940, the Ministry of Mines and Energy (MME), formerly the Mines and Petroleum Ministry, has been the main mining authority with the legal capacity to regulate mining activities in accordance with the laws issued by the Colombian Congress. The MME can delegate its mining related powers to other national and departmental authorities. Mining regulations in Colombia follow the principle that (except for limited exceptions) all mineral deposits are the property of the state and, therefore, may only be exploited with the permission of the relevant mining authority, which may include the MME, the National Agency for Mining or the regional governments designated by law.

In 2001, the Congress issued Law 685 (the Mining Code). This law established that the rights to explore and exploit mining reserves would only be granted through a single mining concession agreement (the 2001 Concession Agreement). This new form of contracting did not affect the pre-existing mining titles (licenses, aportes and concessions) which continue to be in force until their terms lapse. The 2001 Concession Agreement includes the exploration, construction, exploitation and mine closure phases and are granted for periods of up to 30 years. This term may be extended upon request by the title holder for an additional 30-year term. According to the Mining Code, the initial term was divided into three different phases:

- **Exploration** – During the first three years of the concession agreement, the title holder will have to perform the technical exploration of the concession area. This term may be extended for two additional years upon request;
- **Construction** – Once the exploration term lapses, the title holder may begin the construction of the necessary infrastructure to perform exploitation and related activities. This phase has an initial three-year term which may be extended for one additional year; and

- **Exploitation** – During the remainder of the initial term minus the two previous phases, the title holder will be entitled to perform exploitation activities.

20.3.2 Environmental Authority

In 1993, Law 99 created the Environmental Ministry and then in 2011 the Decree 3570 modified its objectives and structure and changed the name to Environment and Sustainable Development Ministry. The Ministry is responsible for the management of the environment and renewable natural resources and regulates the environmental order of the territory. Also, the Ministry defines policies and regulations related to rehabilitation, conservation, protection, order, management, use, sustainable use of natural resources. The same Law article 33 created the Regional Environmental Authority (*Corporaciones Regionales Autónomas*, CAR) with the responsibility to manage the environment and renewable natural resources.

In 2011, Decree 3533 created the National Authority of Environmental Licenses (*Autoridad Nacional de Licencias Ambientales*, ANLA). ANLA is responsible that all project, works or activities subject to licensing, permit or environmental procedures comply with the environmental regulations and contribute to the sustainable development of the Country. ANLA will approve or reject licenses, permits or environmental procedures according to the law and regulations, and will enforce compliance with the licenses, permits and environmental procedures.

Before the licensing process of mining projects, the competence of either ANLA or CAR is given by the annual volume of material to be exploited. For projects exploiting more than 2 Mt/y, the responsibility will be with ANLA. Both ANLA and CAR can enforce project compliance with the terms of their licenses or permits. Up to now, based on the annual production and transport of materials in RPP 140, the environmental authority that controls GCG is CAR (Corantioquia).

20.3.3 Environmental Regulations and Impact Assessment

Colombian laws have distinguished between the environmental requirements for exploration activities, and those that have to be fulfilled for construction and exploitation works. During the exploration phase, the concession holder is not required to obtain an environmental license. However, the concession holder requires environmental permits which will be obtained from the Regional Environmental Authority. The concession holder will have to comply with the mining and environmental guidelines issued by the MME and the Environmental Ministry.

In order to begin and perform construction and exploitation operations, the concession holder must obtain an environmental license or the approval of an existing Environmental Management Plan (EMP) either from ANLA if the project exploits more than 2 Mt/y or from CAR if the mineral exploitation is less than 2 Mt/y.

The approval process begins with the request for Terms of Reference (ToR) to prepare an EIS or update an existing EMP. The approval of the EIS and EMP by the environmental authority includes all environmental permits, authorizations and concessions for the use, exploitation or affectation, or all of the above, of natural resources necessary for the development and operation of the project, work or activity. Additionally, other permits and requirements (non-environmental) are required in order to begin construction and operation of the project. Projects that started operations before December 1993 and already had the applicable permits must still apply an EMP and apply for minor environmental permits.

Non-governmental organizations (NGO) and the local communities have the opportunity to participate in the environmental administrative procedures leading up to the issuance of an environmental license. The environmental process will include participation of, and information to, all communities in the project area including indigenous communities and Afro-descendant communities.

20.3.4 Water Quality and Water Rights

The Colombian regulations that principally govern water quality, including discharge permitting and requirements, are Decree 2811 of 1974, Decree 1541 of 1978, Decree 1594 of 1984, Decree 3930 of 2010, and Resolution 631 of 2015 that establishes the enforceable maximum permissible limits for discharges to surface water. The Regional Environmental Authority (Corantioquia) enforces compliance with these regulations.

Water rights for mining activities are granted by means of a water concession which is granted by Corantioquia and which is independent to the mining concession or to land ownership. The water rights related to mining activities are included in the environmental licenses or in the approved PMA and are normally granted for five years. The terms and conditions under which a water concession is granted may depend, amongst other things, on the amount of water available in the specific region, the possible environmental impact of the concession, water demand, the ecological flow and the different users that the water source services. The water concession is accompanied with a discharge permit.

Water concessions granted to the operation are listed in Table 20-1.

Table 20-1: Water Concessions Granted to the Operation

No.	Authorization	Area
1	ZF1-01-10	Hacienda Curuná
2	ZF1-07-3	Mina Providencia
3	ZF1-07-5	P.B. María Dama
4	ZF-07-20	Mina Silencio (Exploración)
5	ZF1-07-22	Mina Sandra K
6	ZF1-11-5	Manejo de Colas-Mina El Silencio
7	ZF1-11-17	Finca tres y medio, La Laguna (Exploración)
8	ZF1-11-24	Juan Brand, La Innominada (Exploración)
9	ZF1-11-45	Mina Sandra K (Exploración)
10	ZF1-11-46	Mina Silencio (Exploración)
11	ZF1-11-23	Pocuné
12	ZF1-12-42	Las Cristalina
13	ZF1-18-898	Campo Alegre (Exploración)

Source: GCG, 2020

Industrial discharge authorizations are listed in Table 20-2.

Table 20-2: Industrial Discharge Authorizations

No.	Authorization	Area
1	ZF7-07-6	Mina Silencio
2	ZF7-12-9	D.R. El Chocho
3	ZF7-17-689	Mina Providencia
4	ZF7-17-686	Mina Sandra K

Source: GCG, 2020

Domestic discharge authorizations are listed in Table 20-3.

Table 20-3: Domestic Discharge Authorizations

No.	Authorization	Area
1	ZF7-07-5	Mina Providencia
2	ZF7-07-13	Hacienda Las Tías
3	ZF7-08-42	P. B. María Dama
4	ZF7-12-10	Oficinas Generales

Source: GCG, 2020

20.3.5 Air Quality

Decree 948 of 1995, Resolution 650 of 2010 and Resolution 2154 of 2010 provides the main regulations on protection and control of air quality. These regulations set forth the general principles and regulations for the atmospheric protection, prevention mechanisms, control and attention of pollution episodes from fixed, mobile or diffused sources. These regulations also provide emission levels or standards. Among the emission sources regulated are: controlled open burnings, discharge of fumes, gases, vapors, dust or particles through stacks or chimneys; fugitive emissions or dispersion of contaminants by open pit mining exploitation activities; solid, liquid and gas waste incineration; operation of boilers or incinerators by commercial or industrial establishments, etc.

Also, Resolution 627 of 2006 regulates noise emissions in terms of ambient noise. The parameters regulated are: SO_2, NO_2, CO, TSP, PM_{10}, O_3, and noise. The Regional Environmental Authority enforces compliance with these regulations.

20.3.6 Fauna and Flora Protection

The main regulations for the protection of fauna and flora are contained in the Natural Resources Code and the Agreement about Biological Diversity entered into in Rio de Janeiro on June 5, 1992, within the framework of the Rio Convention. Also, forest management and use is regulated by Decree 1791 of 1996, and the compensation of the biotic component is regulated by Resolution 256 of 2018. In addition, there are other important regulations on the matter such as the Cartagena Protocol on Biotechnology Security of the Agreement about Biological Diversity entered into in Montreal on January 29, 2000, and the Convention on International Trade of Threatened Wild Fauna and Flora Species (CITES). Endangered species are protected by environmental and criminal law.

In order to perform biodiversity studies, a permit for scientific investigation must first be obtained from the Regional Environmental Authority.

20.3.7 Protection of Cultural Heritage or Archaeology

Cultural and natural heritage protection in Colombia is stated in the political constitution and developed through several international treaties and laws of the state. There are strict legal provisions, such as Law 397 of 1997 and Decree 763 of 2009, whereby the heritage is safeguarded and protected. For example, if a citizen finds an archeological specimen, he or she must inform the Ministry of Culture of the discovery within 24 hours; otherwise he or she could be sanctioned by the competent authority.

20.3.8 Segovia Concession and Permit Status

The Segovia Project operates under three different mining titles. The first, over-arching title is the private property R14011 (more commonly referred to as RPP 140), which gives the Company ownership of the surface and underground mineralized deposits. This title, covering 2,781 ha, existed before the enactment of Law 685, and continues to be valid under the terms and the applicable legislation at the time the title was granted. RPP 140 is, therefore, exempt from posting an Environmental Mining Insurance Policy and obtaining an Environmental License (discussed above). From an environmental perspective, developments within RPP 140 are permitted through the posting of an Environmental Management Plan ("*Plan de Manejo Ambiental*" or PMA) and secondary permits for water abstraction, forest use, air emissions, discharges, and construction within river courses and drainages. The Regional environmental authority responsible for issuing permits for the Segovia Project is Corantioquia (Autonomous Regional Corporation of Antioquia or *Corporación Autónoma Regional de Antioquia*).

Concession title 6045, which was the consolidation of Concession contracts 6000, 5995, 7367, and 6045 due to proximity and reporting requirements, is valid and in effect until 2036. This title covers 567.2386 ha in area of Remedios. GCG is currently attempting to combine Concession Contract 6038 (710.2053 ha) and Concession Contract 6046 (226.24 ha) in Segovia. As of February 2020, this has not occurred. Both remain independently valid until 2035. Finally, Concession Contract 6048 (291.37 ha) is co-owned with Nugget S.A.S and is valid until 2035.

An Exploration License (3855), in the jurisdiction of the municipality of Remedios, was issued under decree 2655 of 1988, and covers 9.73 ha. The Company is currently attempting to convert this license to a concession, which would be good for 30 years. As of February 2020, there has been no resolution on this request by the mining authority. A second Exploration License (1358) is also located in Remedios and covers 106.95 ha. Over in Segovia, the Company maintains a third Exploration License (3854) covering 26.81 ha. All exploration licenses appear to be in good standing. Licenses 3854, 3855 and 1358 are also pending conversion to a concession contract.

The original PMA for the Segovia Project was submitted to Corantioquia by the previous owners, FGM in 2004 (2004 PMA). When Zandor acquired the assets of FGM, it commissioned an updated PMA that was submitted in June 2012 (2012 PMA). In 2013 and 2014, the operation was updated again and in 2015, Corantioquia requested a summary of all the information into a single document. After its revision by the authority in September 2016, supplemental information was requested by Corantioquia. This information was delivered on August 1, 2017. In October 2018, Corantioquia inspected the site, and, after the respective administrative procedure, approved the Environmental Management Plan for five more years in November 2018. The draft resolution is currently under review by the Company, and not yet completely finalized. Based on a review of the permit register for Segovia and information from Zandor/GCG, the necessary secondary permits for water abstraction, forest use, air emissions, discharges and river course construction for the operating mines (El Silencio, Sandra K, and Providencia) appear to be in place or are addressed by the PMA update. Environmental permits for the Pampa Verde processing plant were obtained in October 2013, though limited activity has occurred at this location.

The permits for the El Chocho TSF have been obtained: Channel Occupation Permit (Resolution 130ZF-1501-6959 File ZF8-12-4), Forestry Permit (Resolution 130ZF-1310-6201 File ZF5-12 -14), and the Discharge Permit (Resolution 130ZF-1311-6218 File ZF7-12-9). The Discharge Permit was renewed in December 2017 for an additional five (5) years. Phase 1 has received authorization for forest harvesting, which was granted by Corantioquia through Resolution No. 160ZF-RES1811-6282 of November 15, 2018. The Channel Occupation Permit has not had any modifications and remains in effect until 2025. According to the Company, the El Chocho site has been secured in its entirety and is under administrative protection from continued artisanal mining, and that the mining authority has ordered the eviction of the last remaining El Chocho artisanal mine.

A tailings filtration process was installed in the El Chocho TSF area, and had been operational since early 2019. This enables the Company to dry-stack tailings on surface in the multiple phase locations. While this area has a naturally occurring silt-clay base, an additional saprolitic clay layer (30 cm thick) was placed to mitigate subsurface seepage. Constructed bunds are used to contain the stacked tailings on top of geofabric.

SRK understands the following aspects based on information supplied by the Company with regards to the dry stacking of tailings:

- The current land use of the location currently being assessed is mining
- Zandor/GCG holds the surface rights for the location and therefore no land acquisition process is required
- According to the Company, all of the necessary permits are in place for the current operations (i.e., there have been no changes in the operations in the past two years that have required permit modifications or amendments)

Corantioquia has issued invoices for environmental charges to the former owner of the Segovia operation, FGM, associated with the direct discharge of tailings from the Maria Dama beneficiation plant to a nearby stream. SRK understands no environmental liabilities have been transferred to the Company from the actions that occurred prior to Zandor’s ownership in August 2010. The Company is potentially responsible for the payment of charges for discharges after August 2010. According to GCG, the Company has not received any invoices from Corantioquia for environmental damages in the past several years.

20.3.9 Performance and Reclamation Bonding

The termination of a mining concession can happen for several reasons: resignation, mutual agreement, and expiration of the term, the concession holder’s death, free revocation and reversion. In all cases, the concession holder is obliged to comply or guarantee the environmental obligations payable at the time the termination becomes effective.

The 2001 Mining Code requires the concession holder to obtain an Insurance Policy to guarantee compliance with mining and environmental obligations which must be approved by the relevant authority, annually renewed, and remain in effect during the life of the project and for three years from the date of termination of the concession contract. The value to be insured will be calculated as follows:

- During the exploration phase of the project, the insured value under the policy must be 5% of the value of the planned annual exploration expenditures
- During the construction phase, the insured value under the policy must be 5% of the planned investment for assembly and construction
- During the exploitation phase, the insured value under the policy must be 10% of the value resulting from the estimated annual production multiplied by the pithead price established annually by the Government

According to the Law, the concession holder is liable for environmental remediation and other liabilities based on actions and or omissions occurring after the date of the concession contract, even if the actions or omissions are by an authorized third-party operator on the concession. The owner is not responsible for environmental liabilities which occurred before the concession contract, from historical activities, or from those which result from non-regulated mining activity, as has occurred on and around Segovia Project site.

As noted above, given the tenure of Mining Concession RPP 140, the Environmental Insurance Policy is not required by the Segovia Operation.

20.4 Environmental and Social Management

The Segovia Project has a Health, Safety and Environmental Quality (HSEQ) system designed to comply with ISO 9001, ISO 14000 and OHSAS 18000, though no compliance audits against these certification programs have been conducted. The system includes a HSEQ policy, integration of the plan-do-check-act cycle and comprehensive risk matrices defining the health, safety and environmental risks with actions required to mitigate these risks.

Environmental and social issues are managed in accordance with the approved PMA. Bi-annual reports are submitted to Corantioquia to demonstrate compliance with the PMA. The Company has also reportedly implemented plans for solid and hazardous waste management, domestic wastewater management, noise monitoring, and establishment of a plant nursery for revegetation activities. Within RPP 140 limits, the Company has been developing reforesting activities in about 8 ha (5 ha around Pampa Verde and 3 ha in Finca Pocune). Outside of RPP 140 limits, in Hacienda Curuná,4 more hectares were planted in 2019, bring the total to 7 ha in this area. These activities are planned to continue for the following years. SRK has not reviewed these plans.

The company has developed a model, entitled *Best Practice In Sustainability* (BPS), which is a process built around eight Guiding Principles to analyze and measure the effectiveness and efficiency of interactions and engagement with internal and external stakeholders and communities at large. These Guiding Principles are intended to help make corporate citizenship activities consistent and more effective by focusing on the right things to do and then doing them well.

The Company has aligned the BPS initiatives with: the United Nations Sustainable Development Goals; needs and issues of the communities; local governments plans; Global Compact principals, IDB in Corporate Social Strategy; and IFC guidelines, all of which line up with the PMA social file cards to improve health and well-being of local communities surrounding the operation, attending to education, intervention in the construction and improvement of roads, promote leadership and entrepreneurship for women, and develop partnerships with small-scale miners.

The BPS assessment process is accomplished on at least an annual basis following a series of procedural steps that result in the required output. Although there are a variety of ways to achieve the output, recommended tools for accomplishing them are included in Figure 20-1.

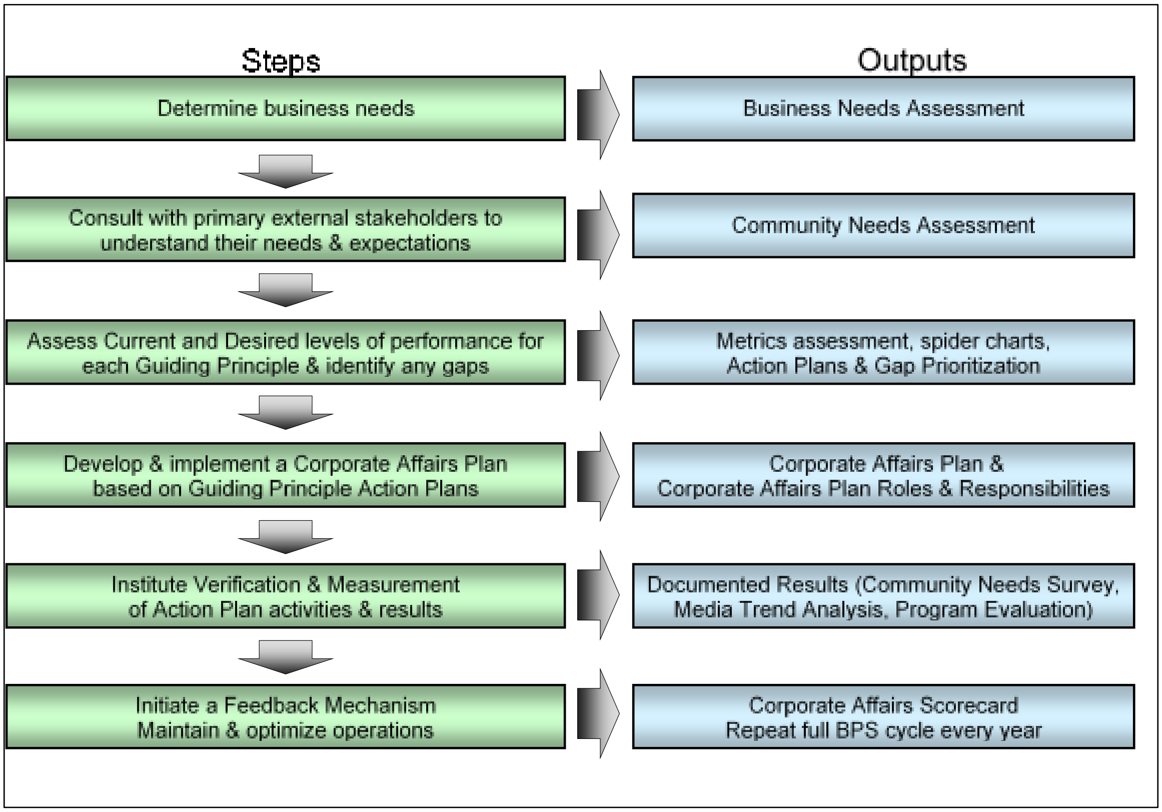


Figure 20-1: BPS Initiative Work-Flow Diagram

A revised impact assessment was prepared during the PMA advancement and approval process, and management measures were defined and organized into a suite of 24 management plans, comprising in the following eight initiatives:

- Small Miners Supply Chain Initiative
- Biodiversity and Water for the Future
- Education for development and Eradication of Child Labor
- Global Mercury Project (PGM)
- Health and Well-being
- Entrepreneurial Women Leaders
- Infrastructure for Development
- Protecting Culture

20.4.1 Stakeholder Engagement

Following acquisition, GCG conducted stakeholder analyses every two years for the Segovia Operations, identifying the individual stakeholder groups and their potential influence on the project, their needs, and their expectations. GCG has had a formal stakeholder engagement plan, and an integrated communication plan, that defines who should be given specific information, when that information should be delivered, and what communication channels will be used to deliver the information.

This engagement can take many forms: open dialogues, such as discussions (both internally and externally); emails; publications; internet web sites; media; and even social media. The Company also wants to hear from stakeholders of all types: from governments to customers, employees to suppliers, shareholders to communities. A set of workshops were held in Segovia and Remedios in 2012, 2014, 2017, and 2019, to discuss engagement objectives with stakeholders.

The Company has a complaints and petitions handling procedure to record grievances both at the company offices and two community offices, located in Segovia and Remedios. The grievance recording, and response procedures follow international good practice.

20.4.2 Artisanal and Small-Scale Mining Operations

Colombia's mining sector is characterized by widespread informality. A recent census revealed that 72 per cent of all mining operations in Colombia are classed as 'artisanal and small-scale mining' (ASM), and 63 per cent are 'informal', lacking a legal mining concession or title. Large-scale mining (LSM) only accounts for one per cent of operations. Over 340,000 Colombians depend directly on ASM and medium-scale mining (MSM) for their income. This informality deprives the state of important financial resources, while the current poor conditions (environmental, social, health and safety, labor, technical and trading) prevent the sector from delivering on important social objectives, such as generating formal employment and improving the quality of life in mining communities (Echavarria, 2014).

The situation at Segovia is much the same, with ASM alongside the formal concession operation. As an added complication, however, there are illegal armed groups in the area (i.e., Revolutionary Armed Forces of Colombia or FARC, and National Liberation Army or ELN) as well as armed criminal groups (i.e., "*bandas criminales*" or BACRIM) who are tied to the ASM and MSM operations in the area, primarily through criminal extortion, robbery, and even in the trafficking of explosives. Note: FARC signed an historic peace deal with the Colombian government in November 2016, and the official disarmament of the rebel army was completed in August 2017; however, a small number of illegal FARC "Dissidents" still remain a threat, though no known FARC dissident criminal activity has been documented in the area of Segovia and Remedios since the signing of the 2016 peace agreement. Despite the continued presence of these organizations in certain rural areas, security forces have established relative territorial control in Antioquia, mitigating the effect of these groups on populated areas. It is, however, still difficult to differentiate between legitimate ASM and MSM that have not been legalized or formalized and those controlled by illegal organizations.

In 2013, a decree (933) was enacted to address the legal void for almost 4000 requests for formalization from Law 1382 of 2010, which was promulgated, in part, with the objective of combating illegal mining, while recognizing the traditional nature of informal ASM. This decree redefined traditional mining as a form of informal mining. It set out formalization procedures for ASM in LSM mining concessions and titles, notably including procedures for concession-owners to cede areas to ASM and included tax incentives. For the first time, it also provided options for areas returned to the state to be reserved for ASM formalization. In addition, Mercury Law No. 1658 of 2013, introduced incentives for the formalization of ASM such as: granting of soft credits and financing programs to facilitate access to resources; and created a sub-contract intended to formalize illegal mining activities with the registered license-holder. Under Article 11 of Law 1658, concession owners can sign subcontracts with ASM operating in their concessions without the liability associated with normal operating contracts. These subcontracts will legally allow these ASM to operate in an agreed upon area with no oversight by the concession owner. Instead these ASM will be under the control of the Colombian mining and environmental authorities.

According to the social baseline assessment conducted by GCG in 2012:

- More than 195 illegal mines occur within the Segovia concession area.
- There is an Irrational and unsustainable use of natural resources.
- ASM processing recovers only between 50% and 65% of the gold.
- Approximately 7 kg of mercury are discharged to the environment per kg of gold produced by ASMs and MSMs.
- The operations support child labor and child prostitution.
- There is no connection to the social security system in health, pensions and occupational risks.
- There is no compliance with labor laws.
- Safety practices are substandard, if existent at all.
- The operations pay no taxes or royalties.
- Illegal explosives are generally used.

At the end of 2019, there were approximately 70 non-formalized mines operating illegally in the Company's mining title. To address this issue, and to ensure that all miners operating in the Company's mining titles are working under Colombian legislation and environmental and social security guidelines, GCG created the Small Miners Supply Chain initiative. Through this initiative, GCG have today 46 Operation contracts signed with ASMs. They seek to implement an operating model that works with communities and ASM to improve the quality of their lives, eliminate mercury, contribute to legalize their jobs, improve the security and the economic and social development of the country.

Some accomplishments associated with this initiative include:

- Up to 46 operating contracts signed with ASMs
- Up to 2,500 small formalized miners
- More than 129 tons of mercury removed
- More than 80,000 oz of gold produced by small mining
- 240,000 million pesos of profit for small miners
- 60,000 million pesos in taxes and royalties paid
- 12,000 people benefited from the social security system,
- 3,000 new bank accounts opened
- Partnerships with Sena and Comfama training in key mining issues
- Compliance with the requirements of occupational health, safety and health regulations
- Compliance with the regulations indicated in the environmental management plans
- Purchase of legal explosives

- More than 4,170 jobs created

GCG has partnered with the United Nations Industrial Development Organization (UNIDO) through their Global Mercury Project that seeks the reduction of mercury throughout the world. This is a high impact initiative in Colombia, given that Segovia, Antioquia was the first municipality contaminated by mercury in 2012 and currently is the third-largest contaminator in the world with this chemical element.

20.5 Mine Closure and Reclamation

Chapter XX, Article 209 of Law 685 of 2001 requires that the concession holder, upon termination of the agreement, shall undertake the necessary environmental measures for the proper closure and abandonment of the operation. To ensure that these activities are carried out, the Environmental Insurance Policy shall remain in effect for three years from the date of termination of the contract. Little else regarding the specifics of mine closure is provided in the Law. Decree 2820 of 2010 specifically indicates that the concession holder must submit a plan for dismantling and abandonment of the project.

GCG (Zandor Capital S.A.) submitted a plan for closure and abandonment of the RPP 140 mining operations (*2017 Plan de Cierre y Abandono*) on August 1, 2017 in response to specific requirements set forth in Article 1 of the Administrative Act 160ZF - 1610 - 9107, issued by Corantioquia on October 5, 2016. The 2017 closure plan (like its 2014 predecessor) is still conceptual and will require more specificity in the future as the end of mine life approaches. The following is a general discussion consistent with the closure planning.

The facilities will be progressively closed over the duration of the mine site operations. Progressive closure will reduce the costs of reclamation since closure will be integrated with the production operations. In addition, progressive closure will result in the development of expertise on the most appropriate reclamation methods. Progressive closure will be undertaken, however without posing impediments to day-to-day operations of the site. Final closure of the mine site will be undertaken following completion of all mining operations, once treatment of site waters is no longer required, and indications that further mining of the Segovia Mine is not warranted.

Final closure of the facility will occur in two stages. The first stage will entail the following activities, if not undertaken during progressive closure phases:

- All fuel, chemicals, waste hydrocarbon products, and any potentially hazardous materials will be removed from this site
- Water treatment will cease once runoff water no longer requires treatment

During the second stage of the final closure, all equipment, machinery, and storage tanks will be removed for reuse or recycle. Where such uses are not practical, any remaining such materials will be disposed of at a suitable storage site. All structures will be removed and/or be demolished. Structures that are suitable for reuse or recycling will be salvaged. Structures not suitable for use will be demolished and disposed. The Tailing Management Areas (TMAs) and other water/tailings management ponds will be closed, and all disturbed areas will be reclaimed, with the exception of roads needed for post-closure monitoring access.

After the major closure activities are complete, a monitoring program may be implemented, including the site water quality monitoring and dam inspections.

The conceptual closure plan is intended to ensure the "return to nature" of the mine site. At the conclusion of the closure process, no buildings or supporting infrastructure or facilities would remain at the site. The areas will be fully replaced by a sustainable environment comprised of productive and diverse lake and pond ecosystems. Spoil piles, stockpiles, borrow areas, etc. would be vegetated with general sustainable grass as well as emerging forest (primarily early stages in forest succession are expected to dominate the period immediately following closure). The site will be monitored for success of the closure plan. A few routes will be left for access to points of interest for the monitoring program. These routes will be closed after successful reclamation.

20.5.1 Closure Costs

Basic closure actions are contained within the PMA and conceptual closure plan, as outlined above, and focus primarily on the concurrent closure of the tailings disposal areas/phases as they reach their life-of-mine capacities. More detailed, site-wide closure actions and costs have not yet been defined, as these will be developed closer to the end of operations. SRK is not aware of on-going financial provisioning for closure. An estimate of general unit closure costs associated with concurrent reclamation of the inactive and closed tailings disposal facilities was provided in the older August 2015 *Plan de Cierre y Abandono* included in the PMA using the following:

- Transport of organic matter (growth media) = $15,000 pesos/m^3 (US$5.32/m^3)
- Revegetation (grasses and herbaceous plants) = $3,000,000 pesos/ha (US$1,065/ha)
- Reforestation (tree planting) = $10,000,000 pesos/ha (US$3,548/ha)
- Maintenance and monitoring (year 2) = $2,000,000 pesos/ha (US$710/ha)

While SRK recognizes that a formal closure plan is not legally required at this stage of the operation, the development of such a plan with more detail than has previously been provided, would support the calculation of a more accurate closure cost and would help identify the potential closure risks that GCG may need to manage in the coming years. Based on SRK's experience with similar projects in similar environments, SRK considers the cost to close the Segovia operations could be on the order of ±US$15 million. This estimate is based on very limited information, particularly regarding hydrogeological and geochemical conditions, and further studies would be required to accurately understand the financial liabilities of closure. This is particularly true with respect to the potential for long-term, post-closure water treatment which could substantially increase the overall closure liability.

In February 2020, GCG provided SRK a reported Asset Retirement Obligation (ARO) for December 31, 2019 for the Segovia Mine of COL$20,481,092,357, and a separate estimate for the closure of El Chocho TSF (Phases 1A, 1B, and 1C) of COL$5,742,750,333 (undiscounted). This equates to an overall combined closure cost on the order of US$7,422,580; however, absolutely no basis for these estimates is provided by GCG. As noted above, a requirement for long-term post-closure water treatment would significantly increase both of these estimates.

21 Capital and Operating Costs

SRK visited the Medellín office in March 2020 and conducted a number of teleconferences to review both capital and operating costs, related to the production supported by the reserves disclosed herein, which give a Project LoM from 2020 to 2025.

Capital and operating costs are based on a specific budget prepared by GCG and reviewed by SRK for each month of production. The mine currently operates through owner mining and contractor mining operations. The plant feed is provided by these mining operations within Segovia's mineral titles and also material sourced from neighboring mineral titles. The costs and revenue associated with processing third-party material from neighboring areas were removed from the estimate, as these are not supported by the reserves disclosed in this report.

This section presents the assumptions used in the preparation of the capital and operating cost estimates and its results.

21.1 Capital Cost Estimates

The Segovia Project is a currently operating underground mine, the estimate of capital includes only sustaining capital, except in the case of Carla that is being brought into production in 2020, to maintain the equipment and all supporting infrastructure necessary to continue operations until the end of the projected production schedule.

The capital cost estimates developed for this study include the costs associated with engineering, procurement, acquisition, construction and commissioning. The cost estimate is based on budgetary estimates prepared by Segovia and reviewed by SRK. All estimates are prepared from first principles based on site specific recent actuals. The budget and estimates indicate that the Project requires sustaining capital of US$149.7 million (M) throughout the LoM based on the current production schedule/reserves. Table 21-1 summarizes the sustaining capital estimate.

Table 21-1: Segovia Sustaining Capital Cost Estimate Summary

Description	LoM (US$000s)
Development	24,484
Exploration	35,160
Providencia	4,061
El Silencio	15,503
Sandra K	6,673
Carla	3,756
Mine Planning	282
Small Miners	198
Maria Dama Plant	12,802
Assay Lab	1,198
Maintenance	5,825
Civil	133
Logistics	171
Environment	12,558
Health and Safety	3,684
Security	855
IT	1,115
Administration	2,304
Finance	0
HR	213
Mine ARO	11,312
TSF ARO	3,087
Carry Over (2019 Projects)	4,295
Total Capital	**149,667**

Source: GCG/SRK, 2020

21.1.1 Basis for the Capital Cost Estimates

The cost associated with mining area access development was based on the reserves production schedule that included meters of development. The development is categorized by the types shown in Table 21-2 and their associated unit costs.

Table 21-2: Development Unit Costs

Description	US$/m
Providencia	
Tambores (TBR)	1,150
SIL meters (SIL)	2,300
Cruzada (XC)	1,450
Sandra K	
Apique meters (apq)	4,200
XC meters (XC) 2.5x2.5	1,450
Main Ramp meters (RMP)3.5x3.5	2,200
ACC meters (ACC) 3.5x3.5	2,200
SIL meters (SIL) 2.5x2.5	2,200
Pocket meters (pkt)	1,450
Vent Raise meters (ch) 3x2.6	3,500
Tambores meters (TBR) 2x1.5	1,150
Carla	
Apique meters (APQ) 3.7x3	3,800
Apique meters (APQ)2.5x2.5	1,450
ACC meters (ACC) 2.2x2.3	1,450
Pocket meters (PKT) 2.5 dia	1,450
Vent Raise meters (RAI) 2.5 dia	1,600
SIL meters (SIL) 2.2x2.3	1,450
Tambores meters (TBR) 2x1.8	1,150
Cruzada (XC) 2.2x2.3	1,450
El Silencio	
ACC meters (ACC) 4.2X3.5	2,300
Apique meters (APQ) 2.5X2.5	1,800
Apique meters (APQ) 3.7X3.0	3,800
Apique meters (APQ) 4.2X2.2	4,200
Apique meters (APQ) 4.2X3.0	4,500
Cámara meters (CAM) 3.0X3.0	1,900
Cámara meters (CAM) 4.0X3.5	2,300
Vent Raise meters (CH) 3.0 dia (conventional)	1,900
Pocket meters (PKT) 2.5 dia	1,450
Main Ramp meters (RMP) 4.0X3.5	2,300
SIL meters (SIL) 2.5X2.5	1,450
SIL meters (SIL) 4.0X3.5	2,300
Tambores meters (TBR) 2.0X1.4	1,150

Source: GCG, 2020

The unit costs used to estimate the development costs are based on historic unit costs for Providencia, Sandra K and El Silencio, and based on projected estimates for Carla.

The production schedule development meters by area are summarized in Table 21-3 to Table 21-6.

Table 21-3: Providencia Annual Development Meters

Description	LoM (m)	2020 (m)	2021 (m)
Tambores (TBR)	1,071	819	252
SIL Meters (SIL)	410	410	0
Cruzada (XC)	64	64	0
Total	**1,545**	**1,293**	**252**

Source: GCG, 2020

Table 21-4: Sandra K Annual Development Meters

Description	LoM (m)	2020 (m)	2021 (m)	2022 (m)
Apique Meters (Apq)	27	27	0	0
XC Meters (XC) 2.5x2.5	336	263	72	0
Main Ramp Meters (RMP)3.5x3.5	576	343	233	0
ACC Meters (ACC) 3.5x3.5	71	19	52	0
SIL Meters (SIL) 2.5x2.5	2,213	875	894	443
Pocket Meters (Pkt)	7	7	0	0
Vent Raise Meters (Ch) 3x2.6	190	190	0	0
Tambores Meters (TBR) 2x1.5	816	342	259	215
Total	**4,236**	**2,067**	**1,511**	**658**

Source: GCG, 2020

Table 21-5: Carla Annual Development Meters

Description	LoM (m)	2020 (m)	2021 (m)	2022 (m)
Apique Meters (APQ) 3.7x3	202	143	59	0
Apique Meters (APQ)2.5x2.5	226	97	128	0
ACC Meters (ACC) 2.2x2.3	125	0	125	0
Pocket Meters (PKT) 2.5 Dia	66	34	32	0
Vent Raise Meters (RAI) 2.5 Dia	175	0	43	132
SIL Meters (SIL) 2.2x2.3	898	107	600	191
Tambores Meters (TBR) 2x1.8	259	0	172	87
Cruzada (XC) 2.2x2.3	678	54	551	74
Total	**2,629**	**435**	**1,711**	**484**

Source: GCG, 2020

Table 21-6: El Silencio Annual Development Meters

Description	LoM (m)	2020 (m)	2021 (m)	2022 (m)	2023 (m)
ACC Meters (ACC) 4.2X3.5	111	25	66	20	0
Apique Meters (APQ) 2.5X2.5	53	53	0	0	0
Apique Meters (APQ) 3.7X3.0	50	50	0	0	0
Apique Meters (APQ) 4.2X2.2	40	40	0	0	0
Apique Meters (APQ) 4.2X3.0	150	150	0	0	0
Cámara Meters (CAM) 3.0X3.0	332	287	15	30	0
Cámara Meters (CAM) 4.0X3.5	246	146	60	40	0
Vent Raise Meters (CH) 3.0 Dia	317	85	98	134	0
Pocket Meters (PKT) 2.5 Dia	101	97	4	0	0
Main Ramp Meters (RMP) 4.0X3.5	1,831	601	600	600	31
SIL Meters (SIL) 2.5X2.5	702	294	74	334	0
SIL Meters (SIL) 4.0X3.5	357	55	73	229	0
Tambores Meters (TBR) 2.0X1.4	84	45	39	0	0
Total	**4,374**	**1,928**	**1,028**	**1,387**	**31**

Source: GCG/SRK, 2020

The schedule of development meters was combined with the presented unit costs and the resulting development capital cost estimate is presented in Table 21-7.

Table 21-7: Development Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)	2023 (US$000s)
Providencia	2,268	1,978	290	0	0
Sandra K	8,506	4,286	2,998	1,222	0
Carla	4,235	966	2,575	695	0
El Silencio	9,475	4,356	2,209	2,840	71
Total	**24,484**	**11,585**	**8,071**	**4,757**	**71**

Source: GCG/SRK, 2020

In support of the mining activities some additional exploration will be required. A budget for each year of production was prepared by GCG and reviewed by SRK. The capital cost related to exploration is presented in Table 21-8.

Table 21-8: Exploration Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)	2023 (US$000s)	2024 (US$000s)	2025 (US$000s)
General Exploration	1,375	1,375	0	0	0	0	0
Infill/Exploration Drilling at Carla	479	479	0	0	0	0	0
Exploration Drilling At Silencio (Lm30)	484	484	0	0	0	0	0
Infill Drilling On Providencia Deep	1,604	1,604	0	0	0	0	0
Exploration Drilling On El Silencio Deep	920	920	0	0	0	0	0
Infill/Exploration Drilling At Sandra K	1,781	1,781	0	0	0	0	0
Regional Exploration	3,500	3,500	0	0	0	0	0
Exploration Sustaining	25,017	0	7,800	7,800	6,000	3,000	417
Total	**35,160**	**10,143**	**7,800**	**7,800**	**6,000**	**3,000**	**417**

Source: GCG, 2020

The costs directly associated with each mining area, including Providencia, Sandra K, Carla and El Silencio are budgetary estimates to cover the necessary equipment and infrastructure in each mining area. A yearly budget was prepared by GCG and reviewed by SRK. The capital cost related to each mining area is presented in Table 21-9 to Table 21-12.

Table 21-9: Providencia Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)
Mining Equipment	547	200	346	0
Equipment Overhaul & Maintenance	460	256	204	0
Ventilation	454	182	182	91
Mine Infrastructure	442	147	147	147
Mine Electrical Infrastructure	874	350	350	175
Drilling Platforms	878	293	293	293
Other Projects	405	270	135	0
Total	**4,061**	**1,698**	**1,657**	**706**

Source: GCG, 2020

Table 21-10: El Silencio Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)	2023 (US$000s)	2024 (US$000s)	2025 (US$000s)
Mining Equipment	3,746	381	924	862	1,042	537	129
Support Equipment	0	0	0	0	0	0	0
Electric/Diesel Equipment	2,035	0	1,046	849	140	0	0
Equipment Overhaul & Maintenance	1,852	324	324	440	324	440	0
Hoppers	918	306	306	0	306	0	0
Ventilation	1,394	337	360	337	360	0	0
Mine Infrastructure	1,342	464	293	293	293	0	0
Electrical Substations	1,264	174	372	174	372	174	0
Mine Electrical Infrastructure	1,256	251	251	251	251	251	0
Drilling Platforms	898	180	180	180	180	180	0
Other Projects	2,704	1,204	375	375	750	0	0
Total	**17,408**	**3,620**	**4,430**	**3,760**	**4,017**	**1,582**	**129**

Source: GCG, 2020

Table 21-11: Sandra K Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)
Mining Equipment	756	300	362	94
Support Equipment	0	0	0	0
Electric/Diesel Equipment	814	0	814	0
Equipment Overhaul & Maintenance	274	222	52	0
Hoppers	116	116	0	0
Ventilation	0	0	0	0
Mine Infrastructure	481	160	160	160
Electrical Substations	511	139	186	186
Mine Electrical Infrastructure	853	284	284	284
Drilling Platforms	399	133	133	133
Other Projects	2,470	1,743	727	0
Total	**6,672**	**3,097**	**2,718**	**857**

Source: GCG, 2020

Table 21-12: Carla Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)
Mining Equipment	1,371	494	439	439
Support Equipment	0	0	0	0
Electric/Diesel Equipment	0	0	0	0
Equipment Overhaul & Maintenance	0	0	0	0
Hoppers	362	107	149	107
Ventilation	233	44	94	94
Mine Infrastructure	70	0	70	0
Electrical Substations	261	75	186	0
Mine Electrical Infrastructure	802	244	314	244
Drilling Platforms	388	0	194	194
Other Projects	268	73	195	0
Total	**3,756**	**1,037**	**1,641**	**1,077**

Source: GCG, 2020

The mine planning activities that support the mining operations will require some future investment. A budget for each year of production was prepared by GCG and reviewed by SRK. The estimate of capital prepared to support the mine production amounts to US$282,000 and is based on historic costs. The Maria Dama Plant capital is a budgetary estimate from Segovia. This information was reviewed and used by SRK as the sustaining capital related to the mineral processing plant. The capital cost related to the Maria Dama Plant is presented in Table 21-13.

Table 21-13: Maria Dama Plant Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)	2023 (US$000s)	2024 (US$000s)	2025 (US$000s)
Water Treat. and Recirc.	540	100	250	155	35	0	0
Production Equipment	390	190	100	100	0	0	0
Filter Presses	4,952	2,682	2,270	0	0	0	0
Merryl Crow	340	150	190	0	0	0	0
Mobile Equipment	66	66	0	0	0	0	0
Capacity Expansion	200	200	0	0	0	0	0
Flotation	141	0	0	141	0	0	0
Thickener	815	685	0	130	0	0	0
Refining	100	100	0	0	0	0	0
Crushing	900	0	900	0	0	0	0
Grinding	572	512	60	0	0	0	0
Metallurgy Lab	300	0	100	200	0	0	0
Power	585	0	200	0	385	0	0
Other	1,221	120	40	80	381	600	65
Sustaining	1,560	0	0	600	600	360	80
Total	**12,682**	**4,805**	**4,110**	**1,406**	**1,401**	**960**	**145**

Source: GCG, 2020

In support of the mineral processing operation there are also capital costs associated with an assay laboratory. This cost was also included in the budget estimate from GCG. SRK reviewed and used this estimate as the capital related to the assay laboratory sustaining capital. The capital cost related to the assay laboratory is estimated as roughly US$1.2 M and is associated with equipment acquisition and maintenance.

In the specific case of the environmental capital costs, it should be noted that the El Chocho TSF capital costs were included in this area. The El Chocho TSF costs include both the remaining construction costs and the sustaining cost to build additional capacity to hold the tailings generated by the reserves production schedule.

Table 21-14 presents the capital costs estimates for the environmental area.

Table 21-14: Environmental Capital Costs

Description	LoM (US$000s)	2020 (US$000s)	2021 (US$000s)	2022 (US$000s)	2023 (US$000s)	2024 (US$000s)	2025 (US$000s)
Environmental Sustaining	7,667	1,367	1,690	2,360	1,450	800	700
El Chocho TSF	4,390	1,390	1,000	1,500	500	0	0
Total	**12,058**	**2,758**	**2,690**	**3,860**	**1,950**	**800**	**700**

Source: GCG, 2020

All other costs are budgetary estimates based on historic site-specific figures or accounting balances and were calculated as yearly provisions.

The total yearly capital costs are summarized in Table 21-15.

Table 21-15: Total Yearly Capital Costs

Description	LoM (US$000s)	2020 ($000s)	2021 ($000s)	2022 ($000s)	2023 ($000s)	2024 ($000s)	2025 ($000s)
Development	24,484	11,585	8,071	4,757	71	0	0
Exploration	35,160	10,143	7,800	7,800	6,000	3,000	417
Providencia	4,061	1,698	1,657	706	0	0	0
El Silencio	15,503	3,620	3,384	2,911	3,877	1,582	129
Sandra K	6,673	3,097	2,718	857	0	0	0
Carla	3,756	1,037	1,641	1,077	0	0	0
Mine Planning	282	52	96	60	36	18	20
Small Miners	198	78	72	48	0	0	0
Maria Dama Plant	12,802	4,805	4,110	1,406	1,401	960	120
Assay Lab	1,198	329	320	242	182	102	23
Maintenance	5,825	1,680	1,947	964	749	335	150
Civil	133	25	25	25	25	25	8
Logistics	171	61	46	30	19	11	5
Environment	12,558	2,758	2,690	3,860	1,950	800	500
Health and Safety	3,684	494	950	790	580	550	320
Security	855	375	120	120	120	120	0
IT	1,115	271	278	237	171	113	46
Administration	2,304	594	770	330	330	185	95
Finance	0	0	0	0	0	0	0
HR	213	45	38	41	44	45	0
Mine ARO	11,312	0	0	0	0	0	11,312
TSF ARO	3,087	786	370	55	659	366	852
Carry Over (2019 Projects)	4,295	4,295	0	0	0	0	0
Total	**149,667**	**47,829**	**37,103**	**26,316**	**16,214**	**8,211**	**13,996**

Source: GCG/SRK, 2020

21.2 Operating Cost Estimates

SRK and GCG prepared the estimate of operating costs for the reserves production schedule. These costs were subdivided into the following categories:

- Mining operating expenditure
- Processing operating expenditure
- Site G&A operating expenditure

The resulting LoM cost estimate is presented in Table 21-16.

Table 21-16: Segovia Operating Costs Summary

Description	LoM (US$000s)	LoM (US$/t-Ore)	LoM (US$/oz-Au)
Mining	294,028	148.14	484.66
Process	58,190	29.32	95.92
G&A	46,546	23.45	76.72
Total Operating	**398,765**	**200.91**	**657.30**

Source: GCG, 2020

21.2.1 Basis for the Operating Cost Estimate

The operating cost is based on budgetary estimates from GCG, reviewed by SRK, and were modeled as variable costs.

The prepared estimates that compose the operating costs consist of domestic and international services, equipment, labor, etc. Where required, the following were included:

- Value added tax
- Freight
- Duty

The mill operates 335 days per year under a daily schedule of three shifts of eight hours.

The operating cost estimates are based on the quantities associated with the production schedule, including the following:

- Waste removal
- RoM
- Contract Miner

All operating costs include supervision staff, operations labor, maintenance labor, consumables, electricity, fuels, lubricants, maintenance parts and any other operating expenditure identified by contributing engineers.

Site-specific budget estimates were used to estimate the LoM operating costs for Providencia, Sandra K, El Silencio and Carla. The mine production is also supported by contract miner operations, which operate in areas of Providencia (Masora) and El Silencio (Navar). These are paid for as cost per recovered (Mine and Plant Recovery) gold ounces, which LoM average is estimated at US$721/recovered Au-oz for Masora and US$682/recovered Au-oz for Navar. Note that LoM/yearly variable operating costs vary due to this.

Table 21-17 to Table 21-19 show the variable budget estimates for each mining area.

Table 21-17: Segovia Mining Costs

Description	LoM (US/t-ore)	2020 (US$/t-ore)	2021 (US$/t-ore)	2022 (US$/t-ore)	2023 (US$/t-ore)	2024 (US$/t-ore)	2025 (US$/t-ore)
Providencia	117.87	115.88	121.16	114.31	0.00	0.00	0.00
Sandra K	103.99	100.28	103.29	107.24	173.53	0.00	0.00
Carla	136.76	395.42	120.82	139.25	266.44	0.00	0.00
El Silencio	112.15	104.50	114.47	103.71	121.36	104.24	150.48

Source: GCG, 2020

Table 21-18: Segovia Processing and G&A Costs

Description	LoM (US/t-ore)	2020 (US$/t-ore)	2021 (US$/t-ore)	2022 (US$/t-ore)	2023 (US$/t-ore)	2024 (US$/t-ore)	2025 (US$/t-ore)
Process	25.35	27.92	24.65	21.88	27.72	23.40	33.44
Lab	3.97	4.00	4.00	4.53	4.00	3.00	3.90
G&A	23.45	24.53	19.80	21.03	33.11	20.24	34.18

Source: GCG, 2020

Table 21-19: Masora & Navar Operating Costs

Description	LoM (US/oz-Au)	2020 (US/oz-Au)	2021 (US/oz-Au)	2022 (US/oz-Au)
Masora	720.66	664.82	680.92	875.36
Navar	681.76	664.75	680.46	831.49

Source: GCG, 2020

The unit costs presented above are used in combination with the reserves production schedule to estimate the operating costs. The resulting operating costs are presented in Table 21-20.

Table 21-20: Segovia Operating Costs

Description	LoM ($000s)	2020 ($000s)	2021 ($000s)	2022 ($000s)	2023 ($000s)	2024 ($000s)	2025 ($000s)
Providencia	29,721	13,595	12,630	3,496	0	0	0
Sandra K	25,846	9,641	8,674	7,021	510	0	0
Carla	14,202	141	5,618	7,380	1,063	0	0
El Silencio	119,909	12,749	13,967	24,267	31,149	28,304	9,473
Masora	24,874	9,497	8,167	7,211	0	0	0
Navar	79,476	34,260	39,925	5,291	0	0	0
Process	50,307	12,979	12,424	9,140	7,306	6,354	2,105
Lab	7,883	1,860	2,016	1,893	1,054	815	245
G&A	46,546	11,406	9,982	8,783	8,727	5,496	2,152
Total	**398,765**	**106,127**	**113,403**	**74,482**	**49,810**	**40,968**	**13,975**

Source: GCG, 2020

22 Economic Analysis

The financial results presented here are based on monthly inputs from the production schedule prepared by GCG and reviewed by SRK. All financial data is first quarter 2020 and currency is in U.S. dollars (US$), unless otherwise stated.

22.1 External Factors

GCG currently has a long-term supply agreement for the sale of its products. The costs and discounts associated with the sales of the products are based on this agreement. This study was prepared under the assumption that the Project will sell doré containing gold.

Table 22-1 presents the prices used in the cashflow model, which were also used for reserves calculations. SRK did not include silver in this analysis, even though silver production has regularly and consistently been reported as a small by-product in gold produced in the Maria Dama plant, which has been operating for decades. There are no silver assays and this metal is not included in the resources nor the reserves.

Table 22-1: Segovia Price Assumptions

Description	Value	Unit
Gold	1,350	US$/oz

Source: GCG, 2020

Treatment charges and net smelter return (NSR) terms are summarized in Table 22-2.

Table 22-2: Segovia Net Smelter Return Terms

Description	Value	Units
Doré		
Payable Gold	100%	
Doré Smelting & Refining Charges	6.75	US$/oz-Au

Source: GCG, 2020

The doré production is sold at the mine gate, therefore, no transportation costs are considered in this analysis.

22.2 Principal Assumptions and Input Parameters

Common prices for consumables, labor, fuel, lubricants and explosives were used by all engineering disciplines to derive capital and operating costs. Included in the labor costs are shift differentials, vacation rotations, all taxes and the payroll burdens. All currency is in U.S. dollars (US$) unless otherwise stated.

No pre-production has been considered, as this a currently operating mine. Mine production is based on an average assumed LoM mine material movement of 1,153 t/d (360 days/yr basis). The mine schedule does not include stockpiling as all blending of run of mine (RoM) is done in the mine.

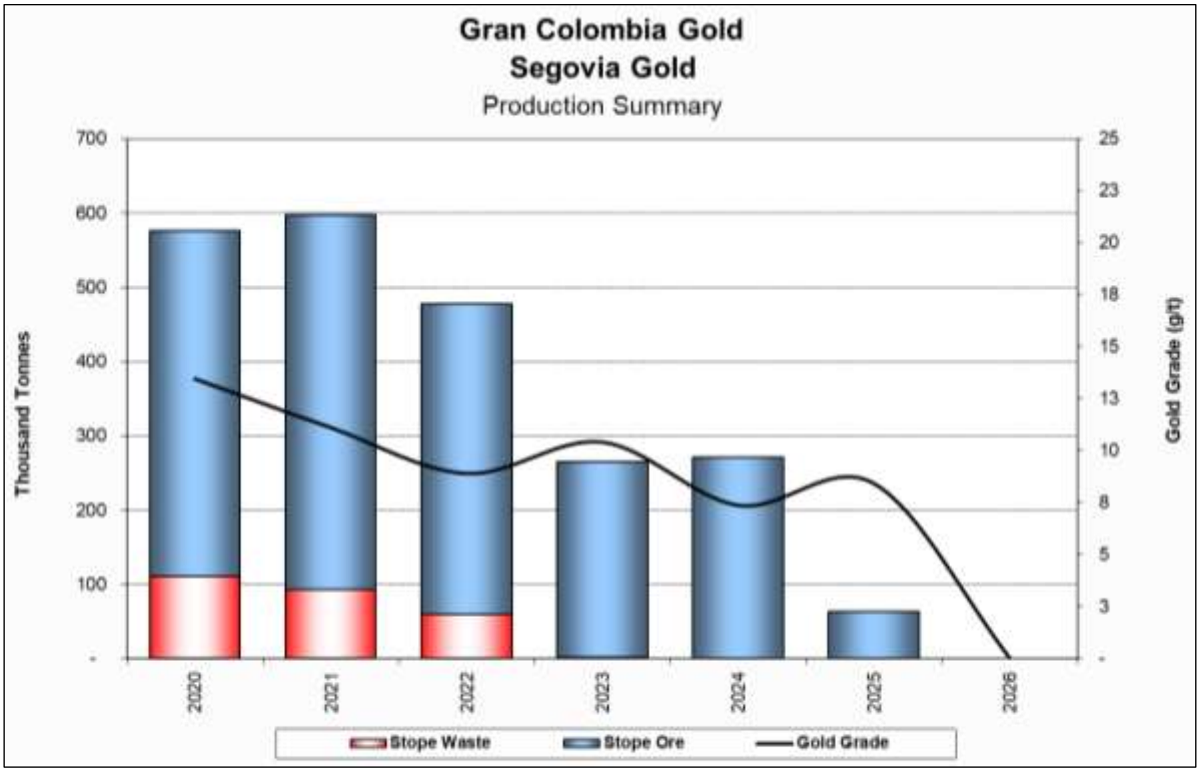
Table 22-3 presents the yearly LoM mine production assumptions by area.

Table 22-3: Segovia Yearly Mine Production Assumptions

	Total	2020	2021	2022	2023	2024	2025
Providencia							
Own Production Ore	252,151	117,321	104,246	30,584	-	-	-
Masora Ore	67,350	26,652	25,952	14,746	-	-	-
Ore Tonnes (t)	319,502	143,973	130,199	45,329	-	-	-
Head Grade (g/t)	14.31	18.27	10.49	12.71	-	-	-
Contained Gold (oz)	147,003	84,560	43,922	18,521	-	-	-
Sandra K							
Ore Tonnes (t)	248,531	96,144	83,980	65,468	2,939	-	-
Head Grade (g/t)	8.85	9.50	8.77	8.08	7.15	-	-
Contained Gold (oz)	70,713	29,350	23,670	17,018	675	-	-
Carla							
Ore Tonnes (t)	103,843	357	46,499	52,998	3,990	-	-
Head Grade (g/t)	10.03	8.02	8.49	11.42	9.63	-	-
Contained Gold (oz)	33,489	92	12,698	19,465	1,235	-	-
El Silencio							
Own Production Ore	1,069,140	121,994	122,019	233,983	256,657	271,533	62,953
Navar Ore	243,802	102,442	121,390	19,971	-	-	-
Ore Tonnes (t)	1,312,942	224,436	243,409	253,954	256,657	271,533	62,953
Head Grade (g/t)	9.93	12.08	12.75	7.91	10.46	7.37	8.42
Contained Gold (oz)	419,150	87,139	99,797	64,548	86,333	64,301	17,032
Total							
Ore Tonnes (t)	**1,984,818**	**464,911**	**504,087**	**417,750**	**263,586**	**271,533**	**62,953**
Head Grade (g/t)	**10.50**	**13.46**	**11.11**	**8.90**	**10.41**	**7.37**	**8.42**
Contained Gold (oz)	**670,356**	**201,141**	**180,087**	**119,552**	**88,243**	**64,301**	**17,032**

Source: GCG/SRK, 2020

Figure 22-1 shows the yearly production profile of the Project. RoM ore production varies from 735 t/d to 1,595 t/d, with a higher waste extraction in the first two years and a declining gold head grade over the life of the mine.



Source: SRK, 2020

Figure 22-1: Segovia Mine Production Profile

The average mill feed is 1,094 t/d (based on 335 days per year of mill operation and availability) over the LoM. The current process feed capacity is approximately 1,500 t/d and it is being expanded to 1,600 t/d. The processing circuit is designed to recover doré containing gold. Table 22-4 presents the projected LoM combined plant production.

Table 22-4: Segovia LoM Mill Production Assumptions

Description	Value	Units
RoM Ore Milled	1,985	kt
Avg. Daily Capacity	1,094	t per day
Doré		
Gold Content	606.7	koz
Recovery		
Gold	90.5%	
Doré Yield	606.7	koz

Source: SRK, 2020

All figures presented are based on the production derived from the reserves disclosed in this report. The mine currently has a third-party ore tolling program that is not supported by the reserves, and hence these quantities were not included in the production schedule. SRK is also aware that the mineral processing recovers silver in the doré product, but as silver was not included in the resources/reserves, it is not included in the economics.

22.3 Taxes, Royalties and Other Interests

The analysis of the Segovia Project includes an effective corporate income tax rate of 32% in 2020, 31% in 2021 and 30% from 2022 thereafter, resulting in a LoM average rate of 31% for income taxes on taxable income. Value Added Tax (VAT) is included in the capital costs estimate and a part of it can be directly deducted from the corporate income tax. Approximately US$6.7 M of VAT credits were deducted from the income tax, bringing the effective LoM income tax rate to an average of 29%.

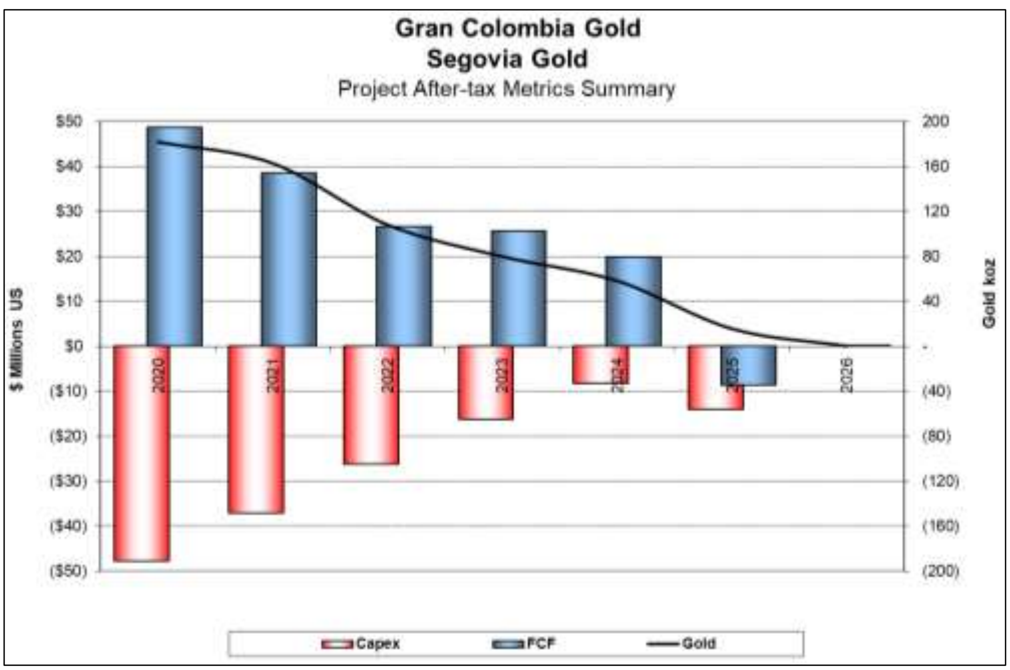
A depreciation schedule was calculated by SRK assuming an eight-and-a-half-year straight-line depreciation.

Taxable income is discounted by future and installed asset depreciation. The Project currently holds US$13.7 M of undepreciated assets that are projected to be completely depreciated by December 2022. Approximately 0.2% of the revenues were considered as non-deducible costs and removed from the depreciation schedule.

Royalties are also deducted from taxable income. The Project includes payment of a governmental royalty on both gold and silver sales. The royalty due is calculated as 80% of 4.4% of gross metal sales, not including the costs of transportation and metal refining.

22.4 Results

The valuation results of the Segovia Project indicate that the Project has an after-tax Net Present Value (NPV) of approximately US$138.8 M, based on a 5% discount rate. The operation is cash flow positive except in the last year and this is related to closure cost. Revenue generation steadily decreases year over year due to a decline of the gold grade. The annual free cash flow profile of the Project is presented in Figure 22-2. The full annual TEM is located in Appendix E.



Source: SRK, 2020

Figure 22-2: Segovia After-Tax Free Cash Flow, Capital and Metal Production

Indicative economic results are presented in Table 22-5. The Project is a gold operation, with gold representing 100% of the total projected revenue. The underground mining cost is the heaviest burden on the operation, followed by the sustaining capital as a distant second.

Table 22-5: Segovia Indicative Economic Results

Description	Value	Units
Market Prices		
Gold (US$/oz)	1,350	US$/oz
Estimate of Cash Flow (all values in $000s)		
Concentrate Net Return		$/oz-Au
Gold Sales	$819,008	$1,350.00
Total Revenue	**$819,008**	**$1,350.00**
Smelting and Refining Charges	($4,095)	($6.75)
Net Smelter Return	**$814,913**	
Royalties	($28,829)	($47.52)
Net Revenue	**$786,084**	
Operating Costs		
Underground Mining	($294,028)	($484.66)
Process	($58,190)	($95.92)
G&A	($46,546)	($76.72)
Total Operating	**($398,765)**	**($657.30)**
Operating Margin (EBITDA)	**$387,318**	
Initial Capital	$0	
LoM Sustaining Capital	($149,667)	
Working Capital	$2,693	
Income Tax	($89,280)	
After Tax Free Cash Flow	**$151,065**	
NPV @: 5%	**$138,836**	

Source: SRK, 2020

Table 22-6 shows annual production and revenue forecasts for the life of the Project. All production forecasts, material grades, plant recoveries and other productivity measures were developed by SRK and GCG.

Table 22-6: Segovia LoM Annual Production and Revenues

Period	RoM (kt)	Plant Feed (kt)	Doré. (koz)	Free Cash Flow (US$000s)	Discounted Cash Flow (US$000s)
2020	464.91	464.91	182.03	48,871	47,736
2021	504.09	504.09	162.98	38,965	36,242
2022	417.75	417.75	108.19	27,098	24,201
2023	263.59	263.59	79.86	25,341	21,379
2024	271.53	271.53	58.19	19,448	15,592
2025	62.95	62.95	15.41	(8,251)	(6,313)
Total	**1,984.82**	**1,984.82**	**606.67**	**151,473**	**138,836**

Source: SRK, 2020

The estimated cash cost, including direct and indirect production costs, is US$712/Au-oz, while All-in Sustaining Costs (AISC), including sustaining capital, is US$958/Au-oz, Table 22-7 presents the make-up of the Segovia cash costs.

Table 22-7: Segovia Cash Costs *

Cash Costs	$000's
Direct Cash Cost	
Mining Cost	$294,028
Process Cost	$58,190
Site G&A Cost	$46,546
Smelting & Refining Charges	$4,095
C1 Direct Cash Costs	**$402,860**
$/t-ore	**$202.97**
$/Au-oz	**$664.05**
Indirect Cash Cost	
Royalties	$28,829
Indirect Cash Costs	**$28,829**
$/t-ore	**$14.52**
$/Au-oz	**$47.52**
Total Direct + Indirects Cash Costs	**$431,689**
$/t-ore	**$217.50**
$/Au-oz	**$711.57**
Sustaining Capital Cash Cost (US$/Au-oz)	**$246.70**
All-In Sustaining Costs (US$/Au-oz)	**$958.27**

Source: SRK, 2020

* SRK's standard Cash Cost reporting methodology for NI 43-101 reports includes smelting/refining costs; whereas GCG's basis of reporting treats these costs as a reduction of realized gold price (the refinery discounts the selling price by a factor to cover these charges) and excludes them from its reported "total cash cost per ounce".

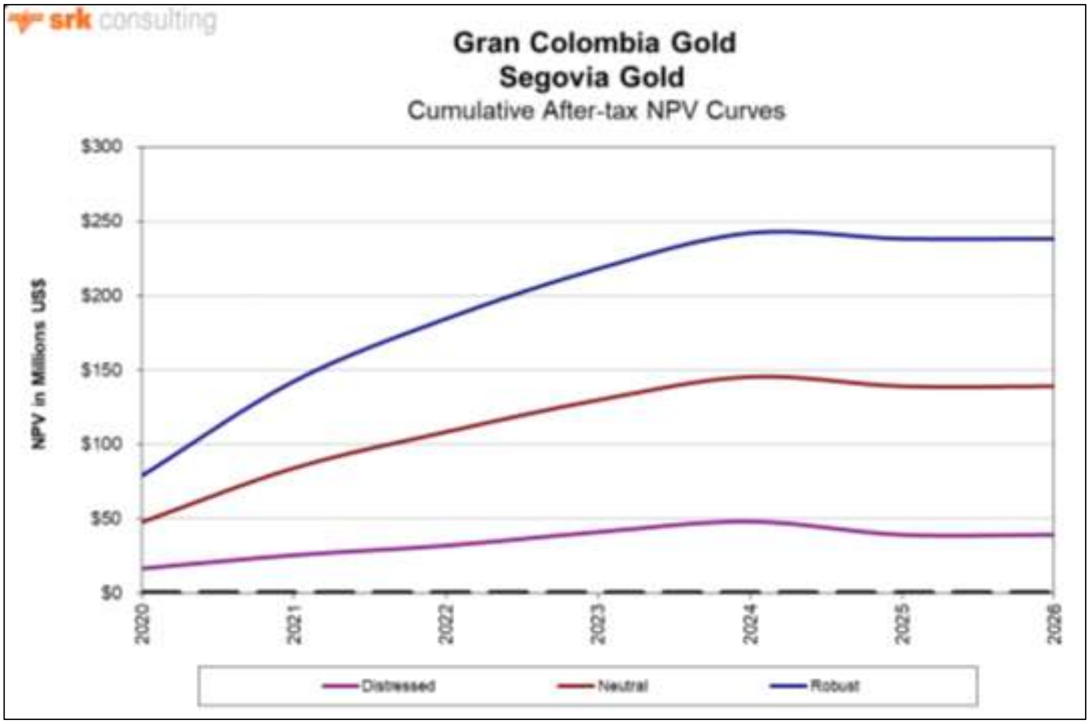
22.5 Sensitivity Analysis

Sensitivity to discount rates and different metal price scenarios were conducted.

The following metal price scenarios were considered:

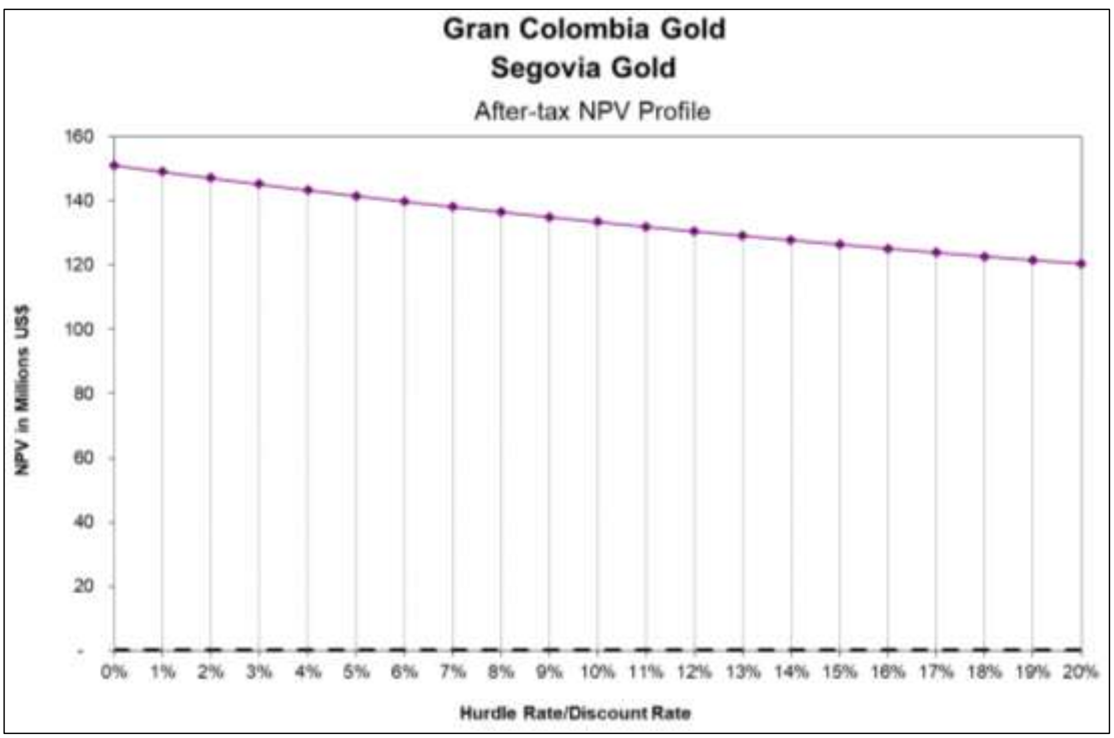
- Distressed metal prices are 20% lower than neutral prices (US$1,080/oz Au)
- Neutral metal prices as presented in this section (US$1,350/oz Au)
- Robust metal prices are 20% higher than neutral prices (US$1,620/oz Au)

The results are presented in Figure 22-3 and Figure 22-4.



Source: SRK, 2020

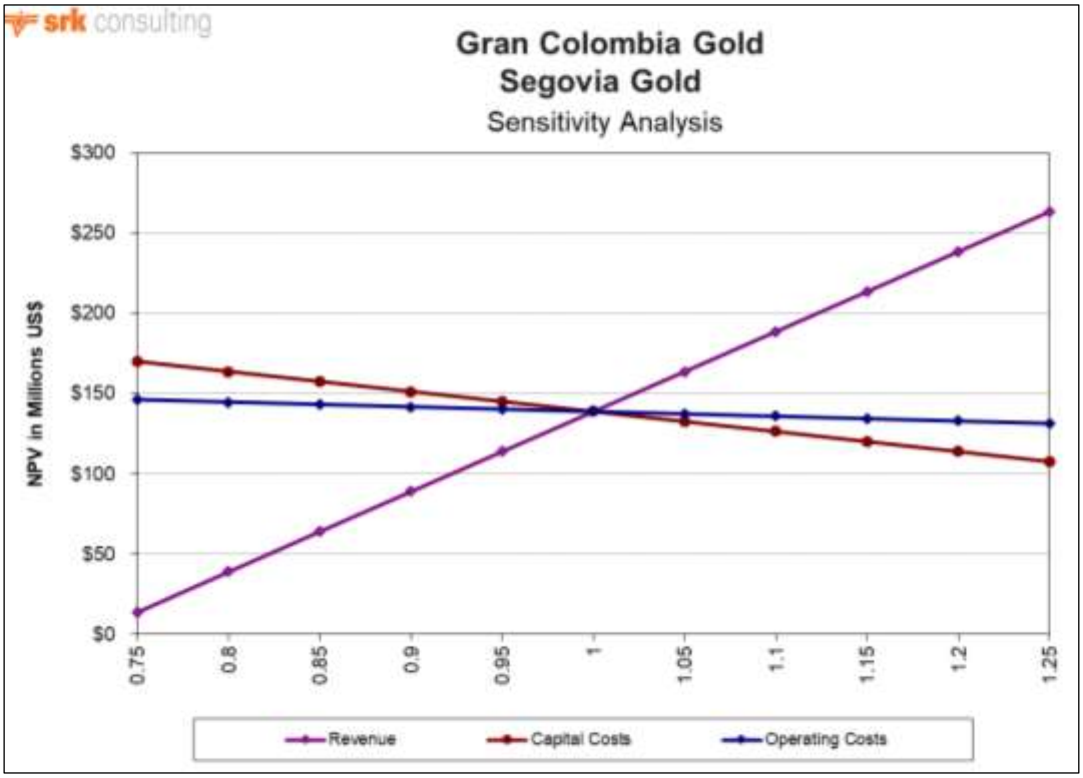
Figure 22-3: Segovia Cumulative NPV Curves



Source: SRK, 2020

Figure 22-4: Segovia NPV Sensitivity to Hurdle Rate

A sensitivity analysis on variation of Project costs, both capital and operating, and metal prices indicated that the cash generation is most sensitive to reduction in metal prices, or possibly loss on metal recovery, and secondly to an increase in capital cost. Figure 22-5 shows net present value sensitivity.



Source: SRK, 2020

Figure 22-5: Segovia NPV Sensitivity (US$000's)

23 Adjacent Properties

There are no properties adjacent to the Project with NI 43-101 compliant Mineral Resources. There are however other properties adjacent to the Project currently being mined by others.

24 Other Relevant Data and Information

In addition to the PFS mine plan described in this report, there are a few items to note which would have an effect on the mining operations and economics presented herein. These items include:

- **Mining in additional areas, currently classified as Inferred** - There is Inferred material at all four mining areas discussed in this PFS. This material is located near existing/planned infrastructure which require minimal development to mine. If this Inferred material is further drilled and converts to reserves, particularly in the Providencia and El Silencio areas, then mining can continue longer in the existing mining areas. This would allow for deferring development capital to later years (i.e., ramp not necessary as quickly). Also, if some of the Inferred material is higher grade, it can displace lower grade material and increase the ounces produced. Historically, GCG has been mining this additional Inferred material as they are able to access it.
- **Additional material, mined by others, going to the Maria Dama process facility** – Some additional plant capacity is available at times and is used to process third-party material. Table 24-1 shows the tonnages and grades of the additional material processed since 2015. This material is not included in the economics shown in this report.

Table 24-1: Additional Material at the Maria Dama Process Facility (2015 to 2018)

Processed at Maria Dama Plant					
	2015	**2016**	**2017**	**2018**	**2019**
Tonnes (t)	65,277	82,168	84,058	67,897	84,313
Grade (g/t)	5.42	4.73	4.61	5.74	6.82
Recovery (%)	90.40%	90.00%	90.40%	89.46%	90.02%
Recovered Au oz (oz)	10,295	11,262	11,254	11,219	16,646

Source: GCG, 2020

GCG has a history of mining/converting Inferred material and receiving third-party material at the process facility.

- **Recovered Silver** – There is a history of recovering silver at the process facility. Currently silver is not included in the resource nor the reserve. Table 24-2 shows the recent silver recovery by year. Overall this gives approximately 1% to 2% additional revenue.

Table 24-2: Segovia Historical Gold and Silver Production 2007 to 2019

Year	Au production (oz)	Ag production (oz)	Ag as % of Au
2007	38,244	45,821	119.80%
2008	33,460	44,426	132.80%
2009	55,216	41,868	75.80%
2010	50,313	51,780	102.90%
2011	69,176	64,633	93.40%
2012	79,178	88,856	112.20%
2013	80,226	113,734	141.80%
2014	74,506	91,109	122.30%
2015 (1)	92,539	82,910	89.60%
2016 (1)	126,022	111,053	88.10%
2017 (1)	148,594	121,843	82.00%
2018	193,050	160,955	83.37%
2019	214,241	187,820	87.67%
Total	**1,254,765**	**1,206,808**	**96.18%**

Source: GCG ,2020
(1) Adjusted to exclude Au and Ag sourced from third-party not processed at Maria Dama.

- **Increasing process facility capacity** - GCG processes ore in its Maria Dama process plant which is being expanded to 1,500-metric ton per day capacity in in the second half of 2019 and early 2020. A potential further process facility expansion to 2,000 t/d is being contemplated, if proven to be necessary, for some time beyond 2019, however this is not included in this report/economics. It is envisioned the additional mill feed would come from either an increase in GCG production as a result of further exploration or from third-party miners in its title. The estimated time to upgrade the facility is approximately one year, at a cost of approximately US$5 to US$6 million. This capital estimate is not included in this report/economics at this time.
- **Las Verticales** - The Las Verticales area is located adjacent to Providencia and requires little development to access. The area would need additional drilling and could be a source of additional material close to existing infrastructure. Las Verticales has not been included in the PFS reserve analysis, but is an Inferred resource included in the resource summary in the PFS. This area is currently being mined near surface by third party miners and this material has been sent to the Maria Dama plant for the last 10 years.

25 Interpretation and Conclusions

25.1 Geology and Resources

The 2019 exploration and underground exploration programs has continued at all three mines, with the main focus on down-dip extensions of the known high-grade mineralization. The results have been positive within extensions identified increasing the mineralization at depth.

SRK completed a validation exercise which included a two-week workshop held at SRK offices in Denver with a Senior GCG geologist on the electronic database provided, where potentially erroneous data exists in the database, the data has been flagged for further verification by GCG and reviewed. GCG provided SRK with preliminary interpretations for all three mines, which SRK reviewed and edited appropriately, with samples deemed to have poor survey excluded from the estimation process. SRK reviewed QA/QC information for 2019 collected by both the exploration and mine teams and deemed the assay database to be in line with industry best practice and therefore deemed it acceptable for the determination of Mineral Resource estimates.

It is SRK's opinion that while further improvements can still be made to the geological database (namely elevations), the confidence in the location of the vein spatial disposition has improved significantly compared to the previous Mineral Resource estimate, which was largely interpreted at El Silencio. The validation of the historical database at El Silencio has increased the confidence in the geological model and identified new structures off the main vein (Veta Manto). Overall, SRK considers the exploration data accumulated by the Company to be generally reliable and suitable for the purpose of this Mineral Resource estimation.

Infill drilling along with the on-going validation work of the historical database, and surveying of the underground mine workings has resulted in a slight increase in the Mineral Resources at Segovia, but most notably has also replaced the equivalent in depleted ounces. The largest gains are at Sandra K with a net increase of +39 Koz, with additional increases at El Silencio of +24 Koz

Additional drilling will be required to test for continuations to the main structures in these areas, but also highlights the potential for the mine to generate addition feed material with improvements in the exploration/infill drilling programs.

During the generation of the Mineral Resource estimate, SRK identified a number of key issues, which include:

- The lack of a historic QA/QC program, which has only been supported by a recent resampling, and a modern QA/QC program for a limited number of holes. This will be required in order to achieve Measured resources at El Silencio. A routine channel sampling exercise of the existing veins in exposed levels will increase the confidence in the vein location and grades. The areas of lower confidence are typically limited to the pillars in the higher levels of the mine.
- SRK has defined the current Mineral Resource based on a CoG of 3.0 g/t Au over a (minimum mining) width of 1.0 m. Mining costs are known to be variable across the different mines and some fluctuations maybe expected when considered during mine planning.
- Indicated Mineral Resources in pillars have been limited to areas where a sufficient level of verification channel sampling has been completed by GCG, and a relatively high confidence in the accuracy of the pillar surveys is achieved. At El Silencio, the Indicated portion of the Mineral

Resource have been limited to below an elevation of 320 m or below Level 29 which was previously flooded and therefore the confidence in the depletion outlines is higher.

- To define the depletion and the remaining pillars, SRK elected to combine the multiple data types that define the mined areas and notes that none of them include well-defined 3D solids with measurable volumes. Rather, SRK has taken the combined CAD lines, points, and triangulations and generated distance buffers (5 m) to obtain volumes in areas that have been mined. There is still uncertainty associated with this practice, but SRK believes that this is likely balanced by the conservative nature of the distance buffer approach, which may actually flag some material that is to be mined in the near term as having been previously mined. A complete set of 3D depletion wireframes should be generated for all three mines, which the underground channel database can be cross-checked against for validation.

SRK is of the opinion that the Mineral Resource estimate has been conducted in a manner consistent with industry best practices and that the data and information is adequate to supporting the stated mineral resources.

The current lack of a grade control block model (which is updated on a monthly or quarterly basis), results in difficulty to complete accurate reconciliation between the updated Mineral Resource estimate and the current mining activities. SRK recommend the Company investigate improving the use of localized short-term planning models, which would improve the understanding of the short scale variation in grade and improve the potential to monitor the current estimates.

SRK notes that the current Mineral Resources are focused on the three main operating mines, with separate databases and models created for each mine. In addition to the current operating mines, a number of historical mines exist within the current RPP license at Segovia. To improve potential exploration planning SRK recommends that GCG generate a regional model from all the existing data plus any additional information available from historical records or small-scale operations (leased) in the area, some of which provide additional feed to the Maria Dama plant.

SRK has reviewed the current exploration potential highlighted by GCG. The top targets considered by SRK are the extensions of Veta Manto at El Silencio below the current mining areas of the Veta Nacional. The image shown in the GCG press release dated March 17, 2020 indicates potential for 1,000 m of extension in the vein with no current exploration. SRK consider this a high priority target for additional drilling to initially confirm the presence of the vein and then targeting potential high-grade shoots.

Additional potential shown is on the eastern fault block at Providencia which represents an uplift in the location of the vein due to faulting. Initial drilling has encouraging results in an area where the vein has previously been considered to feather out into more discontinuous structures. This area is currently not included in the Mineral Resource, so would represent new Mineral Resources if verified with further drilling.

25.2 Mineral Processing and Metallurgical Testing

GCG is now planning to mine and process ore from the Carla vein, which is part of the Segovia complex and has conducted metallurgical testwork at SGS Canada (SGS) on a single test composite that was formulated from selected drill holes and intervals from the Carla vein. The metallurgical program included rougher flotation followed by cyanidation of the reground rougher concentrate using process conditions currently practiced at GCG’s Maria Dama process plant. In addition, whole-ore cyanidation and Bond ball mill work index (BWI) tests were conducted. The results of this testwork demonstrated that the gold contained in ore from the Carla vein is highly recoverable using the process conditions currently in use at the Maria Dama process plant. Gold and silver recoveries were reported at about 95% and 77%, respectively. SRK has reduced the reported laboratory recoveries by 2% in order to account for inherent plant inefficiencies. As such, overall gold and silver recoveries from Carla ore are projected at 93% and 75%, respectively.

25.3 Mining & Reserves

Geotechnical

The rock mass characterization and design methods are acceptable at a PFS level and comply with industrial standards and the mine designs are suitable for PFS reserve estimation.

Due to similarities in rock mass parameters, all four mines (Providencia, El Silencio, Sandra-K and Carla) can be treated as similar for mine design parameters, even though mining heights, rooms and pillars are different sizes. The use of timber packs and cement pillars help to increase the extraction ratios. However, the timbers and/or cement pillars must be well designed and follow specifications. GCG should also implement a monitoring system to identify any excessive pillar deformation that could produce room instability. SRK recommends performing first pass mining and additional pillar recovery using timber and/or cemented pillars to give an overall extraction ratio of approximately 90%.

El Silencio mine will need to increase pillar sizes at depth in virgin areas because of the increased stresses resulting from the depth below ground. SRK recommends conducting a suitable stability assessment to determine the correct pillar dimensions.

Mine Design

Room and pillar and cut and fill mining methods are seen as appropriate selective mining methods for the deposits. Cut and fill requires off-ore development but yields a higher extraction. A cutoff grade has been used for identifying economic mining areas. The PFS mine life is approximately 5 years. The underground mines are accessed via existing apique systems with ventilation raises to surface as necessary.

Tonnages and grades presented in the reserve include dilution and recovery and are comparable to what is currently being mined. Productivities used are based on current estimates and include some improvement over the life of the mine. A monthly production schedule was generated using Vulcan Gantt software for each mine by site personnel. The production schedule targeted the current mill capacity of approximately 502,000 t/yr.

25.4 Recovery Methods

GCG processes ore from the Providencia, El Silencio and Sandra K Mines at its 1,500 t/d Maria Dama process plant which includes crushing, grinding, gravity concentration, gold flotation, cyanidation of the flotation concentrate, Merrill-Crowe zinc precipitation and refining of both the zinc precipitate and gravity concentrate to produce a final gold/silver doré product. SRK makes the following conclusions regarding GCG’s processing facilities:

- Plant production for the period 2017 to 2019 increased from 293,395 t of ore at an average gold grade of 16.85 g/t Au in 2017 to 451,450 t at an average gold grade of 15.48 g/t Au during 2019.
- Overall gold recovery has ranged from 93.8 to 95.9% over the period 2017 to 2019.
- During the period 2017 to 2019 gold production increased from 149,037 to 214,036 ounces.
- Silver recovery is not monitored but is a relatively minor contributor to overall Project economics.
- Process plant cash operating costs decreased from US$29.51/t ore processed in 2017 to US$24.42/t in 2019.

25.5 Project Infrastructure

The infrastructure for the Project is installed and fully functional. Additional work is ongoing to improve the power system and underground mine infrastructure. All major facilities are in place and have been in use for a number of years. Continued focus on the tailings storage and associated equipment (filters) will be important.

The two phases of the El Chocho TSF have been designed with adequate capacity to manage planned compacted filter tailings deposition for the PFS LoM production schedule.

25.6 Water Management

Water supply at the site does not appear to be an issue for operations. Water is supplied from the underground mine dewatering and freshwater reservoirs adjacent to the processing areas, supplying sufficient water to meet the processing demands. No water balance was provided for the Project, so the amount of water sourced from the mine and surface water could not be determined with certainty.

Historically, water management at the tailings facilities has been problematic with surface water run-on entering the TSFs and regular releases of tailings materials and tailings decant water from the TSFs. SRK has observed increased awareness of surface water management in the operations of the TSF with new surface water diversion structures being put into place and a concerted effort to limit the discharge of tailings and untreated tailings decant water. The addition of robust water treatment system and plans for a tailing filter press will further improve water management at the site.

Closed tailings facilities are being aggressively reclaimed and incorporating surface water controls to manage the run-off from the closed facilities.

25.7 Environmental Studies and Permitting

The following interpretations and conclusions have been drawn with respect to the currently available information provided for the Segovia Project:

- **Permitting**: Developments within RPP 140 are permitted through the posting and approval of an Environmental Management Plan (PMA) and secondary permits for use of water abstraction, forest use, air emissions, discharges and river course (channel) construction. The original PMA was approved in 2004 and renewed in 2008. In 2011, environmental rights and obligations were granted to Zandor. From 2012 through 2015, updates to the operations prompted Corantioquia to request a summary of all the information into a single document. After its submission by the authority in September of 2016, additional information was requested by the agency. This supplemental information was delivered on August 1, 2017. The PMA was formally accepted by Corantioquia on February 22, 2019; however, GCG successfully appealed several of the terms and conditions of the resolution, which led to the final issuance of PMA approval on November 25, 2019.

- **Environmental and Social Management**: Environmental and social issues are managed in accordance with the PMA, Substantial financial resources and technical specialist support are required to implement the environmental monitoring and mitigation measures presented in the PMA.
- **Water Management:** Water management at the site has improved significantly since the introduction of the new process water treatment facility and the discontinued practice of discharging untreated mine effluents, which were contributing to contamination of local surface water courses. There is a risk that changes to the groundwater regime through underground dewatering activities of the mines may lead to geotechnical instabilities in underground workings, though ongoing hydrogeological modeling work is helping to predict and enable the development of management measures to address this risk. Post-closure water management in the underground workings has not yet been evaluated or addressed.
- **Health and Safety of Contract Miners**: The Company employs groups of contract miners to extract high grade RoM from the pillars in the operating mines. Although each mining group is required to meet contractual health, safety, and environmental standards set by GCG, there has historically been poor compliance with these standards. GCG has improved the auditing of compliance of the contract miners, but health and safety risks may be associated with uncontrolled and potentially illegal mining of support pillars, which may potentially lead to ground collapse and loss of life.
- **Stakeholder Engagement**: Zandor/GCG has conducted a stakeholder identification and analysis program and has set stakeholder engagement objectives and goals to develop communications plans with government, community, media and small miners. A strike by mine workers in 2017 effectively shut down the local communities for over one month; GCG continues to activity engage all relevant stakeholders to try and prevent this from occurring again in the future.
- **Closure Cost**: The lack of a detailed closure cost and financial provisioning for the Segovia Project at present poses a risk that at the end of the mine life, insufficient funds will be available to close the site in a safe, environmentally, and socially appropriate manner. The largest uncertainty regarding closure cost is associated with the potential need for long-term treatment of water from the disused mine workings.

Although additional studies are recommended to further develop tailings management strategies, there do not appear to be any other known environmental issues that could materially impact GCG's ability to conduct mining and milling activities at the site. Preliminary mitigation strategies have been developed to reduce environmental impacts to meet regulatory requirements and the conditions of the environmental permit.

Ongoing negotiations and relationships with the artisanal and small-miner communities always remains a risk to the operation and could affect production from time to time, potentially impacting GCG's ability to conduct mining and milling activities at the site.

Geochemistry

A substantial effort is needed to bring the mine into conformity with international best practices of data collection, management, and geochemical characterization. Implementation of a more comprehensive data collection and management program will form the quantitative basis for understanding the current status, forecasting future impacts, and designing concurrent and post-closure mitigation measures to minimize environmental impacts.

25.8 Economic Analysis

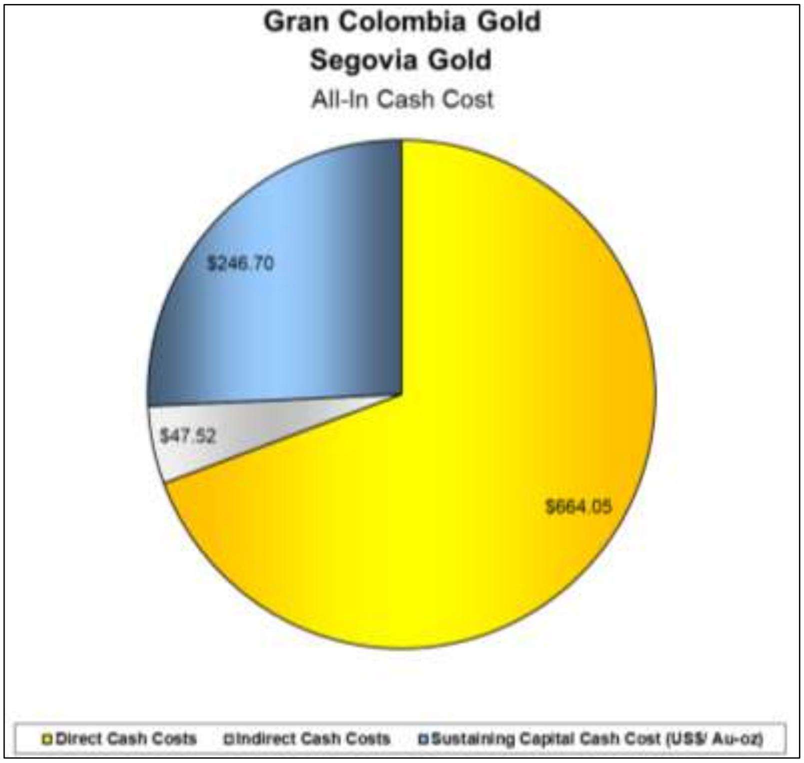
The estimated cash cost, including direct and indirect production cost, is US$712/Au-oz, while All-in Sustaining Costs (AISC), including sustaining capital, is US$958/Au-oz. Table 25-1 presents the make-up of the Segovia cash costs.

Table 25-1: Segovia Cash Costs

Cash Costs	$000's
Direct Cash Cost	
Mining Cost	$294,028
Process Cost	$58,190
Site G&A Cost	$46,546
Smelting & Refining Charges	$4,095
C1 Direct Cash Costs	**$402,860**
$/t-ore	**$202.97**
$/Au-oz	**$664.05**
Indirect Cash Cost	
Royalties	$28,829
Indirect Cash Costs	**$28,829**
$/t-ore	**$14.52**
$/Au-oz	**$47.52**
Total Direct + Indirects Cash Costs	**$431,689**
$/t-ore	**$217.50**
$/Au-oz	**$711.57**
Sustaining Capital Cash Cost (US$/Au-oz)	**$246.70**
All-In Sustaining Costs (US$/Au-oz)	**$958.27**

Source: SRK, 2020

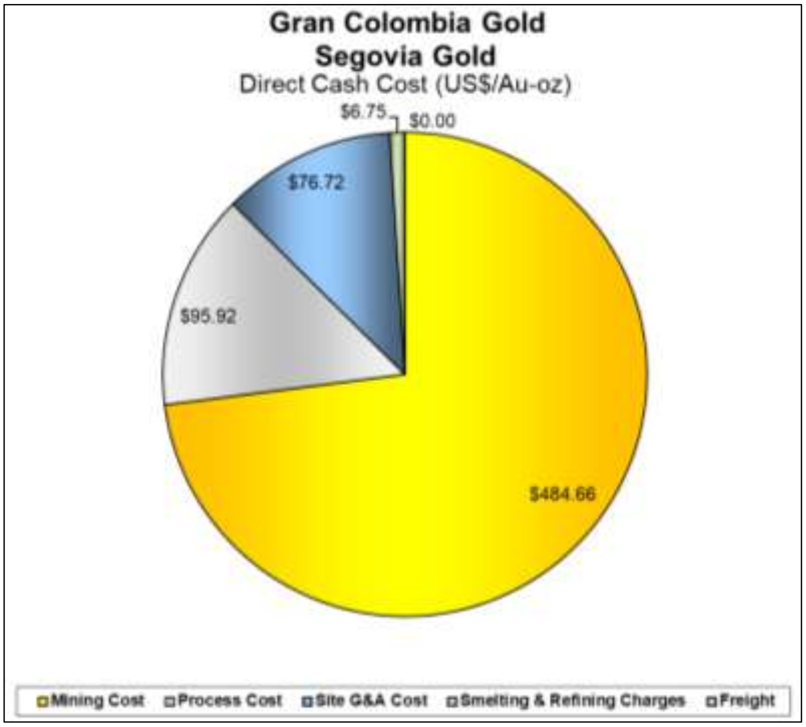
Figure 25-1 presents the breakdown of the estimated all-in sustaining cash costs associated with the reserves. Direct cash costs are the clear majority of the AISC cash cost, while the sustaining capital is a distant second.



Source: SRK, 2019

Figure 25-1: All-In Sustaining Cash Cost Breakdown

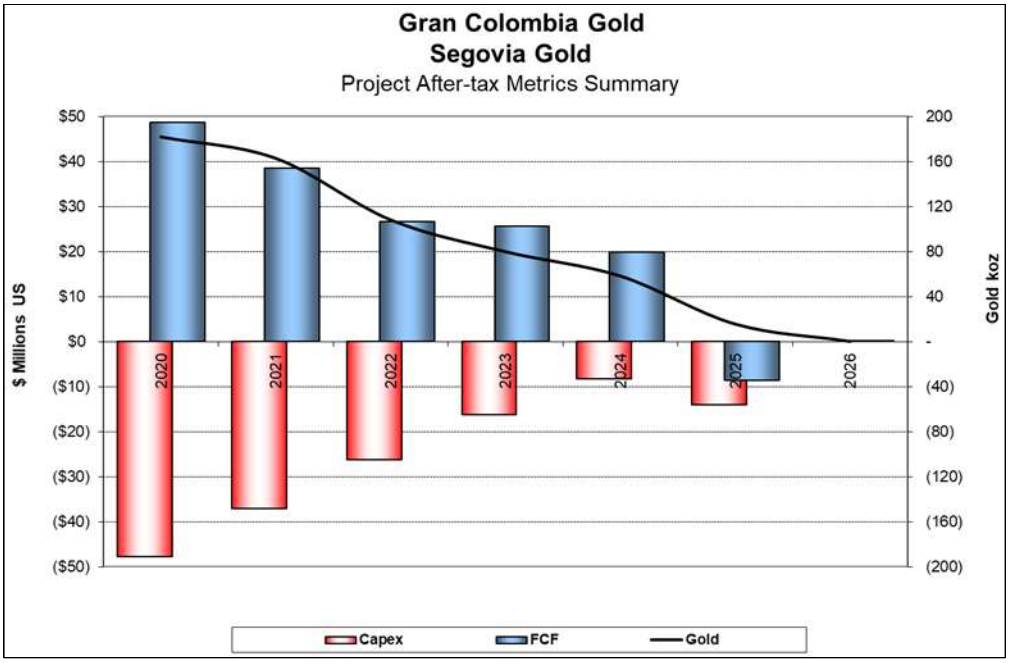
Figure 25-2 presents the breakdown of the estimated direct cash costs associated with the reserves. Mining costs represent the clear majority of the direct costs, while processing and general and administrative costs are about the same.



Source: SRK, 2020

Figure 25-2: Direct Cash Cost

The valuation results of the Segovia Project indicate that the Project has an after-tax Net Present Value (NPV) of approximately US$138.8 M, based on a 5% discount rate. The operation is projected to have no negative cash flow periods. Revenue generation steadily decreases year over year, due to to a decline of the gold grade. The annual free cash flow profile of the Project is presented in Figure 25-3.



Source: SRK, 2020

Figure 25-3: Segovia After-Tax Free Cash Flow, Capital and Metal Production

Indicative economic results are presented in Table 25-2. The Project is a gold operation, with gold representing 100% of the total projected revenue. The underground mining cost is the heaviest burden on the operation, followed by the sustaining capital as a distant second.

Table 25-2: Segovia Indicative Economic Results

Description	Value	Units
Market Prices		
Gold (US$/oz)	1,350	US$/oz
Estimate of Cash Flow (all values in $000s)		
Concentrate Net Return		$/oz-Au
Gold Sales	$819,008	$1,350.00
Total Revenue	**$819,008**	**$1,350.00**
Smelting and Refining Charges	($4,095)	($6.75)
Net Smelter Return	**$814,913**	
Royalties	($28,829)	($47.52)
Net Revenue	**$786,084**	
Operating Costs		
Underground Mining	($294,028)	($484.66)
Process	($58,190)	($95.92)
G&A	($46,546)	($76.72)
Total Operating	**($398,765)**	**($657.30)**
Operating Margin (EBITDA)	**$387,318**	
Initial Capital	$0	
LoM Sustaining Capital	($149,667)	
Working Capital	$2,693	
Income Tax	($89,280)	
After Tax Free Cash Flow	**$151,065**	
NPV @: 5%	**$138,836**	

Source: SRK, 2020

Silver was not included in the analysis, as it is not included in the resources nor the reserves. It should be noted, however, that past production indicates the production of silver in the doré and its revenue could represent an addition of about 1% to 2% to the revenue presented above.

Table 25-3 shows annual production and revenue forecasts for the life of the Project. All production forecasts, material grades, plant recoveries and other productivity measures were developed by SRK and GCG.

Table 25-3: Segovia LoM Annual Production and Revenues

Period	RoM (kt)	Plant Feed (kt)	Doré. (koz)	Free Cash Flow (US$000s)	Discounted Cash Flow (US$000s)
2020	464.91	464.91	182.03	48,871	47,736
2021	504.09	504.09	162.98	38,965	36,242
2022	417.75	417.75	108.19	27,098	24,201
2023	263.59	263.59	79.86	25,341	21,379
2024	271.53	271.53	58.19	19,448	15,592
2025	62.95	62.95	15.41	(8,251)	(6,313)
Total	**1,984.82**	**1,984.82**	**606.67**	**151,473**	**138,836**

Source: SRK, 2020

The Mineral Reserves disclosed herein are sufficient to feed the Maria Dama plant for about 5.3 years of operation.

25.9 Foreseeable Impacts of Risks

GCG is currently using a single 1,500 t/d plate and frame filter plant at the El Chocho TSF and is adding a second filter plant planned for installation in 2021. Until both filters are in place and operating, there is some risk that alternative tailings handling will need to be implemented during periods when the filter plant is down for maintenance.

26 Recommended Work Programs

26.1 Geology and Resources

In relation to the required improvements to data quality with respect to mineral resource estimates, SRK recommends the following:

- Continued infill drilling using underground drill-rigs ahead of the planned mining faces to a minimum of 20 m by 20 m pattern
- SRK recommends the Company consider the use of localized short-term planning models to improve the understanding of the short scale variation in grade and improve the potential to monitor the current estimates. These short-term models should include results from the infill underground drilling areas and adjustments to the high-grade domain boundaries
- An area has been identified within El Silencio where the current mining is interpreted to have occurred within an un-named hangingwall vein. If correct, then potential exists for Veta Manto to remain undeveloped in the footwall. An exploration drilling (underground) program should be designed to test the footwall for possible Veta Manto mineralization. This area remains classified as Inferred in the 2019 estimate
- GCG have identified areas for possible extension and infill drilling within the 2020 budget. SRK has reviewed the proposed program and agrees these areas provide near term targets. The exploration targets depth extensions at the three operating mines in the following locations:
    - SRK has recommended generation of the regional geological model which has been completed by GCG. The regional model is a combination of the existing mine data, plus other historical records from other known veins/mining areas within the RPP license. This work will form the basis for more accurate exploration planning in the future, and GCG has set aside budget to undertake target generation drilling in 2020, to increase the potential Mineral Resources; and

Table 26-1 summarizes the costs for recommended work programs, based on the current approved 2020 exploration budgets, which SRK has reviewed and considers appropriate.

Table 26-1: Summary of 2020 Segovia Project in Mine and Exploration Budget

Discipline		**Program Description**	**Cost (US$)**
2020 Drilling Program (In Mine)		Infill step-out and brownfield. Estimated 30,000 m from surface and UG locations	6,650,000
2020 Drilling Program (Target Generation)	Target Generation around known operations not currently included in the Mineral Resource	**3,500,000**	
Total US$			**$10,150,000**

Source: GCG, 2020

Total cost estimated for this work is approximately US$10,150,000, which has already been included in the current budget and considered in the PFS economic analysis.

26.2 Mining and Mineral Reserve Estimate

Mining

To continue to gain confidence in existing information, survey work should continue at all the mines. Continual improvement of the reconciliation methodologies to give quick feedback for short and long term mine planning (US$250,000).

Further develop multiple cutoff grade calculations and costing for different mining methods to provide a more refined method of determining economic mining limits (US$200,000).

Continue ventilation audit and modeling to increase ventilation flow rates and capacity where necessary. Estimated infrastructure cost is US$2.0 million. El Silencio and Sandra K fans have been installed, the remaining fan system for Carla remains outstanding. This is also for upgrades to the lower El Silencio area.

Geotechnical

SRK recommends the following actions be implemented at the mines. Some of the actions are ongoing works and are part of the ground control management plan implemented by the Segovia Geotechnical team. (US$225,000) The following recommendations are described in priority order:

- A suitable monitoring plan should be implemented at each mine, with special focus on mine access and critical infrastructure monitoring for stability;
- A stress measurement plan should be implemented to estimate the current mine induced stress conditions;
- The ground support standards and training of the mine staff should continue to be implemented. Preliminary work has been successfully implemented by GCG;
- Continue with the pull test plan to assess the rock bolting performance;
- Continue updating the geotechnical block model on a yearly basis;
- A 3D mine-scale numerical model should be prepared to simulate stress conditions due to the current mining. The model should have strength properties estimated from the geotechnical block model and the geometry should be from the current mine layout. The objective of this stress analysis is to determine stress levels in different areas of the mine from which local pillar and room stability of new mine designs can be determined; and
- A detailed site visit for external specialist should be implemented at least two times a year to conduct an internal audit and ensure the proposed recommendations are in place.

26.3 Recovery Methods

SRK recommends that an optimization study be performed around the Maria Dama plant to truly understand the plant limitations as well as identify areas to improve plant recovery. Total cost for this work is estimated at about US$50,000.

26.4 Project Infrastructure

26.4.1 General Infrastructure

There are no recommended work plans of substance noted at this time as the basic infrastructure is in place and functioning. The electrical system already has planning in place to more fully allow sourcing of power from both power suppliers.

26.4.2 Tailings

Based on SRK's site visit, review of available documentation, and review of SRK's 2019 recommendations, the following actions are recommended

- Conceptual design drawings and preliminary calculations prepared by Macafferi Inc. for the phase 1A Geotube embankment were reviewed by SRK. While it is possible that the embankment is stable as designed and constructed, the information provided and reviewed was not sufficient to prove the stability of the embankment. Because the proposed placement of filtered tailings in Phase 1C will occur downstream of this embankment, and a failure of this embankment could jeopardize both personnel safety and the stability of the Phase 1C embankment, SRK recommends that a detailed analysis of the stability of the Phase 1A Geotube embankment be completed as soon as possible using currently available data and conservative assumptions of dry-stacked filtered tailings geotechnical properties. Depending on the results of that analysis, additional geotechnical characterization of placed filtered tailings behind the Phase 1A embankment and pore pressures within the tailings mass may be warranted, potentially via the implementation of a Cone Penetrometer Testing (CPT) program and additional laboratory testing. (See **Table 26.1** in **Section 26.7**)
- A program for updating and maintaining foundation and tailings geotechnical characterization data should be implemented. The results of the updated characterization should be compared to assumptions used in design and stability analyses performed to date to ensure adequate factors of safety against mass failure and liquefaction for all embankments.
- A program for regular geochemical characterization of waste rock and tailings should be developed based on known and predicted variations in ore and waste rock or overburden geology such that potentially adverse impacts to contact water chemistry can be predicted and managed.
- A dam break analysis and Emergency Action Plan (EAP) should be prepared in accordance with accepted international standards.
- An Operation, Maintenance and Surveillance (OMS) Plan should be prepared in accordance with accepted international standards.

26.5 Water

26.5.1 Geochemical

There are still some gaps that should be addressed (US$210,000):

- Contact water with waste rock on surface
- Waste rock specifically targeted for extraction and deposition on ground surface

- Future tailings (SRK metallurgists have proposed a met testing program. A Geochem program should be included with that program)

Specific recommendations include:

- Sample and conduct an ARDML characterization for any areas where waste rock has been deposited above ground in the project area
- Initiate waste rock sampling in the underground in advance of removing the rock for surface disposal
- Continue the humidity cell tests for at least 40 weeks, and preferably at least one year. The data from these tests will be useful for understanding hydrochemical impacts from mining wastes
- Continue the underground water quality monitoring. There have been hits of acidic water (in El Silencio), and elevated metals (arsenic, cadmium, lead, zinc) in all four sampled areas. The analyses are not comprehensive and should be expanded to include a more complete suite of metals in accordance with WHO guidelines
- Continue periodic sampling (e.g., quarterly) and ARDML characterization of deposited tailings;
- Add environmental geochemistry testing to all future metallurgical testing, starting with the test work proposal provided by SGS dated 12 March 2020
- Implement/continue contact water management for all mining wastes deposited on the property
- Proceed with a monitoring well installation program, with locations that should include:
  - Hydrologically upgradient and downgradient from the mine project area
  - Upgradient and downgradient from the TSF
  - Upgradient and downgradient from the process plant

26.5.2 Surface Water

Studies of the hydrological setting need to be performed to establish the level of risk associated with pluvial (rainfall) derived water.

Flow monitoring on key drainages around the site should be performed to quantify the rainfall run-off relationship and establish baseline flows in the drainages impacted by the site.

A mine water balance should be developed to improve the understanding of water use, both from pluvial sources and mine dewatering water sources, in the plant and how much water is discharged to the surface water environment.

Total cost estimated for this work is approximately US$275,000.

26.5.3 Groundwater

The last hydrogeological information was provided for the previous PFS report (SRK, 2018b). Currently, GCG is developing a hydrogeological study to collect hydraulic heads and hydraulic properties data. It includes five piezometers and should be completed in June 2020. This campaign will help with the lack of monitoring wells to evaluate the drawdown outside of the mine, the gaps on the physical parameters of the rock (hydraulic conductivity and storage) and little information on where water enters the mine (from which geologic units or structures). More field data and studies are needed to further refine knowledge on mine hydrogeology. SRK recommends the following hydrogeologic program which is designed to develop a basic understanding of the head distribution (water levels) around the mine. With this information, SRK could prepare a model and calibrate the existing conditions and mine inflows which will provide large-scale information on rock properties. The program will involve four work phases and a reporting phase as described below:

- Complete an annual mine reconnaissance, documentation of mine inflows, and estimation of direct vertical recharge into the mine
- Development of a conceptual hydrogeologic model (in progress by HSA)
- Drill core holes into the hangingwall and footwall of the mines and equip the holes with shut-in instrumentation to allow the measurement of hydraulic head beyond the mine face. SRK recommends an additional 10 drill holes between the four primary mines that make up the Segovia mine complex. Each hole would extend approximately 100 m laterally beyond the mine face and would be concentrated near the bottom of the mine, or in areas where expansion is planned. The holes will be grouted and shut in at the mine face and equipped with continuous-read transducers to record head measurements. This would require 1,000 m of horizontal core drilling (NG or HQ)
- Drill approximately six deep wells beyond the immediate mine workings to a depth of approximately 700 m. Three of these would be drilled distal and three proximal to the mine workings to allow characterization of the horizontal gradient. The result of this would be a small network of wells that would provide enough information to develop an understanding of the drawdown cone around the Segovia mines. This approach assumes that the mines collectively create a sub-regional drawdown cone formed from the cumulative effect of dewatering the primary underground mines
- Using data from previous phases, build a numerical model and calibrate to existing conditions. Those conditions include water levels near and away from the mine face, and inflows to the various mines. The modeling effort will help develop an understanding of the system as a whole and will support a PFS level evaluation. Additionally, the model can be used to predict future inflows based on changing mine plans
- The work scope should include reporting and documentation
- Implement a reliable control and monitoring system of the dewatering rates in each mine. Daily flowrates and monthly volumes records are recommended.

The total cost estimated for this recommended work program is approximately US$1,280,000.

26.6 Environmental Studies and Permitting

The following recommendations are made with respect to environmental, permitting and social issues regarding the Segovia Project:

- Prepare a more detailed site-wide closure plan from which a more accurate final closure cost estimate can be developed. This should include such items as: equipment inventories; building inventories (with limited design details), portal and vent plugging details and conceptual designs, etc. This plan and cost estimate would require annual reviews and updates in order to capture the latest configurations and conditions at the mine site(s) and processing facilities. Estimated at US$50,000
- In conjunction with the mine water discharge characterization program described in Section 26.1.9, prepare a comprehensive plan to meet Colombian effluent discharge requirements by focusing on the following areas:

  - Complete hydrogeological investigations and modeling efforts required for underground geotechnical stability as proposed in Section 26.1.9 and conduct an impact analysis with respect to dewatering operations and the potential to affect surface water sources (i.e., springs) (Program was initiated in 2019)

26.7 Recommended Work Program Costs

Costs for recommended work programs are summarized in Table 26-2.

Table 26-2: Summary of Costs for Recommended Work

Discipline	Program Description	Cost (US$)	No Further Work is Recommended Reason:
Geology and Resources	Drilling Program (near mine, 30,000 m + 12,500 m Target Generation)	10,150,000	Included in current budgets
Mining & Reserves	Additional Surveying/COG/Mining method costs	450,000	
Ventilation	Continue ventilation audit and modeling to increase ventilation flow rates and capacity where necessary.	2,000,000	Including capital installation of fans
Geotechnical Programs	Program as described in 26.2	225,000	
Infrastructure			There are no recommended work plans of substance noted at this time as the basic infrastructure is in place and functioning
Tailings	Detailed analysis of the stability of the phase 1A Geotube embankment as described in Section 26.4.2	40,000	
Geochemical Study	Baseline + Characterization Work	210,000	
Surface Water Management	Flow Monitoring + Mine Water Balance	275,000	
Hydrogeologic Program	Field Program + Modeling to understand water levels around the mines.	1,280,000	
Recovery Method	Plant optimization study, tailings filtration plant trade-off study.	50,000	
Environmental & Permitting	Detailed site-wide closure plan and reclamation cost estimate	50,000	
Environmental & Permitting	Comprehensive Water Management Plan (incl. UG dewatering impacts and post closure water quality assessment; TSF surface water seepage plan)	100,000	
Total US$		**$14,830,000**	

Source: SRK, 2020

27 References

Amec Foster Wheeler, (2016a) Revisión Técnica del Informe de Diseño Final – Deposito de Almacenamiento de Relaves El Chocho, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales Auríferos, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016

Amec Foster Wheeler, (2016b) Análisis del Sistema de Manejo Actual de Relaves – Alterativas de Corto, Mediano, y Largo Plazo, Auditoría de Residuos Sólidos Industriales por Beneficio de Minerales Auríferos, prepared for Gran Colombia Gold Corp., Amec Foster Wheeler, November 2016

Bonoli, (1960). Photogeological Study of the Segovia-Remedios Mining District. Maps for Frontino Gold Mines Limited, Bonoli, F 1960, large format book of 10 maps at 1:17,000 scale.

CIM (2014). Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014.

Echeverry et al., (2009). Aspectos estructurales y relaciones de algunos sistemas vetiformes del Distrito Minero Segovia-Remedios. Boletín de Ciencias de la Tierra, 26, 19-28.

González and Londoño, (2002). Instituto Colombiano de Geologia y Mineria (INGEOMINAS), 2002; pg. 68-106

Gonzalez, (2001). Mapa Geológico del Departamento de Antioquia, Memoria Explicativa. Bogota, INGEOMINAS, Gonzalez, H 241 p.

Gran Colombia, (2018). Layout drawings and design information provided in correspondence with Gran Colombia Gold Corp for Fase IA of the El Chocho tailings storage facility which is currently being constructed by Gran Colombia Gold Corp.

Haeberlin et al., (2002). Paleozoic orogenic gold deposits in the eastern Central Andes and its foreland, South America. Ore Geology Reviews, vol. 22, p. 41-59. Haeberlin, Y., Moritz, R. & Fontboté, L.,

Haeberlin et al., (2004). Carboniferous Orogenic Gold Deposits at Pataz, Eastern Cordillera, Peru: Geological and Structural Framework, Paragenesis, Alteration, and 40Ar/39Ar Geochronology. Economic Geology, vol. 99, p. 73-112. Haeberlin, Y., Moritz, R., Fontboté, L. & Cosca, M.,

Haeberlin, (2002). Geological and Structural Setting, Age, and Geochemistry of the Orogenic Gold Deposits at the Pataz Province, Eastern Andean Cordillera, Peru. PhD thesis, University of Geneva. http://www.unige.ch/cyberdocuments/theses2001/HaeberlinY/these.html.

iConsult, (2013). Presa El Chocho Para Almacenamiento de Lodos, Optimización del Volumen de Almacenamiento, Revision de Diseno Definitivo, prepared for Gran Colombia Gold Corp. Proyecto Pampa Verde, iConsult, February 2013;

IDEAM, (2013). Aguas Subterraneas en Colombia: Una Vision General, Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia, Bogota D.C., 2013.

Knight Piésold, (2012). El Chocho Tailings Storage Facility, Final Design Report, prepared for Gran Colombia Gold Corp, Segovia Project, Knight Piésold, July 2012;

Price WA. 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. CANMET Mining and Mineral Sciences Laboratories, Smithers, British Columbia, V0J 2N0. MEND Report 1.20.1. Canada. 579 pp.

SEWC, (2010). Medoro Resources Ltd., Gran Colombia Gold, S.A., Tapestry Resource Corp, NI43-101 Technical Report Frontino Gold Mines Ltd. Antioquia Colombia June 9, 2010 (SEWC)

Sillitoe, (2008). Major Gold Deposits and Belts of the North and South American Cordillera: Distribution, Tectonomagmatic Settings, and Metallogenic Considerations. Sillitoe, R.H., Economic Geology, vol. 103, p. 663-687.

SRK, (2012). NI 43-101 Technical Report on Zandor Capital S.A. Providencia, Las Verticales, Sandra K and El Silencio Veins at the Segovia Gold Project, Antioquia, Colombia; Prepared for Zandor Capital S.A. by SRK Consulting (UK) Ltd., Dated April 15, 2012.

SRK, (2014). NI-43-101 Technical Repot on a Preliminary Economic Assessment on the Segovia and Carla Operations, Department of Antioquia, Colombia, February 2014, 242 pp.

SRK, (2016). Technical Memorandum - Providencia Ramp Geotech Review; Prepared for Gran Colombia Gold Corp. by SRK Consulting (U.S.) Inc., Dated October 4, 2016

SRK, (2017). Technical Memorandum – Segovia PFS Gap Analysis; Prepared for Gran Colombia Gold Corp. by SRK Consulting (U.S.) Inc., Dated April 26, 2017.

SRK, (2018a). Review of Existing Ventilation Systems for the Providencia, El Silencio, and Sandra K Mines prepared by SRK Consulting (U.S.), Inc. for Gran Colombia Gold May 2, 2018.

SRK, (2018b). NI-43-101 Technical Report Prefeasibility Study Segovia Project, Colombia; Prepared for Gran Colombia Gold Corp. by SRK Consulting (U.S.) (nc., Dated May 10, 2018.

SRK, (2019). Geotechnical Engineering, Prefeasibility Study Report Segovia Mine Segovia, Colombia by SRK Consulting (U.S.) (nc., Dated April 24, 2019.

Wieselmann, et al., (1982). Informe de Evaluación Geológica Preliminar Area de Frontino Gold Mines Ltd. Report for Texasgulf Panama Inc., Wieselmann, E.A. & Galay, I., 7 April 1982. Translation into Spanish by A. D’Amato, 42 p.

Wood, (2019),El Chcoco Filtered Tailings Storage Facility Detailed Design Report for Phase 1C and 2A, prepared for Gran Colombia Gold Corp. By Wood, Dated December 5th, 2019.

Zandor, (2015). ESTUDIO AMBIENTAL ACTUALIZADO AL AÑO 2015 PARA LA OPERACIÓN MINERA EN EL RPP 140 DE PROPIEDAD DE ZANDOR CAPITAL S.A. (Remedios & Segovia Antioquia)”, Zandor Capital S.A., August 2015.

28 Glossary

The Mineral Resources and Mineral Reserves have been classified according to CIM (CIM, 2014). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

28.1 Mineral Resources

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

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

28.2 Mineral Reserves

A **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

28.3 Definition of Terms

The following general mining terms may be used in this report.

Table 28-1: Definition of Terms

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of gold within mineralized rock.
Hangingwall	The overlying side of an orebody or slope.
Haulage	A horizontal underground excavation which is used to transport mined ore.
Hydrocyclone	A process whereby material is graded according to size by exploiting centrifugal forces of particulate materials.
Igneous	Primary crystalline rock formed by the solidification of magma.
Kriging	An interpolation method of assigning values from samples to blocks that minimizes the estimation error.
Level	Horizontal tunnel the primary purpose is the transportation of personnel and materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-Mine plans.
LRP	Long Range Plan.
Material Properties	Mine properties.
Milling	A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve.

Term	Definition
Pillar	Rock left behind to help support the excavations in an underground mine.
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	All expenditures including those of an operating and capital nature.
Variogram	A statistical representation of the characteristics (usually grade).

28.4 Abbreviations

The following abbreviations may be used in this report.

Table 28-2: Abbreviations

Abbreviation	Unit or Term
%	percent
°	degree (degrees)
°C	degrees Centigrade
µm	micron or microns
2D	two-dimensional
3D	three-dimensional
AA	atomic absorption
AAS	atomic absorption spectrophotometer
Ag	silver
AISC	All-in Sustaining Costs
ANFO	ammonium nitrate fuel oil
ARD/ML	acid rock drainage and metal leaching
Au	gold
AuEq	gold equivalent grade
CCD	counter-current decantation
cfm	cubic feet per minute
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CIT	corporate income tax
cm	centimeter
cm^3	cubic centimeter
CoG	cut-off grade
CRM	certified reference material
Datamine™	Datamine™ Studio RM
dia.	diameter
EDA	exploratory data analysis
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPM	Empresas Públicas de Medellín E.S.P

Abbreviation	Unit or Term
FA	fire assay
FGM	Frontino Gold Mines
ft	foot (feet)
ft^3	cubic foot (feet)
g/t	grams per tonne
gpm	gallons per minute
GCG	Gran Colombia Gold Corp.
ha	hectares
HDPE	Height Density Polyethylene
hp	horsepower
ICP	induced couple plasma
ID2	inverse-distance squared
ID3	inverse-distance cubed
IFC	International Finance Corporation
kA	kiloamperes
kg	kilograms
km	kilometer
km^2	square kilometer
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
L	liter
lb	pound
Leapfrog®	Aranz Leapfrog® Geo (Leapfrog®)
LHD	Long-Haul Dump truck
LoM	Life-of-Mine
LTR	long-term resource material
m	meter
m^2	square meter
m^3	cubic meter
mm^2	square millimeter
mm^3	cubic millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
Mt	million tonnes
MW	million watts
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
NPV	Net Present Value
OK	Ordinary Kriging
oz	troy ounce
PLS	Pregnant Leach Solution
ppm	parts per million
PTO	Programa de Trabajos y Obras
QA/QC	Quality Assurance/Quality Control
QKNA	Quantitative Kriging Neighborhood Analysis
QP	Qualified Persons
RoM	Run-of-Mine
RPP	Reconocimiento de Propiedad Privada
RQD	Rock Quality Description
SEC	U.S. Securities & Exchange Commission
sec	second
SGS	SGS Laboratories
SRK	SRK Consulting (U.S.), Inc.
t	tonne (metric ton) (2,204.6 pounds)

Abbreviation	Unit or Term
t/d	tonnes per day
t/y	tonnes per year
TSF	tailings storage facility
TSP	total suspended particulates
US$	U.S. dollars
V	volts
W	watt
y	year
Zandor	Zandor Capital S.A. Colombia

Appendices

Appendix A: Certificates of Qualified Persons

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CERTIFICATE OF QUALIFIED PERSON

I, David Bird, MSc., PG, RM-SME, do hereby certify that:

1. I am an Associate Principal Consultant (Geochemistry) of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with Bachelor's Degrees in Geology and Business Administration Management from Oregon State University in 1983. In addition, I obtained a Master's Degree in Geochemistry/Hydrogeology from the University of Nevada-Reno in 1993. I am a Registered Member of the Society for Mining, Metallurgy, and Exploration (SME). I am a certified Professional Geologist in the State of Oregon (G1438). I have worked full time as a Geologist and Geochemist for a total of 34 years. My relevant experience includes design, execution, and interpretation of mine waste geochemical characterization programs in support of open pit and underground mine planning and environmental impact assessments, design and supervision of water quality sampling and monitoring programs, geochemical modeling, and management of the geochemistry portion of numerous PEA, PFS and FS-level mine projects in the US and abroad.
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.
5. I have not visited the Segovia property.
6. I am responsible for geochemistry Sections 16.8, 20.1.3 and 26.5.1 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is QP authorship of the reports titled, "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2018, "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018; and, "NI 43-101 Technical Report, Preliminary Economic Assessment, Segovia Project, Colombia" with an Effective Date of August 7, 2017 and a Report Date of September 28, 2017.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

“Signed and Sealed”

David Bird, MSc, PG, SME-RM
Associate Principal Geochemist

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CERTIFICATE OF QUALIFIED PERSON

I, Fredy Henriquez, MSc Eng, SME, ISRM do hereby certify that:

1. I am Principal Consultant (Rock Mechanics) of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a degree in Civil Mine Engineer from University of Santiago, Chile in 2000. In addition, I have obtained a Masters degree (MSc) in Engineering (Rock Mechanics) from WASM, Curtin University, Australia (2011). I am a Registered Member of the Society for Mining, Metallurgy, and Exploration (SME, register number 4196405RM). I have worked as a geotechnical engineer for a total of 25 years since my graduation from university. My relevant experience includes civil and mining geotechnical projects ranging from conceptual through feasibility design levels and operations support. I am skilled in both soil and rock mechanics engineering and specialize in the design and management of mine excavations. My primary areas of expertise include mine operations, mine planning, hard rock and soft rock characterization, underground and open pit stability analysis, database management, geotechnical data collection, probabilistic analysis, risk assessment, slope monitoring, modeling and pit wall pore pressure reductions. I have undertaken and managed large geotechnical projects for the mining industry throughout North, Central, South America, Australia and South Africa.
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.
5. I visited the Segovia property on February 7, 2019 for two days.
6. I am responsible for geotechnical Section 16.4 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

"Signed and Sealed"

Fredy Henriquez, MSc Eng, SME, ISRM
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CERTIFICATE OF QUALIFIED PERSON

I, Eric Olin, MSc, MBA, RM-SME do hereby certify that:

1. I am a Principal Process Metallurgist of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia", with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a Master of Science degree in Metallurgical Engineering from the Colorado School of Mines in 1976. I am a Registered Member of The Society for Mining, Metallurgy and Exploration, Inc. I have worked as a Metallurgist for over 40 years since my graduation from the Colorado School of Mines. My relevant experience includes extensive consulting, plant operations, process development, project management and research & development experience with base metals, precious metals, ferrous metals and industrial minerals. I have served as the plant superintendent for several gold and base metal mining operations. Additionally, I have been involved with numerous third-party due diligence audits, and preparation of project conceptual, pre-feasibility and full-feasibility studies.
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.
5. I visited the Segovia property on December 3, 2019 for 2 days.
6. I am responsible for the preparation of Mineral Processing, Metallurgical Testing and Recovery Sections 1.4, 1.8, 5.5.6, 13, 17, 25.3 and 26.3 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is was the preparation of the report titled "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

"Signed and Sealed"

____

Eric Olin, MSc, MBA, RM-SME

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CERTIFICATE OF QUALIFIED PERSON

I, Jeff Osborn, BEng Mining, MMSAQP do hereby certify that:

1. I am a Principal Consultant (Mining Engineer) of SRK Consulting (U.S.), Inc., 1125 Seventeenth, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled ""NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia", with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a Bachelor of Science Mining Engineering degree from the Colorado School of Mines in 1986. I am a Qualified Professional (QP) Member of the Mining and Metallurgical Society of America. I have worked as a Mining Engineer for a total of 33 years since my graduation from university. My relevant experience includes responsibilities in operations, maintenance, engineering, management, and construction activities.
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.
5. I visited the Segovia property on March 11, 2020 for two days, on October 1, 2018 for three days, and on February 6, 2018 for two days.
6. I am responsible for Infrastructure, Capital and Operating Costs, Economic Analysis and general report Sections 1.9, 1.11, 1.12, 2, 3, 5.5 (except 5.5.4 and 5.5.6), 18 (except for 18.2), 19, 21, 22, 24, 25.4, 25.5, 25.6, 25.8, 26.4.1, 26.5.2, 26.7, 27, and 28.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is QP authorship of sections of the previous NI 43-101 Technical reports including, "Amended NI 43-101 Technical Report Prefeasibility Study Update, Segovia Project, Columbia" with an Effective Date of December 31, 2018 and an amended Report Date of July 8, 2019, "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017, with an Effective date of December 31, 2018 and a Report Date of May 10, 2018, and "NI 43-101 Technical Report, Preliminary Economic Assessment, Segovia Project, Colombia" with an Effective Date of August 7, 2017 and a Report Date of September 28, 2017.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14 Day of May, 2020

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CERTIFICATE OF QUALIFIED PERSON

I, Benjamin Parsons, MSc, MAusIMM (CP) do hereby certify that:

1. I am a Practice Leader and Principal Consultant (Resource Geology) of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a degree in Exploration Geology from Cardiff University, UK in 1999. In addition, I have obtained a Masters degree (MSc) in Mineral Resources from Cardiff University, UK in 2000 and have worked as a geologist for a total of 19 years since my graduation from university. I am a member of the Australian Institution of Materials Mining and Metallurgy (Membership Number 222568) and I am a Chartered Professional.
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.
5. I visited the Segovia property on August 21, 2018 for three days, on April 11, 2018 for two days, on January 22, 2018 for three days and on February 6, 2017 for four days.
6. I am responsible for the Property, Geology and Mineral Resources Sections 1.1 through 1.3, 1.5, 4 (except for 4.5), 5 (except 5.5), 6 through 12, 14, 23, 25.1 and 26.1.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is as an author and QP on the "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2018, "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018, "NI 43-101 Technical Report, Mineral Resource Estimate, Segovia Project, Colombia," with a Effective Date of March 15, 2017 and a Report Date of June 5, 2017, and, "NI 43-101 Technical Report, Preliminary Economic Assessment, Segovia Project, Colombia" with an Effective Date of August 7, 2017 and a Report Date of September 28, 2017.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

"Signed and Sealed"

____

Benjamin Parsons, MSc, MAusIMM
Practice Leader/Principal Consultant (Resource Geology)

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CERTIFICATE OF QUALIFIED PERSON

I, Cristian A. Pereira Farias, SME-RM, do hereby certify that:

1. I am a Principal Consultant (Hydrogeologist) of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a degree in Bachelors of Science in Geology from Universidad de Chile in 1999. I am a registered member of the Society for Mining, Metallurgy, and Exploration. I have worked as a hydrogeologist for a total of 20 years since my graduation from university. My relevant experience includes the developing conceptual and numerical hydrogeological models, the evaluation of groundwater resources, mine dewatering requirements, environmental impacts of mining, pit lake infilling, brine extraction, and pore pressure analyses.
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.
5. I visited the Segovia property on August 9, 2020 for three days.
6. I am responsible for hydrogeological Sections 16.5, 16.7, 26.5.3 and groundwater and dewatering portions of 1.7 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is QP authorship of the reports titled, ""NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2018, "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

"Signed and Sealed"

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Principal Consultant (Hydrogeologist)

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CERTIFICATE OF QUALIFIED PERSON

I, Fernando Rodrigues, BS Mining, MBA, MMSAQP do hereby certify that:

1. I am Practice Leader and Principal Consultant (Mining Engineer) of SRK Consulting (U.S.), Inc., 1125 Seventeenth Street, Suite 600, Denver, CO, USA, 80202.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with a Bachelors of Science degree in Mining Engineering from South Dakota School of Mines and Technology in 1999. I am a QP member of the MMSA. I have worked as a Mining Engineer for a total of 21 years since my graduation from South Dakota School of Mines and Technology in 1999. My relevant experience includes mine design and implementation, short term mine design, dump design, haulage studies, blast design, ore control, grade estimation, database management, multiple PEA, PFS, FS studies.
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.
5. I visited the Segovia property on March 11, 2020 for two days, on February 19, 2020 for two days, on February 7, 2019 for two days, on January 7, 2019 for three days, on February 6, 2018 for two days, on June 11, 2018 for three days, on November 11, 2018 for 10 days, on October 25, 2017 for three days, on September 11, 2017 for one day, on July 24, 2017 for one day, on May 8, 2017 for one day and on March 13, 2017 for two days.
6. I am responsible for Mining and Mineral Reserves Sections 1.6, 1.7 (except for groundwater and dewatering), 15, 16 (except for 16.4, 16.5, 16.7 and 16.8), 25.2, and 26.2of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2018, "NI 43-101 Technical Report, Prefeasibility Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018, "NI 43-101 Technical Report, Mineral Resource Estimate, Segovia Project, Colombia," with a Effective Date of March 15, 2017 and a Report Date of June 5, 2017, and, "NI 43-101 Technical Report, Preliminary Economic Assessment, Segovia Project, Colombia" with an Effective Date of August 7, 2017 and a Report Date of September 28, 2017.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

"Signed and Sealed"

____

Fernando Rodrigues, BS Mining, MBA, MMSAQP [01405QP]
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CERTIFICATE OF QUALIFIED PERSON

I, Joshua D. Sames, P.E. Civil, B.Sc., do hereby certify that:

1. I am Senior Consultant at SRK Consulting (U.S.), Inc., 5250 Neil Road, Suite 300, Reno, NV, USA 89502.
2. This certificate applies to the technical report titled “NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia” with an Effective Date of December 31, 2019 (the “Technical Report”).
3. I graduated with a degree in Civil Engineering from University of Newcastle Australia in 2005. I am a registered Professional Engineer in the State of Nevada (PE No. 22346). I have worked as an engineer for a total of 14 years. My relevant experience includes site investigations, conceptual and detailed design, construction supervision, management and operational assessments, mine reclamation permitting and closure design and permitting at mining properties in the western United States and South and Central America.
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.
5. I visited the Segovia property on January 28, 2020 for a two day guided site visit and site meeting.
6. I am responsible for Tailings Sections 1.9, 5.5.4, 18.2, and 26.4.2. and part of Section 25.5 of the Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had prior involvement with the property that is the subject of the Technical Report as QP author of the technical report titled “NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia” with an Effective Date of December 31, 2018.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May, 2020.

“Signed and Sealed”

Joshua D. Sames P.E.
Senior Consultant

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CERTIFICATE OF QUALIFIED PERSON

I, Mark Allan Willow, MSc, CEM, SME-RM do hereby certify that:

1. I am Practice Leader/Principal Environmental Scientist of SRK Consulting (U.S.), Inc., 5250 Neil Road, Reno, Nevada 89502.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2019 (the "Technical Report").
3. I graduated with Bachelor's degree in Fisheries and Wildlife Management from the University of Missouri in 1987 and a Master's degree in Environmental Science and Engineering from the Colorado School of Mines in 1995. I have worked as Biologist/Environmental Scientist for a total of 25 years since my graduation from university. My relevant experience includes environmental due diligence/competent persons evaluations of developmental phase and operational phase mines through the world, including small gold mining projects in Panama, Senegal, Peru, Ecuador, Philippines, and Colombia; open pit and underground coal mines in Russia; several large copper and iron mines and processing facilities in Mexico and Brazil; bauxite operations in Jamaica; and a coal mine/coking operation in China. My Project Manager experience includes several site characterization and mine closure projects. I work closely with the U.S. Forest Service and U.S. Bureau of Land Management on permitting and mine closure projects to develop uniquely successful and cost effective closure alternatives for the abandoned mining operations. Finally, I draw upon this diverse background for knowledge and experience as a human health and ecological risk assessor with respect to potential environmental impacts associated with operating and closing mining properties, and have experienced in the development of Preliminary Remediation Goals and hazard/risk calculations for site remedial action plans under CERCLA activities according to current U.S. EPA risk assessment guidance.
4. I am a Certified Environmental Manager (CEM) in the State of Nevada (#1832) in accordance with Nevada Administrative Code NAC 459.970 through 459.9729. Before any person consults for a fee in matters concerning: the management of hazardous waste; the investigation of a release or potential release of a hazardous substance; the sampling of any media to determine the release of a hazardous substance; the response to a release or cleanup of a hazardous substance; or the remediation soil or water contaminated with a hazardous substance, they must be certified by the Nevada Division of Environmental Protection, Bureau of Corrective Action;
5. I am a Registered Member (No. 4104492) of the Society for Mining, Metallurgy & Exploration Inc. (SME).
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 Segovia property on November 29-30, 2016.
8. I am responsible for Environmental Studies, Permitting and Social or Community impact Sections 1.10, 4.5, 20 (except 20.1.3), 25.7, and 26.6 of the Technical Report.
9. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101
10. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement is "NI 43-101 Technical Report, Prefeasibility Study Update, Segovia Project, Colombia" with an Effective Date of December 31, 2018, "NI 43-101 Technical Report, Prefeasibility

Study, Segovia Project, Colombia" with an Effective Date of December 31, 2017 and a Report Date of May 10, 2018, "NI 43-101 Technical Report, Mineral Resource Estimate, Segovia Project, Colombia," with a Effective Date of March 15, 2017 and a Report Date of June 5, 2017, and, "NI 43-101 Technical Report, Preliminary Economic Assessment, Segovia Project, Colombia" with an Effective Date of August 7, 2017 and a Report Date of September 28, 2017.

11. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
12. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 14th Day of May 2020.

"Signed and Sealed"

____

Mark Allan Willow, MSc, CEM, SME-RM [4104492]
Practice Leader/Principal Environmental Scientist

Appendix B: Detailed Production Scheduled Information and Yearly Mine Progression

srk consulting

Providencia	Units	Totals	1/1/2020	2/1/2020	3/1/2020	4/1/2020	5/1/2020	6/1/2020	7/1/2020	8/1/2020	9/1/2020	10/1/2020	11/1/2020	12/1/2020
Total Ore Tonnes	(t)	299,288	12,644	11,687	11,475	11,217	12,125	11,360	10,056	11,037	12,866	13,374	12,360	13,772
Total Ore Au	(g/t)	14.39	17.71	22.40	24.61	17.26	16.08	15.15	18.43	18.56	15.13	15.17	19.51	19.78
Total Ore oz insitu	(oz)	138,503	7,198	8,416	9,078	6,224	6,269	5,534	5,959	6,585	6,260	6,524	7,753	8,760
TPD	(t)		**407.87**	**403**	**370**	**374**	**391**	**379**	**324**	**356**	**429**	**431**	**412**	**444**
Owner Ore Tonnes	(t)	240,007	9,884	9,248	9,305	9,117	9,955	9,260	7,886	8,867	10,766	11,170	10,260	11,602
Owner Ore Au	(g/t)	13.73	17.03	22.12	24.39	17.82	16.04	14.90	19.03	19.12	14.91	14.70	19.72	20.03
Owner Au Oz Mined	(oz)	105,910	5,413	6,577	7,297	5,224	5,135	4,437	4,825	5,451	5,162	5,280	6,505	7,470
Waste Tonnes	(t)	20,518	1,767	1,653	1,535	1,514	1,932	1,870	1,972	2,028	1,457	1,146	1,029	575
Owner Cut & Fill Tonnes	(t)	44,193	3,255	3,045	3,255	2,848	2,170	2,100	2,170	2,170	2,100	2,170	2,846	4,340
Owner Cut & Fill Au	(g/t)	24.19	23.90	34.41	31.15	22.58	26.33	21.24	20.25	22.96	22.73	22.68	22.65	23.61
Owner Cut & Fill	(oz)	34,366	2,501	3,369	3,260	2,067	1,837	1,434	1,413	1,602	1,535	1,582	2,072	3,294
Owner Room & Pillar Tonnes	(t)	195,814	6,629	6,203	6,050	6,269	7,785	7,160	5,716	6,697	8,666	9,000	7,415	7,262
Owner Room & Pillar Au	(g/t)	11.36	13.66	16.09	20.76	15.66	13.18	13.04	18.56	17.88	13.02	12.78	18.59	17.88
Owner Room & Pillar Oz	(oz)	71,544	2,912	3,208	4,038	3,157	3,298	3,003	3,412	3,849	3,628	3,698	4,433	4,176
Masora Contractor - Tonnes	(t)	59,281	2,760	2,439	2,170	2,100	2,170	2,100	2,170	2,170	2,100	2,204	2,100	2,170
Masora Au	(g/t)	17.10	20.12	23.46	25.52	14.80	16.26	16.26	16.26	16.26	16.26	17.57	18.49	18.49
Masora Contractor Oz	(oz)	32,593	1,785	1,839	1,780	999	1,134	1,098	1,134	1,134	1,098	1,245	1,248	1,290
Development Total	(m)	1,545	112	105	103	108	132	128	130	133	98	88	83	71
Tambores (TBR)	(m)	1,071	61	57	61	70	81	79	76	77	59	63	62	71
SIL meters (SIL)	(m)	410	51	48	42	38	51	49	34	25	25	25	21	
Cruzada (XC)	(m)	64							20	31	14			

Providencia	Units	1/1/2021	2/1/2021	3/1/2021	4/1/2021	5/1/2021	6/1/2021	7/1/2021	8/1/2021	9/1/2021	10/1/2021	11/1/2021	12/1/2021	1/1/2022	2/1/2022	3/1/2022
Total Ore Tonnes	(t)	14,681	12,320	13,789	14,098	13,658	10,215	9,433	9,289	8,055	8,365	8,010	8,286	9,240	7,579	8,297
Total Ore Au	(g/t)	13.50	13.71	12.50	9.69	10.22	10.30	8.95	8.17	8.42	8.44	8.81	9.17	14.48	12.51	10.01
Total Ore oz insitu	(oz)	6,371	5,431	5,540	4,394	4,488	3,382	2,714	2,439	2,181	2,270	2,269	2,442	4,302	3,049	2,671
TPD	(t)	**474**	**440**	**445**	**470**	**441**	**341**	**304**	**300**	**268**	**270**	**267**	**267**	**298**	**271**	**268**
Owner Ore Tonnes	(t)	12,511	10,360	11,436	11,981	11,418	8,115	7,130	7,119	5,955	6,195	5,910	6,116	7,047	5,451	5,941
Owner Ore Au	(g/t)	12.63	12.81	11.05	9.27	9.78	8.15	6.62	6.20	6.24	6.28	6.75	6.66	14.46	11.02	6.59
Owner Au Oz Mined	(oz)	5,081	4,266	4,062	3,569	3,590	2,126	1,518	1,420	1,194	1,250	1,282	1,310	3,276	1,931	1,258
Waste Tonnes	(t)	428	298	330	466	184	160	165	10							
Owner Cut & Fill Tonnes	(t)	3,104	1,960	2,847	2,100	1,713										
Owner Cut & Fill Au	(g/t)	27.67	31.53	19.37	15.76	14.80										
Owner Cut & Fill	(oz)	2,761	1,987	1,773	1,064	815										
Owner Room & Pillar Tonnes	(t)	9,407	8,400	8,589	9,881	9,705	8,115	7,130	7,119	5,955	6,195	5,910	6,116	7,047	5,451	5,941
Owner Room & Pillar Au	(g/t)	7.67	8.44	8.29	7.88	8.89	8.15	6.62	6.20	6.24	6.28	6.75	6.66	14.46	11.02	6.59
Owner Room & Pillar Oz	(oz)	2,320	2,279	2,289	2,505	2,775	2,126	1,518	1,420	1,194	1,250	1,282	1,310	3,276	1,931	1,258
Masora Contractor - Tonnes	(t)	2,170	1,960	2,353	2,117	2,240	2,100	2,303	2,170	2,100	2,170	2,100	2,170	2,192	2,128	2,356
Masora Au	(g/t)	18.49	18.49	19.54	12.12	12.48	18.60	16.15	14.61	14.61	14.61	14.61	16.23	14.54	16.34	18.65
Masora Contractor Oz	(oz)	1,290	1,165	1,478	825	898	1,256	1,196	1,020	987	1,020	987	1,132	1,025	1,118	1,412
Development Total	(m)	53	37	41	58	23	20	20	1							
Tambores (TBR)	(m)	53	37	41	58	23	20	20	1							
SIL meters (SIL)	(m)															
Cruzada (XC)	(m)															

Providencia	Units	3/1/2022	4/1/2022	5/1/2022	6/1/2022	7/1/2022
Total Ore Tonnes	(t)	8,297	6,809	7,153	4,589	1,663
Total Ore Au	(g/t)	10.01	10.49	11.41	13.37	30.03
Total Ore oz insitu	(oz)	2,671	2,297	2,624	1,973	1,605
TPD	(t)	**268**	**227**	**231**	**153**	**54**
Owner Ore Tonnes	(t)	5,941	4,709	4,983	2,453	
Owner Ore Au	(g/t)	6.59	6.83	8.13	7.83	
Owner Au Oz Mined	(oz)	1,258	1,035	1,302	617	
Waste Tonnes	(t)					
Owner Cut & Fill Tonnes	(t)					
Owner Cut & Fill Au	(g/t)					
Owner Cut & Fill	(oz)					
Owner Room & Pillar Tonnes	(t)	5,941	4,709	4,983	2,453	
Owner Room & Pillar Au	(g/t)	6.59	6.83	8.13	7.83	
Owner Room & Pillar Oz	(oz)	1,258	1,035	1,302	617	
Masora Contractor - Tonnes	(t)	2,356	2,100	2,170	2,136	1,663
Masora Au	(g/t)	18.65	18.70	18.95	19.74	30.03
Masora Contractor Oz	(oz)	1,412	1,263	1,322	1,356	1,605
Development Total	(m)					
Tambores (TBR)	(m)					
SIL meters (SIL)	(m)					
Cruzada (XC)	(m)					

Carla	Units	01/2019	02/2019	03/2019	04/2019	05/2019	06/2019	07/2019	08/2019	09/2019	10/2019	11/2019	12/2019	01/2020	02/2020	03/2020	04/2020	05/2020	06/2020	07/2020	08/2020	09/2020	10/2020	11/2020	12/2020	01/2021	02/2021	03/2021	04/2021
Total Ore Tonnes	(t)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Ore Au	(g/t)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Au Oz Mined	(oz)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waste Tonnes	(t)	-	-	-	-	-	-	-	-	-	-	-	-	888	1,088	1,088	1,053	1,298	1,527	1,149	1,088	1,018	1,092	1,527	1,379	1,371	316	448	656
Development Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	24.90	30.49	30.49	29.51	47.95	68.85	35.60	30.49	28.53	30.82	68.85	53.41	70.69	22.62	35.02	52.51
Apique (6mx2.5m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	24.90	30.49	30.49	29.51	30.49	29.51	30.49	30.49	28.53	30.49	29.51	30.49	21.16	-	-	-
Development Drift Meters (2.2mx2.3m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.46	39.34	5.10	-	-	0.32	39.34	15.09	39.14	-	21.45	40.12
Pocket Meters (2.7m dia)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.83	10.38	22.62	13.57	12.39
Vent Raise Meters (2.5mx2.5m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tambores Meters (2mx2m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Carla	Units	05/2021	06/2021	07/2021	08/2021	09/2021	10/2021	11/2021	12/2021	01/2022	02/2022	03/2022	04/2022	05/2022	06/2022	07/2022	08/2022	09/2022	10/2022	11/2022	12/2022	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023
Total Ore Tonnes	(t)	-	-	-	-	-	-	808	1,085	1,919	3,767	5,265	5,250	5,338	5,250	5,425	5,425	5,459	5,425	5,250	5,446	5,443	5,411	5,243	5,250	5,425	5,351	4,777	3,991
Total Ore Au	(g/t)	-	-	-	-	-	-	9.21	9.21	9.64	13.59	12.90	12.81	12.89	12.92	12.92	12.92	12.47	12.72	12.72	12.66	8.52	6.90	5.97	5.93	5.93	5.78	5.90	6
Total Au Oz Mined	(oz)	-	-	-	-	-	-	239	321	595	1,646	2,183	2,162	2,211	2,180	2,253	2,253	2,189	2,219	2,148	2,216	1,491	1,200	1,006	1,002	1,035	994	906	770
Waste Tonnes	(t)	979	947	979	979	1,762	1,533	1,192	489	474	489	72	-	657	474	489	818	488	702	995	741	38	268	418	474	383	105	67	125
Development Meters	(m)	81.31	78.69	81.31	81.31	118.96	102.50	81.90	40.66	39.34	40.66	6.01	-	58.44	39.34	40.66	75.16	41.54	58.35	84.88	70.06	4.04	28.14	34.73	39.34	39.22	11.04	6.99	13.09
Apique (6mx2.5m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Drift Meters (2.2mx2.3m)	(m)	81.31	78.69	81.31	81.31	50.69	40.66	39.34	40.66	39.34	40.66	6.01	-	39.89	39.34	40.66	40.66	36.72	58.35	74.25	19.43	-	-	34.73	39.34	3.93	-	-	-
Pocket Meters (2.7m dia)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vent Raise Meters (2.5mx2.5m)	(m)	-	-	-	-	68.27	61.85	42.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tambores Meters (2mx2m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	34.50	4.82	-	10.64	50.62	4.04	28.14	0.00	0.00	35.29	11.04	6.99	13.09

Carla	Units	09/2023	Totals
Total Ore Tonnes	(t)	2,004	**186,853**
Total Ore Au	(g/t)	6.63	**8.30**
Total Au Oz Mined	(oz)	427	**49,844**
Waste Tonnes	(t)	-	**298,277**
Development Meters	(m)	-	**23,905**
Apique (6mx2.5m)	(m)	-	**94,868**
Development Drift Meters (2.2mx2.3m)	(m)	-	**-**
Pocket Meters (2.7m dia)	(m)	-	**25,939**
Vent Raise Meters (2.5mx2.5m)	(m)	-	**91,986**
Tambores Meters (2mx2m)	(m)	-	**-**

Sandra K	Units	01/2019	02/2019	03/2019	04/2019	05/2019	06/2019	07/2019	08/2019	09/2019	10/2019	11/2019	12/2019
Total Ore Tonnes	(t)	3,725	4,360	4,340	4,133	4,415	4,544	4,570	4,560	4,541	4,660	4,559	4,593
Total Ore Au	(g/t)	6.72	6.79	6.84	7.22	7.43	7.09	7.56	7.81	7.46	8.23	8.48	8.82
Total Au Oz Mined	(oz)	805	951	954	959	1,055	1,035	1,111	1,145	1,090	1,233	1,243	1,303
Waste Tonnes	(t)	1,592	2,169	3,208	3,299	2,577	1,924	2,210	2,141	2,352	2,196	2,041	2,225
Development Meters Total	(m)	84.17	105.96	142.30	148.35	130.58	122.95	137.12	137.37	159.95	147.29	137.16	146
Apique Meters (apq) - Various	(m)	45.74	41.31	45.74	44.26	45.74	44.26	80.47	75.68	44.26	47.21	19.67	20.33
Development Drift Meters (dft)	(m)	38.43	36.72	40.66	28.49	55.36	78.69	51.58	51.38	90.08	80.16	78.69	69.51
Pocket Meters (pkt)	(m)	-	-	-	-	-	-	5.07	10.31	7.59	6.86	7.84	16.29
Vent Raise Meters (vnt) (3.5mx3.5m)	(m)	-	27.93	55.90	54.10	29.47	-	-	-	-	-	-	-
Tambores Meters (tam)(1.8mx1.8m)	(m)	-	-	-	21.49	-	-	-	-	18.02	13.06	30.96	39.88

Sandra K	Units	01/2020	02/2020	03/2020	04/2020	05/2020	06/2020	07/2020	08/2020	09/2020	10/2020	11/2020	12/2020	01/2021	02/2021	03/2021	04/2021
Total Ore Tonnes	(t)	5,044	4,928	5,052	4,957	4,936	4,950	4,977	4,951	4,907	4,963	5,002	4,961	4,968	4,951	4,966	4,942
Total Ore Au	(g/t)	8.49	9.51	9.30	9.90	10.06	11.11	11.19	11.54	13.03	11.37	11.05	11.48	12.32	11.07	10.61	11.61
Total Au Oz Mined	(oz)	1,377	1,507	1,511	1,577	1,596	1,769	1,790	1,837	2,056	1,814	1,776	1,832	1,968	1,762	1,694	1,844
Waste Tonnes	(t)	1,703	1,415	1,437	1,418	1,372	2,736	2,207	2,247	2,029	826	687	800	411	-	-	-
Development Meters Total	(m)	128.27	110.51	112.70	110.14	107.09	209.06	178.41	181.15	162.99	63.18	53.41	61.24	28.10	-	-	-
Apique Meters (apq) - Various	(m)	6.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Drift Meters (dft)	(m)	93.36	76.07	81.31	78.69	81.31	136.51	162.62	162.62	144.16	41.70	39.34	40.66	2.44	-	-	-
Pocket Meters (pkt)	(m)	7.34	9.85	8.10	2.80	-	-	-	-	-	-	-	-	-	-	-	-
Vent Raise Meters (vnt) (3.5mx3.5m)	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tambores Meters (tam)(1.8mx1.8m)	(m)	21.31	24.59	23.29	28.65	25.78	72.55	15.79	18.53	18.83	21.48	14.06	20.58	25.66	-	-	-

Sandra K	Units	05/2021	06/2021	07/2021	08/2021	09/2021	10/2021	11/2021	12/2021	Totals
Total Ore Tonnes	(t)	4,982	4,918	4,942	4,937	4,969	4,805	4,709	4,123	**170,840**
Total Ore Au	(g/t)	10.73	10.49	11.91	12.62	11.83	9.38	9.21	9.91	**9.82**
Total Au Oz Mined	(oz)	1,718	1,659	1,892	2,004	1,891	1,449	1,394	1,313	**53,914**
Waste Tonnes	(t)	-	-	-	-	-	-	-	-	**47,222**
Development Meters Total	(m)	-	-	-	-	-	-	-	-	**3,105**
Apique Meters (apq) - Various	(m)	-	-	-	-	-	-	-	-	**561**
Development Drift Meters (dft)	(m)	-	-	-	-	-	-	-	-	**1,841**
Pocket Meters (pkt)	(m)	-	-	-	-	-	-	-	-	**82**
Vent Raise Meters (vnt) (3.5mx3.5m)	(m)	-	-	-	-	-	-	-	-	**167**
Tambores Meters (tam)(1.8mx1.8m)	(m)	-	-	-	-	-	-	-	-	**455**

srk consulting

El Silencio	Units	01/2019	02/2019	03/2019	04/2019	05/2019	06/2019	07/2019	08/2019	09/2019	10/2019	11/2019	12/2019	01/2020	02/2020	03/2020	04/2020	05/2020	06/2020	07/2020	08/2020	09/2020	10/2020	11/2020	12/2020	01/2021	02/2021	03/2021	04/2021
Total Ore Tonnes	(t)	15,657	15,822	15,788	16,033	15,956	15,912	15,920	16,020	15,957	15,952	15,986	16,432	17,095	18,107	19,123	20,130	20,094	20,065	20,035	20,058	19,749	20,066	19,224	19,145	19,017	19,041	19,063	19,047
Total Ore Au	(g/t)	15.54	15.10	15.04	14.75	14.72	14.84	14.96	15.00	15.04	15.50	15.35	13.54	13.65	12.74	12.37	12.14	11.89	11.80	11.75	11.73	11.37	11.34	11.24	10.66	10.70	10.59	10.77	10.65
Total Au Oz Mined	(oz)	7,823	7,681	7,634	7,601	7,551	7,592	7,659	7,724	7,718	7,949	7,887	7,155	7,503	7,414	7,607	7,858	7,679	7,612	7,568	7,564	7,219	7,319	6,946	6,563	6,544	6,485	6,598	6,520
Waste Tonnes	(t)	5,108	5,528	6,126	6,197	4,932	4,949	4,566	4,587	2,829	3,551	2,645	1,326	1,057	1,558	1,273	1,228	1,459	1,222	1,684	1,796	2,298	2,800	2,232	2,284	2,636	2,322	2,427	2,262
Development Meters Total	(m)	169	182	199	196	186	188	158	155	132	134	120	64	79	97	72	69	91	70	105	115	145	173	151	171	208	187	198	187
Access Meters	(m)	-	20	-	29	39	-	-	-	39	33	2	-	39	30	-	-	30	4	-	-	26	3	-	27	30	32	-	4
Camara Meters	(m)	24	14	12	53	1	21	3	7	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CPZ Meters	(m)	8	-	40	54	77	34	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENS Meters	(m)	-	-	-	-	1	49	51	51	49	51	49	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pocket Meters	(m)	-	-	-	-	6	10	10	4	12	12	11	-	-	10	11	10	1	8	13	13	5	-	12	22	26	13	5	-
Ramp Meters	(m)	101	116	122	59	61	59	61	61	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sills Drift Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	41	39	78	79	81	121	115	163	153
Apique Meters	(m)	36	32	26	-	-	13	30	31	30	30	58	33	40	57	61	59	61	59	61	61	75	91	60	41	30	28	30	30
Contractor Ore Tonnes	(t)	8,099	8,081	7,997	8,090	8,097	8,066	8,082	8,107	8,092	8,097	8,039	8,134	8,056	8,067	8,054	8,060	8,060	8,058	8,025	8,036	8,036	8,021	8,009	8,026	8,021	8,011	8,043	8,006
Contractor Ore Au	(g/t)	25.81	25.15	25.14	23.78	23.34	23.63	23.59	23.93	23.96	23.89	23.85	19.90	19.14	17.36	17.09	16.76	16.26	15.97	15.99	15.96	14.74	14.62	13.55	12.11	12.70	12.60	12.81	12.75
Owner Ore Tonnes	(t)	7,558	7,741	7,792	7,943	7,859	7,847	7,838	7,913	7,865	7,855	7,947	8,298	9,039	10,040	11,069	12,070	12,034	12,007	12,010	12,022	11,713	12,045	11,215	11,119	10,997	11,030	11,020	11,041
Owner Ore Au	(g/t)	4.54	4.60	4.67	5.55	5.84	5.81	6.06	5.84	5.87	6.85	6.75	7.31	8.76	9.02	8.94	9.06	8.96	9	8.92	8.90	9.05	9.16	9.59	9.62	9.25	9.13	9.27	9.12

El Silencio	Units	05/2021	06/2021	07/2021	08/2021	09/2021	10/2021	11/2021	12/2021	01/2022	02/2022	03/2022	04/2022	05/2022	06/2022	07/2022	08/2022	09/2022	10/2022	11/2022	12/2022	01/2023	02/2023	03/2023	04/2023	05/2023	06/2023	07/2023	08/2023
Total Ore Tonnes	(t)	19,040	19,047	19,032	19,034	19,048	18,999	19,072	18,975	26,754	26,845	28,123	27,140	27,204	26,277	26,731	26,659	26,699	26,764	26,732	26,699	26,788	26,730	26,756	26,680	26,843	26,847	26,789	26,875
Total Ore Au	(g/t)	10.87	10.83	10.71	10.76	10.98	10.66	10.50	10.22	8.64	8.79	8.63	7.79	7.31	6.09	6.22	6.09	6.53	6.22	5.83	5.82	5.83	5.86	5.76	5.38	5.14	5.00	5.03	**4.95**
Total Au Oz Mined	(oz)	6,652	6,630	6,552	6,583	6,722	6,509	6,439	6,237	7,431	7,583	7,804	6,801	6,393	5,148	5,346	5,217	5,608	5,349	5,010	4,992	5,017	5,036	4,955	4,619	4,432	4,316	4,334	4,275
Waste Tonnes	(t)	1,327	944	975	538	478	494	466	480	480	434	480	186	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Development Meters Total	(m)	109	74	76	44	39	41	35	36	36	32	36	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Access Meters	(m)	41	2	-	-	-	38	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Camara Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CPZ Meters	(m)	-	33	36	3	-	-	31	36	36	32	36	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ENS Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pocket Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ramp Meters	(m)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sills Drift Meters	(m)	67	39	41	41	39	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Apique Meters	(m)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Ore Tonnes	(t)	8,061	8,029	8,021	8,028	8,033	8,033	8,037	8,041	8,004	7,936	7,986	5,766	3,064	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Contractor Ore Au	(g/t)	13.22	13.08	13.00	12.90	12.61	13.03	12.37	12.88	12.18	13.22	13.24	11.97	12.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owner Ore Tonnes	(t)	10,979	11,018	11,011	11,006	11,015	10,966	11,035	10,934	18,750	18,908	20,138	21,374	24,140	26,277	26,731	26,659	26,699	26,764	26,732	26,699	26,788	26,730	26,756	26,680	26,843	26,847	26,789	26,875
Owner Ore Au	(g/t)	9.14	9.19	9.04	9.20	9.79	8.91	9.14	8.27	7.13	6.92	6.80	6.67	6.69	6.09	6.22	6.09	6.53	6.22	5.83	5.82	5.83	5.86	5.76	5.38	5.14	5.00	5.03	4.95

El Silencio	Units	09/2023	10/2023	11/2023	12/2023	Totals
Total Ore Tonnes	(t)	27,791	25,098	14,740	10,703	**1,268,008**
Total Ore Au	(g/t)	4.85	4.79	4.41	4.16	**9.34**
Total Au Oz Mined	(oz)	4,333	3,868	2,090	1,431	**380,685**
Waste Tonnes	(t)	-	-	-	-	**90,164**
Development Meters Total	(m)	-	-	-	-	**4,573**
Access Meters	(m)	-	-	-	-	**471**
Camara Meters	(m)	-	-	-	-	**143**
CPZ Meters	(m)	-	-	-	-	**472**
ENS Meters	(m)	-	-	-	-	**332**
Pocket Meters	(m)	-	-	-	-	**214**
Ramp Meters	(m)	-	-	-	-	**641**
Sills Drift Meters	(m)	-	-	-	-	**1,131**
Apique Meters	(m)	-	-	-	-	**1,164**
Contractor Ore Tonnes	(t)	-	-	-	-	**322,609**
Contractor Ore Au	(g/t)	-	-	-	-	**17.01**
Owner Ore Tonnes	(t)	27,791	25,098	14,740	10,703	**945,402**
Owner Ore Au	(g/t)	4.85	4.79	4.41	4.16	**6.72**

Appendix C: Annual TEM Detail

BUSINESS UNIT	Segovia Gold									
OPERATION	Q1 2020 Costs & Prices									
Period		units /	Total	2020	2021	2022	2023	2024	2025	2026
Project Timeline		sensit.	or Avg.	1	2	3	4	5	6	7
Discount Factors	EOP @ 5%		(Start January, 2020)	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462
Market Prices										
Gold (US$/oz)	1.00	$/oz	$1,350	$1,350	$1,350	$1,350	$1,350	$1,350	$1,350	$1,350
Silver (US$/oz)	1.00	$/oz	$17.00	$17.00	$17.00	$17.00	$17.00	$17.00	$17.00	$17.00
Physicals Summary										
Total Ore Mined		kt	1,985	465	504	418	264	272	63	-
Total Waste Mined		kt	264	111	93	59	1	-	-	-
Total Material Mined		kt	2,249	576	597	477	265	272	63	-
Total Ore Tons Processed		kt	1,985	465	504	418	264	272	63	-
Processed Ore Gold Grade		g/t	10.50	13.46	11.11	8.90	10.41	7.37	8.42	-
Processed Ore Silver Grade		g/t	-	-	-	-	-	-	-	-
Contained Gold, Processed		koz	670	201	180	120	88	64	17	-
Contained Silver, Processed		koz	-	-	-	-	-	-	-	-
Average Gold Recovery, Doré		% recovery	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	90.5%	-
Average Silver Recovery, Doré		% recovery	--	-	-	-	-	-	-	-
Recovered Gold, Doré		koz	607	182	163	108	80	58	15	-
Recovered Silver, Doré		koz	-	-	-	-	-	-	-	-
Doré		koz	607	182	163	108	80	58	15	-

BUSINESS UNIT	Segovia Gold
OPERATION	Q1 2020 Costs & Prices

Period		units /	Total	2020	2021	2022	2023	2024	2025	2026
Project Timeline		sensit.	or Avg.	1	2	3	4	5	6	7
Discount Factors	EOP @ 5%		(Start January, 2020)	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462
Cash Flow										
Gold Revenue	100%	$000s	819,008	245,744	220,021	146,062	107,811	78,560	20,809	-
Silver Revenue	0%	$000s	-	-	-	-	-	-	-	-
Gross Revenue		**$000s**	**819,008**	245,744	220,021	146,062	107,811	78,560	20,809	-
Gold Revenue		$000s	819,008	245,744	220,021	146,062	107,811	78,560	20,809	-
Gross Revenue After By-Product Credits		**$000s**	**819,008**	245,744	220,021	146,062	107,811	78,560	20,809	-
Mining Cost		$000s	(294,028)	(79,883)	(88,981)	(54,666)	(32,722)	(28,304)	(9,473)	-
Process Cost		$000s	(58,190)	(14,838)	(14,440)	(11,033)	(8,361)	(7,169)	(2,350)	-
Site G&A Cost		$000s	(46,546)	(11,406)	(9,982)	(8,783)	(8,727)	(5,496)	(2,152)	-
Smelting & Refining Charges		$000s	(4,095)	(1,229)	(1,100)	(730)	(539)	(393)	(104)	-
Impurities Penalties		$000s	-	-	-	-	-	-	-	-
Freight		$000s	-	-	-	-	-	-	-	-
By-Product Credits		$000s	-	-	-	-	-	-	-	-
Direct Cash Costs		**$000s**	**(402,860)**	(107,356)	(114,503)	(75,212)	(50,349)	(41,361)	(14,079)	-
Royalties		$000s	(28,829)	(8,650)	(7,745)	(5,141)	(3,795)	(2,765)	(732)	-
Total Operating Expense		$000s	**(431,689)**	(116,006)	(122,248)	(80,354)	(54,144)	(44,126)	(14,811)	-
Operating Margin		**$000s**	**387,318**	129,738	97,773	65,709	53,667	34,434	5,998	-
Earnings & Cash Flow										
Earnings Before Taxes & Depreciation		$000s	**387,318**	129,738	97,773	65,709	53,667	34,434	5,998	-
Depreciation Allowance		$000s	(82,500)	(21,036)	(18,918)	(16,254)	(10,090)	(11,191)	(5,010)	-
Other Non-Cash Tax Adjustments		$000s	-	-	-	-	-	-	-	-
Earnings Before Taxes		$000s	**304,818**	108,702	78,855	49,454	43,578	23,242	988	-
Income Tax		$000s	(89,280)	(33,209)	(22,328)	(13,735)	(12,273)	(6,605)	(1,130)	-
Net Income		**$000s**	**215,539**	75,493	56,527	35,719	31,304	16,638	(142)	-
Non-Cash Add Back - Depreciation		$000s	82,500	21,036	18,918	16,254	10,090	11,191	5,010	-
Working Capital		$000s	2,693	-	269	939	518	213	595	160
Operating Cash Flow		**$000s**	**300,732**	96,529	75,714	52,913	41,912	28,042	5,463	160
Capital										
Initial Capital		$000s	-	-	-	-	-	-	-	-
CAPEX		$000s	(149,667)	(47,829)	(37,103)	(26,316)	(16,214)	(8,211)	(13,996)	-
Other Capital		$000s	-	-	-	-	-	-	-	-
Total Capital		**$000s**	**(149,667)**	(47,829)	(37,103)	(26,316)	(16,214)	(8,211)	(13,996)	-
Acquisition Cost		**$000s**	**-**	-	-	-	-	-	-	-
Other Cash Flow Adjustments		**$000s**	**-**	-	-	-	-	-	-	-

BUSINESS UNIT	Segovia Gold									
OPERATION	Q1 2020 Costs & Prices									
Period		units /	Total	2020	2021	2022	2023	2024	2025	2026
Project Timeline		sensit.	or Avg.	1	2	3	4	5	6	7
Discount Factors	EOP @ 5%		(Start January, 2020)	1.0000	0.9524	0.9070	0.8638	0.8227	0.7835	0.7462
Summary Metrics										
Before-Tax Metrics										
O Free Cash flow		$000s	240,344	81,909	60,939	40,332	37,972	26,436	(7,403)	160
Cumulative Cash Flow		$000s		81,909	142,848	183,180	221,152	247,587	240,185	240,344
NPV @	5.00%	$000s	220,934	80,223	57,040	36,470	31,751	20,881	(5,431)	-
Cumulative NPV		$000s		80,223	137,263	173,734	205,484	226,365	220,934	220,934
After-Tax Metrics										
O Free Cash flow		$000s	151,065	48,700	38,611	26,597	25,699	19,831	(8,533)	160
Cumulative Cash Flow		$000s		48,700	87,311	113,908	139,607	159,437	150,905	151,065
NPV @	5.00%	$000s	138,836	47,736	36,242	24,201	21,379	15,592	(6,313)	-
Cumulative NPV		$000s		47,736	83,978	108,178	129,558	145,150	138,836	138,836
Operating Metrics										
Mine Life		Years	6							
Average Mining Rate (Ore + Waste)		MTPA	597							
Average Processing Rate		MTPA	504							
Mining Cost		$ / t ore	$ 148.14	$ 171.82	$ 176.52	$ 130.86	$ 124.14	$ 104.24	$ 150.48	$ -
Processing Cost		$ / t ore	$ 29.32	$ 31.92	$ 28.65	$ 26.41	$ 31.72	$ 26.40	$ 37.33	$ -
G&A Cost		$ / t ore	$ 23.45	$ 19.80	$ 16.72	$ 18.41	$ 32.98	$ 20.24	$ 34.18	$ -
Metal Sales (Payable Metal)										
LOM Gold Sales		koz	606.7	182.0	163.0	108.2	79.9	58.2	15.4	-
1st 5 Years Avg. Gold Sales		koz / yr	118.3							
Direct+Indirect Cash Costs (incl. By-Product Credits)										
LOM Cash Costs / tAu-oz		$ / Au-oz	$ 711.57	637.28	750.09	742.68	677.98	758.28	960.88	-