ANGLOGOLD ASHANTI LTD
Form 6-K
February 20, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549
FORM 6-K
REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

Report on Form 6-K dated February 19, 2019
Commission File Number 1-14846
AngloGold Ashanti Limited
(Name of registrant)
76 Rahima Moosa Street
Newtown, 2001
(P.O. Box 62117, Marshalltown, 2107)
South Africa
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F X
Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Yes
No X

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Yes
No X

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes
No X

Enclosure: Press release:

ANGLOGOLD ASHANTI LIMITED - RELEASE OF MAIDEN ORE RESERVE FOR QUEBRADONA

AngloGold Ashanti Limited
(Incorporated in the Republic of South Africa)
Reg. No. 1944/017354/06
ISIN. ZAE000043485 JSE share code: ANG
CUSIP: 035128206 NYSE share code: AU
JSE Bond Company Code - BIANG

19 February 2019

NEWS RELEASE

Release of maiden Ore Reserve for Quebradona

Copper (Attributable)

•
•
104.1Mt @ 1.21%Cu
Contained copper metal content of 1.26Mt (2,769Mlb)

Gold (Attributable)

•
•
104.1Mt @ 0.66g/t Au
Contained gold metal content of 2.22Moz

(JOHANNESBURG RELEASE) AngloGold Ashanti Limited (AGA) is pleased to announce the maiden Ore Reserve for the Quebradona Project. The Quebradona Project is a Joint Venture between AGA (94.876% and manager) and B2Gold (5.124%). The AngloGold Ashanti board has approved the project to proceed to a feasibility study (FS) phase.

The Quebradona project is situated in the Middle Cauca region of Colombia, in the Department of Antioquia, 60km south-west of Medellin (Figure 1).

Figure 1: Project Locality plan

Figure 2: Map showing the Quebradona integrated mining concession.

Property description

Quebradona is a project that completed a conceptual study (2016) and a prefeasibility study (PFS) (2019). It is a JV between AngloGold Ashanti (94.876%) and B2Gold (5.124%). Five main targets have been identified, namely Nuevo Chaquiro, Aurora, Tenedor, Isabela and La Sola. The most advanced of the targets, Nuevo Chaquiro, a significant copper-gold porphyry-style mineralised system, is one of five known porphyry centres on the property and has been the focus of exploration activities since the beginning of 2011 with more than 75km of drilling. Nuevo Chaquiro was the sole deposit considered in the PFS.

History

Exploration was carried out from 2004 by AngloGold Ashanti and then from 2006 to 2009 by B2Gold. In 2010 AngloGold Ashanti took management control and focused its exploration effort on Nuevo Chaquiro. In 2014 a maiden Mineral Resource was published for Nuevo Chaquiro and a conceptual study was initiated. The PFS was completed in January 2019. The FS is expected to be completed in 2020.

Legal aspects and tenure

Quebradona comprises one tenement (5881). It is the result of integration of the five original tenements (5869, 6318, 6359, 7579 and 5881). Integrated tenement 5881 was issued on the 9 December 2016 and totals 7,593ha.

Mining method

The Quebradona Project is a Greenfields project. The PFS concluded that Sub-Level-Caving (SLC) is the preferred mining method. The Nuevo Chaquiro deposit is considered to be medium to large, steep dipping, competent rock mass with higher grade material located at the top of the deposit which is approximately 200m below surface. The grade profile reduces with depth, thus making exploitation of the deposit amendable to SLC being a top down mining method. Drill and blast methods will be used to fracture the orebody commencing at the top and sequentially moving downwards with an inter-level spacing of 27.5m from 425m below surface to 975m below surface.

Operational infrastructure

The project is close to existing infrastructure such as the regional highway, power and water. The planned underground infrastructure consists of an adit to access the orebody and number of internal vertical ore passes that gravity feeds to the main ore transfer level. The material will be transferred to the main internal crusher by load and haul dump vehicles. Crushed material will then be transferred horizontally to surface via a 6km conveyor, in a dedicated adit to a single Coarse Ore Stockpile.

Mineral processing

PFS level testwork confirmed that the ore can be treated by a typical porphyry copper flotation circuit producing a copper/gold concentrate. The concentrate is clean and free of deleterious elements which would attract smelter penalties. The processing circuit includes primary crushing underground, secondary crushing, high pressure grinding rolls, ball milling, rougher-scavenger flotation for all elements (Cu, Au, Ag), followed by regrinding the concentrate and cleaning, firstly in conventional cells and then in columns. A further flotation stage removes pyrite to leave a non-acid producing flotation tails and a pyrite concentrate that can be stored in a lined and eventually sealed impoundment within the Tailings Storage Facility (TSF). Molybdenum, at present, is not planned for recovery.

The Quebradona process plant will be designed to treat approximately 6.2Mtpa underground ore to produce copper concentrate over a 23year mine life with provision of space for a Molybdenum plant in the future.

Risks

Several risks have been identified which if properly managed can be mitigated. Geological risk is considered low to moderate. About 89 % of the in-situ material mined within the Life of Mine (LOM) mining plan is classified as Indicated Mineral Resource including about 95 % mined within the defined payback period. Variability in copper grade is low, with high continuity. Security risk is considered low. Nuevo Chaquiro has a moderate seismic risk.

Other identified risks that will need to be mitigated include:

- Preventing schedule overruns both in the FS and in implementation
- Increasing geotechnical information levels
- Completing the final metallurgical test work
- Tailings
- Cost of earthworks
- Storage capacity in case of rain
- Seismic design criteria
- Financial:
- Labour costs understated

Environmental permits are expected to be forthcoming and will be progressed during the FS phase. Community surveys have identified local opposition to the project, though the project is listed by the national Government as a project of national interest. AngloGold Ashanti Colombia (AGAC) will continue to work with the community to address and mitigate concerns.

Project Summary

The project has several strengths both related to the deposit and the project itself:

Nuevo Chaquiro deposit:

- A significant copper-gold porphyry.
- One of the highest copper grade porphyrys among global producing and developing assets• .
- Favorable orebody geometry for caving with topographic advantages and good surface hydrology.
- Expected to produce a 'clean'copper concentrate with lower level of impurities.

Quebradona Project:

- Declared Project on National Interest (PINES)
- Limited resettlement is envisioned
- Low power cost. Project near the national power grid (distant to 20-25 km)
- Available water proximity to infustructure links with Colombia's largest port on the Pacific coast.

The project will produce a total of 2.9Blb of copper, 1.4Moz of gold and 21.6Moz of silver over mine life at a rate of between 110Mlbs and 160Mlbs of copper per annum. The gold production will drop from around an average of 90Koz in year 8 to a low of 38Koz in year 20. The project has a very low All in Sustaining Cost (AISC) of $0.88/lb (real terms) over the LOM and has a moderate All in Cost (AIC) of $1.23/lb (real terms).

The Quebradona project will yield a real, after-tax IRR of 17%, with an NPV (9.45) of $536m (real terms). Payback is achieved after 8 years after project implementation. The project capital will amount to $992m (real value).

“The project is technically robust and the metallurgy is particularly impressive with the high quality concentrate it produces.” Ludwig Eybers, AngloGold Ashanti's Chief Operating Officer International said. *“However, what really makes the project stand out from the pack is the low AISC which comes in at $0.88/lb.”*

Mineral Resource

The host rock geology of Nuevo Chaquiro consists of a volcanoclastic sequence of Miocene age (ash, tuffs, agglomerates and andesites) intruded by small dykes of diorite and quartz diorite, also of Miocene age. The intrusions are by various pulses of diorites with the primary intrusive being a fine to medium grained quartz diorite. Most of the intrusives do not outcrop. These intrusives are categorised into pre-mineral, early, intra-mineral and late, according to cross cutting relations, locality and copper-gold values. The developed alteration follows a well zoned porphyry type alteration system ranging from a high temperature, potassium silicate central zone (biotite, magnetite, chalcopyrite, and molybdenite), which trends into an overlying sericitic alteration zone (muscovite, chlorite, quartz, pyrite,+-tourmaline) surrounded by more distal propylitic alteration (chlorite, epidote, illite, carbonate). There is also an inner core of calcic-potassic alteration featuring biotite, actinolite, epidote, and anhydrite with lesser copper, gold and molybdenum values.

The mineralised zone is characterised by fine stock works, disseminations and veinlets of quartz, magnetite, pyrite, chalcopyrite and molybdenite.

Traces of bornite and cubanite have been locally observed but in amounts not exceeding 0.1% volume. Other sulphides include pyrite and amounts of pyrrhotite in specific area. Gold and silver correlate well with copper and many but, by no means, all gold grains occur on the margins of sulphide grains within the chalcopyrite. This was confirmed in the metallurgical test programme that finished in 2016.

The Mineral Resource, as at 31 December 2018, is tabulated in Table 1 and Table 2 (attributable to AGA).

Table 1 Quebradona copper Mineral Resource

Copper		Tonnes	Grade	Contained copper	
as at 31 December 2018	Category	million	%Cu	Tonnes Million	Pounds Million (Mlbs)
Quebradona, Nuevo Chaquiro	Measured	-	-	-	-
	Indicated	242.57	0.86	2.09	4 617
	Inferred	325.40	0.47	1.51	3 337
	Total	**567.97**	**0.64**	**3.61**	**7 954**

Table 2 Quebradona gold Mineral Resource

Gold		Tonnes	Grade	Contained gold	
as at 31 December 2018	Category	million	g/t	Tonnes	Million ounces (Moz)
Quebradona, Nuevo Chaquiro					

Measured
-
-
-
-
Indicated
242.57
0.45
107.99
3.47
Inferred
325.40
0.22
70.45
2.26
Total
567.97
0.31
178.44
5.74

Notes:

- *Copper, gold, silver and molybdenum grades were estimated using ordinary kriging into a 40m x 40m x 20m block model. Grades were estimated within grade-based 3D wireframe boundaries for copper and gold grades with separate domains for molybdenum.*
- *Drillhole data was composited to 6m down-hole lengths prior to estimation and extreme values were capped. Estimation was into homogeneous geological domains using ordinary kriging. Classification was guided by conditional simulation plus kriging variance criteria.*
- *The Mineral Resource was tested for and found to have reasonable and realistic prospects for eventual economical extraction. In 2018 the Mining Stope Optimizer tool was used to define/update a positive case for use in constraint the Mineral Resource for Quebradona Project, actual sub level cave option was considered followed by a second phase block cave option. 40 $/Ore Tonnes In situ Net Smelter Return (NSR) value is the average of all material included in the mining shape with a NSR cut off value of about 19.*
- *The Mineral Resource was subject to an Independent review. The review was conducted in November 2018. A certificate of sign off has been received by the auditor – Optiro Pty Ltd.*
- *The Mineral Resource is quoted inclusive of the Ore Reserve.*
- *Gold Price at $1,400/oz and Copper Price at $3.30/lb.*

The Mineral Resource by-products that will be included, as at 31st December 2018, are tabulated in Table 3 and **Table 4** (attributable to AGA).

Table 3 Quebradona by-product Mineral Resource - silver

Silver
Tonnes
Grade

as at 31 December 2018	Category	Tonnes million	Grade g/t	Contained silver Tonnes	Contained silver Million ounces (Moz)
Quebradona, Nuevo Chaquiro	Measured	-	-	-	-
	Indicated	242.57	5.40	1 311	42.14
	Inferred	325.40	3.46	1 126	36.20
	Total	**567.97**	**4.29**	**2 437**	**78.34**

Table 4 Quebradona by-product Mineral Resource molybdenum

Molybdeum as at 31 December 2018	Category	Tonnes million	Grade ppm	Contained molybdenum Kilotonnes	Contained molybdenum Pounds Million (Mlbs)
Quebradona, Nuevo Chaquiro	Measured	-	-	-	-
	Indicated				

242.57
145
35.28
78
Inferred
325.40
130
42.35
93
Total
567.97
137
77.62
171

Ore Reserve:

The Ore Reserve, as at 31 December 2018, is tabulated in **Table 5** and **Table 6** (attributable to AGA).

Table 5 Quebradona copper Ore Reserve

Copper		Tonnes	Grade	Contained copper	
as at 31 December 2018	Category	million	%Cu	Tonnes Million	Pounds Million (Mlbs)
Quebradona, Nuevo Chaquiro	Proved	-	-	-	-
	Probable	104.05	1.21	1.26	2 769
	Total	**104.05**	**1.21**	**1.26**	**2 769**

Table 6 Quebradona gold Ore Reserve

Gold		Tonnes	Grade	Contained gold	
as at 31 December 2018	Category	million	g/t	Tonnes Million	ounces (Moz)
Quebradona, Nuevo Chaquiro	Proved	-	-		

	-	-		
Probable	104.05	0.66	69.12	2.22
Total	**104.05**	**0.66**	**69.12**	**2.22**

Notes:

- *The Ore Reserve is based on the Mineral Resource model used to quote the Mineral Resource.*
- *The Ore Reserve has been reported above a Net Smelter Return (NSR) cut-off of $45/t.*
- *The Ore Reserve is reported within the SLC design cave inclusive of dilution, reflecting the PFS mine plan*
- *The Ore Reserve was subject to an Independent review. The review was conducted in November 2018. A certificate of sign off has been received by the auditor – Optiro Pty Ltd.*
- *Gold Price at $1,100/oz and Copper Price at $2.65/lb.*

The Ore Reserve by-products that will be included, as at 31 December 2018, are tabulated in **Table 7** (attributable to AGA).

Table 7 Quebradona by-product Ore Reserve - silver

Silver as at 31 December 2018	Category	Tonnes million	Grade g/t	Contained silver Tonnes	Contained silver Million ounces (Moz)
Quebradona, Nuevo Chaquiro	Proved	-	-	-	-
	Probable	104.05	7.05	733.32	23.58
	Total	**104.05**	**7.05**	**733.32**	**23.58**

The details of the Ore Reserve and Mineral Resource estimate are provided in Tables 1 to Table 7.1 The location of the Ore Reserves and Mineral Resources are outlined in Figure 1. The map showing the Quebradona planned infrastructure and licenses is shown in Figure 2.

Competent Persons Statement

The information in this report has been reviewed and approved by Vaughan Chamberlain (MSc (Mining Engineering), BSc (Geology), MGSSA, FAusIMM) who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr. Chamberlain has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person, as defined in the 2016 edition of the SAMREC Code. Vaughan Chamberlain is a full-time employee of the company and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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1 The updated Ore Reserve and Mineral Resource estimates are reported in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2016 (SAMREC Code) and Johannesburg Stock Exchange (JSE) Listing Rules.
As such the reported increases relating to Quebradona require the additional supporting information set out in this release and its appendices.

SAMREC TABLE 1
Exploration Results
Mineral Resources
Mineral Reserves
Section 1: Project Outline

1.1
Property
Description
(i)
Brief description of the scope of project (i.e. whether in preliminary sampling, advanced exploration, scoping, pre-feasibility, or feasibility phase, Life of Mine plan for an ongoing mining operation or closure).
Project finished PFS phase in January 2019, will be in feasibility phase during 2019.
(ii)
Describe (noting any conditions that may affect possible prospecting/mining activities) topography, elevation, drainage, fauna and flora and vegetation, the means and ease of access to the property, the proximity of the property to a population centre, and the nature of transport, the climate, known associated climatic risks and the length of the operating season and to the extent relevant to the mineral project, the sufficiency of surface rights for mining operations including the availability and sources of power, water, mining personnel, potential tailings storage areas, potential waste disposal areas, heap leach pad areas, and potential processing plant sites.
Nuevo Chaquiro is located 104 km south west of the city of Medellin and 7 km from the town of Jerico, (Antioquia Department). The project has good access to highway, state and rural roads, and HV/MV power infrastructure. The deposit is located in the western Colombia cordillera with the geomorphology ranging from strongly uneven to rugged. Access to the property is by departmental gravel roads from the Jerico town to the project area. Jerico town is about 7 km from the project, transport is normally by truck and walking to the internal platforms or drilling areas. The project area is accessible all year round. The annual temperature ranges from
13.0 to 18.4* C
The annual rainfall ranges from 1,562 to 2,680 millimetres. Mineral rights cover the entire deposit and for the infrastructure sites, two applications have been made to cover a portion of infrastructure site during PFS and the rest will be advanced during the FS.
(iii)
Specify the details of the personal inspection on the property by each CP or, if applicable, the reason why a personal inspection has not been completed.
Those
tasked with Regional Sign off, Corporate Sign off and Group sign off visit the project at least twice a year to review and make recommendations about work to be done. Those tasked with technical sign off participate actively in the overall estimation process. The Lead Competent persons are 100 % allocated in the project and physically work on site.

1.2
Location
(i)
Description of location and map (country, province, and closest town/city, coordinate systems and ranges, etc.).
Nuevo Chaquiro, which lies in the middle Cauca River region of Colombia, is an emerging, large, copper-gold porphyry-style Greenfield discovery made by AGA in the Quebradona Mineral District of Antioquia, Colombia in 2006. The project is in a joint-venture arrangement between AGA (94.876 % current interest) and B2 Gold

(5.124 % current interest and diluting), as of December 2018.

(ii)

Country Profile: describe information pertaining to the project host country that is pertinent to the project, including relevant applicable legislation, environmental and social context etc. Assess, at a high level, relevant technical, environmental, social, economic, political and other key risks.

Colombian law determines that minerals of any kind and in any state that lie in the soil or subsoil are the property of the Colombian State. Such property is unalienable and imprescriptible. The right to explore and exploit non-renewable natural resources is granted through the awarding of concession contracts that give rise to a mining title.

Colombian regulations declare the mining industry to be of public and social interest and efficient development of this industry is necessary. Mining in Colombia is regulated by law 685 of 2001 (mining development in the country is currently driven through the national development plan).

In Colombia, environmental legislation is focused on the protection of renewable natural resources and the interaction of man and the environment. The above mentioned is from a series of regulatory provisions requiring the application for a series of permits and authorizations for the exploitation of each one of the resources before the competent environmental authority.

Environmental regulations in Colombia are generally comprised within the natural resource code, law 99 of 1993, whereby the ministry of environment was created and actions the provisions that regulate the management of each of the resources.

A protected environmental area (DMI) is present in the vicinity of the project (in part of the mineral rights) but no infrastructure or mining designs area planned in that area. A return of involved protected areas will be considered.

(iii)
Provide a detailed topo-cadastral map. Confirm that applicable aerial surveys have been checked with ground controls and surveys, particularly in areas of rugged terrain, dense vegetation or high altitude.

1.3
Adjacent
Properties

(i)
Discuss details of relevant adjacent properties. If adjacent or nearby properties have an important bearing on the report, then their location and common mineralized structures should be included on the maps. Reference all information used from other sources.

All the endowment areas analysed are inside the mineral rights. Exploration potential remains to be tested and could almost double the Mineral Resource. No exploration is planned outside the mining rights. Exploration for new areas outside the main Nuevo Chaquiro deposit will only be considered closer to the start of operations with the aim of replacing Ore Reserve.

1.4
History

(i)
State historical background to the project and adjacent areas concerned, including known results of previous exploration and mining activities (type, amount, quantity and development work), previous ownership and changes thereto.

Modern exploration in the Cauca River region first started in the mid-1990s. This early work was focused on historic vein districts and alluvial workings. In 2004, AGA did the first regional geochemical programs in the area targeting potential porphyry copper-gold mineralisation. This work identified Quebradona Creek as potentially of interest. Follow-up work identified a 1300 x 1000 m area between Chaquiro and Higuerillos Creeks that contained strong sericitic alteration and a stockwork of Fe oxide, and locally quartz veinlets. (This zone was later proved to overlie the Nuevo Chaquiro orebody.) In addition, other prospects in the Quebradona district such as Aurora, La Sola, Tenedor and Isabela were identified. Preliminary field reviews suggested that these were either too small (or too deep in the case of Chaquiro) with respect to open pit bulk tonnage copper-gold potential. In 2006, a joint venture with B2Gold was formed; the Quebradona district properties were included within this joint venture.

Between 2006 and 2008, B2Gold drilled 13,319 m in the Quebradona district, of which 1,987 m (5 drill holes) were at Chaquiro. In 2009, B2Gold identified a potential 1 Moz Au-equiv. inventory at Aurora; this was considered too small to pursue further at that time.

In 2009, B2Gold decided not to continue with exploration in the district and the concessions reverted back to AGA. In 2010, AGA drilled the Chaquiro area (now renamed Nuevo Chaquiro) for two types of targets: 1) a broad gold soil geochemical anomaly corresponding to an ISS (intermediate sulphidation state) D vein zone, and 2) a deep porphyry target centred on an area of stockwork veining with a corresponding deep, high magnetic anomaly.

The deep drill holes encountered Cu-Au mineralisation associated with the intra-mineral igneous centre. A series of deep drill holes followed outlining a broad zone of mineralisation assaying consistent 0.48-0.54% Cu and 0.18-0.31 g/t Au values. A large low-grade inventory was identified; however, there were concerns that the grades encountered were insufficient to support an underground operation at the depths seen. Further geological understanding of the deposit coupled with detailed geophysics led to discovery of the high-grade zone in Hole CHA-39 in August, 2013 (248 m averaging 1.06% Cu, 0.44 g/t Au) followed by CHA-48 (852 m @ 1.19% Cu, 0.61 g/t Au) drilled at the end of 2013.

(ii)

Present details of previous successes or failures with reasons why the project may now be considered potentially economic.

The only constrain to find the deposit was the depth of mineralisation. Nuevo Chaquiro is a blind deposit and first drilling campaign was too shallow to find the economic intercepts. After alteration analysis and interpretation deep drilling was proposed with success.

(iii)

Present details of previous successes or failures with reasons why the project may now be considered potentially economic.

Very small reconciliation differences between the 2014 to 2018 Mineral Resource confirming the low variability cooper mineralisation.

All variations are less than 5 %.

(iv)

Discuss known or existing historical Mineral Reserve estimates and performance statistics on actual production for past and current operations.

See above.

1.5

Legal Aspects and Permitting

Confirm the legal tenure to the satisfaction of the Competent Person, including a description of the following:

(i)

Discuss the nature of the issuer's rights (e.g. prospecting and/or mining) and the right to use the surface of the properties to which these rights relate. Disclose the date of expiry and other relevant details.

The project concession covers 7,593 hectares on land designated for Agricola (agriculture) within a dominantly upland agricultural region. A single mining title defines the Project: 5881 (derived from the integration of 5 original tenements). The result of this integration has been to re-establish the previously critical mineral tenement expiry timing to a mineral tenement sequential phasing (3+2+2+2+2) of up to 11 years to further evaluate the project prior to a construction decision. This should enable completion of the Project Pre-feasibility Study (PFS) and Feasibility Study (FS). All titles are active and granted for the first year of the exploration phase due to integration.

(ii)

Present the principal terms and conditions of all existing agreements, and details of those still to be obtained, (such as, but not limited to, concessions, partnerships, joint ventures, access rights, leases, historical and cultural sites, wilderness or national park and environmental settings, royalties, consents, permission, permits or authorisations)

In 2015, AngloGold Ashanti Colombia acquired or held under agreement 100% of total land required for the exploitation of the deposit which totals 556 Ha under ownership. The farms concerned are Chaquiro and Coqueta.

(iii)

Present the security of the tenure held at the time of reporting or that is reasonably expected to be granted in the future along with any known impediments to obtaining the right to operate in the area. State details of applications that have been made.

All commitments required to grant the mining titles have been met and presented to the authorities. There are no known impediments.

(iv)

Provide a statement of any legal proceedings for example; land claims, that may have an influence on the rights to prospect or mine for minerals, or an appropriate negative statement.

The are no known land claims that can affect the mineral rights.

(v)

Provide a statement relating to governmental/statutory requirements and permits as may be required, have been applied for, approved or can be reasonably be expected to be obtained.

On November 19 2013 a request for integration of the five (5) tenements (5869, 6318, 6359, 7579 and 5881) was submitted. The two main objectives were: firstly, facilitating environmental licensing, construction and operation under one license; secondly, consolidation of all free areas generated by brokers or spaces between

the tenements, to ensure the future development of the project. On 9th December 2016 the integration of the 5 tenements was successfully registered in the National
Mining Register resulting in a unique mining title.
1.6
Royalties
(i)
Describe the royalties that are payable in respect of each property.
About US$ 200,000 yearly in canon concept for the integrated (5) tenements.
1.7
Liabilities
(i)
Describe any liabilities, including rehabilitation guarantees that are pertinent to the project. Provide a description of the rehabilitation liability, including, but not limited
to, legislative requirements, assumptions and limitations.
Law 685/2001 - all mining and environmental policies are updated and payed.
Section 2: Geological Setting, Deposit, Mineralisation
2.1
Geological
Setting,
Deposit,
Mineralisation
(i)
Describe the regional geology.
The MQC is located in the Northern Andes of Colombia, a sector that has a complex tectonic history resulting from interactions between several tectonics plates. The
most important major tectonic feature in the project area is the Romeral Fault System, which at Quebradona changes its orientation and lateral movement (NNW strike
and right-lateral movement to the S) giving rise to assumptions this may have created the voids to accommodate the mineralisationt. The Romeral Fault System forms
the eastern boundary of the pull-apart basin which dominates the district. Another important structural feature is the Arma fault which trends NW and crosscuts the belt
as a N40W striking oblique normal, left-lateral fault.
This structural setting facilitated the rise of intrusive bodies through the volcanoclastic sequence of the Combia Formation. These intrusives generally don't reach the
surface and remain as blind deposits. Although erosive process acted over a long period, the Nuevo Chaquiro deposit remained buried.
(ii)
Describe the project geology including deposit type, geological setting and style of mineralisation.
Nuevo Chaquiro is a porphyry type deposit. The host rock composes a volcaniclastic sequence of the Combia Formation which is intruded by diorite dykes. The
mineralisation at Nuevo Chaquiro has a distinct E-W orientation suggesting extension in this direction. Faulting in the greater Nuevo Chaquiro area has a general grid
like configuration with the main orebody cut by a series of sub-parallel ESE trending (100-115 degrees) faults and in places offset by later N10-15E faults. These
structures are vertical to steeply dipping to the North. Reviews of these faults indicates minimal offsets.
Pre-mineralisation faults have not been observed.
(iii)
Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration programme is planned. Describe the inferences
made from this model.

The initial geological interpretation was done on paper sections (11 main sections) and thereafter Leapfrog® software was used to create geological volumes. All dyke generations were modelled (pre-mineral, early, intra mineral and late) as well as a saprolite surfacel. Four geologists participated in the interpretation and discussions.

Copper, molybdenite and sulphur volumes, were generated in Datamine® software and validated against previous models and geological interpretation. It is important to note that high grade copper (0.6 %) envelope is well constrained by the early quartz diorite intrusive. Lithology is useful and controls the mineralisation, high grade copper is constrained in early quartz diorite intrusives, low grade copper is constrained into intra mineral intrusive. Host rock tuff is mineralised as well. The principal factors controlling mineralisation at Quebradona are: Lithology with the presence of early quartz diorite intrusive, alteration, vein density and chalcopyrite content.

(iv)

Discuss data density, distribution and reliability and whether the quality and quantity of information are sufficient to support statements, made or inferred, concerning the Exploration Target or Mineralisation.

Drill hole spacing over the project is variable, being influenced by environmental and community considerations. Where possible multiple drill holes were drilled from the same drill pad to minimize impact on the environment. Drilling at Quebradona varies from a 50 x 50 m grid in the central part and a 100x100m to 120 x 120m in the adjacent low grade Inferred Mineral Resource areas. Due to the multi hole platforms, the drilling spacing in the first 300 meters is tighter than in the deeper portions of the deposit.

(v)

Discuss the significant minerals present in the deposit, their frequency, size and other characteristics. Includes minor and gangue minerals where these will have an effect on the processing steps. Indicate the variability of each important mineral within the deposit.

The ore minerals at Nuevo Chaquiro are principally chalcopyrite and molybdenite. Traces of bornite and cubanite have been observed never exceeding 0.1% by volume. Other sulphides include pyrite and amounts of pyrrhotite in some intervals. Chalcopyrite is typically present as fine-grained disseminations and stringers, or within quartz veinlets within potassic alteration (and to a lesser degree in calcic-potassic alteration) and rarely as metre thick massive sulphide zones within the cupola zone. Molybdenite commonly appears as veinlets without other sulphides, as well as inclusions in early stage quartz-sulphide veinlets. Gold and silver correlate well

with copper and many, but by no means all, gold grains occurred on the margins of chalcopyrite. This was confirmed in the metallurgical test programme finished in
2016.
(vi)
Describe the significant mineralised zones encountered on the property, including a summary of the surrounding rock types, relevant geological controls, and the
length, width, depth, and continuity of the mineralisation, together with a description of the type, character, and distribution of the mineralisation.
The extent of the Mineral Resource model covers an area 1.1km (east-west) by 0.8km (north-south) by 1.1km (vertical). The top of the orebody is a minimum of 200m
below surface. Main porphyry type deposit for the main area. A zone known as ISS (intermediate sulphidation stage) is present to the west of the main mineralisation
but it is not included in the study.
(vii)
Confirm that reliable geological models and / or maps and cross sections that support interpretations exist.
See section 2.1.iii above. Reliable geological models, maps and cross sections exist and are the basis of the Mineral Resource.
Section 3: Exploration and Drilling, Sampling Techniques and Data
3.1
Exploration
(i)
Describe the data acquisition or exploration techniques and the nature, level of detail, and confidence in the geological data used (i.e. geological observations, remote
sensing results, stratigraphy, lithology, structure, alteration, mineralisation, hydrology, geophysical, geochemical, petrography, mineralogy, geochronology, bulk
density, potential deleterious or contaminating substances, geotechnical and rock characteristics, moisture content, bulk samples etc.). Confirm that data sets include
all relevant metadata, such as unique sample number, sample mass, collection date, spatial location etc.
Logging codes are defined and used by geologists, these are checked by the data entry team and after that database control scripts and a Competent Person for
database control are in place. AGA (Colombia) uses various software programs to collect the different forms of drilling data obtained during exploration. The main
packages are Microsoft Excel and Access. Drilling data is captured in the field directly into laptop computers.
(ii)
Identify and comment on the primary data elements (observation and measurements) used for the project and describe the management and verification of these data
or the database. This should describe the following relevant processes: acquisition (capture or transfer), validation, integration, control, storage, retrieval and backup
processes. It is assumed that data are stored digitally but hand-printed tables with well-organized data and information may also constitute a database.
Logging information, geochemical sampling data and physical property measurements are entered by field staff. Daily drilling forms are completed by the driller in hard
copy and signed off by the geologist.
The database is managed with Microsoft SQL Server and the Century Fusion SQL data management system. The Century Fusion SQL data management system has
been specifically developed for AGAs Colombian exploration and development projects and contains special queries and data management utilities. Many of these or
additional processes have been modified or added to by AGA.
(iii)
Acknowledge and appraise data from other parties and reference all data and information used from other sources.
All data captured produced internally, Regional geology compiled by the Colombian Geological Association.

(iv)
Clearly distinguish between data / information from the property under discussion and that derived from surrounding properties.
Regional geology compiled by the Colombian Geological Association. Local geology produced from company mapping and drill hole data. A surface geological interpretation was made during 2018 campaign for the infrastructures sites.
(v)
Describe the survey methods, techniques and expected accuracies of data. Specify the grid system used.
The drill collar position is firstly designed in the office by the geologist, according to target desired, and then revised in consideration of the forest, creeks or any constraints before going to the field. Once a drill hole is designed, a field visit involving all disciplines takes place in order to ensure there are no restrictions that could affect platform construction and subsequent drilling procedures.
Initially the drill hole position is marked using normal hand-held GPS (Trimble, Magellan or similar) with about 1-2 m position accuracy.
Once the platform is constructed and the machine is ready to align, the geologist travels to the rig and supervises the setup of the azimuth angle in order to finalise the constructed base where the machine will be finally placed.
When the drill rig is ready to drill, the geologist returns to supervise and give the final inclination using a Brunton type compass.
Once the drill hole is finished, the final collar position is surveyed (Easting, Northing and Elevation) using total station or RTK GPS (normally 5mm to 20 cm accuracy for Topcon or Trimble units).
Downhole measurements every 50 m are normally being done with Reflex Ez-Track equipment. Some Gyro measurements at a 5 m spacing were done in the past in order to compare with EZ-Track survey. No significant differences were found.

Initial drilling from CHA-01 to CHA-05 was surveyed every 50 m with a Pajari tool. Drill holes surveyed with Gyro technology were CHA-036 to CHA-039, CHA-043,
CHA-046 and CHA-069. All the remaining drill holes were surveyed with Reflex Ez-Track equipment. The geological model only includes holes up to and including
CHA-074, boreholes CHA-074 to 087 were for geotechnical, metallurgical and hydrogeological purposes.

(vi)

Discuss whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the estimation procedure(s)
and classifications applied.

Drill hole spacing over the project is variable, being influenced by environmental and community considerations. Where possible multiple drill holes are conducted
from the same drill pad to minimise impact on the environment. Drilling at Quebradona varies from 50 x 50 m grid in the central part and 100x100 to 120 x 120 in the
adjacent low grade Inferred Mineral Resource areas. Due to the situation to have some multi-hole platforms the drilling space in the first 300 meters is tighter than in
the deeper portions
.
The spacing achieved is sufficient to establish the geological and grade continuity.

(vii)

Present representative models and / or maps and cross sections or other two or three dimensional illustrations of results, showing location of samples, accurate drill-
hole collar positions, down-hole surveys, exploration pits, underground workings, relevant geological data, etc

(viii)

Report the relationships between mineralisation widths and intercept lengths are particularly important, the geometry of the mineralisation with respect to the drill hole
angle. If it is not known and only the down-hole lengths are reported, confirm it wi

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Intercept reported as down-hole lengths. Average dip of the drill holes is 66 degrees. Mineralization average is 300 m thick and it is vertically stratified.

3.2
Drilling
Techniques

(i)

Present the type of drilling undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (e.g. core diameter,
triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc)Present the type of drilling
undertaken (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Banka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth
of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc)

The data is based on diamond drilling with different orientations. Most drill core sampling occurred on 2m sample lengths. No other drilling techniques were used up to
date.

(ii)
Describe whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation,
technical studies, mining studies and metallurgical studies.
All drill holes were geologically logged and consist of diamond drilling only. A selected set of drill holes were geotechnically logged.
(iii)
Describe whether logging is qualitative or quantitative in nature; indicate if core photography. (or costean, channel, etc) was undertaken.
Logging is qualitative and quantitative; core photography is routinely done for all drill holes.
(iv)
Present the total length and percentage of the relevant intersections logged.
The complete drill holes are logged.
(v)
Results of any downhole surveys of the drill hole to be discussed.
See exploration section. All drill holes in the model are de-surveyed based on downhole surveys.
3.3
Sample
method,
collection,
capture and
storage
(i)
Describe the nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals
under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of
sampling.
The data is based on diamond drilling with different orientations. Most drill core sampling occurred on 2m sample lengths. No other drilling techniques were used up to
date.
(ii)
Describe the nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals
under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of
sampling.
Once the necessary geological information is obtained, the core is prepared for cutting. During this process, core is halved by making a longitudinal cut with a
diamond saw, cutting on the left side of the bottom line in oriented holes. Finally, the core is returned into the tray keeping its original position. The left side of the core
is used for geochemical sampling, in order to preserve the bottom line (lower half) for further studies.
The rock sample is then broken into 5cm lengths and placed into a previously marked plastic bag with a sampling ID card inside. To avoid contamination or material
loss, the sample is placed into second previously marked plastic bag and then sealed with a plastic band.
(iii)
Appropriately describe each data set (e.g. geology, grade, density, quality, diamond breakage, geo-metallurgical characteristics etc.), sample type, sample-size
selection and collection methods
Geology samples area 2 m length. Dry Bulk Density determinations have been routinely collected on all core at two-meter intervals using water immersion methods. A

coherent segment of core (>10cm length), representative of the interval, is selected. The weight is measured dry, in air, then measured submerged in water. Core was
left to dry naturally on the core racks. Every 25th sample is determined in duplicate. Bulk density for one sample in 50 is checked at the commercial laboratory.
Metallurgical samples are bigger and variable size from 25 to 200 Kg each composite comprising numerous intercepts from different drill holes.
(iv)
Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure
representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to
preferential loss/gain of fine/coarse material. Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken
to maximise sample recovery and ensure representative nature of the samples and whether a relationship exists between sample recovery and grade and whether
sample bias may have occurred due to preferential loss/gain of fine/coarse material.
Intercepts are reported as down-hole depths and the length of core is compared to the theoretical length. Average dip of the drill holes is 66 degrees. Mineralisation is
average 300 m thick and with vertical zonation.
(v)
Describe retention policy and storage of physical samples (e.g. core, sample reject, etc.)
Once the drill core processing is completed, boxes containing the remaining half core are stored in the warehouse located in the project facilities. The boxes are
stored according to a defined procedure. This process takes into account drill core diameter, core stage (complete or cut) and the storage size. The project has a main
warehouse with a capacity of 80,000 meters of core. The sample preparation for analysis in the laboratory generates rejects (fine and coarse). These are stored for a
period of 40 days in the laboratory warehouse. At the end of this period they are transferred to a warehouse located in the municipality of Girardota (Antioquia) close
to Medellin City. A logistics assistant receives and stores them in boxes or bags with their respective number identification.

(vi)
Describe the method of recording and assessing core and chip sample recoveries and results assessed, measures taken to maximise sample recovery and ensure
representative nature of the samples and whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to
preferential loss/gain of fine/coarse material.
Recovery in the ore zone normally is higher than 95%. When the drill hole is for geotechnical purpose, some actions were applied for improve the recovery in the
sericitic alteration zone. Triple tube drill technology was used in the sericitic alteration zone (which is a less competent alteration zone). This impacted overall drill
rates as both lower pressure and rotation speed were used to limit any re-drilling and improve delivery quality /recovery of the drill core. Another measure was the
implementation of stricter controls regarding drilling practices, trying to reduce deviations in the orientation of the holes, using adapter and locking couplings in the
HTW line - adapters generate more stability in-line and decrease hole deviation.
(vii)
If a drill-core sample is taken, state whether it was split or sawn and whether quarter, half or full core was submitted for analysis. If a non-core sample, state whether
the sample was riffled, tube sampled, rotary split etc. and whether it was sampled wet or dry.
Sampling processes
Once the necessary geological information is obtained, the core is prepared for cutting. During this process, core is halved by making a longitudinal cut with a
diamond saw and cutting on the left side of the bottom line in oriented holes.
3.4
Sample
Preparation
and Analysis
(i)
Identify the laboratory(s) and state the accreditation status and Registration Number of the laboratory or provide a statement that the laboratories are not accredited.
The preparation and quartering of samples is carried out directly at the ALS laboratory located at Medellin, Colombia and after the sample preparation is completed
then the samples are shipped to the ALS Laboratory in Lima, Peru for analysis.
(ii)
Identify the analytical method. Discuss the nature, quality and appropriateness of the assaying and laboratory processes and procedures used and whether the
technique is considered partial or total.
The MQC project uses two kind of analysis for the sampling for the drill core:
1. Au-AA24: Accurate determination of total gold content in a sample by fire assay and atomic absorption spectroscopy (AAS). The sample must have a minimum
weight of 50g. This method has a range of detection of Au between 0.005-10 PPM.
2. ME-MS61m: Four acid ""near-full"" digestion 48 elements except for Hg are analysed. This is accomplished by Inductively Coupled Plasma-Atomic Emission
Spectroscopy (ICP-AES) and Inductively Coupled Plasma - Mass Spectrometry (ICP-MS) ideal for the analysis of trace elements. The sample must have a minimum
weight of 50g. It is not recommended for Au.
(iii)
Describe the process and method used for sample preparation, sub-sampling and size reduction, and likelihood of inadequate or non-representative samples (i.e.
improper size reduction, contamination, screen sizes, granulometry, mass balance, etc.).

The preparation protocol is as follows:
* Sample receipt and weight: Samples are logged into ALS Lims system directly during the reception.
*Drying: samples are placed on stainless steel drying pans and placed into a dryer at 110 C, heated with a digitally controlled gas-fired burner.
*Crushing: Samples are crushed to more than 70 % < 2 mm. using a Terminator crusher.
*Splitting: One kilogram is split using a riffle splitter. The lab is also requested to pulverize a second split to be used as coarse reject duplicate.
*Pulverizing: The split is pulverized to more than 85% passing 75 micron using a LM2mill. A sub-sample of approximately 250 grams weight is split and shipped to the analytical laboratory, ALS in Lima Peru, for analysis.

3.5
Sampling
Governance

(i)
Discuss the governance of the sampling campaign and process, to ensure quality and representivity of samples and data, such as sample recovery, high grading, selective losses or contamination, core/hole diameter, internal and external QA/QC, and any other factors that may have resulted in or identified sample bias.

Sample preparation and analysis are conducted according to standard industry procedures. Diamond drill core is cut in by half and then crushed, split and pulverized prior to analysis. Gold is determined by fire assay and multi-elements by CCP-AES and ICP-MS after four acid digestion, both of which are total methods.

Analytical performance is monitored by means of certified reference materials (CRMs), coarse blanks, coarse and pulp duplicate samples and external laboratory check analysis, according with AGA protocols described in ""General Protocols and Procedures: Quality Control and Standards In Gold Exploration"" (Keith Kenyon, 2003).

Drill Core samples were prepared in ALS Chemex commercial preparation lab in Colombia/Medellin and Bucaramanga (for a reduced number of samples). Analysis was completed in ALS Chemex Lima. The general AGA protocols and procedures are implemented by inserting QC samples as coarse blank, certified reference material (CRMs), Coarse reject duplicates and pulp duplicates.

(ii)

Describe the measures taken to ensure sample security and the Chain of Custody.

The Chain of Custody to the lab is ensured using a transport contractor whom complies with all transit regulation and is monitored by control risks (Security) in order to ensure they arrive at the final destination. No historical loss of samples have been recorded. Packaging process ensures no movement or damage to the samples batch.

(iii)

Describe the validation procedures used to ensure the integrity of the data, e.g. transcription, input or other errors, between its initial collection and its future use for modelling (e.g. geology, grade, density, etc.)

Logging: Although Century Systems has within the application the tool for drill logging data entry, the MQC project uses a custom data entry tool as a combination of MS Excel and MS Access tool that supplies the first stage of data entry and validation. This tool is used by the geologists directly at logging stage and by the database assistant who runs the scripts that upload the data into the Central database in Bogota. Drilling data entry: These are the drilling activities that used to be reported - the data entry of this information is a complete excel format for drilling recovery and activities and the first quick logging; this data is uploaded into to a customized SQL Server database through a set of script configured in MS Access. The data entry tool is the first stage of data validation through a set of scripts that displays any inconsistent data related with project logging rules to the user. As a second QC stage, the data upload tool provides for database rules validation. The third stage of QC is a set of scripts configured for validation of log intervals, overlaps, gaps, final depth, missing data.

(iv)

Describe the audit process and frequency (including dates of these audits) and disclose any material risks identified

Daily auditing process is completed for data entry. No external audit has been performed to date.

3.6

Quality Control/Quality Assurance

(i)

Demonstrate that adequate field sampling process verification techniques (QA/QC) have been applied, e.g. the level of duplicates, blanks, reference material standards, process audits, analysis, etc. If indirect methods of measurement were used (e.g. geophysical methods), these should be described, with attention given to the confidence of interpretation

The general AGA protocols and procedures are implemented by inserting QC samples as coarse blank, certified reference material (CRMs), Coarse reject duplicates and pulp duplicates

3.7

Bulk Density

(i)

Describe the method of bulk density determination with reference to the frequency of measurements, the size, nature and representativeness of the samples.

Density measurements began in the middle 2013 for the project and these have been systematically conducted for core samples. Density tests were performed on drill holes CHA-002, CHA-003 and from CHA-006 to CHA-070. For these drill holes, 27 951 samples were tested, indicating an average density of 2.76 g/cm3 with a standard deviation of 0.14.

Test methods for density are 1) immersion in water for unoxidized samples, and 2) paraffin immersion for oxidized samples. The density measuring instrument is an
electronic precision scale with of 0.01 g graduations. The data indicate that the in situ quality control is suitable for the purpose of Mineral Resource estimation and it
has been corroborated by the analysis of density samples by an external laboratory - ALS, which provided similar results to those obtained in our process.
The scales type used is a Sartorius M-pact_AX-6202. For each analytical sampling interval (2m), the core segments measured vary from 10 to 20 cm in length.
(ii)
If target tonnage ranges are reported state the preliminary estimates or basis of assumptions made for bulk density.
Density reported in the model was estimated using Ordinary Kriging technique. Only for saprolite is a fixed value of 2.27 g/cm3 was used.
(iii)
Discuss the representivity of bulk density samples of the material for which a grade range is reported
Every 25th sample is measured in duplicate. Bulk density for one sample in 50 is checked at the commercial laboratory. The representative of the samples is
appropriate for the mineralisation type and stage of the project.
(iv)
Discuss the adequacy of the methods of bulk density determination for bulk material with special reference to accounting for void spaces (vugs, porosity etc.),
moisture and differences between rock and alteration zones within the deposit.
No void spaces (vugs, porosity etc.) presented in the majority of the samples to be considered a different density measurements technique.
3.8
Bulk-Sampling
and/or trial-
mining
(i)
Indicate the location of individual samples (including map).
No trial mining or bulk sampling has been completed.
(ii)
Describe the size of samples, spacing/density of samples recovered and whether sample sizes and distribution are appropriate to the grain size of the material being
sampled.
No trial mining or bulk sampling has been completed.

(iii)
Describe the method of mining and treatment
.
No trial mining or bulk sampling has been completed.
(iv)
Indicate the degree to which the samples are representative of the various types and styles of mineralisation and the mineral deposit as a whole.
No trial mining or bulk sampling has been completed.

Section 4: Estimation and Reporting of Exploration Results and Mineral Resources

4.1
Geological
model and
interpretation
(i)
Describe the geological model, construction technique and assumptions that forms the basis for the Exploration Results or Mineral Resource estimate. Discuss the
sufficiency of data density to assure continuity of mineralisation and geology and provide an adequate basis for the estimation and classification procedures applied.
Discuss the geological model or concepts being applied in the investigation and on the basis of which the exploration programme is planned. Describe the inferences
made from this model.
The initial geological interpretation was done on paper sections (11 main sections) and thereafter Leapfrog® software was used to create geological volumes. All dyke
generations were modelled (pre-mineral, early, intra mineral and late) as well as a saprolite surfacel. Four geologists participated in the interpretation and discussions.
Copper, molybdenite and sulphur volumes, were generated in Datamine® software and validated against previous models and geological interpretation. It is important
to note that high grade copper (0.6 %) envelope is well constrained by the early quartz diorite intrusive. Lithology is useful and controls the mineralisation, high grade
copper is constrained in early quartz diorite intrusives, low grade copper is constrained into intra mineral intrusive. Host rock tuff is mineralised as well. The principal
factors controlling mineralisation at Quebradona are: Lithology with the presence of early quartz diorite intrusive, alteration, vein density and chalcopyrite content.
(ii)
Describe the nature, detail and reliability of geological information with which lithological, structural, mineralogical, alteration or other geological, geotechnical and geo-
metallurgical characteristics were recorded
Geological and geotechnical information recorded mainly by logging observations. Geometalurigcal observation based on geological description and test results.
Hydro geology parameters mainly obtained by field test.
(iii)
Describe any obvious
geological, mining,
metallurgical, environmental,
social, infrastructural, legal
and economic factors that
could have a significant effect
on the prospects of any
possible exploration target or
deposit.

Geological, mining and metallurgical perspective for the project are very encouraging. Social issues are critical and need to be constantly monitored and managed.

(iv)

Discuss all known geological data that could materially influence the estimated quantity and quality of the Mineral Resource.

All geological data in the main zone of the model are in the Indicated Mineral Resource category. Mineralization and grade show low variability.

(v)

Discuss whether consideration was given to alternative interpretations or models and their possible effect (or potential risk) if any, on the Mineral Resource estimate.

The Mineral Resource model has been updated and reconciliation showed less than a 1% change.

(vi)
Discuss geological discounts (e.g. magnitude, per reef, domain, etc.), applied in the model, whether applied to mineralized and / or
un-mineralized material (e.g. potholes, faults, dykes, etc).
There is no discount used in the model.
4.2
Estimation and
modelling
techniques
(i)
Describe in detail the estimation techniques and assumptions used to determine the grade and tonnage ranges
.
The estimation technique used is Ordinary kriging and estimates are made into different domains which are joined at the end of the process. Drilling data is
composited to 6m down-hole lengths prior to estimation, and extreme values were capped to reduce their influence on the estimated metal. In 2018 about 43 % (tons)
of the total Mineral Resource was classified as Indicated Mineral Resource. The change resulted from updating of the conditional simulation to include the complete
data set (up to drill hole CHA-074) and adjusting the production scale to 6 Mtpy. Because Conditional simulation showed an important portion of low grade material
(low variability high continuity) as Indicated, estimation variance was used to be more conservative and downgraded the category applying KV<=0.25 for the high
grade zone (Cu%>=0.60%) and KV<=0.0125% for the low grade zone (Cu%>=0.45 and <0.60%). Isatis® is used for variography and Datamine® software is used for
the estimation. Optimisation of search and number of samples used in the estimation is done using the QKNA technique.
(ii)
Discuss the nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme
grade values (cutting or capping), compositing (including by length and/or density), domaining, sample spacing, estimation unit size
(block size), selective mining units, interpolation parameters and maximum distance of extrapolation from data points.
Estimates are validated by:

- graphically with Swoth plots and sections or plans comparing samples vs blocks,
- statistically,
- comparing to previous estimations.

The block size used is 40x40x20 m and the overall drill spacing is about 80x80 m. Typical searches are up to 250,250,250m
(average for copper and gold high and low-grade example). Estimation is done into different domains and they are then joined post
the estimation. Two domains for copper, one for Moly, two for sulphur and one for high grade gold to the west are estimated. One
saprolite surface and 4 different dykes surfaces are used to estimate density. Capping based on probability plots is applied and
normally effects less than 1 % of the samples.
(iii)
Describe assumptions and justification of correlations made between variables.
The estimation includes separate and individual variography for AU-AG-CU-MO-S-AS and density in the different domains using
ordinary kriging. The estimates are done independently.
(iv)

Provide details of any relevant specialized computer program (software) used, with the version number, together with the estimation
parameters used
Datamine®, Leapfrog® and Isatis® software are used.
(v)
State the processes of checking and validation, the comparison of model information to sample data and use of reconciliation data,
and whether the Mineral Resource estimate takes account of such information.
Validation is being done graphically section by section comparing the block model-drill hole-geological data, Swoth plots, statistically
comparisons using average samples and average blocks, comparisons model-model are also used.
(vi)
Describe the assumptions made regarding the estimation of any co-products, by-products or deleterious elements
All by-products are independently estimated.
4.3
Reasonable
prospects for
eventual
(i)
Disclose and discuss the geological parameters. These would include (but not be limited to) volume / tonnage, grade and value /
quality estimates, cut-off grades, strip ratios, upper- and lower- screen sizes.
In the region favourable geological setting is the presence of diorite dykes intruding mainly volcaniclastic unit and generating
important alteration halo.

economic
extraction
(ii)
Disclose and discuss the engineering parameters. These would include mining method, dilution, processing, geotechnical,
geohydraulic and metallurgical) parameters.
In 2018 a Mining Stope Optimizer tool was used to define/update a positive case for use in constraint the Mineral Resource for
Quebradona Project, actual sub level cave option was considered followed by a second phase block cave option. 40 $/Ore Tonnes
Insitu NSR Value is the average of all material included in the mining shape with a NSR cut off value of about 19$/t.
(iii)
Disclose and discuss the infrastructural including, but not limited to, power, water, site-access.
Planned infrastructure for processing and tailing storage is in the valley area about 6 km from the project. Good general access is
present in this area as well as power availability and water sources. During 2017 a set of 28 new options were analysed and ranked
obtaining a group of 3 preferred options. The option chosen is entirely in Jerico municipality and in the valley area.
(iv)
Disclose and discuss the legal, governmental, permitting, statutory parameters.
The tenure is secure at the time of reporting. No known impediments exist to operate in the area.
The Mineral deposit is fully covered by the company's tenements. For the development of the infrastructure required for the
processing and tailings storage of the Quebradona Project it was necessary to obtain additional mining tenements so as to ensure
100% ownership/control of the area between the ore body (concession contract 5881) and the infrastructure location. This was part
of a strategy to avoid any potential risk to the development of the Project, such as conflicts with other projects that might be
advanced in those areas before the approval of MQCs PTO and EIA. Therefore, MQC submitted to the mining authority requests the
following tenements: LHJ-15051, LHJ 15053X, QEF-11131 and, SDO-08122. Additionally, it negotiated with third parties two other
tenements that were offered to MQC before it decided to implement this strategy: JLH-16215X and TK7-08021. Land acquisition
process is ongoing and should be closed during the FS stage.
(v)
Disclose and discuss the environmental and social (or community) parameters.
Roughly half of the community supports mining activities. A small opposition group has been identified and is monitored because
they are very active with presence in the local and sometimes in the national media. A tendency of increasing environmental
protection is being observe. Municipality agreements and Popular consults have started to see more common opinion in the
neighbourhood. A municipal council agreement (first attempt was invalided by department and nation authorities) against mining was
approved (5 negative, 4 positive with 2 abstentions) and at the time of reporting it has been rejected by the department.
(vi)
Disclose and discuss the marketing parameters.

Copper will be a new commodity for AngloGold Ashanti, however, due primarily to the low volume of concentrate produced, it will not present substantial challenges necessarily affected by global trends. Sales will be to a copper smelter and contracts will need to be carefully drafted and negotiated for the off-take, fees and costs, bonuses, penalties, title, shipping, insurance, etc. The concentrate produced by the project will be very clean with minimal contaminants.

(vii)

Disclose and discuss the economic assumptions and parameters.

The Ore Reserve is estimated at $2.65 /lb Copper price, $1,100 /oz Gold price and $16.32/oz Silver price (Ore Reserves assumptions).

(viii)

Discuss any material risks.

None

(ix)

Discuss the parameters used to support the concept of "eventual"

The Mineral Resource is estimated at $3.30 /lb Copper price, $1,400 /oz Gold price and $25.65 /oz Silver price. Sensitivity copper analysis showed differences from -11% to +17 % (pounds) increasing and lowering cut-off respectively for copper prices from 2.9 to 3.8 USD$/pound. For step at 3.8 USD$/pound a total number of Mineral Resource was taken using the 2018 MSO results plus all available material from previous mining lifts, for 2.9 USD$/pound step a 20$/t NSR value cut-off was chosen from 2018 MSO exercise.

4.4
Classification
Criteria
(i)
Describe criteria and methods used as the basis for the classification of the Mineral Resources into varying confidence categories.
In 2014 only Inferred Mineral Resources was stated, in 2015,2016 and 2017 due to infill drilling in the central area of the deposit, a number of 18 % of the total Mineral Resource was classified as Indicated. In 2018 about 43 % (tons) of the total Mineral Resource was classified as Indicated. The change involved the updating of conditional simulation considering complete set of data (up to drill hole CHA-074) and adjusted the production scale to 6 Mtpy. Because conditional simulation showed an important portion of low grade material (low variability high continuity) as Indicated, estimation variance was used to be more conservative and downgraded the category applying KV<=0.25 for the high-grade zone (Cu%>=0.60%) and KV<=0.0125% for the low-grade zone (Cu%>=0.45 and <0.60%). (30x30 measured, 60x60 indicated, 120x120 inferred).
4.5
Reporting
(i)
Discuss the reported low and high-grades and widths together with their spatial location to avoid misleading the reporting of Exploration Results, Mineral Resources or Mineral Reserves.
High grade (>0.6 %Cu) and low grade (>0.45 % Cu), and about 29 % of Mineral Resource outside those envelopes are reported as Mineral Resource. Material included is all material included in a positive mining case for sub level caving, followed by block caving and includes internal dilution.
(ii)
Discuss whether the reported grades are regional averages or if they are selected individual samples taken from the property under discussion.
All the reported grades were estimated from samples using ordinary kriging.
(iii)
State assumptions regarding mining methods, infrastructure, metallurgy, environmental and social parameters. State and discuss where no mining related assumptions have been made
Assumptions: sublevel caving mining method, infrastructure in the valley area about 6 km from deposit, Flotation at 95.7 % Cu recovery, environmental and social scenario

considered in the overall strategy.

(iv)

State the specific quantities and grades / qualities which are being reported in ranges and/or widths and explain the basis of the reporting.

Total quantity of material satisfying the positive mining case was stated. Gradation included in the statement as well. Reporting considers all the Indicated Mineral Resource within the SLC design and includes dilution. As the SLC is a bulk mining technique the Ore Reserve is reported at a USD45/t NSR for production and USD25/t for development .

(v)

Present the detail for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in the Mineral Resource statement'.

No open pit or underground mine at the moment. Total Mineral Resource stated.

(vi)

Present a reconciliation with any previous Mineral Resource estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).

Small variations were shown from 2014 to 2018 Mineral Resources confirming the low variability copper mineralisation. All variations less than 5 %.

(vii)

Present the defined reference point for the tonnages and grades reported as Mineral Resources. State the reference point if the point is where the run of mine material is delivered to the processing plant. 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 Mineral Resource is reported as in situ but does include the dilution inherent with the cave design. In 2018 the Mining Stope Optimizer tool was used to define/update a positive case for use in constraint the Mineral Resource for Quebradona Project, actual sub level cave option was considered followed by a second phase block cave option. 40 $/Ore Tonnes Insitu NSR Value is the average of all material included in the mining shape with a NSR cut off value of about 19$/t.

(viii)

If the CP is relying on a report, opinion, or statement of another expert who is not a CP, disclose the date, title, and author of the report, opinion, or statement, the qualifications of the other expert and why it is reasonable for the CP to rely on the other expert, any significant risks and any steps the CP took to verify the information provided

The first model that supports the Mineral Resource declaration in 2014 was performed by QG (Quantitative Group). Mark Kent from AngloGold Ashanti (Mineral Resources Manager Australia) supervised the model and the Mineral Resource declaration.

In 2015, the Mineral Resource model for the MQC project was performed internally at AngloGold Ashanti Americas. Pablo Luis Noriega, MQC Geology Manager who was responsible for drilling, QAQC and geological modelling; and, Alessandro Henrique Medeiros Silva, Mineral Resources and Mine Geology Manager Americas who was responsible for the model building, geostatistics and block modelling.

An update was completed in 2016 adding 5 drill holes returning with assays from 2015 and no significant changes were recorded. No change for 2017 as no new information was added. In 2018 the classification was updated, and a new constraining mine design was completed.

(ix)
State the basis of equivalent metal formulae, if applied.
Example for AuEq considering Au, Cu and Ag. AUEQ= CUPPM*(RECAU/RECCU)+ CUPPM*(Copper price/Gold Price)*Relationship OZ/LB*RECCU+ AGPPM*(silver price/Gold price)*(RECAG/RECCU). REC = metallurgical recovery. NSR model was used for mining purpose. No metal equivalent is reported.

Section 5: Technical Studies

5.1
Introduction
(i)
Technical Studies are not applicable to Exploration Results
State the level of study whether scoping, prefeasibility, feasibility or ongoing Life of Mine
Finished Conceptual Study and completed the PFS in January 2019.
State the level of study whether prefeasibility, feasibility or ongoing Life of Mine. The Code requires that a study to at least a Pre-Feasibility level has been undertaken to convert Mineral Resource to Mineral Reserve. Such studies will have been carried out and will include a mine plan or production schedule that is technically achievable and economically viable, and that all Modifying Factors have been considered.
During the 2018 MQC Prefeasibility Study (PFS) Part A was completed and the PFS Part B was completed in January 2019. The work completed during the PFS-B study and forms the basis for the conversion of the Indicated Mineral Resource to Probable Ore Reserve.
The 2018 PFS was completed on a Sub-Level-Caving mining method for the Nuevo Chaquiro project with a nominal production rate of 6.2Mtpa. Work on the FS is scheduled to commence Q1 2019 and scheduled to be completed in 2020.
(ii)
Provide a summary table of the Modifying Factors used to convert the Mineral Resource to Mineral Reserve for Pre-feasibility, Feasibility or on-going life-of-mine studies.
The mining factors applied to the SLC Ore Reserve were applied to the drawpoint ore using Power Geotechnical Cellular Automata (PGCA) software by PowerGeotechnical. Each drawpoint was evaluated within PGCA on a typical 2.6m burden.
The dilution modelling estimated the recovered copper grade of 94% required extraction of 113.3% of fired the tonnes.
All development ore was excluded from PGCA production dilution modelling to avoid double accounting. The total (100%) development tonnes and grade are based on block model in-situ grades with no development profile over break allowance.
The metal prices used during the PGCA Ore Reserve evaluation were: 2.65 US$/lb; Gold Price: 1.100 US$/oz, silver 16.32US$/oz.
5.2
Mining Design
(i)
Technical Studies are not applicable to Exploration

Results
State assumptions regarding mining methods and parameters when estimating Mineral Resources or explain where no mining assumptions have been made.
Material included is all material included in a positive mining case for sub level caving followed by a block-caving combination and includes internal dilution.

(ii)
State and justify all modifying factors and assumptions made regarding mining methods, minimum mining dimensions (or pit shell) and internal and, if applicable, external) mining dilution and mining losses used for the techno-economic study and signed-off, such as mining method, mine design criteria, infrastructure, capacities, production schedule, mining efficiencies, grade control, geotechnical and hydrological considerations, closure plans, and personnel requirements.

Minera Quebradona Colombia (MQC) ore deposit will have two independent mine access portals located in the Cauca valley at the surface processing facility approximately 6 km away from the ore body. Twin tunnels will be developed in parallel for the first 2 km, then the twin tunnels will be developed upwards the SLC undercut level located 425 meters below surface. One of the twin tunnels is extended for the Material handling system located at the base of the SLC approximately 950 to 1000 meters below surface.

The selected mining method for MQC is the common caving method of sub-level-caving and was chosen to maximise Mineral Resource extraction. This is a mass mining method that is development intensive and more susceptible to dilution. Drill and blast activities are used to fracture the orebody under controlled conditions. Commencing at the top and sequentially moving downwards in uniformed horizontal slices (27.5 m spacing). Draw points are drill and fired every 2.6 meters along each drill drive spaced 15 m apart, retreating backwards towards the access drives.

Predefined ore tonnage is extracted from each drawpoint (>37 thousand over the life of mine or LOM) on each the production levels. Migrating rock is allowed to fill the voids within the drawpoint, thus allowing caving to propagate up towards the surface. The production activities for a 6.2 Mtpa operation promote continuous caving by allowing the ore to breakup, resulting in surface subsidence and draw down directly above the mining area.

The amount of extracted ore tonnes per drawpoint were determined by PGCA. This software models flow forms within the cave zone to estimate the dilution mixing with a nominal economic cut-off grade was selected on Net Smelter Return of US$45/t.

The draw strategy for the establishment of the SLC is,

50% Draw for the undercut
60% draw 2nd production level
80% draw 3rd production level
Over draw on the 4th to the 21st production level base on $/t cut-off value

All development ore was excluded from PGCA evaluation to avoid double accounting.

Each SLC drawpoint were evaluated individually within PGCA based on a diluted recovered Net smelter return (NSR) value nominal of $45/t cut-off grade (average NSR $69/t) to determine the final drawrates.

Following cessation of mining the following closure measures will be implemented.

Subsidence - Re-vegetation of the area, perimetric (Bunding, fencing and vegetation)

Mine Mobile Equipment - Disassembly and Equipment Removal.

Mine Access Tunnels - permanent seal and closure of access adits.

Ventilation Shaft- Ventilation Shaft Closure and Platform Reforestation.

The production level designs are based on the following design parameters,

2.6 m burden spacing,

15 m drill drive spacing,

27.5 m inter-level spacing,

Transverse layout,

Hydraulic radius of 39 (155 x 155) required to create the unstable span to initiate caving

The material handling system (MHS) will consist of,

5 internal ore pass from the SLC production levels 500m long,

6.2 Mtpa Ore transfer level with 3 tramming drives and 5 orepass drawpoints,

3 way tipping station,

Underground Crusher 1,500 t/h peak capacity,

6.1 Km Belt conveyor 1,011 t/h design capacity

Other major infrastructure included in the AGA financial modelling,

Underground magazine, workshop, pump chamber and primary ventilation.

All surface processing facilities and accommodation.

(iii)

State what Mineral Resource models have been used in the study.

The November 2018 mnc03_kvcu.dm Resource Model with the following main features,

lithology,

alteration,

in situ density,

Mineral Resource classification (indicated, inferred and external waste,

Grades for copper (%), gold (ppm), silver (ppm), molybdenum (ppm), arsenic (ppm) and Sulphur (ppm).

The following Mineral Resource Classifications; waste (0), Inferred (3) and Indicated (2). The use of these fields separately allowed the in-situ percentage of each Mineral Resource classification to be estimated for each 5 m x 5 m x 5 cell in the regularise Nov 2018 mnc03_kvcu.dm block model.

(iv)
Explain the basis of (the adopted) cut-off grade(s) or quality parameters applied.
Include metal equivalents if relevant
For the Ore Reserves, the Nov 2018 mnc03_kvcu.dm Resource Model was converted to the mine planning model Nov 2018 - mp03_kv15 with a Net Smelter Return (NSR) value field ($/t) hard coded into the block model.
The NSR determines the in-situ worth of each block model cell based on the costs incurred with delivering the final product to the market place. The NSR value excludes all mining costs associated with extracting the ore and delivery to the processing plant.
Copper Price - $2.65 / lb
Gold Price - $1,100 / oz
Silver Price - $16.32 / oz
Copper Recovery - 95.80%
Gold Recovery - 60.0%
Silver Recovery - 82.3%
Copper Concentrate grade - 28.9% dmt
Copper Concentrate moisture - 8.5% dmt
Copper Deductions - 3.5%
Gold Deductions - 6.0%
Silver Deductions - 10.0%
Copper Royalties - 4%
Gold Royalties - 3%
Silver Royalties - 3%
Other costs, Transport, freight, insurance, sampling, analysis, treatment charge(TC) and refining charge (RC) and commissions.
All NSR values are estimated with +25 to -15% level of confidence.
An initial cut-off grade was calculated based on the PFS A financial modelling results and a diluted NSR value of US$50/t,
Indicative only, CAPEX estimate of $715M,
Indicative only, SIBC estimate of $300M,
Indicative only, OPEX estimate of $3,500M,
Indicative only, mineable inventory estimates of 90 Mt.
Production modelling evaluated a diluted US$55/t cut-off grade using PGCA to determine the minable footprint, tonnes, grade, and the production throughput rate. Based on estimated tonnage and production rate the cut-off was reduced to NSR of US$45/t tonnage >90Mt and to ensure a >6Mtpa rates was achievable.
All material within the production boundary is classified as ore with a minimum drawrate of 50% assigned for sub economical production rings.
Development was assigned a nominal US$25/t cut-off to cover processing costs, general and administrative costs.

(v)

Description and justification of mining method(s) to be used.

The grade distribution within the orebody contains high grade in the upper domain and reduces with depth. The SLC mining method makes for a sensible and robust option for initial mining phase with the following advantages,

- Less upfront capital debt compared to other caving methods,
- Ability to access high grade ore located at the top of the ore body during the early stages of production schedule,
- Early establishment of the surface subsidence (Undercut consider shallow compared to block caving methods), Footprint capable of a 6.2Mtpa production rate and above,
- Provides flexibility through drill and blast techniques to define the ore boundary on each production level,
- Flexibility to change the mining method to other caving methods if and when required.

(vi)

For open-pit mines, include a discussion of pit slopes, slope stability, and strip ratio.

No open pit Ore Reserve

(vii)

For underground mines, discussion of mining method, geotechnical considerations, mine design characteristics, and ventilation/cooling requirements

The SLC caveability behaviour will vary between the rock types and will be influenced by major structures and faults zones. The Assessment of the rock mass quality concluded that for the Sub-level caving development drives for the upper production levels, rock mass show "Fair" to "Good" values along southern side. In terms of rock mass rating (RMR, Laubscher, 1990), the SLC development drives for the top 5 levels show "Fair" to "Good" values.

Geotechnical assessment completed by AGA, and reviewed externally by Stratavison Pty Ltd and later a peer review in Jan 2019. The review concluded that the rock mass will cave. A Hydraulic radius of 39 (155 m x 155 m) is required to create the unstable span to initiate the caving process. Given the planned dimensions of the undercut of 74,000m2 it is expected that caving will be initiated 6 months from the start of production.

The size of each production level footprint is more than sufficient to maintain a HR 39 until cave connectivity is established to surface. The final depth of subsidence is estimated at around 365 meters below surface.

The mine design of the underground is clipped to $45/t footprint and based on the Colombia Decree 1886 of 2015 statutory requirements, Underground Mining Safety Code (UMSC).

The estimated airflow for steady state production is 1088m3/s. Independent ventilation modelling concluded that the total the dilution factor for diesel particulate matter (DPM) is 0.09m3/s per kW of diesel engine power is more than sufficient to cover the other limits such as thermal and Nitrogen dioxide.

(viii)
Discussion of mining rate, equipment selected, grade control methods, geotechnical and hydrogeological considerations, health and safety of the workforce, staffing requirements, dilution, and recovery.
Production scheduling were based on the following drivers,
3 active production levels,
2 active development levels ,
4 production drill rigs capable of drilling 1.5Mtpa/rig,
6 SLC production loaders with a load capacity of 21t LHD (maximum 2 per production level),
SLC Short haul tram - 3,500 to 4,500t per day,
SLC Medium haul -tram 2,500 to 3,500t per day,
SLC Long haul tram - 1,500 to 2,500 t per day.
3 x 17t ore transfer loaders
6.2Mtpa Underground crush and Convey system.
All selected equipment has been previously used industrially and within capability range of the units. Conservative assumptions have been made in regards to equipment availability.
The technical study has estimated peak labour is around 300 employees for the underground project ramp-up period. The workforce number will be optimized during 2019 Feasibility Study.
Each level has been designed with fresh air, return air, refuge chambers and the level access entry have 2 means of egress to the twin portals at the processing facility.
The hydrological and hydrogeological studies completed characterised the on-mountain area (deposit) as semi-confined hard-rock aquitard of low groundwater storage hosted in the low permeability tuff (volcano sedimentary rock of Colombia Formation). The groundwater inflow to the underground mine is expected to be low with the occurrence and circulation of underground water is restricted in most of the fresh rock due to the relatively small degree of fracturing.
The storm water management strategy is to minimize water inflow to the subsidence area with the design of sumps and pumping systems that will cater from storm events of one 24 hour one in 100 year rain fall event.
(ix)
State the optimisation methods used in planning, list of constraints (practicality, plant, access, exposed Mineral Reserves, stripped Mineral Reserves, bottlenecks, draw control).
The MQC is a maiden Ore Reserve with the PFS technical study identifying ongoing optimization work for the 2019 FS for the following areas,
Workforce,
Surface infrastructure,
Underground Mine Layout,
Development sequence,
Production activities and sequence

5.3
Metallurgical
and Testwork
(i)
Technical Studies are not
applicable to Exploration
Results
Discuss the source of the sample and the techniques to obtain the sample, laboratory and metallurgical testing techniques.
All samples for metallurgical testwork were derived from diamond drill core. Most samples were quartered core, so as to preserve one quarter for the core library. However, four relatively large diameter holes (HTW) were drilled to provide bulk material for pilot plant testwork and some comminution tests requiring whole core. Samples were matched to the mine schedule grades for the economic elements and were also matched to the average for the respective mine level in regards to some other chemical elements considered to have a potential relationship with metallurgical behaviour. The samples were tested using standard metallurgical techniques with work performed at a number of reputable laboratories specializing in metallurgical testwork. Major techniques used were SMC testing for SAG and HPGR amenability, Bond work index for ball mill energy, flotation batch testing and vendor filtration testing.
(ii)
Explain the basis for assumptions or predictions regarding metallurgical amenability and any preliminary mineralogical test work already carried out
Three programs of metallurgical testwork have been carried out, as well as three programs of work on the copper mineralogy (including optical and electron microscopy) and an investigation of gold deportment using a variety of techniques including electron microscopy, LAICPMS and diagnostic metallurgical techniques. The first round of metallurgical testwork was on two average grade composite samples, one of tuff ore and the other of dyke. Testwork was then carried out on a composite sample of tuff and dyke. The second round of testwork tested four niche samples representing different types of alteration. These tests were particularly aimed at understanding ore variability and modes of gold occurrence as gold is an important by-product but has relatively low recovery into the copper concentrate. The third round of testwork was to develop design criteria for the PFS and tested three composite samples representing early, middle and late mine life, as well as a number of samples of separate ore types intended to develop predictive geometallurgical models.
(iii)
Describe the processing method(s) to be used, equipment, plant capacity, efficiencies, and personnel requirements.
The process flowsheet commences with primary crushing underground, with crushed ore being conveyed approximately 6 km to a surface coarse ore stockpile. Ore is reclaimed from this stockpile, screened and the oversize crushed and rescreened. The screen undersize is conveyed to HPGR, from which the product is wet screened. The wet screen oversize passes through the HPGR again, with the undersize being passed through hydrocyclones. The hydrocyclone overflow goes to copper flotation and the underflow is ball milled, before again being cycloned. The copper concentrate is reground and cleaned, and the copper float tail has additional reagents added to float off a pyrite concentrate. This is necessary to eliminate the risk of ARD generation from

flotation tails and also provides an opportunity to recover additional copper and gold. The copper and pyrite concentrates and the flotation tail are all thickened and filtered. The pyrite concentrate is stored in cells which will be sealed when full, to permanently prevent oxidation. The flotation tails are stacked for permanent storage and the copper concentrate is trucked to a port for shipment to smelters overseas. Copper recoveries are expected to be over 90% and gold recoveries 60% into copper concentrate. Sulphur recoveries are close to 100% overall. The concentrate grade is expected to be above 26% Cu, and with very low levels of deleterious elements present will be readily saleable. Personnel requirements are relatively low as the plant will be of modern design and heavily automated.

(iv)

Discuss the nature, amount and representativeness of metallurgical test work undertaken and the recovery factors used. A detailed flow sheet / diagram and a mass balance should exist, especially for multi-product operations from which the saleable materials are priced for different chemical and physical characteristics.

The metallurgical process is well tested and is in essence a typical porphyry copper flowsheet. Although modern equipment has been selected, all selected equipment has been previously used industrially and is not novel. The scale of the tailings filter plant is at the upper end of industrial experience with filtered tails, but the equipment itself is within the range of currently built equipment and the operation of multiple units presents no elevated risk. Conservative assumptions have been made in regard to equipment availability and the provision of stand-by filtration equipment. .

(v)

State what assumptions or allowances have been made for deleterious elements and the existence of any bulk-sample or pilot-scale test work and the degree to which such samples are representative of the ore body as a whole.

The Nuevo Chaquiro ore produces a concentrate that is exceptionally low in deleterious elements. Notable is the low arsenic content which will mean that the concentrate is in demand for blending. Bulk flotation tests have been carried out to generate samples for downstream testing and pilot scale testing will be done prior to commencing a Feasibility Study. Care has been taken to ensure that the samples tested are representative of the orebody as a whole, including work on the individual ore components.

(vi)

State whether the metallurgical process is well-tested technology or novel in nature.

As noted 5.3 (iii) above, metallurgical testwork has encompassed standard bench scale techniques including comminution, flotation and filtration. Testwork has included work to estimate the optimum primary grind size, flotation residence time, flotation pulp density, optimum regrind size, cleaning circuit design, thickener sizing and filter sizing. Work has also been done to determine whether site water has any effect on flotation, including a process to simulate the generation and use of process water. Testing has used three composites made up to represent early, middle and late mine life and has also tested 10 samples of individual tuff ore and 10 if dyke as well as samples of dilution material and a minor ore type that represents a substantial proportion of the ore in the middle years. Although it is not intended to include a copper-Mo separation stage in the initial process plant construction, Mo sales are expected to be potentially profitable after about five years, when Mo head grades rise, and preliminary work has been done to demonstrate Mo recovery and the potential for separation. The amount of testwork carried out is quite comprehensive and is considered adequate to support plant design and a conclusion that the ore can be profitably treated. Engineering process documentation has been prepared, including comprehensive flow sheets, mass balances, process design criteria, mechanical equipment lists, electrical load lists and operating cost estimates

5.4

Infrastructure

(i)

Technical Studies are not applicable to Exploration Results

Comment regarding the current state of infrastructure or the ease with which the infrastructure can be provided or accessed.

The method proposed for tailings storage is dry stacking of a filter cake largely due to the plant location topography where the facility will be constructed with an initial starter dam and subsequent elevation of the dam with the dry stacked tailings.

The project Tailings Storage Facility (TSF) considered multiple location options but all within the Cauca River lowlands to avoid the DMI zone (previously noted), keep project visibility from Jerico to a minimum, avoid multiple land owner challenges for both lands purchase and access, and ensure all Phase I and II ore could be retained within the confines of a single TSF.

(ii)

Report in sufficient detail to demonstrate that the necessary facilities have been allowed for (which may include, but not be limited to, processing plant, tailings dam, leaching facilities, waste dumps, road, rail or port facilities, water and power supply, offices, housing, security, resource sterilisation testing etc.). Provide detailed maps showing locations of facilities.

The main infrastructure facilities would be located in the Cauca Valley area, which connect to the underground mine through a 6 km tunnel. The major infrastructure components designed at PFS level by the main engineering consultant Ausenco are:

Underground Infrastructure and Utilities (including Primary Crusher and Conveyor system); Typical Copper Flotation Process Plant; Tailings Storage Facility (TSF) including Buttresses, Sediment/Stormwater Ponds, Diversion/Operational Channels, and Tailings/Pyrite residue Stockpiles; Deposits for Topsoil and Unsuitable Material; Structures for Water Management; Integrated Operations Area (IOA) comprising Surface Workshop, Warehouse, Fuel Yard, Geology Facilities, Chemical Laboratory, Administration Office Building, Tire Change; Construction / Operation Camp; Main Entrance Building; Explosive Facilities; Access Roads (connecting all surface infrastructure and underground access portals); and Support Utilities including potable and waste water systems, drainage, power, fire protection, communications. As part of the PFS study a Seismic Hazard Assessment has been conducted and also a comprehensive geotechnical / hydrogeological exploration programme including site and laboratory testing was completed to gather support data for engineering designs purposes.

(iii)

Statement showing that all necessary logistics have been considered.

The implementation of the project will require the use of a port capable of managing the inbound equipment and construction supplies as well as outbound product destined for the market. Transportation routes have been established to the region of the project and the mine access roads will be established in order to safely connect the project to the Colombian road infrastructure. The main road routes to the Quebradona site from the identified ports at Buenaventura have been assessed according to transportation weights and size constraints, there is no significant issues to moving general cargo, or mine site throughput, between the mine site and the Buenaventura port area.

Containerised concentrate transportation will be adopted, and a full description of the containerised transportation cycle and process flow was has been conducted. Storage of containers at the port does not require the purchase of any special container handling equipment, as both port have all the required equipment.

Dedicated truck transportation as a contracted service, from the mine site to the chosen port is the preferred method of transportation.

5.5
Environmental
and Social
(i)
Technical Studies are not
applicable to Exploration
Results
Confirm that the company holding the tenement has addressed the host country environmental legal compliance requirements and
any mandatory and/or voluntary standards or guidelines to which it subscribes
The mineral deposit is fully covered by a project owned tenement. For the development of the infrastructure associated with the
Quebradona s Project it was required to obtain additional mining proposals with the purpose of ensuring 100% ownership or control
of the area between the ore body (concession contract 5881) and the infrastructure location. This was part of a strategy to avoid any
potential risk in the development of the Project, such as conflicts with other projects that might be advanced in those areas before
the approval of MQCs PTO and EIA. Therefore, MQC submitted directly to the mining authority three proposals: LHJ-15051, LHJ
15053X, QEF-11131 and, SDO-08122. Additionally, it negotiated with third parties two other proposals that were presented prior to
MQC deciding to implement this strategy: JLH-16215X and TK7-08.
(ii)
Identify the necessary permits that will be required and their status and where not yet obtained, confirm that there is a reasonable
basis to believe that all permits required for the project will be obtained
Exploration activities do NOT require an environmental license, that said exploration must be carried out in compliance with the
Mining Environmental Guidelines adopted by the Ministry of Mines and Energy and the Ministry of Environment pursuant to
Resolution 18-0861 of 2002. These, along with additional permissions such as surface water concessions, water discharge permits,
and timber harvesting permits are processed before the Regional Environmental Authority - CORANTIOQUIA, CARTAMA Office.
The Environmental Impact study will be submitted to the authority in H1 2019. The fact that the EIA for the Gramalote project was
successful provides comfort that the MDC EIA will be timorously awarded.
(iii)
Identify and discuss any sensitive areas that may affect the project as well as any other environmental factors including I&AP and/or
studies that could have a material effect on the likelihood of eventual economic extraction. Discuss possible means of mitigation.
The only sensitivity area in the proximity to the project is the DMI (Integrated Management District), currently not affecting project
because all infrastructure is located outside from this area. In future this area is planned to be extracted from the tenements area. A
good mining option was designed considered the DMI are and the option was excluded during the site ranking exercise.
(iv)

Identify any legislated social management programmes that may be required and discuss the content and status of these
Points to be addressed and during project development are: Land purchase, easements contracts, land high costs. Noncompliance
of mining contract terms. Environmental permits. A strategy is in place and ongoing.
(v)
Outline and quantify the material socio-economic and cultural impacts that need to be mitigated, and their mitigation measures and
where appropriate the associated costs.
From social point of view the more important topics to be considered are: Loss or not obtaining socio political enablement, include
government, communities and political stakeholders. Project stoppage due to local opposition after the Ore Reserve is announced
and mine plans presented. Active social work is being carried out and started from the very earliest project stages.
5.6
Market
Studies and
Economic
criteria
(i)
Technical Studies are not
applicable to Exploration
Results
Describe the valuable and potentially valuable product(s) including suitability of
products, co-products and by products to market.
See below
(ii)
Describe product to be sold, customer specifications, testing, and acceptance
requirements. Discuss whether there exists a ready market for the product and
whether contracts for the sale of the product are in place or expected to be
readily obtained.
The Project will produce a concentrate which is very clean and as such it will be
highly marketability. The concentrate contains mostly copper and gold and lesser
amounts of silver, iron and molybdenum.
China is by a wide margin the largest market for third party copper concentrates
deliveries however, European, South American, Korean, Japanese and

Philippine smelters are also potential costumers due to the extremely attractive in quality and sizing of MQC product.

(iii)

State and describe all economic criteria that have been used for the study such as capital and operating costs, exchange rates, revenue / price curves, royalties, cut-off grades, reserve pay limits.

The economic criteria for BP2019 LoM plan were:

- Copper Price: USD$2.89/Lb Real Terms for 2023 onwards; Gold price USD$ 1.242/Oz Real terms for 2023 onwards. Nominal terms price curves according AGA BP2019 version August 2018
- Exchange rate: 2900 (COP:USD) for 2019 and onwards curve according AGA BP2019 version August 2018
- Royalties: for copper 5% payable on the value of the production at the mine gate (80% of the International Price LME) [As per current mining tax legislation].
- for Gold and silver 4% payable on the value of the production at the mine gate (80% of the International Price LME) [As per current mining tax legislation].
- Capex and Operating Cost Estimate: The following points are applicable to all operating costs developed for the project unless stated otherwise:
- Base date for the project is mid-year 2018 and cashflow escalated to 2019.
- Costs are presented in US dollars undiscounted at input terms.
- Base Exchange rate is of $COL 3,025 to US$ 1 for 2018, with fluctuation of the exchange in future years being captured by the financial model (as per BP2019 version August 2018).
- Fuel cost corresponds to prices at the site and has been set at 0.66 US$/L.
- The cost of electrical power was taken from the information supplied by IEB, in the file Precio Final kWh IEB 27-07-17, at $3025 COP:USD for 2018. The price for 2018 has been used and is US$0.0604/kWh.
- The labour cost estimate for direct operating positions includes provision to cover personnel absences for holidays, vacation, training and sick leave. There is no similar coverage for support, professional and supervisory positions as coverage would be provided by other departmental employees with similar skills.
- The Capital Cost Estimate (CAPEX) for the project components have been developed by different consultants. Ausenco has been nominated as the Capex Integrator and third-party reviewer and its scope was to compile the Capex into a single database, to review the depth and correctness of the overall project capital cost estimate, to perform a risk range analysis of the WBS packages and to calculate the contingency stochastically.

- The Operating Costs (OPEX) for the project were developed by the technical areas involved in the preparation of the PFS report, with support from specialists within AngloGold, specialized consultants, engineering companies and valuable service providers.

Overarching services were provided to guarantee the full operational status of the project in support for the technical areas. Careful consideration was given to reviewing battery limits between technical areas as well as qualifications, inclusions and exclusions from the technical reports. The overarching services account for personnel services, sales costs, specialized consultants, fees and taxes and others, as will be further detailed.

(iv)

Summary description, source and confidence of method used to estimate the commodity price/value profiles used for cut-off grade calculation, economic analysis and project valuation, including applicable taxes, inflation indices, discount rate and exchange rates.

Sub Level caving mine method were developed using AGA planning guidelines.

For financial evaluation the parameters are shown as following:

Copper Price: USD$$2.89/Lb Real Terms for 2023 onwards [AGA BP2019 version August 2018]

Gold price USD$ 1.242/Oz Real terms for 2023 onwards. [AGA BP2019 version August 2018]

Project Financial Valuation: Discounted Cash Flow (AGA standards)

Discount Rate (WACC): 9.45% [AGA BP2019], Escalation / Inflation: AGA BP 2019 version August 2018

Exchange rate (Col:US$): AGA BP2019 version August 2018

Financial time frame: Financial results for business plan 2019 [updated mine plan and macroeconomic assumption from AGA BP2019 version August 2018]

Royalties: for copper 5% payable on the value of the production at the mine gate (80% of the International Price LME) [As per current mining tax legislation].

for Gold and silver 4% payable on the value of the production at the mine gate (80% of the International Price LME) [As per current mining tax legislation].

Depreciation: Units of Production and Straight Line Meth. as it corresponds

Income Tax: 30% from 2022 onwards [as per current tax legislation].

(v)

Present the details of the point of reference for the tonnages and grades reported as Mineral Reserves (e.g. material delivered to the processing facility or saleable product(s)). It is important that, in any situation where the reference point is different, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

The reference point for the Ore Reserve is the point where the run of mine material is delivered to the processing plan.

(vi)

Justify assumptions made concerning production cost including transportation, treatment, penalties, exchange rates, marketing and other costs. Provide details of allowances that are made for the content of deleterious elements and the cost of penalties.

Mine:

The operating cost for underground mining considers any development in ore directly associated with the metal production once ore is taken from the first undercut levels. From this point of view, mine operating costs include Stoping costs of the SLC, operating development, and haulage.

The PFS assumption for development in ore and production operations is 100% owner operating scenario.

Mine operating costs were derived based on first principles estimation in a holistic cost model. The cost model connects production data to costs and its structure is based on each mining production task:

Direct: Drilling, blasting, loading, hauling, auxiliary services, underground mine dewatering.

Indirect: mine G&A.

Each direct task was evaluated under the cost structure of labor, fuel, power, drill tools, explosives, tires, contractors and maintenance. Indirect tasks capture management, supervision, minor supplies such as safety wear, light mobile equipment, internal services; and external services.

Plant:

The processing plant operating cost includes all the expenditures associated with each section of the plant and associated facilities such as Ore handling (underground crushing and conveying), all process plant costs, concentrate load-out, TSF management costs, ARD treatment and on-site infrastructure utilities and facilities. It excludes all other mine costs and concentrate transport to port etc.

Infrastructure:

The operating costs have been derived from raising the TSF dam, Filter plant, and associated infrastructure, for HV Power Connection costs and for overall buildings maintenance. The other infrastructure assets such as camps and roads, that will be built during implementation have their operating and maintenance costs.

For the TSF, operating costs include on-going construction of Dry Stack components including stacking arrangement (toe buttresses), subdrains, seepage collection system, and surface water management. The strategy has been defined to outsource the execution of these tasks as they are not considered core business

Logistics:

The operating cost regarding to Transportation, treatment, penalties and marketing has been derived from a study analysis and advisory made by Bluequest Resources AG (BQR) to Minera Quebradona.

The scope includes all the cost related to sea Freight, sampling & Analysis, Treatment Charge(TC), Refining Charge (RC)

In terms of Market information (Demand and Supply) the main source of information is Wood Mackenzie through its individual commodity market analysis issued for second quarter of 2018

(vii)
Provide details of allowances made for royalties payable, both to Government and private.
According to Article 16 of Law 756 of 2002, the exploitation of gold and silver is subject to a royalty of 4% over the production value of the non-renewable mineral. The exploitation of copper and molybdenum is subject to a royalty of 5%. The production value will be the 80% of the international price average value, published in the London Metal Exchange on a monthly basis
A 2% after tax net income will be payable to B2Gold according to the Shareholders agreement.
(viii)
State type, extent and condition of plant and equipment that is significant to the existing operation(s).
Quebradona is a Greenfield Project and as such the equipment and plant will be purchased new (or refurbished).
(ix)
Provide details of all environmental, social and labour costs considered
Rehabilitation & Closure Costs calculated by the environmental team, SRK for mine closure and Ausenco for plant and surface infrastructure. It includes mine closure on surface, underground mine and clogging of mine access portals, fencing of sensitive areas, revegetation, demolition and salvage of the process plant and tailings pipeline, mitigation on roads, platforms and tunnel, revegetation and slope protection of backfilled areas, waste and potable water systems dismantling, installation of monitoring systems and all associated engineering for design and construction of the measure.
Labour Cost G&A labour cost associated with the G&A Labour structure. The envisioned organizational structure was developed in discussion with members of the MQC managerial team and the Technical Committee. The labour rates have been benchmarked by Ausenco and MQC Human Resources area for the Mining and Energy sector, and finally updated by MQC HHRR area.
The environmental and social impacts of the Quebradona Project were subjected to specific analysis by the national environmental licensing authority ANLA, which validated and approved the management measures proposed by AGA for the prevention, mitigation, correction and compensation of impacts. In this context, the overarching objective is to secure that the project will manage in a comprehensive, responsible manner all its environmental and social aspects; furthermore, that its operating activities involve adequate management of natural resources and engagement with the community.
5.7
Risk Analysis
(i)
Technical Studies are not applicable to Exploration Results
Report an assessment of technical, environmental, social, economic, political and other key risks to the project. Describe actions that will be taken to mitigate and/or manage the identified risks.
The PFS identified Ninety-eight risks (98) and FS (scope included) Quebradona project, twenty-six (26) related to Safety and Health (including major hazards and event risk) and other eleven (11) related with security conditions.
5.8

Economic
Analysis
(i)
At the relevant level (Scoping Study, Pre-feasibility, Feasibility or on-going Life-of Mine), provide an economic analysis for the project
that includes:

(ii)
Technical Studies are not
applicable to Exploration
Results
Cash Flow forecast on an annual basis using Mineral Reserves or an annual production schedule for the life of the project
The economic evaluation of the Minera quebradona Project has been develop on an Excel-based model , using post tax stand-alone
discounted real term cash flows which generates a net present value (NPV), internal rate of return (IRR) and a payback period over
the expected life of the project (without any Sunk Costs).
The investment analysis received input in terms of operating costs, capital expenditure, physical activity, tax and macro-economic
assumptions from the technical functional areas involved in the project and from AGA Corporate office.
(iii)
A discussion of net present value (NPV), internal rate of return (IRR) and payback period of capital
The economic evaluation of the Minera Quebradona project will yield a real, after-tax IRR of 16.75%, with an NPV9.45 of US$536M
(real terms) for the LoM.
Payback is achieved after 7.9 years after project implementation.
The project capital will amount to US$992M (real value).
The LoM contains Approximately 3% of Inferred Mineral Resource in the payback period.
(iv)
Sensitivity or other analysis using variants in commodity price, grade, capital and operating costs, or other significant parameters, as
appropriate and discuss the impact of the results.
A combined sensitivity analysis for exchange rate and copper price variation was done, the combined effect of forcing both variables
to their minimum (decrease of copper price by 15% and a COP appreciation by 15%) decreases the IRR from 15,5% to 12,0%.
Increasing all variables to their maximum (increase of Copper price by 15% and a COP depreciation by 15%) increases the IRR to
18,6%. A static sensitivity for project implementation Capex and Operating cost was also performed, where an increase of 10% on
the Capex reduces the NPV9 value In US$69 M and Opex reduction of 10% rises the NPV9,45 at PFS to US$503 M.

Section 6: Estimation and Reporting of Mineral Reserves

6.1
Estimation and
modelling
techniques
(i)
Describe the Mineral Resource estimate used as a basis for the conversion to a Mineral Reserve
The estimation technique is Ordinary kriging and estimating in separate the different domains which are combined at the end of the
process. Drilling data was composited to 6m down-hole lengths prior to estimation, and extreme values were capped to reduce their
influence on the estimated metal. Category was assessed using conditional simulation 15 % rule for a 6.2 Mtpy production scale
combined with a drilling grid supervision and refine. Isatis is used for variography and Datamine software is being used for the
estimation. Optimization of search and number of samples used by blocks is done in a QKNA technic. No reserves at

this stage.

(ii)

Report the Mineral Reserve Statement with sufficient detail indicating if the mining is open pit or underground plus the source and
type of mineralisation, domain or ore body, surface dumps, stockpiles and all other sources.

The Nuevo Chaquiro Ore Reserve is being mined using underground the mining method of SLC.

(iii)

Provide a reconciliation reporting historic reliability of the performance parameters, assumptions and modifying factors including a comparison with the previous Reserve quantity and qualities, if available. Where appropriate, report and comment on any historic trends (e.g. global bias)

This a maiden publication of the Ore Reserve.

6.2

Classification

Criteria

(i)

Describe and justify criteria and methods used as the basis for the classification of the Mineral Reserves into varying confidence categories, based on the Mineral Resource category, and including consideration of the confidence in all the modifying factors.

The Mineral Resource Block model parent cell size of 40x40x20 in X, Y and Z dimension respectively. Drilling density is approximately 50x50 for the central area for Indicated Mineral Resources classification and a 120x120 for adjacent low grade for the inferred Mineral Resources classification. The use of multi holes platforms has increased the drilling density in the first 300 meters with the Indicated Mineral Resource portion having a 90 % probability to have an error no greater than 15% on a yearly basis.

The overall Mineral Resource Block drill density is approximately 80x80 m. Each Mineral Resource is allocated a numeric code and separated into binary code to determine the percentage of Mineral Resource for each SLC production ring. PGCA was used to simulate mixing within the cave zone and was equally applied to all Mineral Resource classifications. All indicated material within the SLC boundary were converted to Probable Reserve.

The life of mine plan requires extraction of 124Mt to recover 110Mt Probable Ore Reserves and 14Mt of Inferred material.

The LOM contains Approximately 3% of inferred material is included in the payback period of 8 years. Following payback period, the LOM remains cash positive.

6.3

Reporting

(i)

Discuss the proportion of Probable Mineral Reserves, which have been derived from Measured Mineral Resources (if any), including the reason(s) therefore.

No Measured Mineral Resource has been included in the Probable portion of Ore Reserve.

(ii)

Present details of for example open pit, underground, residue stockpile, remnants, tailings, and existing pillars or other sources in respect of the Mineral Reserve statement

The MQC Ore Reserve is to be mined using the SLC mining method.

(iii)

Present the details of the defined reference point for the Mineral Reserves. State where the reference point is the point where the run of mine material is delivered to the processing plant. 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. State clearly whether the tonnages and grades reported for Mineral Reserves are in respect of material delivered to the plant or after recovery.

The reference point for the Ore Reserves is the point where the run of mine material is delivered to the processing plant.

(iv)

Present a reconciliation with the previous Mineral Reserve estimates. Where appropriate, report and comment on any historic trends (e.g. global bias).

This a maiden publication of the Ore Reserve

(v)

Only Measured and Indicated Mineral Resources can be considered for inclusion in the Mineral Reserve.

All Probable Ore Reserves have been derived from Indicated Mineral Resources.

(vi)
State whether the Mineral Resources are inclusive or exclusive of Mineral
Reserves.
The Mineral Resources are inclusive of the Ore Reserves.
Section 7: Audits and Reviews
7.1
Audits and
Reviews
(i)
State type of review/audit (e.g. independent, external), area (e.g. laboratory, drilling, data, environmental compliance etc), date and name of the reviewer(s) together
with their recognized professional qualifications.
External Audit: An independent audit of the Mineral Resource and ore Reserve was performed in November 2018 by Optiro Pty Limited (Ian Glacken & Andrew Grubb
Ian Glacken is a geologist and geostatistician with over 35 years ' experience
in the mining industry with qualifications from Durham University and the Royal School of
Mines. Ian is a Fellow of the AusIMM and of the AIG, holds a Chartered Professional status in Australia and is a Charter Engineer in the UK and a Member of the
IMMM. Andrew Grubb is a mining engineer with over 40 years in the mining industry and has a BEng (mining) and Grad Cert Management (Monash Mt Eliza) and a
Fellow of the AusIMM). Not fatal flaws were identified.
QA/QC: Assays received a second lab check for about 5 % of the total samples (normally used ALS Chemex and check in SGS).
Environmental: Continued auditing process by the environmental authority Corantioquia making field visits and information requisitions. All tenements are audited in a
twice a year field visit and through obligatory formats (yearly and every 6 months).
.
(ii)
Disclose the conclusions of relevant audits or reviews. Note where significant deficiencies and remedial actions are required.
No fatal flaws were identified in the external Mineral Resource and Ore Reserve audit.
Mineral Resource summary of recommendations: Study eliminate hard boundaries in the estimation, retrospective cross check interlab to understand some not
common differences, change the identification in duplicate samples sent to the lab and test directional variograms.
Ore Reserve summary of recommendations: Formalise the Mineral Resource hand over process and date included in the block model file name,
Formal procedure for validation of the new Mineral Resource model and validation report.
Consideration to be given to increasing the level of contingency to 20% and capital cost contingent be maintained at the upper end of the that contained within the
SAMREC 2016) Table 2 guideline.
Extend the sensitivity analysis to include cost sensitivities of delays to the project approvals, project implementation and extended ramp-up
The LOM of 124 Mt includes about 14Mt of inferred material that has to be mined and has been subjected to the same modifying factors as the Indicated Mineral
Resource. Full disclosure regarding to the inferred Mineral Resource in accordance with clause 3.5 of the AGA reporting guideline and Clause 26 of the SAMREC
(2016) and 6.2 Classification criteria in SAMREC table 1.
AGA to provided in-house training of the MQC Competent persons and technical specialists.
Section 8: Other Relevant Information
8.1
(i)

Discuss all other relevant and material information not discussed elsewhere.
All relevant information is discussed in the relevant sections.

Section 9: Qualification of Competent Person(s) and other key technical staff. Date and Signature Page

9.1

(i)

State the full name, registration number and name of the professional body or RPO, for all the Competent Person(s). State the relevant experience of the Competent
Person(s) and other key technical staff who prepared and are responsible for the Public Report.

Mineral Resource:
Lead Competent Person - Pablo Luis Noriega
Technical Specialist:
Alessandro Henrique Medeiros Silva
Ore Reserve:
Lead Competent Person: Andrew McCauley
Technical Specialists:
Metallurgy: Nick Clark
Mine Planning: Andrew McCauley
Financial Model: Nestor Parra
Rock Engineering: Lammie Nienaber
Manager Sustainability: Edwin Arango

(ii)

State the Competent Person's relationship to the issuer of the report.
The Lead Competent Persons are full-time employee of Anglo Gold Ashanti.

Responsibility
Competent Person
Affiliation
Members
hip No
Years
Experience
Qualification
Mineral
Resource
Pablo Luis
Noriega
MAusIMM (Member of the
Australasian Institute of Mining
and Metallurgy)
315,688
20 BSc Hons (Geology)
Ore Reserve
Andrew McCauley
MAusIMM (Member of the
Australasian Institute of Mining
and Metallurgy)
223,692
7 Graduate Dipl.
(Mining)

SAMREC Code, 2016 Edition Table

(iii)

Provide the Certificate of the Competent Person (Appendix 2), including the date of sign-off and the effective date, in the Public Report.

MINERAL RESOURCE ORE RESERVE

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 19, 2019
AngloGold Ashanti Limited
By:
/s/ M E SANZ PEREZ
Name:
M E Sanz Perez
Title:
EVP: Group Legal, Commercial & Governance