NI 43-101 Technical Report Mineral Resource Estimates of the Kona South Deposit Cote d'Ivoire

Prepared for Centamin PLC

by

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1 Summary

This Technical Report was prepared by H&S Consultants for Centamin Plc (Centamin) on a Mineral Resource estimate for the Kona South deposit under National Instrument 43-101 (NI 43-101) . The Kona South deposit forms part of the Kona Project.

1.1 Property Description and Ownership

The Kona South deposit is the most advanced prospect in Centamin's Kona Project, which is located in the Kabadougou Region of the Denguélé District, in the northwest of Cote D'Ivoire. The Kona permit occurs approximately 600 km west of Centamin's Doropo Project and 540 km north-west of the capital city of Abidjan.

The Kona permit is registered as PR 658 (Permis de Recherche de Kona) and covers an area of 382.9km^2. It was granted by presidential decree in November 2016 for four years and can after that be renewed twice for three years, before going to exceptional request.

The Kona South resource is centred on about UTM 678,300mE and 967,200mN,

The Kona permit is part of a larger Centamin Project called ABC (Archaean-Birimian Contact Project) which also currently includes the FarakoNafana permit, located further north, and several permits that are under application. Kona permit is 100% owned by Centamin Cote d'Ivoire SARL, which is a 100% owned Ivoirian subsidiary of Centamin.

1.2 Geology and Mineralisation

The Kona permit is located along the main Archean-Birimian cratonic suture zone, which is expressed in western Ivory Coast as the Sassandra Fault Zone.

The Kona permit includes approximately 25 km strike length of Archean-Birimian Contact (ABC). Permit scale mapping and rock chip sampling in 2017 highlighted the Lolosso structure, a mineralised structure which bisects the Kona permit in a north-south orientation. This structure is technically located in the Archean domain, however, it is interpreted by Centamin to be a western splay from the major transcurrent Sassandra Fault, where a narrow keel of later Birimian volcano-sediments is entrapped within earlier Archean thrusted granite and gneissic sheets. This unit of Birimian volcano-sediments is the host of the mineralisation in the project area.

Two main areas, namely Kona South and Kona Central have been drill tested to date, following up on permit scale mapping and rock chip sampling. Drilling for resource definition focused on the Kona South because mineralisation shows a more obvious continuity.

At Kona South the gold is hosted almost entirely in the north-south striking psammite unit, dipping approx. 70° to the west. This unit is sandwiched between a calc-silicate unit to the west (hanging wall) and a paragneiss unit to the east (footwall). A further mafic volcanic unit abuts the hanging wall calc-silicate to the west, completing the Birimian inlier stratigraphy.

Gold mineralisation has a close spatial relationship with arsenopyrite to the extent that the presence of arsenopyrite normally indicates the presence of gold. The arsenopyrite occurs as disseminated grains and aggregates within the psammitic host, usually aligned to the foliation. The rock is strongly silicified within the mineralized zones, however, quartz veining is rare to non-existent and does not appear to be an important control to mineralization at Kona South.

1.3 Status of Exploration, Development and Operations

Centamin began exploration on the Kona permit in March 2017. Prior to Centamin's work, limited regional scale exploration had been carried out by Newmont. Centamin's exploration campaign has included reconnaissance mapping and systematic rock chip sampling, auger sampling, ground geophysical survey, as well as Reverse Circulation (RC) and diamond drilling. All the exploration work was conducted by Centamin personnel, or under their direct management, when carried out by contractors.

A field camp was setup in the middle of the prospective area, within the permit area. All field work was conducted from this camp.

RC and diamond drilling at Kona South has been conducted and forms the basis of the resource estimates presented in this report. In total 119 drill holes for 16,903 m have been drilled at Kona South.

Additional drilling has been conducted at Kona Central but this deposit is currently considered to be in early exploration stage. Kona Central contains a total of 50 RC and diamond drill holes, for 7,476 m of drilling.

1.4 Mineral Processing and Metallurgical Testing

Only limited metallurgical test work has been conducted on the Kona South mineralisation. A preliminary composite fresh sample of the Kona South Resource material was analysed by ALS Metallurgy Services (Perth) in August 2018, for which the a summary of the results can be seen in Figure 4-1. These results indicate the Kona South Fresh material is hard, abrasive and non-refractory with an 88.9% overall Gravity-CIL recovery at P_{80} passing 75 µm.

Table 1-1: Summary of ALS Metallurgy test work

SUMMARY OF RESULTS	
Testwork Parameter	**Kona - Lolosso**
SMC DWi (kWh/m^3)	11.1
Bond Abrasion Index	0.2586
Bond Rod Mill Work Index (kWh/t)	25.4
Bond Ball Mill Work Index (kWh/t) @ 106 µm Closing Screen Size	20.0
Au Head Assays (g/t)	1.82/1.98
Overall Au Extraction (%) via Gravity Gold Recovery and Cyanide Leaching @ P_{80} 75 µm	88.9
Overall Au Extraction (%) via Flotation @ P_{80} 106 µm, Leaching of Flotation Tail, and Leaching of Flotation Concentrate re-ground to P_{100} 63 µm	85.4
Overall Au Extraction (%) via Flotation @ P_{80} 106 µm, Leaching of Flotation Tail, and Leaching of Flotation Concentrate re-ground to P_{80} 10 µm	87.2

1.5 Mineral Resource Estimates

The gold concentrations were estimated by recoverable Multiple Indicator Kriging (MIK) using the GS3 geostatistical software. The method of recoverable MIK was developed during the early 1980's with a particular view toward addressing some of the difficult problems associated with estimation of resources in mineral deposits. MIK is one of a number of non-linear methods developed at that time, which can be used to provide better estimates than the more traditional methods of OK and inverse distance weighting.

Centamin provided H&SC with a series of wireframe solids representing the interpreted zones of elevated gold grades. H&SC used these wireframes as the basis to create a new series of wireframe solids that were suitable for MIK estimation. These changes were made to include peripheral mineralisation and produce zones of reasonably consistent thickness. These wireframe solids were created to encompass coherent zones of gold mineralisation elevated above background values. This nominally resulted in a gold grade boundary of about 0.05 g/t.

H&SC also created a series of wireframe surfaces for each deposit representing the base of transported material, the base of saprolite and the top of fresh rock using drill hole logging information.

The orientation of the mineralisation at the Doropo deposits varies significantly between deposits. Mineralisation at Kona South is relatively coherent compared to many gold deposits and shows good continuity in the along strike and down-dip directions and less continuity in the direction perpendicular to these.

The drilling at Kona South includes areas that have been drilled on a nominal 50x50 m grid pattern. The vast majority of intervals have been sampled on 1 m intervals. Samples were composited to 2 m intervals whilst honouring the mineralised domain wireframes and with a minimum composite length of 1.0 m. The block dimensions were 50 m along strike, 25 m across strike and 10 m vertically. The along strike dimension is the nominal drill hole spacing (preferable for MIK estimation). The across-strike dimension was shortened to reflect the anisotropy of the mineralisation and inclined drilling. The vertical dimension was chosen to reflect downhole data spacing.

The search criteria used to estimate gold concentrations can be seen in Table 1-2 and consist of three search passes with progressively increasing search radii and/or decreasing data requirements. Declustering was carried out by the use of search octants. The search ellipsoids for each domain are rotated according to the local orientation of the mineralised domains. Discretisation of blocks is based on 5 x 5 x 5 (east, north and vertical respectively) points.

Table 1-2: Search criteria

Axis	**Pass 1**	**Pass 2**	**Pass 3**
Axis 1 (Perpendicular to Strike and Dip)	15 m	30 m	30 m
Axis 2 (Along Strike)	60 m	120 m	120 m
Axis 3 (Down Dip)	60 m	120 m	120 m
Composite Data Requirements			
Minimum data points (total)	16	16	8
Max points (total)	48	48	48
Octants Required	4	4	2
Max points (per octant)	6	6	6

Recoverable MIK allows for block support correction by means of a variance adjustment to account for the change from sample size support to the size of the minimum Selective Mining Unit (SMU) in order to produce estimates of recoverable resources at pre-defined gold cut off grades. This process requires an assumed grade control drill spacing and the assumed size of the minimum SMU. The variance adjustment factors were estimated from the gold metal variogram models assuming a minimum SMU of 5 by 12.5 by 2.5 metres (across strike, along strike, vertical) with high quality grade control sampling on a 5 by 12.5 by 1.5 metre pattern (across strike, along strike, vertical). This is the same grade control sampling pattern as that applied to Centamin's Sukari Mine, located in Egypt.

Estimates of dry bulk density are based on a total of 769 density measurements taken from fresh drill core at the Kona South deposit. Measured density values show that the density of the fresh rock varies between individual rock types. The average density of the fresh rock for each logged rock type was assigned to drill hole logs and interpolated using Ordinary Kriging. Very little to no measured density values are available from the transported, saprolite and partially oxidised zones. The average density within each of the weathering domains was applied to the block model.

The resource classification is based on the search pass used to estimate the block. In order to limit small isolated volumes of different classification (spotted dog) the search passes used to populate each block were locally averaged. In addition to this, a string was used to limit the Indicated resources to areas that have been drilled on a nominal 50x50 m grid. Pass one nominally equates to Indicated Resources and passes two and three equate to Inferred Resources. The maximum extrapolation of reported resources is limited to 100 m from drill hole data and limited to a depth of 250 m below surface.

The Mineral Resources at Kona South at a cut-off of 0.5 g/t gold form a coherent zone with a strike length of around 2.4 km north-south and a plan width of 210 m. The upper limit of the mineralisation occurs at surface and the reported resources are limited to a maximum depth of 250 m below surface. The resources form a tabular body between 50 and 140 m thick, which dips around 70° to the west. The Mineral Resource estimates are reported at a gold cut-off grade of 0.5 g/t by weathering domain in Table 1-3.

Table 1-3: Estimates by deposit and weathering domain at 0.5 g/t Au cut-off

Oxidation	Indicated			Inferred		
	Tonnes (Mt)	Au (g/t)	Au (Moz)	Tonnes (Mt)	Au (g/t)	Au (Moz)
Transported	0.1	1.04	0.00	0.1	0.7	0.00
Oxidised	1.0	0.97	0.03	0.4	0.7	0.01
Transitional	1.4	0.96	0.04	0.4	0.7	0.01
Fresh	17.1	1.04	0.57	15	0.9	0.43
Total	**19.6**	**1.03**	**0.65**	**16**	**0.9**	**0.45**

1.6 Conclusions

H&SC is of the opinion that the Mineral Resource estimates are suitable for public reporting and are a fair representation of the in-situ gold concentration and contained metal for the Kona Project.

1.7 Recommendations

Centamin plans to continue exploration on the Kona permit with work focused towards growing the resources and the generation of resource quality drill targets.

Drilling for 2019 on the Kona Permit is budgeted to include approximately 30,000 m of RC to test new targets and infill resources. A further 4,000 m of diamond drilling is budgeted to target deep plunge models and expand the metallurgical variability test work of the Kona South deposit. Centamin informs H&SC that USD $4.7M has been budgeted for this work.

In addition to the planned exploration described above H&SC recommends the following:

- Additional, relatively low gold grade CRMs are recommended to be included in the list of CRMs used to verify the gold assaying.
- Inter-laboratory check assays
- More density test work is required for the weathered portions of the Kona South deposit in order to generate reliable density data. This is likely to require wax coating samples prior to density measurement. Centamin currently operate wax sealed density test work on weathered drill core at their Doropo Project, located in the north east of Cote d'Ivoire.

2 Introduction

H&S Consultants Pty Ltd (H&SC) was commissioned by Centamin plc (Centamin) to conduct an independent maiden mineral resource estimate of the Kona South deposit. The Kona South deposit is the most advanced prospect in Centamin's Kona Project, which is located in the Kabadougou Region of the Denguélé District, in the northwest of Cote D'Ivoire. The Kona permit occurs approximately 600 km west of Centamin's Doropo Project and 540 km north-west of the capital city of Abidjan.

The gold concentrations were estimated by recoverable Multiple Indicator Kriging (MIK) using the GS3 geostatistical software.

The drill hole and QAQC data that underpin the resource estimates were collected by Centamin between late 2017 and December 10, 2018, and all relevant data was provided to H&SC. H&SC has conducted sufficient checks to feel confident in the quality and veracity of the data provided. The analyses of the data and the information relating to the resource estimates were generated by H&SC. Information contained in Chapters 4, 5, 6, 7, 8, 9, 10, 11.1, 13, 23 and 26 of this report were provided by Centamin.

Rupert Osborn of H&SC visited the Kona permit area for two full days in December 2018. This visit was led by Pierrick Couderc of Centamin. During this visit, H&SC observed RC drilling and sample handling procedures, which were found to be industry standard. No diamond drilling was occurring at the time of the site visit, although Mr Osborn did observe diamond drilling in progress at the Doropo Project, Centamin's other exploration project in Cote D'Ivoire, where procedures are the same.

H&SC selected several diamond and RC drill holes in order to cross-check the geological logs against the drill core and chip trays and to better understand the geology and reliability of the logs. H&SC spoke to many of the key personnel including senior and junior geologists and the database administrator. The location of around 30 drill hole collar locations was checked against the database records using a handheld GPS.

In December 2018 Rupert Osborn visited the Bureau Veritas Laboratory in Abidjan in order to observe sample preparation and fire assaying procedures.

3 Reliance on Other Experts

The Qualified Person's opinion contained herein is based on information collected by Centamin. H&SC is reliant upon the information and data provided by Centamin. Information included in Sections 4, 5, 6, 7, 8, 9, 10, 11.1, 13, 23 and 26 is largely based on information provided to H&SC by Centamin. H&SC has, where possible, independently verified the data provided and completed a site visit to review physical evidence for the deposit.

H&SC has not performed an independent verification of land title and tenure as summarized in Section 4 of this report. H&SC did not verify the legality of any underlying agreement(s) that may exist concerning the permits or other agreement(s) between third parties, but have relied on information provided by Centamin for land title issues.

The costs associated with the recommended work in Section 26 of this report were provided to H&SC by Centamin. H&SC has not independently verified these predicted expenses.

The information relating to land title, tenure, the predicted costs of the recommended work and the metallurgical test work were provided in the form of a draft report via a shared cloud storage website transfer on 23 March 2019 from Norman Bailie, who is Centamin's Group Exploration Manager. H&SC has relied on the metallurgical test work to justify prospects for eventual economic extraction.

H&SC was informed by the Centamin that there are no known litigations potentially affecting the Kona Project.

4 Property Description and Location

The Kona permit is located in the North West of Cote d'Ivoire, in the Kabadougou region, 540 km north-west of the Economic Capital Abidjan and 80 km south of the city of Odienne Figure 4-1.

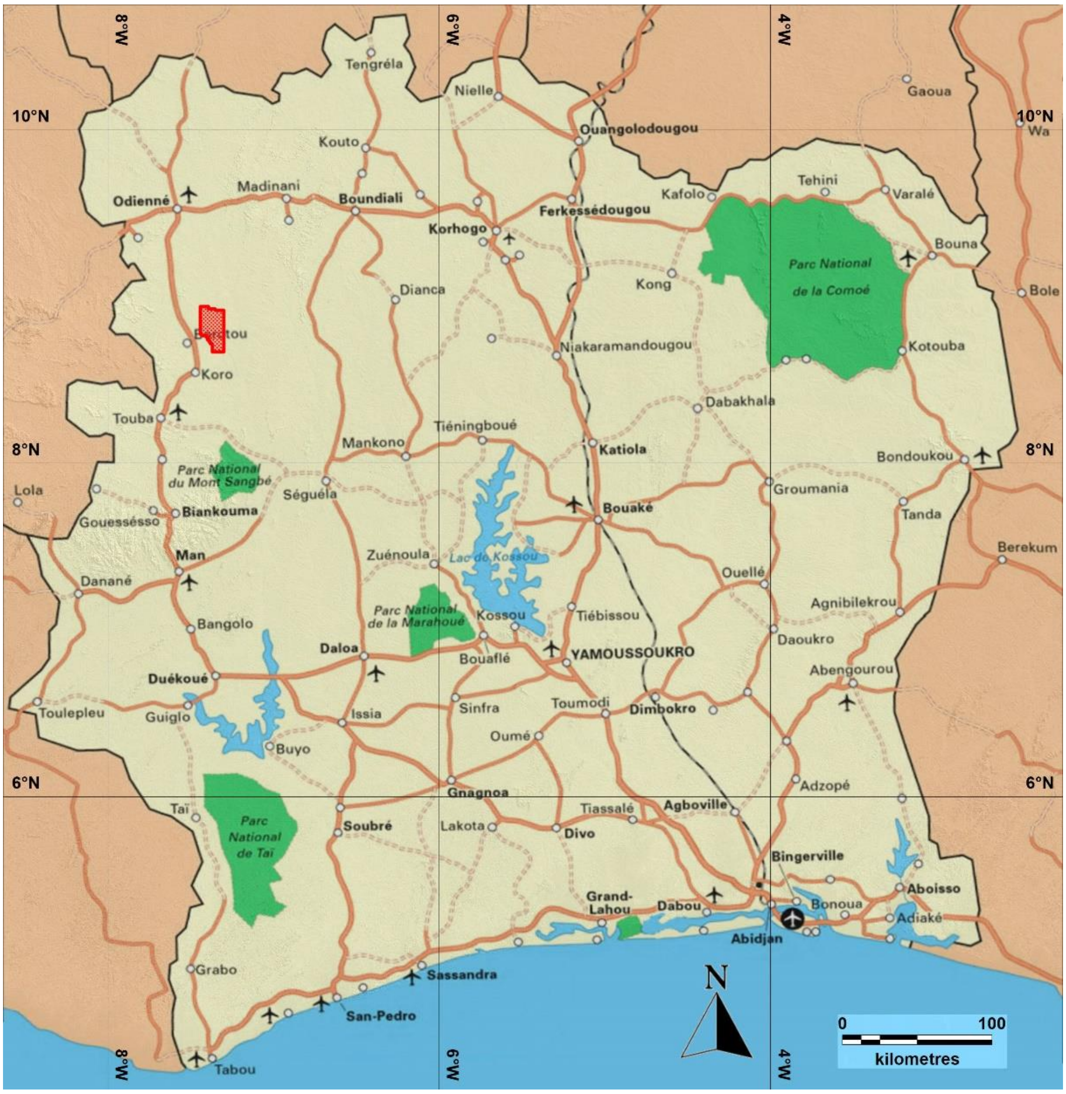

Figure 4-1: Location of the Kona permit – map of Cote d'Ivoire
(From Centamin, March 2019)

The coordinate system utilised for the Project is the Universal Transverse Mercator (UTM) projection, WGS84, zone 29 north.

The Kona South resource is centred on about UTM 678,300mE and 967,200mN, otherwise Latitude 8°44′47′′ N and Longitude 7°22′45′′ W.

The Kona Permit is part of a larger Centamin Project called the Archaean-Birimian Contact (ABC) Project which also currently includes the FarakoNafana permit, located further north, and several permits that are under application. The Kona permit is 100% owned by Centamin Cote d'Ivoire SARL, which is a 100% owned Ivoirian subsidiary of Centamin.

The Kona permit is registered as PR 658 (Permis de Recherche de Kona); it was granted by presidential decree in November 2016 for four years and can after that be renewed twice for three years, before going to exceptional request. A summary of the Kona permit details can be seen in Table 4-1.

The presidential decree sets thresholds of minimum expenditure per annum per area and restrictions on the type of work conducted in order to maintain the rights on the permits. The total expenditures, the work conducted and the results are summarized in bi-annual and annual reporting to the Direction of Mines. Regular field visits are conducted by the Mines Department to monitor progress and compliance.

The exploration activities, including drilling, need no other specific permitting in the field other than the consent of local communities and agreed rates of crop compensation. Crop compensation is paid, according to the guidelines set out by the Ministry of Agriculture, directly to the landowners.

Table 4-1: Summary of the Exploration Permits – as of January 2019

Permit name	Permit ID	Surface (km^2)	Status	Company	Date of grant	Expiry date
Kona	PR 658	382.9	Granted	Centamin Cote d'Ivoire S.A.R.L.	30/11/2016	29/11/2020

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The area is characterised by a relatively flat to subdued relief, with gentle hill slopes separated by a well-developed, dendritic drainage basins. The permit relief trends NNW-SSE with the key N-S Kona Ridge central to the Sein and Boa catchments. The Sein River represents the closest major tributary of the Sassandra catchment, running NNW-SSE along the eastern boundary of the permit. West of the Sein is the main Kona Ridge, a low continuous line of hills, underpinned by the N-S silica spine of the main mineralised Lolosso Trend. The west side of the permit is dominated by the Boa River basin.

Elevations on the Kona permit range from about 325 m on the south-east side to about 440 m along the main central ridge.

External to the permit, the relief rises to form mesas at over 200 m above the average elevations. These prominent buttes and ridges are often supported by doleritic sills to the west and south, and gneissic keels, up-thrust in the east, inboard of the main Sassandra cratonic contact.

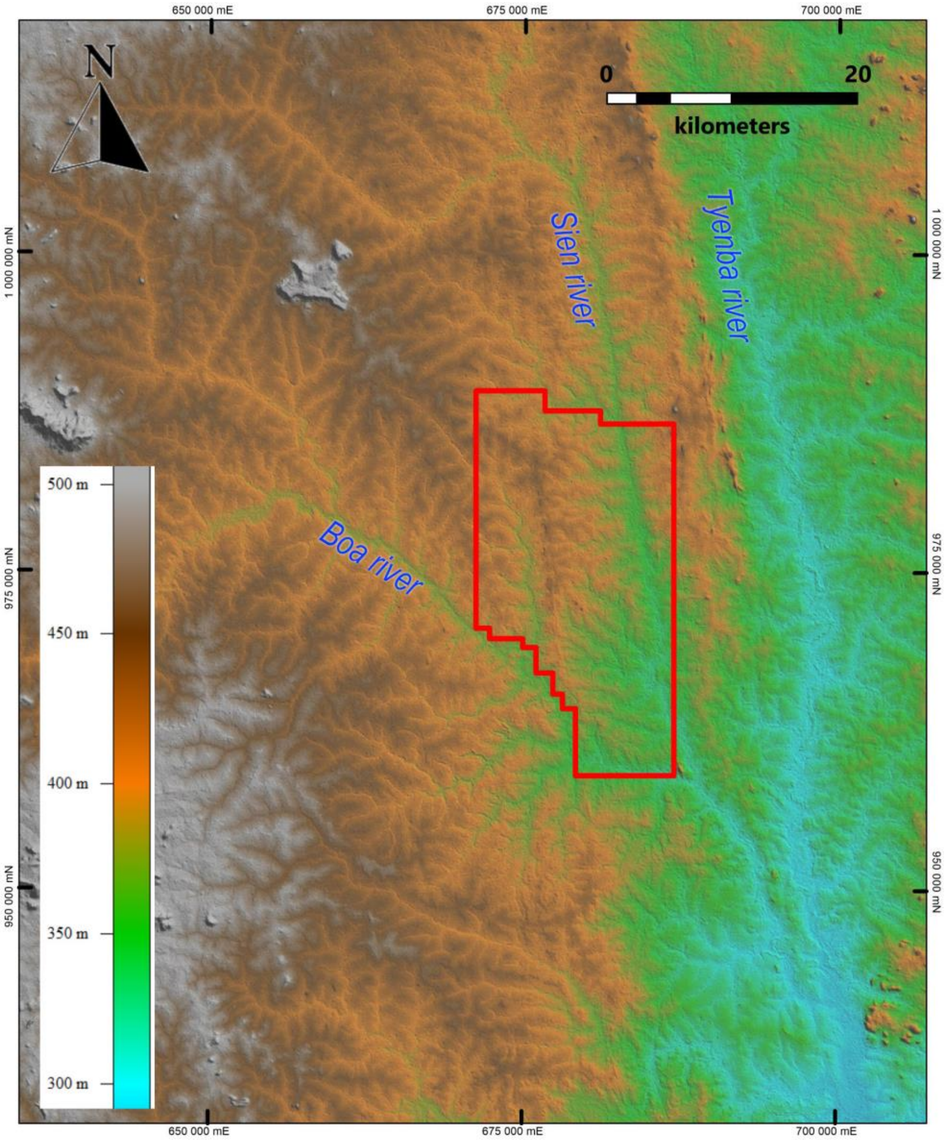

Figure 5-1: Elevations over the Kona permit – SRTM data
(From Centamin, March 2019)

The climate is classified as "Sudanese-type", with two distinct seasons, a rainy season and a dry season. The rainy season extends from April to October, with average annual rainfall of 1,385 mm. The dry season extends from October to April and peaks from December to February with a hot dry, dusty wind, coming from the Sahara regions, referred to as the Harmattan, which reduces visibility and increases respiratory illnesses. The average annual temperature is 25.5°C.

The vegetation is characterised by a mosaic of large tracts of secondary forest interspersed with windows of savannah grassland. The Kona Permit is bound on its northern and south-western sides by protected forests zones. Outside the protected zones, the local communities are largely exploiting the ground, opening the forest to plant for cocoa, bananas, cashew trees and other seasonal crops. South of the permit area, Sucrivoire, which is a subsidiary of the SIFCA group, exploits a large sugar cane plantation.

The Kona permit is located adjacent to the A7, the main national sealed road that joins Odienne to Yamoussoukro (A6) and beyond on the M1 motorway to Abidjan. A well maintained dirt road starts from the village of Mamoya, on the A7, to reach the village of Kona in 16 km (located almost in the middle of the permit) – the drive between Abidjan to Kona takes about 13 hours.

Odienne is easily accessible by commercial airline Air Cote d'Ivoire, three times a week, from Abidjan airport. The drive between Odienne Airport and Kona is 1.5 hours.

Within the permit, a good network of dirt tracks criss-cross the main Kona Hills allowing easy access to all areas.

The permit hosts four main villages: Kona, Moya, Tindirima and Mamouroudougou, all populated by the same ethnic group, the Malinke. Other Ethnic groups, such as the Mossi (coming from Burkina Faso) and Fula are present in scattered hamlets or are nomadic, driving their cattle through the district.

Agriculture and subsistence farming are the main industries and the local labour force is unskilled.

The power is supplied to local communities by the national power grid.

The local mobile phone network coverage is poor but a regional fibre-optic branch runs along the main A7 sealed highway and may offer options to direct client supply.

Water is abundant and non-seasonal, from both surface drainage and sub-surface aquifers.

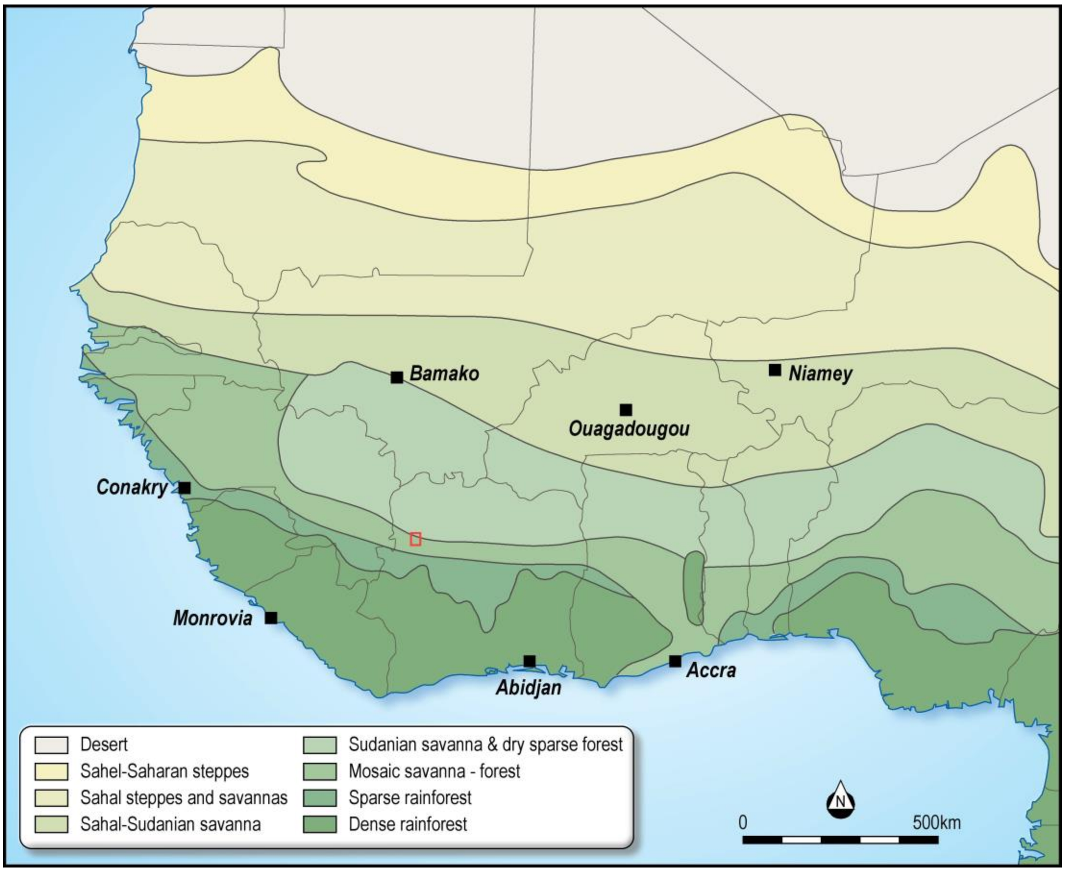

Figure 5-2: Main vegetation zones in West Africa
(From Centamin, March 2019)

Figure 5-3: Photograph showing a typical landscape on the Kona permit

6 History

Centamin applied for the Kona exploration permit in December 2015, the permit was granted in November 2016 by presidential decree and field work commenced March 2017.

The Kona area, west of the main Sassandra fault-drainage system, was traditionally considered of low prospectively for gold based on early BRGM mapping and interpretations. The official geological maps are poorly detailed and documented.

Newmont are believed to be the first exploration company to explore the area in 2010. They conducted regional drainage sampling, mapping and prospecting across the entire district. Their work highlighted the Kona area as one of their highest ranked targets.

Local exploration companies, including Golden Oriole and Sani Resources, applied for exploration permits on the back of the Newmont reconnaissance licences but never raised the finance to conduct any significant work and subsequently had their permits revoked. Centamin acquired the exploration permits from the government in 2015 to 2016.

The 2018 Kona South mineral resource is the first defined in the area. There is no evidence of any illegal artisanal mining in the permit area.

7 Geological Setting and Mineralisation

7.1 Regional Scale Geology

The West African craton covers a surface area of 4.5M km², extending from the northern parts of Mauritania in the north, to the southernmost West African countries of Liberia, Cote d'Ivoire, Ghana in the south. It crops out in two major areas, the Reguibat shield in the north and the Leo-Man shield in the south, as shown in Figure 7-1. The Leo-Man shield includes the major gold producing provinces in Ghana, Burkina Faso, Southern Mali, Guinea and Cote d'Ivoire.

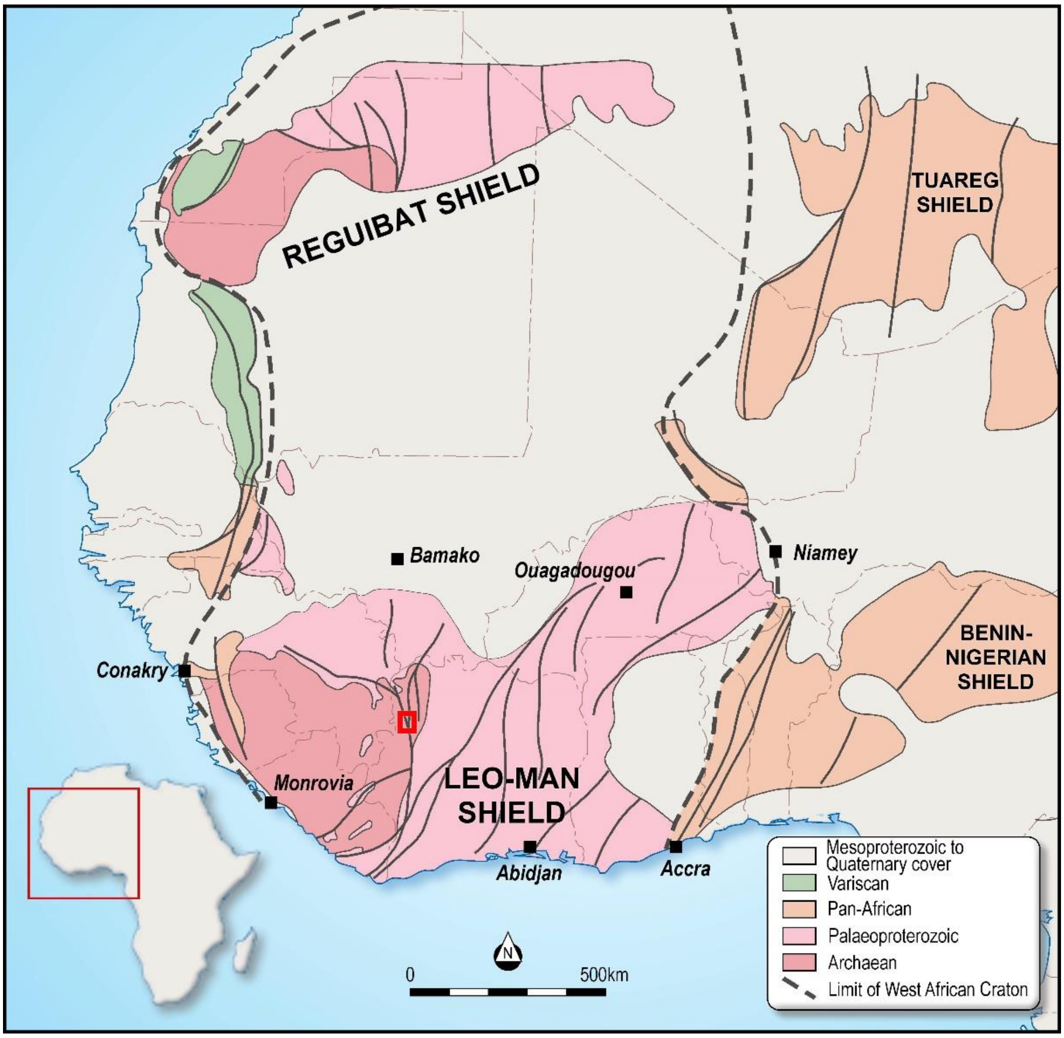

Figure 7-1: Map of West African Craton
(From Centamin, March 2019)

In the Leo-Man shield, shown in Figure 7-2, Paleoproterozoic rocks, known as the "Birimian domain" are tectonically juxtaposed against the Archaean basement along the Sassandra suture. The gold deposits largely lie within the Birimian domain, which covers about 85% of Cote d'Ivoire.

The structure within the Birrimian domain was formed during the Eburnean megacycle between 2.5 to 1.6 billion years ago and the main tectono-metamorphism events occurred between 2.2 to 2.0 billion years ago. This Paleoproterozoic domain includes greenstones belts (volcano-sediments) bounded by large areas of tonalitic granite-gneiss, trondhjémite and granodiorite (TTG orthogneiss suite, Tonalite-

Trondhjemite-Granodiorite). Later stages of alkaline and calc-alkaline granitic plutons intrude this rock package.

The bulk of the mafic dyke swarms which cross-cut the Birimian are Jurassic in age and relate to the opening of the Atlantic and the break-up of Pangaea.

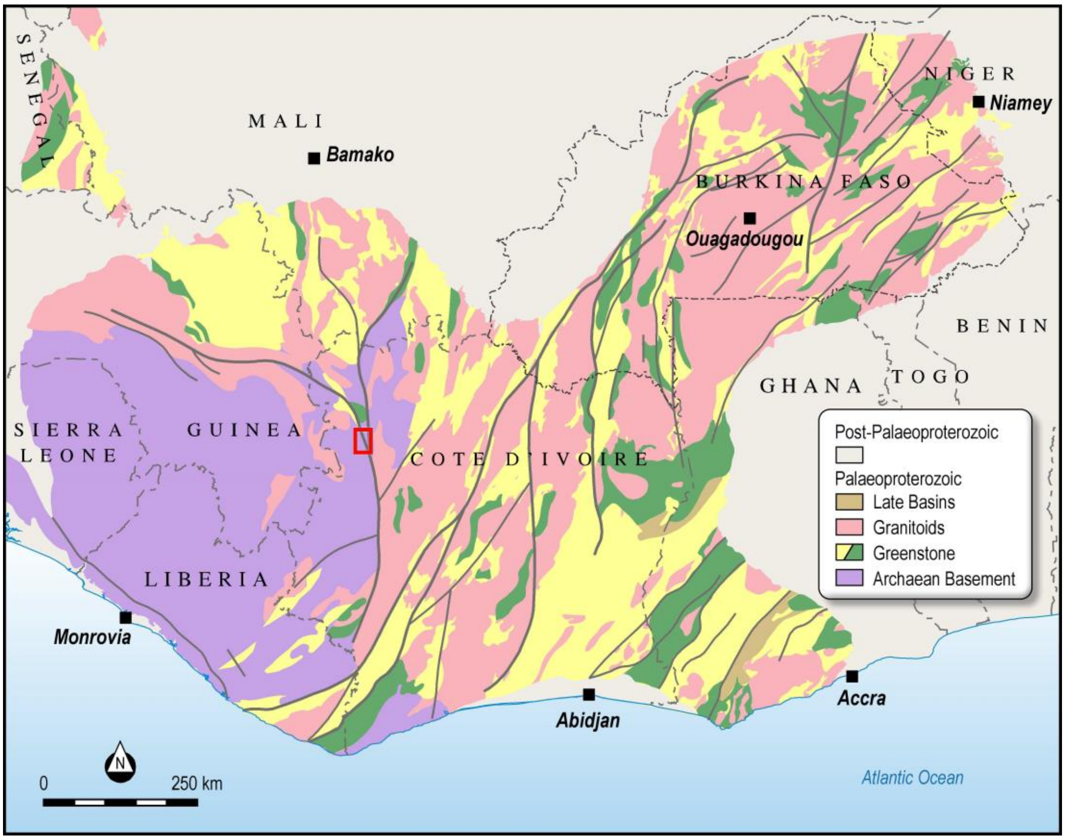

Figure 7-2: Geology of the Leo-Man Shield – from the BRGM interpretations
(From Centamin, March 2019)

7.2 Project Scale Geology

The Kona Project is located along the main Archean-Birimian cratonic suture zone, which is expressed in western Ivory Coast as the Sassandra Fault Zone.

The Kona permit includes approximately 25 km strike length of Archean-Birimian Contact (ABC). Permit scale mapping and rock chip sampling in 2017 highlighted the Lolosso structure, a mineralised structure which bisects the Kona permit in a north-south orientation. This structure is technically located in the Archean domain, however, it is interpreted by Centamin to be a western splay from the major transcurrent Sassandra Fault, where a narrow keel of later Birimian volcano-sediments is entrapped within an earlier Archean thrusted granite and gneissic sheets. This unit of Birimian volcano-sediments is the host of the mineralisation in the project area.

Outcrop in the area is limited due to tropical regolith. The main Kona South resource, however, sits on a prominent silicified line of hills known as the Lolosso structure, which have limited surface regolith. Deeply weathered saprolite or transported soils and sediments cover most of the surrounding areas.

Two main areas, namely Kona South and Kona Central have been drill tested to date, following up on permit scale mapping and rock chip sampling; the southern zone and the central zone. Drilling for resource definition focused on the southern zone because it shows a more obvious continuity, however the further drilling is planned to better understand the mineralisation at Kona Central. Figure 7-3 presents a map showing the location of the Kona South and Kona Central deposits. Other areas of geochemical interest have been identified within the project area and remain targets for future exploration.

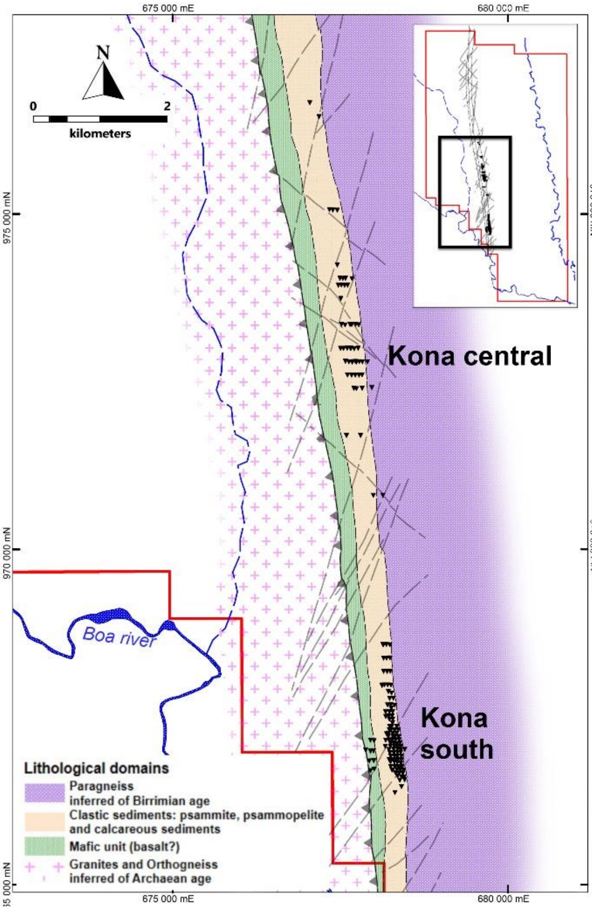

Figure 7-3: Map showing location of Kona South and Kona Central
(From Centamin, March 2019)

7.3 Kona South

The main focus of exploration has been the Kona South deposit, which hosts the entire resource estimate presented in this report. At Kona South, the gold is hosted almost entirely in the north-south striking psammite unit, dipping approx. 70° to the west. This unit is sandwiched between a calc-silicate unit to the west (hanging wall) and a paragneiss unit to the east (footwall). A further mafic volcanic unit abuts the hanging wall calc-silicate to the west, completing the Birimian inlier stratigraphy. The Archean granitic domain is located just 500 m to the west of the Kona South mineralized zone, which sits on the eastern footwall of the inlier thrust. The psammite unit has an average true thickness of 100 m and is often complexly interlayered with the calc-silicate lithologies, forming a depositionally interleaved contact between the two.

The psammite and calc-silicate units are interpreted to have been deposited in a shallow marine shelf paleo-environment.

The psammite unit is a fine to medium grained, moderately well sorted dark sedimentary rock, with a feldspathic to arkosic composition. The principle minerals observed in thin section are quartz, feldspar and biotite, as well as epidote and amphibole as minor accessory minerals. Photographs of drill core intersections of the psammite unit are shown in Figure 7-4.

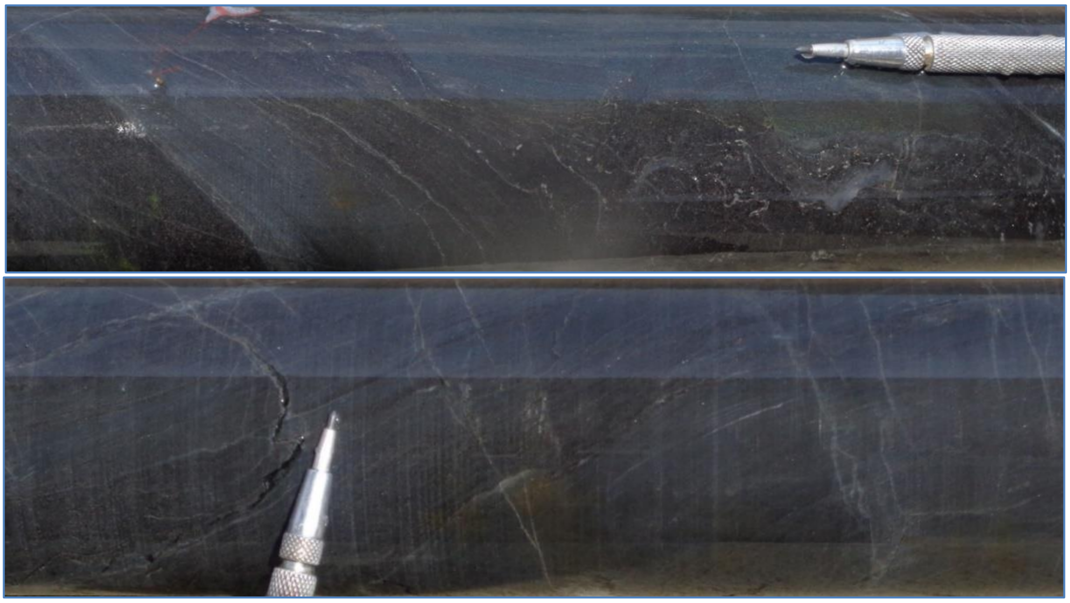

Figure 7-4: Photographs of psammitic unit unit
(From KNDD0001: Downhole depths from top to bottom: 128.7m (1.21 g/t Au), 114.2m (1.23 g/t Au))

The calc-silicate unit contains a fine greenish coloured banding, which alternates with a dark clastic banding, the latter being similar in composition to the psammite unit. This green banding is typically composed of calcite, epidote, plagioclase and amphibole, as well as minor amounts of biotite and muscovite. The unit is usually barren of any mineralisation and often behaves as the hangingwall unit. Photographs of drill core intersections of the calc-silicate unit are shown in Figure 7-5.

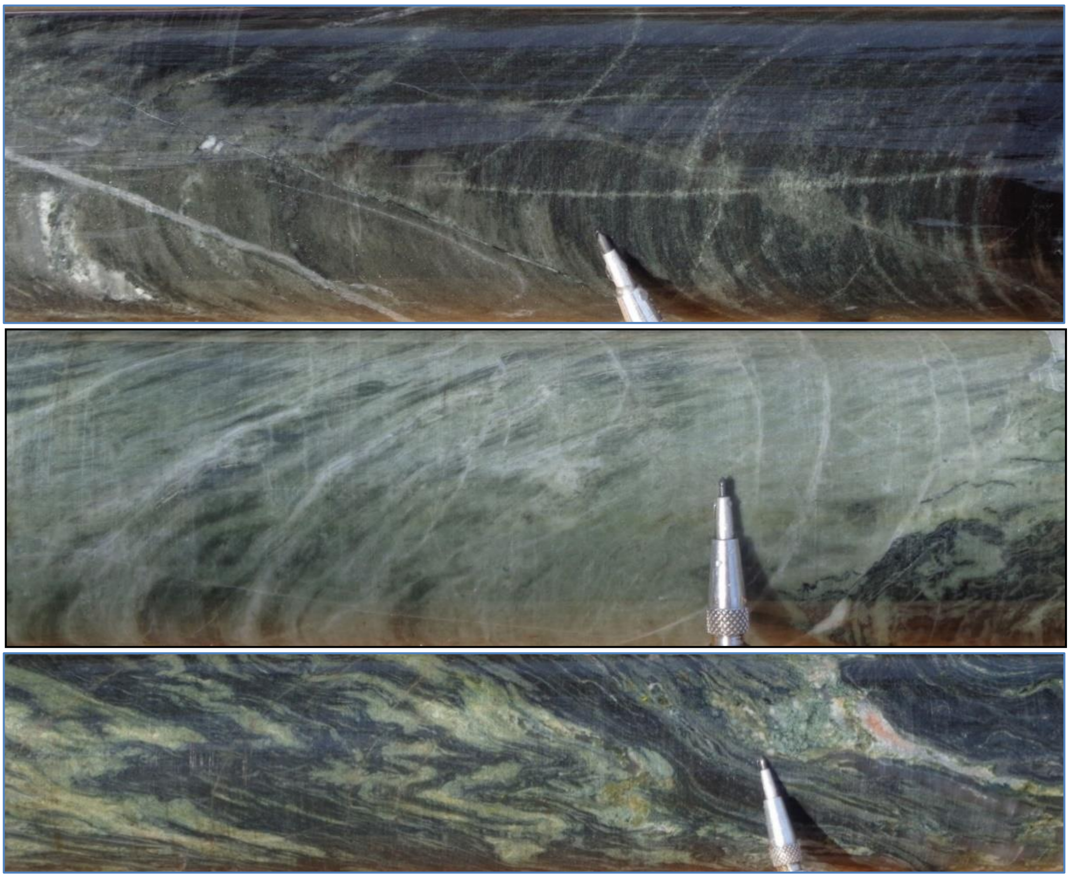

Figure 7-5: Photographs of calc-silicate unit
(From KNDD0001: Downhole depths from top to bottom: 23.4 m, 27.8 m, 36.5 m)

The paragneiss unit is interpreted to be formed from the partial melting and migmatisation of the psammite and calc-silicate sediments. Evidence of progressive partial melting can be observed throughout the volcano-sedimentary units, which becomes more intense and more developed closer to the footwall paragneiss contact. The paragneiss unit is therefore interpreted to be the result of almost complete melting of the volcano-sedimentary units, with an irregular, assimilation zone observed between the two. The composition of this unit is therefore almost identical to that of the sediments and is mostly composed of feldspar, quartz and biotite, overprinted with large phenocrysts of tourmaline. A photograph of a drill core intersection of the paragneiss unit is shown in Figure 7-6.

Figure 7-6: Photograph of paragneiss unit unit
(From KNDD0001: 245 m)

Foliation and mesoscale folding can be observed throughout the area. This is more obvious within the calc-silicate unit and is represented by the alternated banding of green and black bands, which are often folded. Foliation can also be observed within the psammite, but is less obvious due to the homogeneous nature of this unit. Sulphides and small quartz veinlets are often observed to be orientated and controlled by the foliation. Foliation is generally striking north-south and dipping 70° to the west.

Gold mineralisation has a close spatial relationship with arsenopyrite to the extent that the presence of arsenopyrite normally indicates the presence of gold. The arsenopyrite occurs as disseminated grains and aggregates within the psammitic host, usually aligned to the foliation. The rock is strongly silicified within the mineralized zones, however quartz veining is rare to non-existent and does not appear to be an important control to mineralization at Kona South. Example photographs of intervals with high gold grades and visible arsenopyrite are shown in Figure 7-7 and Figure 7-8

Figure 7-7: Photograph of abundant, foliation controlled, coarse grained arsenopyrite
(From KNDD0001: 176.4m (2.23 g/t Au))

Figure 7-8: Photograph of diseminated coarse grained arsenopyrite
(From KNDD0001: 129.8m (4.24 g/t Au)

In the main resource area, the average thickness of the mineralisation is approximately 100 m, with well-developed mineralisation occurring for a strike length of approximately 1.0 km. Grades in this area are very continuous, both along strike and down-dip, with higher grades normally located in close proximity to the calc-silicate hanging wall contact. The mineralised lodes strike approximately north-south, dipping 70° to the west and appear still open in all directions, with the deepest drilling to date proving that well developed mineralisation still occurs in excess of 220 m below surface

7.4 Kona Central

Kona Central lies 3.7 km to the north along strike from Kona South and is the other area of mineralisation that has been drill tested. This report focusses on the mineral resource estimates of the Kona South deposit but information on Kona Central is provided for completeness. The geology in this area also consists of a psammite unit, which hosts the majority of the mineralisation, and a paragneiss footwall. The calc-silicate lithology is very rare in this area and not often observed, probably due to limited drill testing on the western extent of the mineralisation. The psammite unit is much wider in this area, averaging 200 m in true width and also dipping approximately 70° to the west. It is also observed as outcrop in some areas.

The mineralisation in Kona Central is much wider than Kona South, but with lower average grade. The style of mineralisation in Kona Central is the same as Kona South, with a spatial association to arsenopyrite and silicification within psammitic stratigraphy.

This area of mineralisation has a current strike length of 1.6 km and is open in all directions. Drill section spacing's vary between 100 m to 400 m

8 Deposit Types

The West African Leo-Man shield hosts a number of world-class gold deposits, that all lie within the Birimian rocks. Major deep seated structures, crustal scale shear zones, are used as channel ways for mineralizing fluids.

Gold mineralisation occurs as various styles:

- discrete quartz veins (planar, anastomosing), shear zone hosted,
- disseminated, shear zone hosted,
- disseminated, breccia hosted (more brittle like deformation),
- intrusion related,
- skarn hosted,
- porphyry hosted, including copper-gold,
- paleo-placer conglomerates,
- supergene,
- IOCG.

The Sassandra shear system is a major cratonic suture and a dominant regional feature of the Birimian geology of western Ivory Coast. Regional target generation by Centamin identified the ABC Project and the Kona Permit in particular as a potential setting for scale gold endowment.

The trap site at Kona South – and by extension in the Kona permit – is unusual for West African styles of mineralisation because to date no obvious direct local structural control on grade has been identified. Resource grade mineralisation seems to be rheologically controlled within the more competent psammitic units but at a broad micro-ingress scale unrelated to local faults or shears. The hangingwall and footwall margins to the main stratigraphic units form potential targets for future drilling. The key elements for the Kona-style trap site are:

- Simple litho-stratigraphy consisting of only two main units, a calc-silicate bearing and a clastic unit;
- Progressive and rapid increase in partial melting in the form of migmatite development in the structural footwall;
- Lack of clear shear elements and related veining;
- Local domains of pervasive silica alteration;
- Bands of disseminated arsenopyrite that tend to have diffuse boundaries and that correlates with higher gold grades;
- High degree of continuity in the mineralised position.

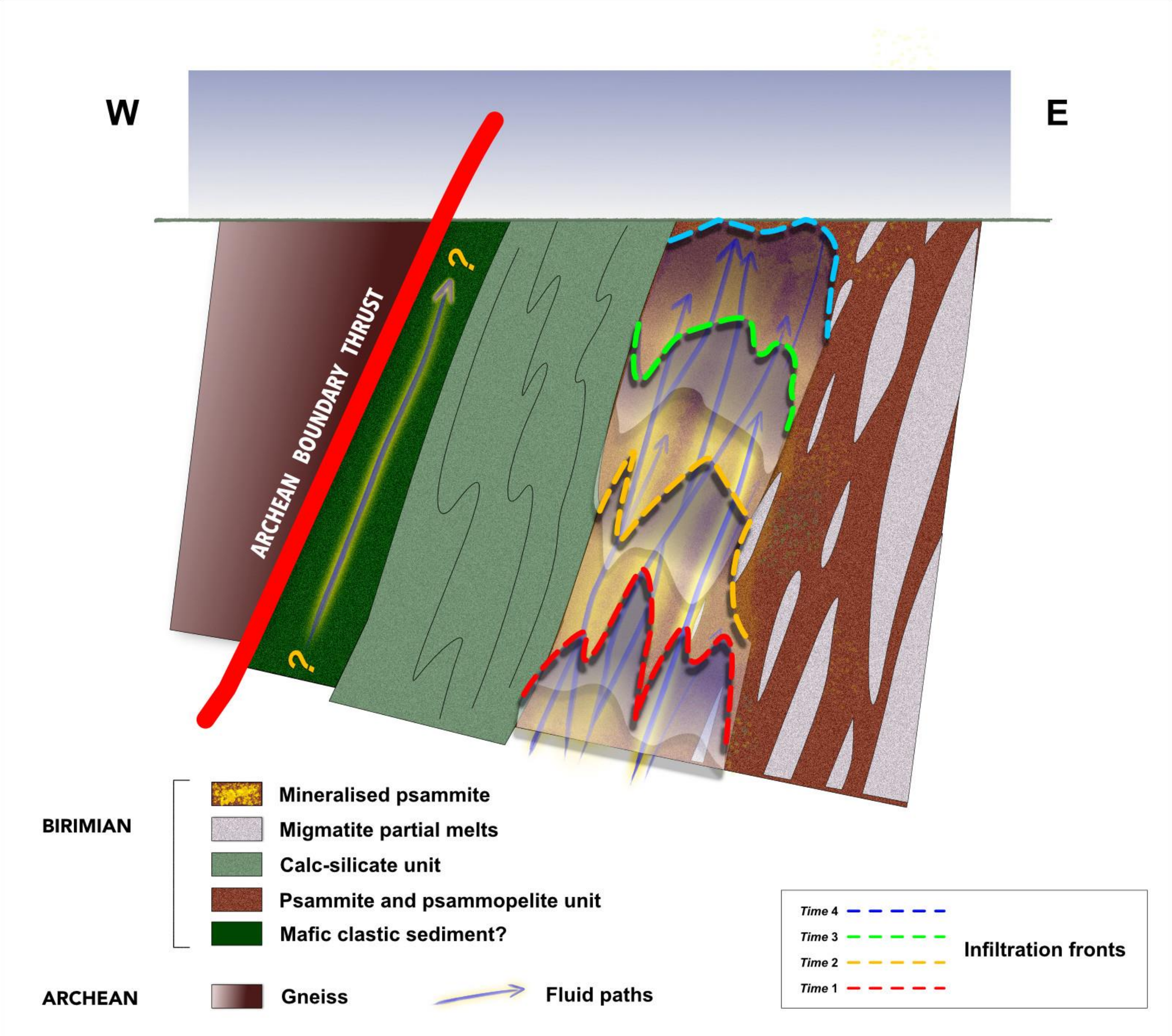

Figure 8-1: Schematic cartoon illustrating the time dependent evolution of permeability within the deforming psammitic host.
(Note that lateral fluid movement is also likely)
(From Renaissance Geology, June 2018)

A working interpretation foresees hydrothermal fluids accessing the depositional sites via an infiltration mechanism, exploiting grain boundaries during the development and evolution of the foliation. This is supported by the high aspect ratio of arsenopyrite grains and aggregates and their contribution to the definition of the foliation. Grain shapes, foliation parallel alteration fabrics and the observable uniformity of grade across the units, support ingress and deposition along with primary crystallisation under restrictions of local finite permeability conditions during the hydrothermal event. This interpretation is considered by Centamin to be a work in progress.

There is deeper grade potential within the plumbing architecture below these diffuse, high level distal trap site lodes. Kona is a big system with good potential for structural grade enhancement along and within its extensive regional fluid permeability layer.

9 Exploration

Exploration activities on Kona permit started in March 2017 and have included reconnaissance mapping and systematic rock chip sampling, auger sampling, ground geophysical survey, RC and diamond core drilling. All the exploration work was conducted by Centamin personnel, or under their direct management, when carried out by contractors.

A field camp was setup in the middle of the prospective area, within the permit area. All field work was conducted from this camp.

9.1 Coordinates, Survey Controls and Topographic Surveys

The default coordinate system used on the Project is based on the UTM coordinates, Zone 29 North in the World Geodetic System (WGS) 84. The Shuttle Radar Topography Mission (SRTM) digital data is used as the topographic reference for all the exploration work carried out to date. For the purpose of the resource work, a topographical ground survey was completed at the end of 2018, to produce a detailed DTM surface.

GEDES International S.A.R.L. Surveyors (Geo-Engineering Design and Surveying), an accredited CDI survey company, conducts all resource survey including control monuments, topography and drilling collar pick up.

All drill hole collars (including RC and diamond collars) are surveyed using differential GPS unless accuracy is deemed to be low due to issues such as poor satellite coverage or abundant vegetation cover. In these cases, a total station is used to record the location of the collars. All other programs including soil samples, rock samples, auger collars, trenches, aircore collars are located using hand-held GPS units.

The collar elevations are linked to the EGM2008 geoid system (similar to the Mean Sea Level in the area).

9.2 Geological reconnaissance, mapping

The first geological reconnaissance mapping and prospecting quickly identified the main Lolosso Corridor relief and prospectivity. Several mapping campaigns have been completed since March 2017 to support the various exploration and drilling programs.

The current geological map of the Lolosso corridor has integrated field mapping, litho-factored multi-element geochemistry from rocks and auger samples and the Gradient Array Induced Polarisation imagery interpretations. The current geological map of the Kona permit area can be seen in Figure 9-1.

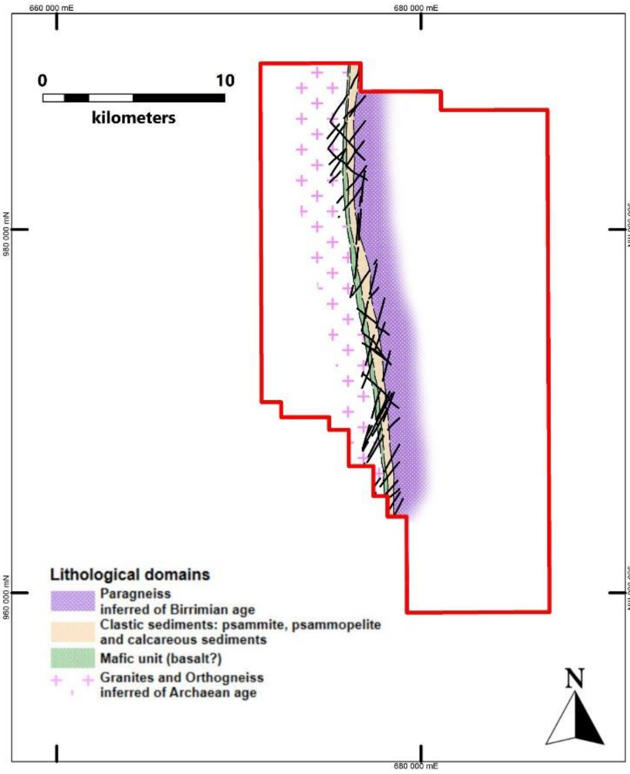

Figure 9-1: Geological map of the Kona permit area
(From Centamin, March 2019)

9.3 Rock Chip Sampling

Silicified outcrops are reasonably abundant along the Lolosso corridor. A systematic rock sampling program was carried out in 2017, to fully characterise the surface expression of the mineralisation. The samples were collected as "panel samples", representative rock chipping composited over about 1 m^2 panel, when possible. Other samples were collected as point chips or float samples and logged in the database.

The reference grid was on a 25 meters spacing minimum between sampling points, to generate a representative grid. A total of 815 rock samples were collected, the results and locations of which are shown in Figure 9-2.

Some areas between outcrops required to be sampled by shallow pitting.

All samples were analysed using a standard 50g gold fire assay with an AAS finish at Bureau Veritas Laboratories in Abidjan. Multi-element analyses was conducted by four-acid digest with ICP-AES and ICP-MS finish at the ACME Laboratories in Vancouver.

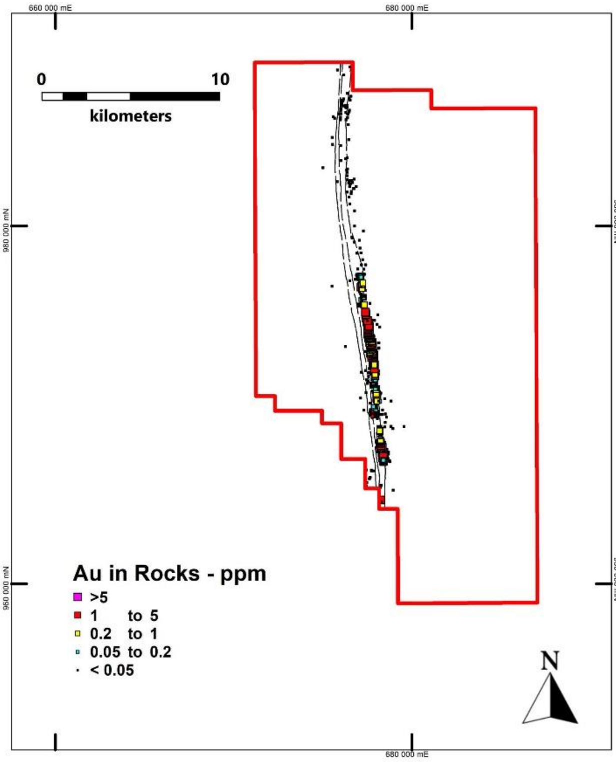

Figure 9-2: Map showing rock chip sampling over the Kona permit area
(From Centamin, March 2019)

9.4 Auger drilling

Auger drilling is used extensively along the Lolosso corridor where, due to silicification, the surface regolith is generally thin. Augering has proved a good direct interface technique in deeper profiles and has shown to adequately represent the characteristics of the underlying rocks.

A first-pass grid was conducted on a 500 by 50 meter grid, which have been infilled to 100 by 50 meter grids in in follow-up areas.

As with rock chips, all samples were analysed using a standard 50 g gold fire assay with an AAS finish at Bureau Veritas Laboratories in Abidjan. Multi-element analyses were by four-acid digest with ICP-AES and ICP-MS finish at the ACME Laboratories in Vancouver.

A total of 2,568 samples were collected at the end of 2018, from 13,427 meters drilled.

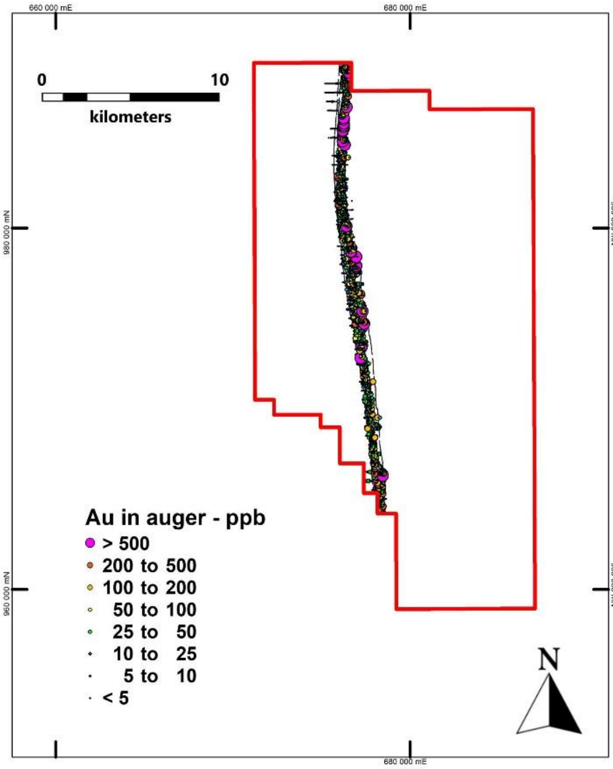

Figure 9-3: Location and results of auger sampling programs
(From Centamin, March 2019)

9.5 Gradient Array Induced Polarisation survey

Following up on the first rock samples gold results, ground Gradient Array Induced Polarisation (GAIP) geophysical surveys were started on the southern part of the corridor in the middle of 2017 and extended in several campaigns until completing the entire Lolosso strike in mid-2018.

The GAIP surveys were conducted by SAGAX Afrique, a geophysical consultancy group in West Africa. The data was processed by Resource Potentials Pty Ltd. (Perth). The data was acquired using an approximate 1 x 1 km survey grid area with 50 m spaced survey lines oriented in an E-W direction, using 25 m receiver dipole spacing and 25 m station spacing moves. Transmitter electrodes were located approximately 500 m outside of the survey grid area edges in an E-W direction.

A total of 841 km of lines where surveyed, to complete the full grid. A full set of images were generated, for conductivity, resistivity and chargeability.

GAIP maps the bedrock geology and structure extremely well along the corridor.

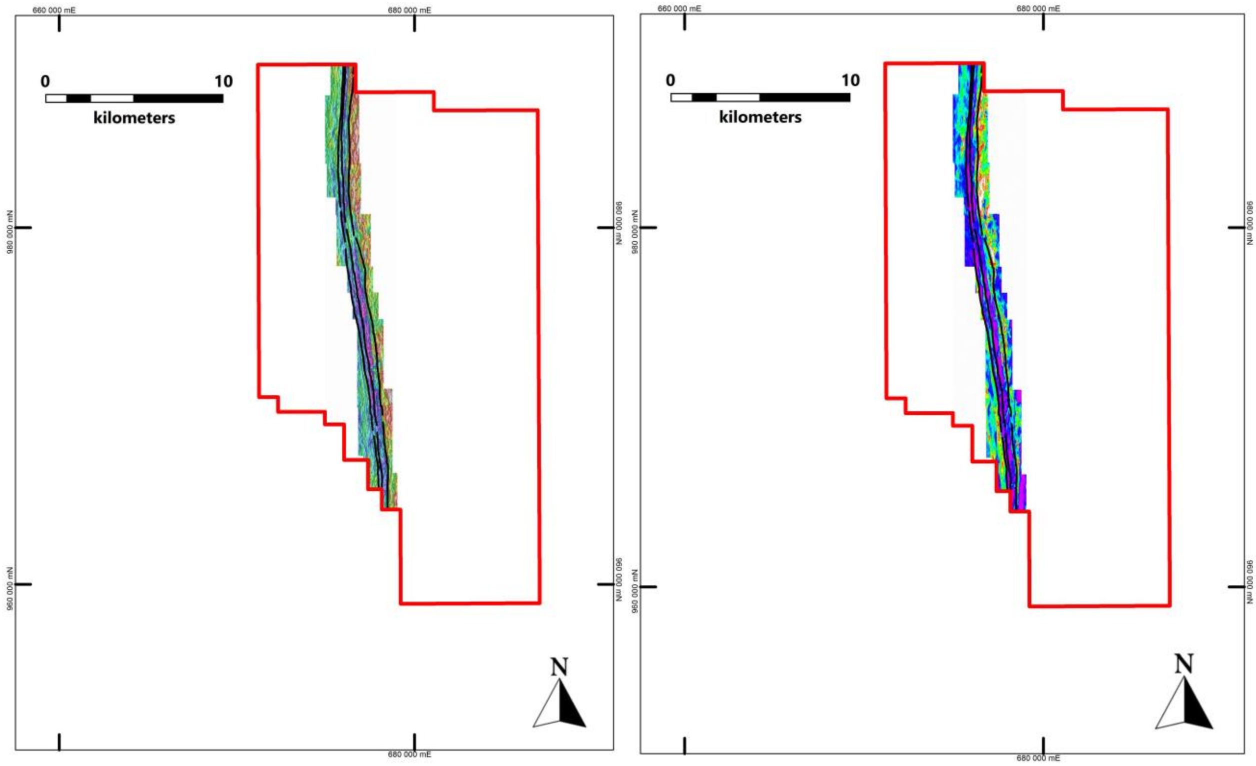

Figure 9-4: Ground IP imagery
(Left: Chargeability, Right: Resistivity)
(From Centamin, March 2019)

10 Drilling

Drilling programs started at the end of 2017. All the procedures applied have been specifically adapted to the Project from the experience previously gained by the team on previous projects and respect the highest standards applied in the industry.

All the drilling to date was completed by the same drilling company, a reputable contractor who respects the best industry practices, Foremi, the Ivoirian subsidiary of Foraco SAS. The drill rigs are well maintained and the maintenance crew is quickly responsive. All the staff, from the drillers to the offsiders, are well trained and operate smoothly. The drill rigs used on the Project are TM136 (diamond drilling), HV2000 truck mounted (shallow RC drilling and quick exploration holes), Schramm T685 (deep RC drilling and resource drilling in general).

The drilling programs are planned using on-site interpretations, which are based on previous exploration programs, surface geochemistry, aircore or other previous drilling, geophysical imageries and on conceptual interpretations.

The drill sites are marked by hand held GPS, prepared by hand clearing or dozer depending on the areas. By default, infill lines are cleared by dozer. The drill pad sizes are set by the needs from the drilling contractor.

Downhole surveys are taken every 30 m down hole, the first one being at 12 m depth (after two RC rods drilled), with single shot Relfex EZ SHOT system. Every survey is validated at the rig site by the geologist before being entered in the database. The geologist measures the hole orientation at surface using a compass, which is used as the collar downhole survey value.

The location of all drill collars are initially surveyed by the geologist using a hand held GPS, to rapidly enter the data into the database. Regular surveying campaigns are conducted by an independent surveyor company (GEDES International) to accurately pick up collar coordinates with either the Total Station or differential GPS. No dedicated ground topographic survey has yet been completed on the project. A topographic surface created from the drill hole is used for the resource work purpose.

After completion of a drill hole, the drill site is cleaned of any rubbish and contaminated soil (from oil spill, gasoil spill) is removed. A concrete block of approximatively 40 cm x 40 cm x 20 cm is set around the PVC casing for future reference.

The database is stored under the Acquire system, directly managed on site.

10.1 Reverse Circulation drilling

The first RC drilling program was completed in October-November 2017. The first pass results from Kona South and Central warranted resource follow-up in 2018. RC drilling continued throughout 2018 and is planned through 2019 on extending the Kona resources.

The drilling is dominantly dry and the moisture content (dry, moist or wet) of the bulk sample has been recorded since the end of 2016. For resource definition drilling, the drilling stops when the water table is reached and the air pressure cannot keep the samples dry. The hole may then be continued by diamond drilling if the targeted mineralisation has not been intersected yet.

The RC drilling uses hammer bits of nominally 5 ¼, 5 ½ and 5 ¾ inch diameter. The bit sizes used by depth and by hole is recorded. The number of RC drill holes completed in Kona South and Kona Central is shown in Table 10-1.

10.2 Diamond drilling

A first campaign of diamond drilling was completed in March-April 2018, to improve the understanding of the lithologies in the area and establish logging standards for on-going lithologies, structures and mineralisation styles. Further diamond drilling was carried out for resource definition at Kona South in 2018.

Diamond drilling usually utilises HQ size core barrels in 3 meters runs (shorter if the ground is very broken). PQ size is used to drill through the transported and saprolitic levels, as pre-collars – depths average about 10 meters. As soon as the rock is reached, HQ size drill bits are used. Some of the deepest parts of holes have been completed in NQ size drilling, when the HQ could not be continued due to broken zones intersected.

The number of diamond drill holes completed in Kona South and Kona Central are shown in Table 10-1.

Table 10-1: Drill Holes by drill types

Deposit or prospect	#RC Holes	#DD Holes	Total Metres
Kona South (resource area)	104	15	16,903
Kona Central	44	6	7,476
Total	**148**	**21**	**24,379**

10.3 Sample Recovery and Grade

The relationship between drill hole recovery and assay grade was investigated with the use of a series of conditional expectation plots. In grade-recovery analysis, the main concern is higher grades associated with lower recoveries, which may indicate an upgrading of samples due to the preferential loss of gangue material. This would lead to biased sampling, resulting in an over-estimation of resources. A lesser concern is lower grades associated with lower recoveries, which may indicate a preferential loss of gold, resulting in an under-estimation of resources.

10.3.1 Diamond Drill Holes

All of the 3,704 core assays from the Kona South deposit had entries of recovery recorded. Figure 10-1 shows a conditional expectation plot of the gold grade of diamond drill core assays against recovery. Overall the recovery of diamond drill core is high but there does appear to be a slight decrease of recovery associated with lower-grade gold mineralisation. This issue was investigated and it was found that the low recoveries are generally limited to a depth of around 30 m.

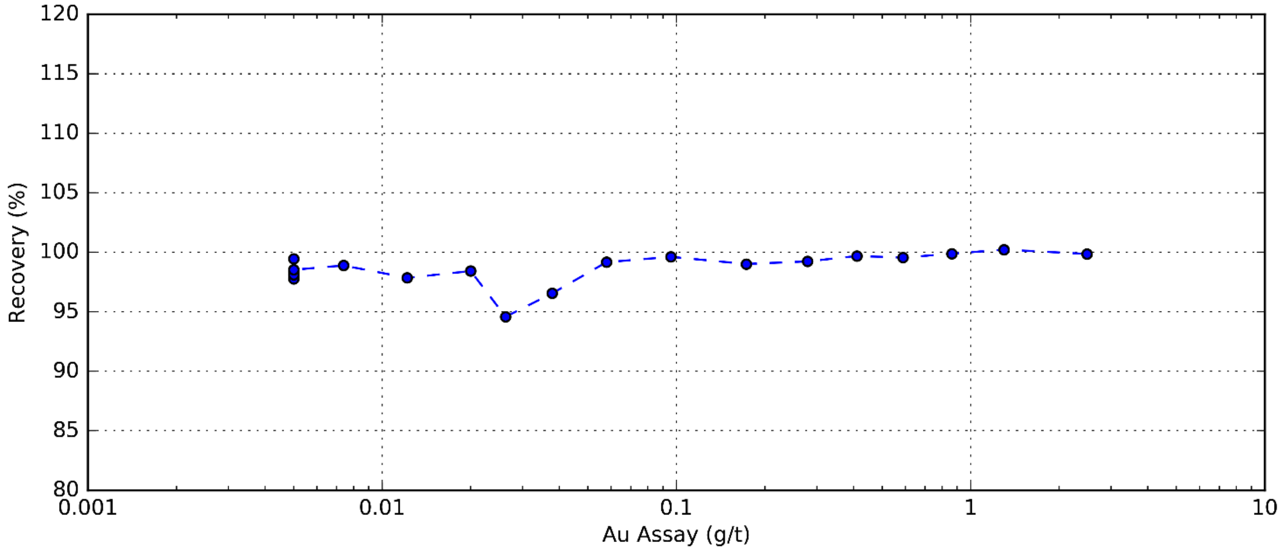

Figure 10-1: Conditional expectation plot of diamond drill hole recovery and gold grade

10.3.2 RC Drill Holes

From the total of 12,132 RC assays from Kona South, 11,404 intervals (94%) had records of the weight of the recovered interval. H&SC calculated the expected weight of the interval using the drill diameter data and the average density for each weathering domain in order to calculate the recovery. Figure 10-2 shows a conditional expectation plot of the gold grade of diamond drill core assays against recovery. It can be seen that there is virtually no discernable relationship between gold grade and recovery.

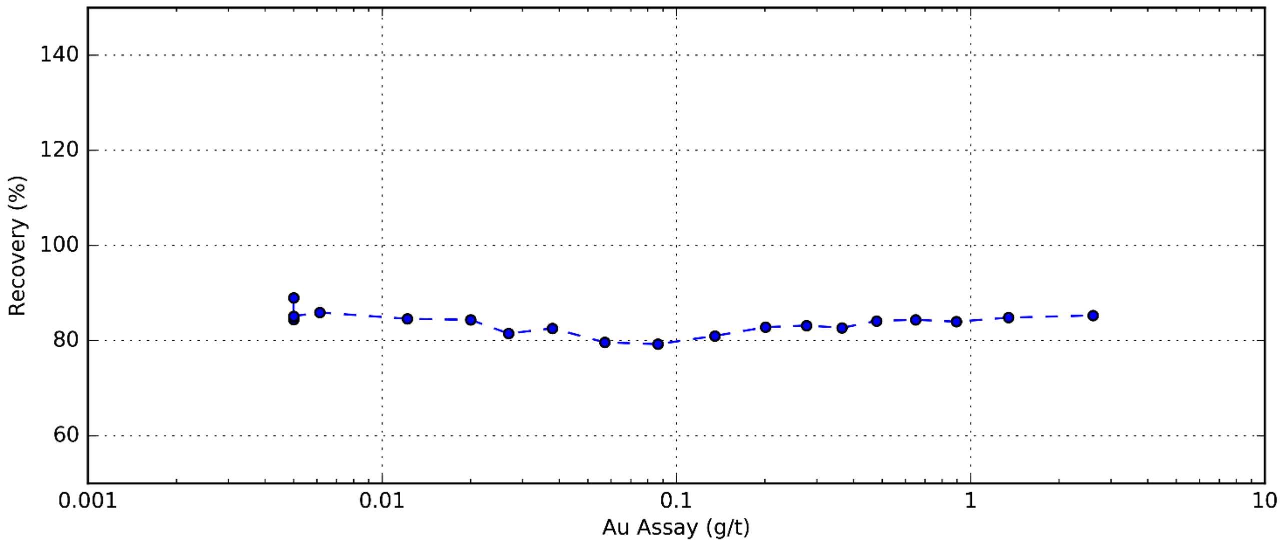

Figure 10-2: Conditional expectation plot of RC hole recovery and gold grade

The relationship between recovery and grade was also assessed on an individual hole basis for 50 random drill holes through a series of downhole plots. No significant relationships were identified.

10.4 Twin Holes

Centamin has not drilled any dedicated RC-DD twin holes, however there are three shallow RC drill holes that are very close to DD holes. The DD holes were drilled because the RC holes collapsed. Figure 10-3 shows a downhole plot of the gold grades for each of the drill hole pairs. It can be seen that the RC gold grade agree well with the DD grades. This indicates that the short range grade continuity at Kona is high compared to many other gold deposits.

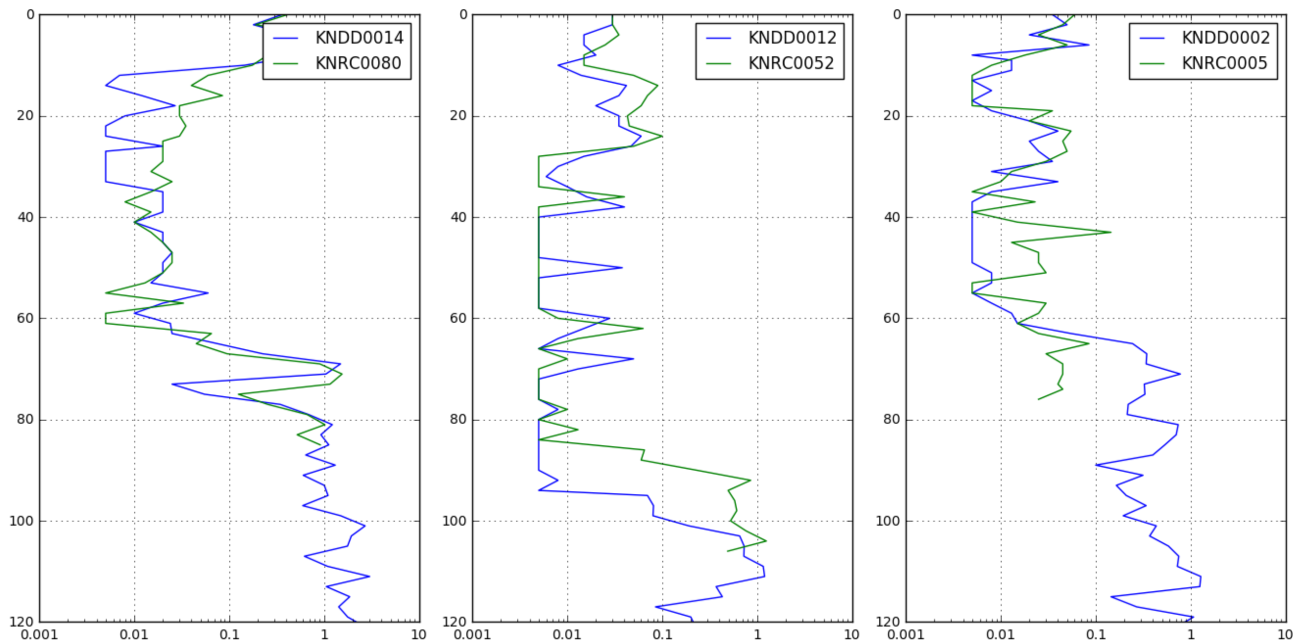

Figure 10-3: Comparison of gold grades between RC and Diamond drill holes

10.5 Wet RC Samples

RC drilling in wet conditions can sometimes cause problems with sample recovery and can lead to downhole smearing. H&SC plotted the downhole gold assay and recovery data along with an indicator to identify moist or wet intervals for each of the 216 RC drill holes that had over 10 m of intervals logged as moist or wet. Each plot was assessed with eye to identifying differences between the wet and dry sampling. No obvious pattern or downhole smearing was observed.

10.6 Drill Hole Coverage of Kona South

This report presents Mineral Resource estimates of the Kona South deposit and it is considered by the Qualified Person that a drill plan and representative examples of drill sections through Kona South are more informative than a tabulation of mineralised intercepts. A map showing all the drilling covering Kona South and the location of subsequent cross-sections can be seen in Figure 10-4. The cross-sections of the Kona South deposit can be seen in Figure 10-5 through to Figure 10-8.

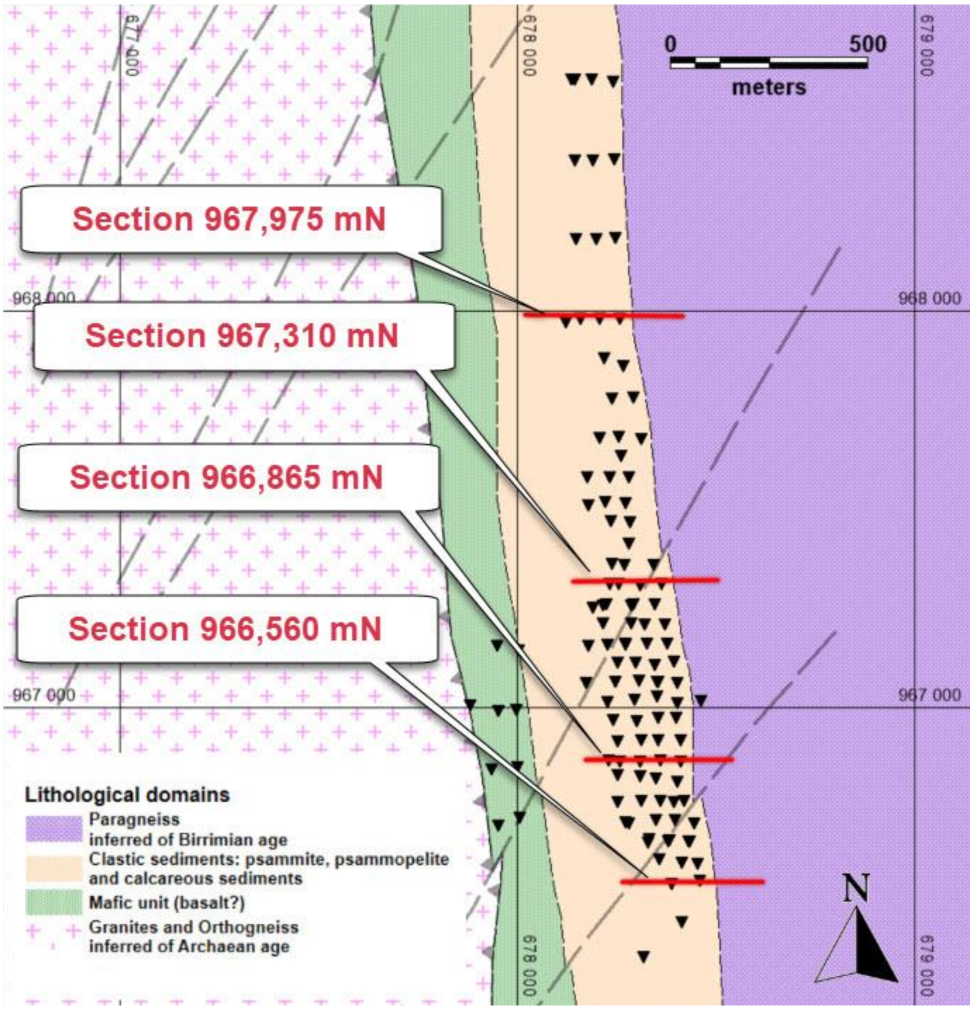

Figure 10-4: Map of Kona South drilling and geology
(From Centamin, March 2019)

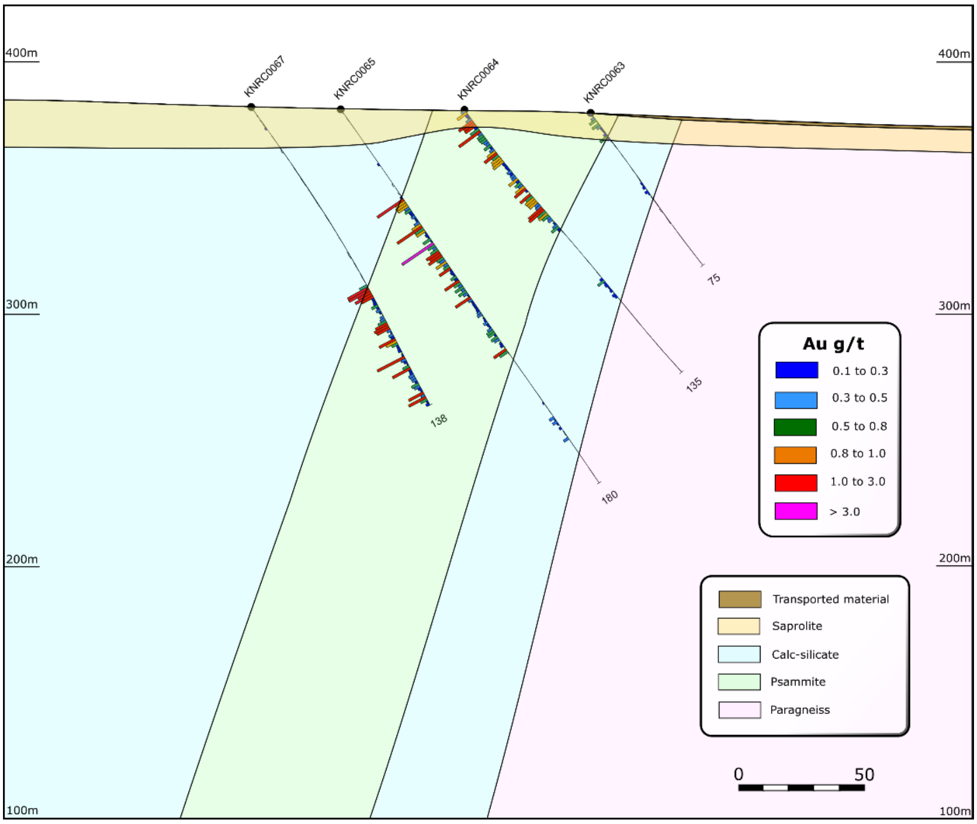

Figure 10-5: Drill section 967,975
(From Centamin, March 2019)

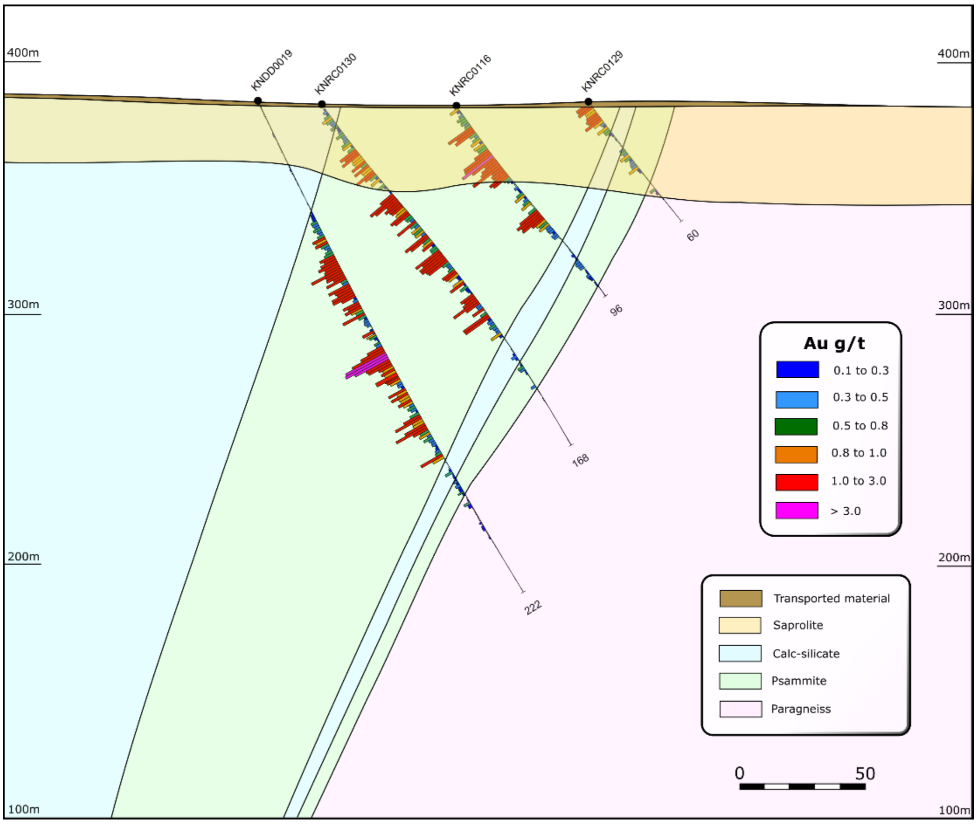

Figure 10-6: Drill section 967,310
(From Centamin, March 2019)

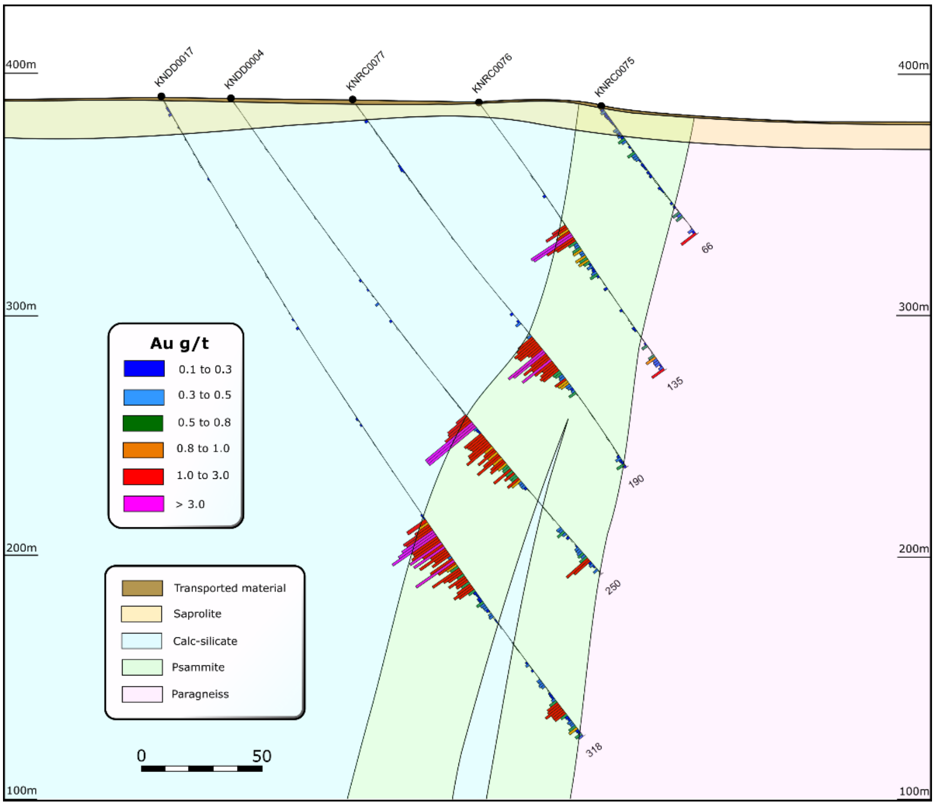

Figure 10-7: Drill section 966,865
(From Centamin, March 2019)

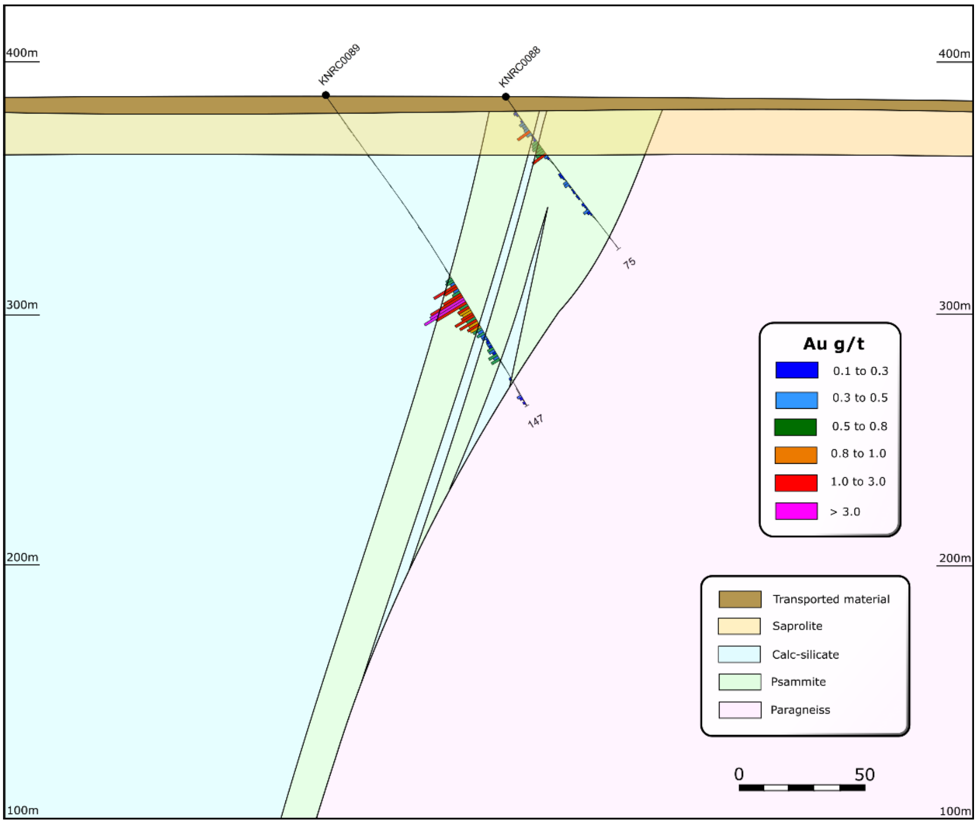

Figure 10-8: Drill section 966,560
(From Centamin, March 2019)

11 Sample Preparation, Analyses and Security

Bureau Veritas Minerals Laboratory (BVML) in Abidjan, Côte d'Ivoire, was the only analytical laboratory used for gold fire assaying on the Doropo project. The BVML head office is in Paris, France, and is independent of Centamin.

BVML Abidjan, Côte d'Ivoire, is in the process of ISO17025 accreditation (general requirements for the competence of testing and calibration laboratories). Currently the laboratory uses the same protocols and procedures as the accredited parent laboratories in Vancouver, Canada and Australia. BVML also falls under the Bureau Veritas group's certificates listed below:

- ISO9001 certificate
- ISO14001 certificate
- IFIA certificate
- OHSAS 18001 Certificate

11.1.1 Reverse Circulation Sampling Methods

During the RC drilling, samples are collected from the cyclone attached to the drill rig at 1 m intervals in large plastic bags. Each individual sample is weighed and then run through multi-stage riffle splitter until the sample is reduced to approximately 5 kg in weight. The sample is then passed through a single stage 50/50 splitter so that the final sample weighs between 2 and 3 kg which goes to the laboratory. Small plastic bags are used to bag the samples. A sample number is written on the outside of the bag with black marker and a stub from a sample ticket is stapled to the top of the bag. Field duplicate samples are taken as another split of the original RC sample that followed the same sampling methodology as the primary sample. The final stubs of the sample tickets are stored at the site office in Feremandougou. The sample bags that go to the laboratory are weighed and stored in polywoven bags containing 10 to 15 samples each. At the end of every day, Centamin personnel transport these samples back to the processing area at Kona Camp. The batch of samples are collected by a laboratory truck from the exploration camp once a week.

The sample reject from the riffle splitter is returned to the original plastic bag and marked with the hole number and the downhole meter range of the sample. These samples are held in reserve for around four to six months at the drill site in case further resampling is required.

QAQC procedures consist of the insertion of either a CRM, a blank sample or a field duplicate every 10th sample. Field duplicates are taken as another split of the original RC sample that followed the same sampling methodology as the primary sample. Blanks and standards are inserted once the samples are returned to the processing area to increase efficiency and reduce error.

11.1.2 Diamond Core Sampling Methods

Core is oriented and placed in plastic core trays at the drill site. Rock Quality Designation (RQD) and core recovery are measured at the rig and core trays returned by Centamin personnel to the processing facility.

Once logged, the core is placed in a cradle and cut with a core saw. The cut is made to the left of the orientation line and both halves returned to the core tray. The right side of the core is then sampled and put in a calico bag. Sample intervals are at the discretion of the logging geologist but are regularly at 1 m intervals. The sample number is written on the outside of the bag and a sample ticket sub placed in the bag with the sample. The core trays with the remaining half-core are then moved to the core storage area.

QAQC procedures consist of the insertion of either a CRM, a blank sample or a non-certified spike (previous RC samples with grade) every 10th sample. No sample duplicates of core have been taken.

11.1.3 Chain of Custody and Transport

All RC samples and core trays are transported by Centamin personnel between the drill sites and the sample processing facility. The processing area consists of an open logging area for core trays and a covered sample handing area for the staging of the RC and DD samples for transport. The sample processing area is in the main compound of the Kona Camp. The compound is completely fenced and under 24 hour guard.

The core is laid out, logged and sampled by Centamin personnel. After RC and core samples are prepared, they are placed in sealed rice sacks in groups of 10 – 15 samples per sack.

Samples are transported to Abidjan by a BVML truck directly to the lab facility. A sample submission form accompanies each shipment of samples. An email copy of the submission form is also sent to the laboratory. No formal receipt of samples is received from BVML when they take custody of the samples.

All pulp rejects are returned by BVML transport to Centamin's Doropo office, located in the north-east of Cote d'Ivoire, and stored in locked shipping containers.

11.1.4 Sample Preparation and Analysis

After samples are received at BVML, they are sorted and weighed. RC and DD samples both followed the same preparation path.

11.1.4.1 Sample Preparation by laboratory:

Samples are dried for 12 hours at 105°C after which they are crushed in a jaw crusher until 70 percent passes 2 mm. The sample is then passed through a riffle splitter until approximately 1 kg in weight and pulverized using an LM2 until 85 percent passes 75 microns. A 250 g sample of the pulp is then placed in a pulp packet in preparation for final analyses.

11.1.4.2 Samples Analyses at Laboratory:

A standard fire assay for gold (FA450) was performed by BVML. A 50 g sub-sample is taken from the pulverised material, mixed with flux and then fired. The resultant lead button is then transformed to a prill using cupellation. The prill is then dissolved in Aqua Regia solution and the resultant liquor read by AAS with a detection limit of 0.01 g/t Au. This is considered to be a total assaying technique.

Internal laboratory QAQC analyses consists of:

- a size analysis at 2mm after crushing for one in every 30 samples
- coarse duplicate was taken at 1 in 50 samples
- size analysis at 75 microns after pulverising 1 in every 20 samples
- pulp repeat approximately one in 25 samples

H&SC considers the sample preparation, security, and analytical procedures to be at least industry standard and adequate for the style of mineralisation at the Kona deposits.

11.2 Quality Assurance and Quality Control sampling

Centamin has adopted a reasonably stringent Quality Assurance and Quality Control (QAQC) program with the use of Certified Reference Materials (CRMs), blanks, RC field duplicates and 'spike' samples. Centamin routinely monitors QAQC sample results when assay results are returned from the laboratory. Any concerns or questions are immediately raised with the laboratory.

Centamin has not conducted any inter-laboratory cross-checks to verify the results from Bureau Veritas. H&SC recommends that Centamin undertakes some inter-laboratory cross-checks.

Quality control procedures employed by Centamin include industry standard drill core and RC sample processing techniques discussed in Section 10.

For RC drill holes either a CRM, a blank sample or a field duplicate are inserted every 10th drill hole sample. For diamond drill core either a CRM, a blank or a spike sample are inserted every 10th drill hole sample.

Drilling at the Kona deposit includes prospects that are outside the area assessed by the current resource estimate. Sample dispatch does not differentiate between the Kona prospects so the following sections include QAQC results from the surrounding prospects.

11.2.1 Certified Reference Materials

Centamin routinely inserts a CRM nominally every 30 drill hole samples. A total of 11 different CRMs have been used to verify the Bureau Veritas gold assays. All were sourced from Ore Research & Exploration Pty Ltd (OREAS) and they range in grade from 0.309 to 5.49 g/t. OREAS is considered to produce high quality CRMs that are suitable for use on the ABC project. H&SC recommends that low grade CRMs at around 0.1 and 0.2 g/t are added to the list of CRMs in order to verify the marginal gold mineralisation.

Centamin compares the expected and assayed CRM values at the time that the assays are imported into the database. Centamin has reported to H&SC that a batch will fail if any one of the following criteria are met.

- One CRM +/- 3 standard deviations from expected
- Two CRM assays in a row outside 2 standard deviations on the same side from expected
- Three CRM assays in a row +/- 2 standard deviations from expected

The batches identified by the above rules are investigated thoroughly by reviewing photos of the standards and reviewing sample tickets to identify CRM mix-ups, and transcription or sampling errors. If no obvious errors can be found, then 5 samples above and below the "failing" standard are requested for reassay by the laboratory. If the results of the reassay are not significantly different from the originals, the originals are kept and the reassay results rejected, along with the original failing standards.

Figure 11-1 shows a Shewart control chart of all 826 CRM assays from the ABC Project and includes data from batches that were re-assayed due to suspicious CRM assays. The y axis shows the relative difference from the expected CRM value. Relative difference values over 100% indicate that the assay value is higher than the expected value. The x axis in this graph is ordered by the expected CRM value and then the assay date as this is believed to produce a more readable graph. The vast majority of CRM assays performed well within acceptable limits.

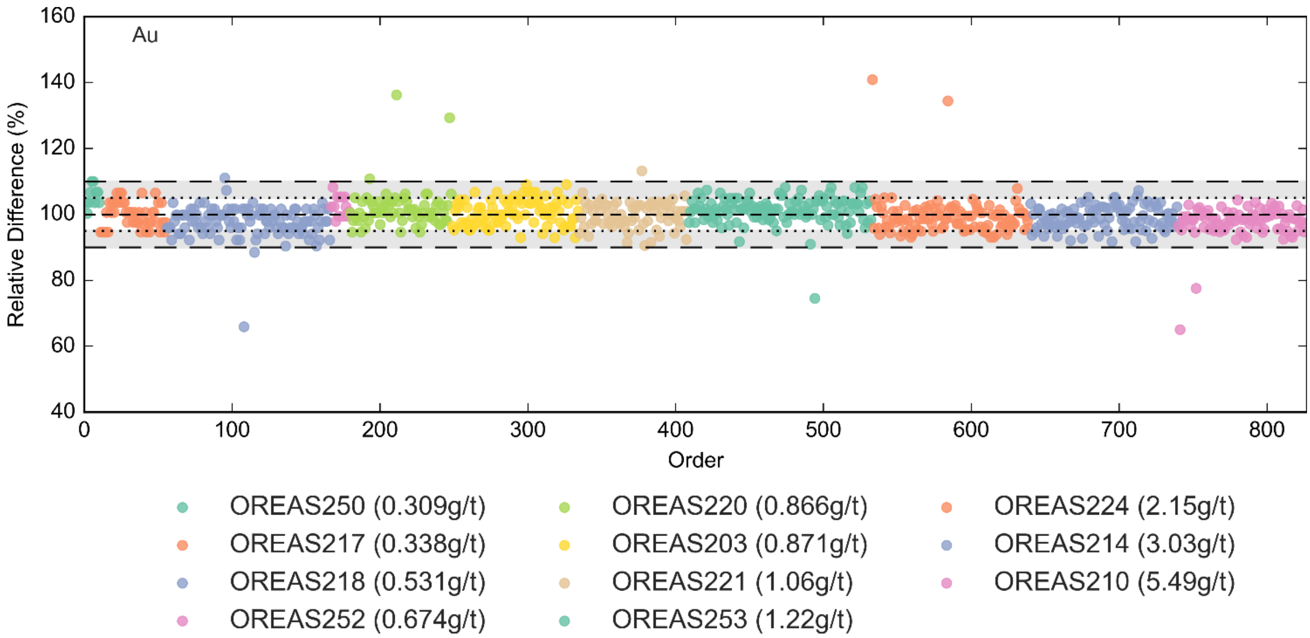

Figure 11-1: All CRM assays

Table 11-1 shows a summary of the all of the CRM assays from the estimated deposits. It can be seen that the accuracy for all the CRMs is within tolerable limits.

Table 11-1: Summary of Certified Reference Material samples

CRM ID	Count	Au Expected (g/t)	Au Mean (g/t)	Bias (%)	Au Minimum (g/t)	Au Maximum (g/t)
OREAS250	10	0.31	0.33	5.5	0.31	0.34
OREAS217	45	0.34	0.34	-0.3	0.32	0.36
OREAS218	111	0.53	0.52	-2.4	0.35	0.59
OREAS252	13	0.67	0.69	2.6	0.66	0.73
OREAS220	69	0.87	0.88	1.8	0.82	1.18
OREAS203	86	0.87	0.88	0.5	0.81	0.95
OREAS221	74	1.06	1.06	-0.3	0.96	1.20
OREAS253	124	1.22	1.24	1.2	0.91	1.32
OREAS224	107	2.15	2.14	-0.8	2.00	3.03
OREAS214	100	3.03	3.00	-1.0	2.78	3.25
OREAS210	87	5.49	5.36	-2.5	3.57	5.73

11.2.2 RC Field Duplicates

Centamin routinely inserts a RC field duplicate every 30 RC samples. Field duplicates are used to check sampling precision or repeatability, and ensure that the sub-sampling technique is not biasing results.

Primary samples are collected on 1 m intervals and riffle split to produce the one-sixteenth sub-sample for primary analysis and a 15/16 reject. Field duplicate samples are produced by riffle splitting the reject material.

H&SC produced Percentage Half Difference (PHD) plots and summary statistics of field duplicates from each of the deposits. PHD=(x+y)/(x-y), where x is the original value and y is the duplicate.

Figure 11-2 shows a PHD plot of all the RC field duplicates from the Kona South deposit. It can be seen that the repeatability of gold duplicate grades is reasonable and shows no significant bias although some scatter is apparent. Table 11-2 shows a summary of the RC duplicate pair statistics. No significant bias is evident for the RC field duplicates.

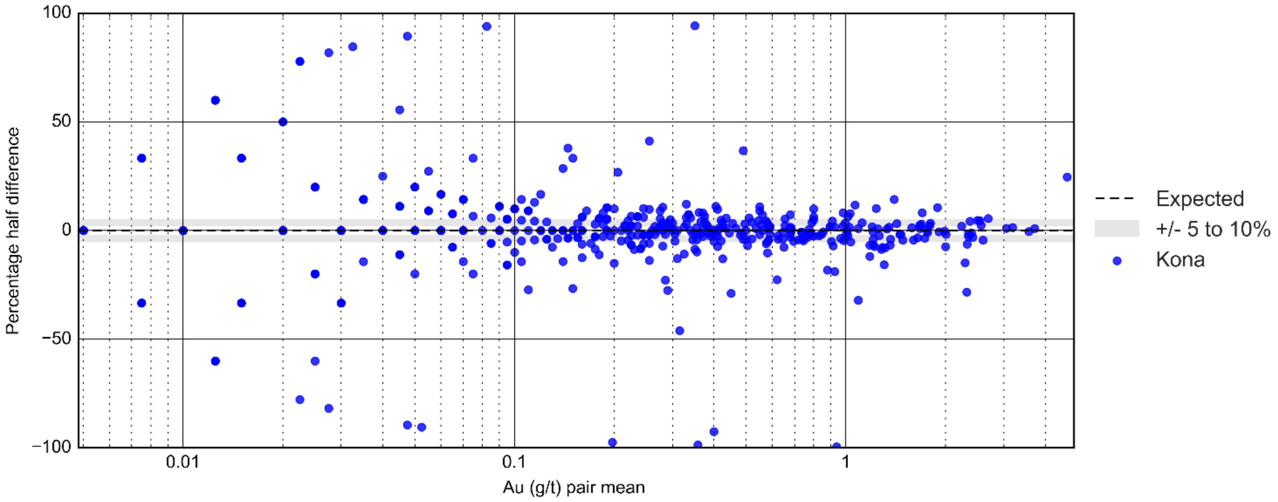

Figure 11-2: Percentage half difference plot of RC field duplicates

Table 11-2: RC field duplicate summary statistics

Statistics	Original	Duplicate	Differences
Minimum	0.005	0.005	0
Maximum	5.80	3.68	2.12
Mean	0.35	0.35	0
No. of Samples	665	665	0

11.2.3 Blanks

Centamin routinely inserts a blank sample for every 30 samples from drill holes. Blanks are used to check for contamination within the laboratory sample preparation procedure. Centamin uses blanks produced from RC intervals that have been assayed and shown to be barren and a long way from mineralised intervals. In total, Centamin has submitted 1,156 blank samples, which are shown in Figure 11-3. All but three of the 1,156 blank assays returned values that are below 0.1 g/t gold, which is ten times the detection limit. H&SC considers that the blank samples indicate that contamination between samples is not significant.

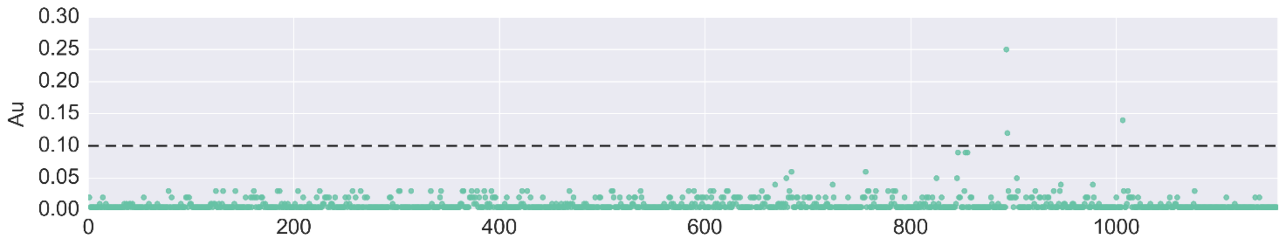

Figure 11-3: Blank samples

12 Data Verification

H&SC has conducted several checks in addition to the routine data verification conducted by Centamin in order to verify the data veracity and data quality. The steps taken are summarised below. H&SC considers that sufficient verification of the data that underpin the resource estimates has been carried out. H&SC has not independently checked the information presented in this report regarding project history, metallurgical test work or exploration licence.

In conclusion, H&SC is of the opinion that the quality of the data at least meets industry standard and is suitable to form the basis of the resource estimates presented in this report.

12.1 Data Verification by Centamin

The exploration database has been maintained on site in acQuire since the beginning of the project. Field data is collected on paper and transcribed to excel spreadsheets by field geologists and a dedicated data entry person. Spreadsheets are then imported to acQuire by a dedicated database manager.

Data is internally validated by acquire as it is entered and ensures:

- Collar, survey, assay and geology end of hole depths are compatible
- No overlapping intervals are allowed
- No repeat sample identification numbers can occur within the database
- Laboratory assays are loaded to the correct sample identification number
- All analytical results are stored in the database as reported by the laboratory. Assay values below detection are converted to half detection limit for reporting and modelling purposes
- All logged codes adhere to the accepted libraries.

12.2 Site visit

Rupert Osborn of H&SC visited the Kona deposit for two full days in December 2018. During the visit, H&SC observed RC drilling and sample handling procedures, which were found to be industry standard. No diamond drilling was occurring at the time but drilling practices are reported to be the same as those at Centamin's Doropo deposits which were visited by Mr. Osborn in 2017 and 2018. H&SC also selected several diamond and RC drill holes in order to cross-check the geological logs against the drill core and chip trays and to better understand the geology and reliability of the logs. H&SC spoke to many of the key personnel including senior and junior geologists and the database administrator.

12.3 Database audit

H&SC checked that the drill hole database was internally consistent. Validation included checking that no assays, downhole surveys, density measurements or geological logs occur beyond the end of hole depth and that all drilled intervals have been geologically logged. The minimum and maximum values of assays, density measurements and downhole survey measurements were checked to ensure values are within expected ranges. Further checks included testing for duplicate samples and overlapping sampling or logging intervals. H&SC found the data to be of consistently good quality, owing largely to the fact that Centamin continuously conducts its own validation internally.

In addition to the basic checks described above, H&SC conducted extra verification of data as described below.

12.3.1 Collar location check

In December 2018 the location of around 30 drill hole collar locations was checked by H&SC against the database records using a handheld GPS. The collar locations contained in the database are surveyed using either a Differential GPS or Total Station, both of which are significantly more accurate than a handheld GPS. All Easting and Northing coordinates were found to be within five metres of the database records and this difference is believed to be due to the accuracy of the handheld GPS unit. Variations in elevation were more significant but are not believed to be significant as handheld GPS measurements are known to be poor for measuring elevations.

12.3.2 Laboratory visit

In December 2018 Rupert Osborn visited the Bureau Veritas Laboratory in Abidjan in order to observe sample preparation and fire assaying procedures. H&SC found the laboratory to be professional, clean and using processes that are considered to be standard industry practices.

13 Mineral Processing and Metallurgical Testing

This report presents the maiden resource estimate of the Kona South deposit. Only limited metallurgical test work has been conducted on the Kona South mineralisation. A preliminary composite sample of fresh Kona South Resource material was analysed by ALS Metallurgy Services (Perth) in August 2018, for which the a summary of the results can be seen in Table 13-1.

Table 13-1: Summary of ALS Metallurgy test work

SUMMARY OF RESULTS	
Testwork Parameter	**Kona - Lolosso**
SMC DWi (kWh/m³)	11.1
Bond Abrasion Index	0.2586
Bond Rod Mill Work Index (kWh/t)	25.4
Bond Ball Mill Work Index (kWh/t) @ 106 µm Closing Screen Size	20.0
Au Head Assays (g/t)	1.82/1.98
Overall Au Extraction (%) via Gravity Gold Recovery and Cyanide Leaching @ P_{80} 75 µm	88.9
Overall Au Extraction (%) via Flotation @ P_{80} 106 µm, Leaching of Flotation Tail, and Leaching of Flotation Concentrate re-ground to P_{100} 63 µm	85.4
Overall Au Extraction (%) via Flotation @ P_{80} 106 µm, Leaching of Flotation Tail, and Leaching of Flotation Concentrate re-ground to P_{80} 10 µm	87.2

These results indicate the Kona South Fresh material is hard, abrasive and non-refractory with an 88.9% overall Gravity-CIL recovery at P_{80} passing 75 µm.

ALS Metallurgy Services also conducted a QEMSCAN analysis on a panned concentrate sample from Kona South (Liu, 2018). The ALS Metallurgy Services report indicates the gold deportment in the panned concentrate is primarily free and structurally hosted within micro-fractured arsenopyrite.

A summary of the Kona South QEMSCAN panned concentrate mineralogy received from Centamin is detailed below:

- Native gold (with silver content typically <10%) is the only gold-bearing phase detected.
- Arsenopyrite makes up 4.77% by mass and has a P80 of 67 µm.
- Lollingite makes up 1.14% by mass and has a P80 of 67 µm.
- Minor amounts of pyrrhotite (1.91% by mass with a P80 of 44 µm) and pyrite (0.32% by mass with a P80 of 93 µm) were also detected.
- Most of the remaining is contributed by silicates, i.e. plagioclase (47.6%), quartz (19.6%), biotite (12.2%), and amphibole/pyroxene (5.22%).
- The gravity tail fraction is composed of plagioclase, quartz, and biotite.

Figure 13-1 shows details of the mineralogy of the panned concentrate sample.

Further metallurgical test work will be conducted to investigate the ore-type variability at Kona South and new ABC prospects.

Mineral group	Kona Pan-Con Mass%
Gold	< 0.01
Arsenopyrite	4.77
Lollingite	1.14
Pyrite	0.32
Pyrrhotite	1.91
Chalcopyrite	0.04
Other sulphides	0.01
Other Cu	0.02
Quartz	19.6
Plagioclase	47.6
Biotite	12.2
Chlorite or similar	1.73
Amphibole/pyroxene	5.22
Tourmaline/kaolinite	0.42
Other silicates	0.17
Carbonate	0.18
Apatite	0.31
Ilmenite/titanite	1.03
Steel	3.20
Other minerals	0.09
TOTAL	100

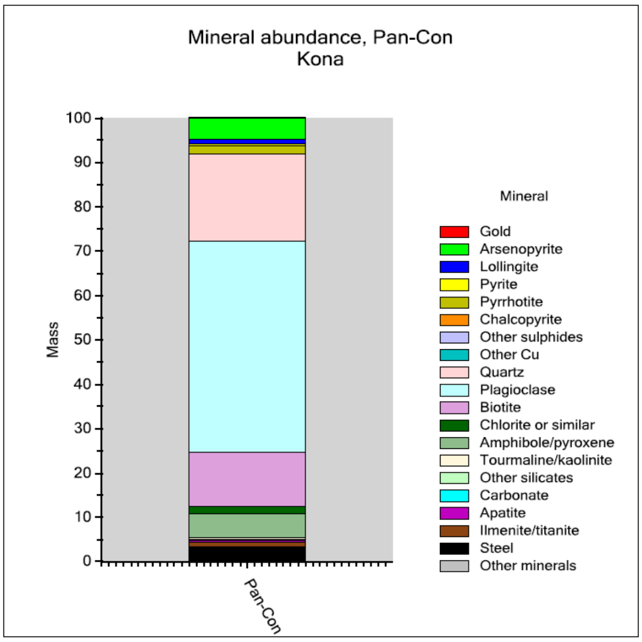

Figure 13-1: Kona South QEMSCAN panned concentrate mineral abundances
(From Liu, 2018)

14 Mineral Resource Estimates

The gold concentrations were estimated by recoverable Multiple Indicator Kriging (MIK) using the GS3 geostatistical software. The gold grades at the Kona South deposit exhibit a positively skewed distribution with relatively low coefficients of variation for gold.

The method of recoverable MIK was developed during the early 1980's with a particular view toward addressing some of the difficult problems associated with estimation of resources in mineral deposits such as Kona South. MIK is one of a number of non-linear methods developed at that time, which can be used to provide better estimates than the more traditional methods of OK and inverse distance weighting.

Recoverable MIK is considered an appropriate estimation method for the gold grade distribution at the Kona South deposit because it specifically accounts for the changing spatial continuity at different grades through a set of indicator variograms at a range of grade thresholds. MIK can often minimise the need for the practice of top cutting, which can be somewhat arbitrary in the resource estimation process.

14.1 Wireframes and domaining

Centamin provided H&SC with a series of wireframe solids representing the interpreted zones of elevated gold grades. H&SC used these wireframes as the basis to create a new series of wireframe solids that were suitable for recoverable MIK estimation. These changes were made to include peripheral mineralisation and produce zones of reasonably consistent thickness. These wireframe solids were created to encompass coherent zones of gold mineralisation elevated above background values. This nominally resulted in a gold grade boundary of about 0.05 g/t.

The orientation of some of the main mineralised zone at Kona South varies slightly along strike. The zones represented by mineralised wireframes were split using plan strings to encapsulate areas with similar orientation in order to ensure that the search ellipse and variogram models are aligned to the local orientation of mineralisation. The string used to sub-domain Kona South is shown in Figure 14-1.

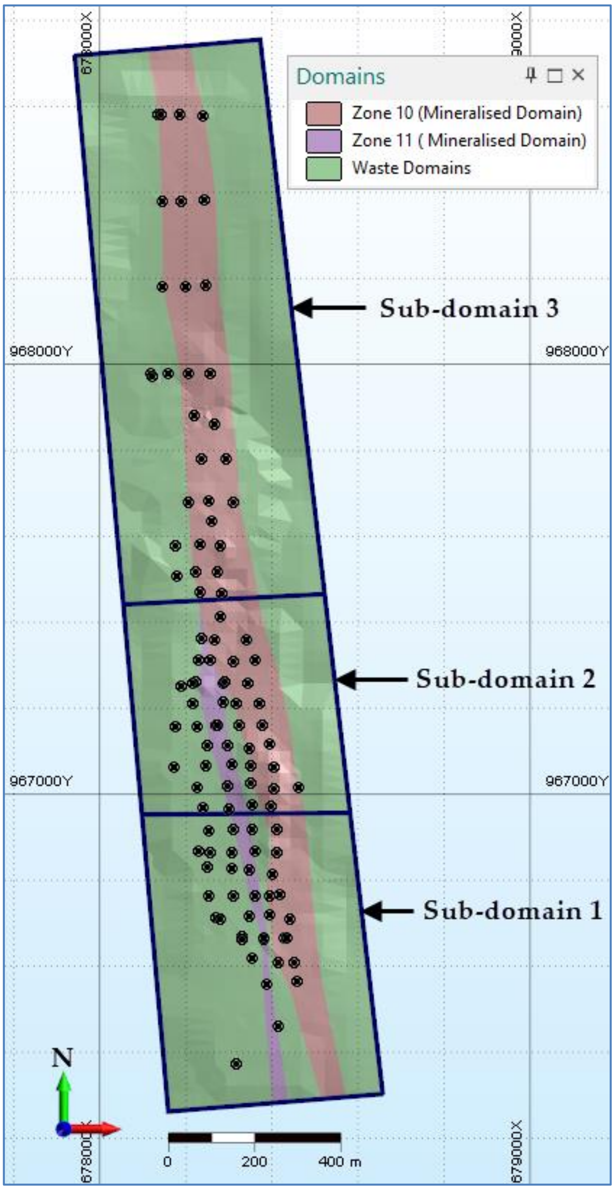

Figure 14-1: Map of the Kona South deposit showing wireframes and sub-domains
(Produced by H&SC, March 2019)

H&SC also created a series of wireframe surfaces representing the base of transported material, the base of saprolite and the top of fresh rock using drill hole logging information. These wireframes were used to derive block proportions used to calculate the density of the blocks and to report the resources according to oxidation zones.

14.2 Density Data

Dry bulk density is measured on-site using an immersion method (Archimedes principle) on selected diamond drill core intervals ranging in size from 10 to 30 cm. Density samples are routinely collected from diamond drill core every 10 m. The samples chosen are believed to be representative of the surrounding rock type. A total of 769 density measurements have been taken from drill core at the Kona South deposit. Centamin does not have the equipment necessary to coat the weathered samples in wax to avoid water absorption at the Kona Project. As a result, the only measured density values from weathered samples is limited to four samples in the partially oxidised zone.

Measured density values show that the density of the fresh rock varies between individual rock types. A boxplot of the measured densities from the major logging codes is shown in Figure 14-2.

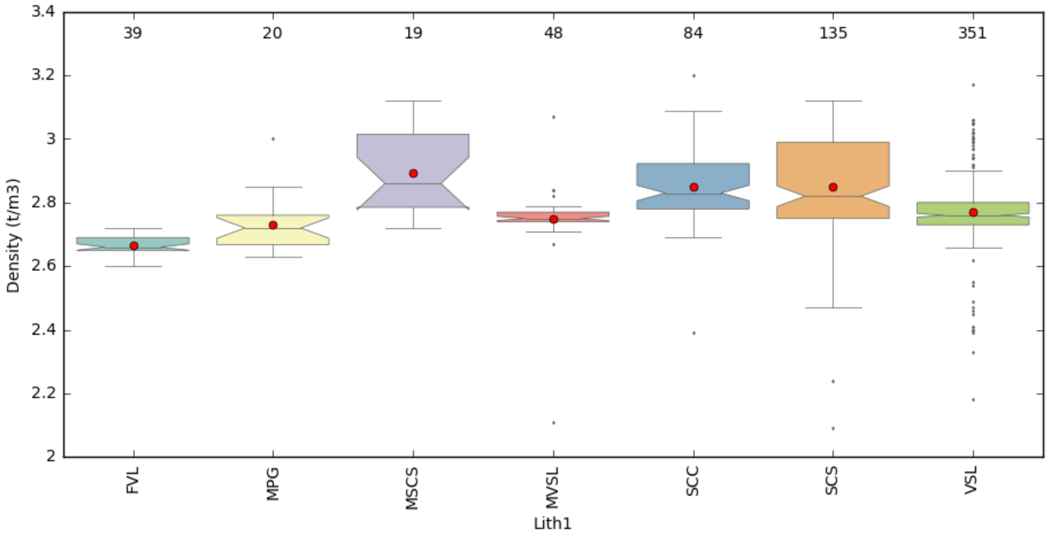

Figure 14-2: Measured densities from major rock types

H&SC has not created wireframes representing a geological model for Kona South. In order to assign densities to the block model H&SC calculated the average measured density of fresh rock for each of the logged rock types. These averages were then assigned to drill hole intervals according to the logged rock type. The actual measured density values were used for intervals with measurements. This density data was then composited to two metre intervals and the density of fresh rock was interpolated into the block model by ordinary kriging, using similar search criteria to those used to estimate the gold concentrations.

Weathering near surface is known to reduce the density of surficial rocks. Very little to no measured density values are available from the transported, saprolite and partially oxidised zones. It was assumed that the weathering domains have the following bulk densities:

- Transported Zone: 2.01 t/m^3
- Saprolite Zone: 2.05 t/m^3
- Partially Oxidised Zone: 2.73 t/m^3

The proportion of the blocks in each of the weathering domains was assigned to the block model. These proportions and the interpolated and assumed densities were then used to calculate the weighted average density for each block.

H&SC recommends that additional density measurements are collected, especially from the weathered zones.

14.3 Assayed intervals used for estimation

Centamin provided H&SC with a complete drill hole database. The drill hole database contained data from Reverse Circulation (RC) and Diamond drill holes (DD). Centamin routinely sample the entire drill hole and so the vast majority of intervals had assayed grades. Unsampled intervals may occur where drilling recovery is too low. Unsampled intervals were left blank.

A summary of the number of drill holes and assayed intervals for Kona South is shown in Table 14-1.

Table 14-1: Kona South drill hole summary

Drill Type	Number of Drill Holes	Metres Drilled	Metres Assayed	Percentage Assayed
DD	15	3,686	3,686	100
RC	95	12,199	12,132	99.5
Total	**110**	**15,885**	**15,818**	**99.6**

Table 14-2 shows the summary statistics of the gold assays weighted by interval length. In this table samples within the mineralised domains are separated from those outside the mineralised domains.

Table 14-2: Kona South gold assay sample statistics

Domain Type	Count	Metres (m)	Mean (ppm)	Min (ppm)	Max (ppm)	Standard Deviation	CV
Mineralised	11,222	11,275	0.48	0.005	13.54	0.73	1.51
Waste	4,614	4,609	0.02	0.005	1.34	0.04	2.61
Total	**15,836**	**15,885**	**0.35**	**0.005**	**13.54**	**0.65**	**1.87**

14.4 Composites used for estimation

The drilling at Kona South includes areas that have been drilled on a nominal 50x50 m grid pattern. The vast majority of intervals have been sampled on 1 m intervals. Samples were composited to 2 m intervals whilst honouring the mineralised domain wireframes and with a minimum composite length of 1.0 m.

No assumptions were made regarding the correlation of gold with any other variable. Only gold concentrations were estimated.

Figure 14-3 shows a boxplot of the gold grade composites within each domain. The red circles show the mean of the population. The summary statistics for each zone are shown in Table 14-3.

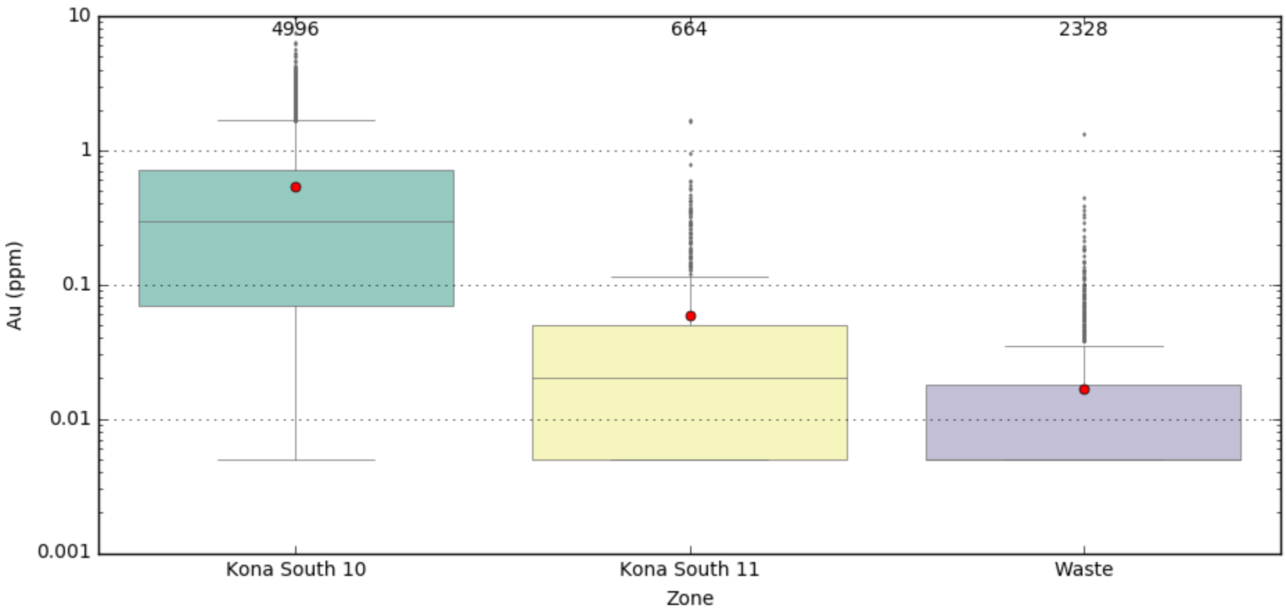

Figure 14-3: Boxplot of Au composites within mineralised domains

Table 14-3: Kona South gold composite sample statistics

Zone	Count	Metres (m)	Mean (ppm)	Min (ppm)	Max (ppm)	Standard Dev	CV
10	4,996	5,048	0.54	0.005	9.69	0.70	1.31
11	664	673	0.06	0.005	1.70	0.13	2.27
Waste	2,328	2,338	0.02	0.005	1.33	0.04	2.31

For recoverable MIK estimation, a range of indicators are selected that divide the grade distribution into a series of classes. As much of the contained metal occurs in the higher grade samples, it is preferable that the top end of the distribution is divided into smaller classes to better represent the metal distribution.

A full list of all the indicator statistics for each of the domains in Kona South deposits is beyond the scope of this report. Table 14-4 shows as an example a breakdown of the indicators for mineralised domain 10 at Kona South, which hosts the vast majority of estimated resources. Indicators 1 to 7 are based on deciles (10% increments of cumulative frequency) of the population, accounting for 70% of the data. Indicators 8 to twelve are based on 5% quantiles, indicators thirteen and fourteen are based on 2% quantiles and the top indicator accounts for the top 1% of grades.

Gold grades were not top-cut as it was deemed not necessary for MIK estimation. There can be a reasonably large difference between the mean and median of the top indicator bin in zones where the gold grades are highly positively skewed. The choice of using the mean or median can have a large impact on the global and local resource estimates. The sensitivity of the Kona deposit to this issue is discussed in Section 14.12.1. For the estimates reported here the average of the mean and median values was applied to the top indicator bin for each of the mineralised domains as this was felt to be a good compromise between the conservative median and optimistic mean values. The median value of the top indicator bin was applied to estimate each of the waste domains. The mean value was applied to all other indicator bins.

Table 14-4: MIK Au indicator statistics for Kona South 10

Indicator	Count	Cumulative Proportion	Grade Threshold	Mean	Median	Indicator Value
1	499	10%	0.019	0.009	0.008	0.009
2	500	20%	0.048	0.032	0.030	0.032
3	499	30%	0.100	0.071	0.070	0.071
4	500	40%	0.191	0.143	0.140	0.143
5	500	50%	0.295	0.244	0.245	0.244
6	499	60%	0.410	0.352	0.350	0.352
7	500	70%	0.585	0.498	0.495	0.498
8	250	75%	0.710	0.647	0.645	0.647
9	249	80%	0.871	0.790	0.785	0.790
10	250	85%	1.105	0.985	0.985	0.985
11	250	90%	1.400	1.245	1.250	1.245
12	250	95%	1.955	1.661	1.655	1.661
13	100	97%	2.295	2.110	2.095	2.110
14	100	99%	3.210	2.707	2.695	2.707
15	50	100%	9.685	4.140	3.775	3.958

14.5 Variogram models

Variography was carried out using the software program GS3 on the two metre composited data from the each of the three sub-domains that comprise the Kona South zone 10. MIK estimation requires a variogram model for each of the 15 indicator bins. The Kona South zone 11 and the waste domains used the variograms produced for Kona South zone 10 although the axes were rotated where necessary to match the local mineralised domain orientation.

Full details of all the variogram parameters used for each domain are beyond the scope of this report. Variography for Kona South zone 10 showed relatively high continuity in the along strike and down dip orientations and poor continuity in the orientation perpendicular to these.

Figure 14-4 shows three of the variograms and a 3D representation of the variogram model produced for indicator five from one of the orientation domains at Kona South zone 10. The gold indicator variograms for each domain showed decreasing ranges and increasing nugget effect away from the median indicator, signifying that high grade mineralisation is less continuous than lower grade mineralisation.

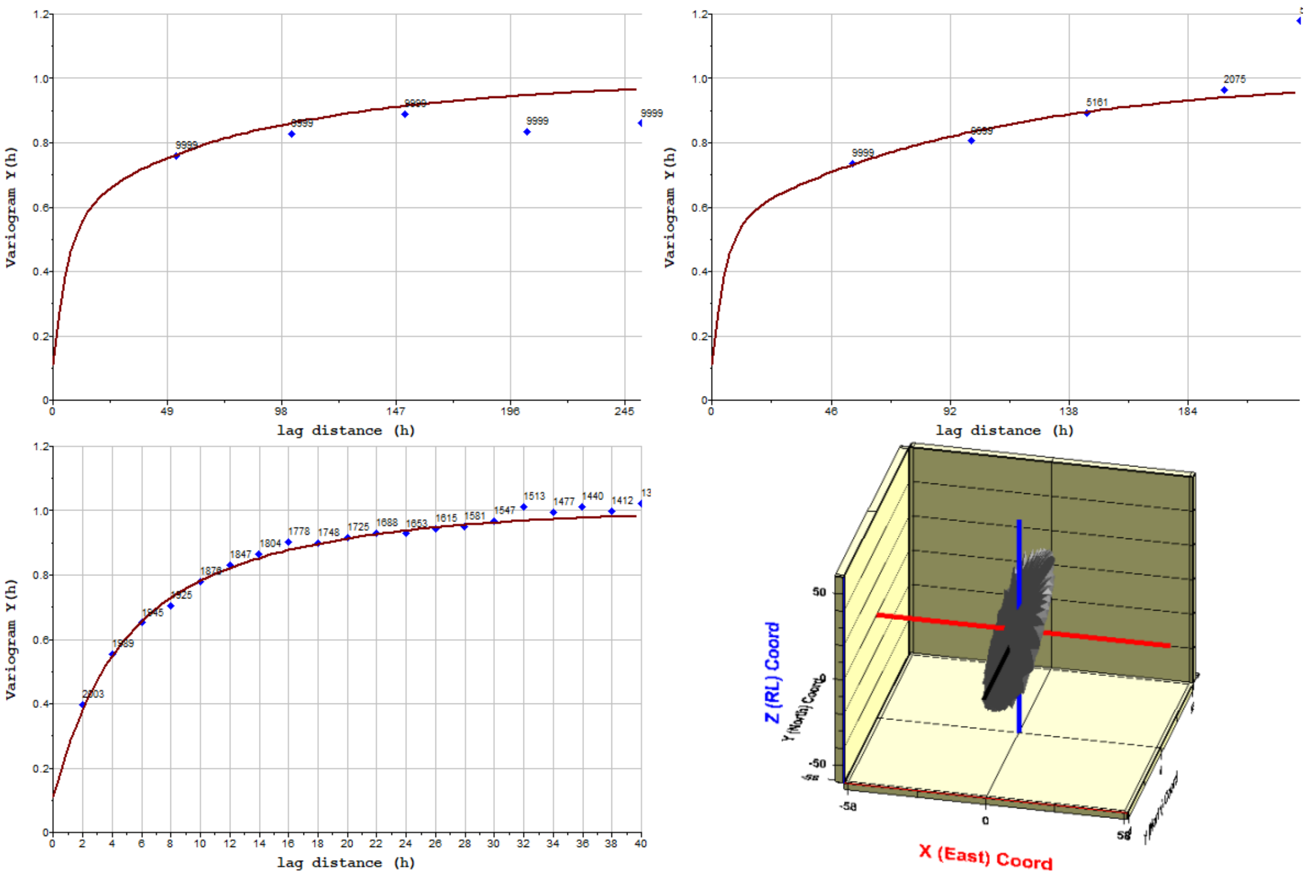

Figure 14-4: Kona South Au variograms for indicator 5

(Top left: along strike, top right: down dip, bottom left: down hole, bottom right: 3d variogram model)

14.6 Block model

The mineralisation at the Kona South deposit strikes roughly north-south and dips steeply towards the west. The mineralisation shows relatively long continuity in the along strike and down-dip directions and short continuity in the direction perpendicular to these. Table 14-5 shows the details of the block model. Coordinates represent the position of block centroids in the UTM WGS84 coordinate system.

The drilling at Kona South includes areas that have been drilled on a nominal 50x50 m grid pattern. The vast majority of intervals have been sampled on 1 m intervals. Samples were composited to 2 m intervals whilst honouring the mineralised domain wireframes and with a minimum composite length of 1.0 m. The block dimensions were 50 m along strike, 10 m across strike and 25 m vertically. The along strike dimension was chosen as it is the nominal drill hole spacing (preferable for MIK estimation). The across-strike dimension was shortened to reflect the anisotropy of the mineralisation and inclined drilling. The vertical dimension was chosen to reflect data spacing and the steeply dipping orientation of the mineralisation.

Table 14-5: Kona South block model details

Parameter	East	North	RL
Minimum	677,825.0	966,075.0	37.5
Maximum	678,795.0	968,875.0	412.5
Size (m)	10	50	25
Count	98	57	16

The wireframes representing mineralisation and weathering zones were used to flag the block model with proportions within each zone. No sub-blocking was used.

14.7 Search criteria

The search criteria used to estimate gold concentrations can be seen in Table 14-6 and consist of three search passes with progressively increasing search radii. Declustering was carried out by the use of search octants. The search ellipsoids for each domain are rotated according to the local orientation of the mineralised domains. These rotations are the same as those applied to the variogram. Discretisation of blocks is based on 5 x 5 x 5 (east, north and vertical respectively) points. The maximum distance of extrapolation of reported resource estimates from data points is limited to 100 m and the maximum depth of reported estimates is set to 250 m below surface. These limits were applied following estimation.

Table 14-6: Search criteria

Axis	Pass 1	Pass 2	Pass 3
Axis 1 (Perpendicular to Strike and Dip)	15 m	30 m	30 m
Axis 2 (Along Strike)	60 m	120 m	120 m
Axis 3 (Down Dip)	60 m	120 m	120 m
Composite Data Requirements			
Minimum data points (total)	16	16	8
Max points (total)	48	48	48
Octants Required	4	4	2
Max points (per octant)	6	6	6

14.8 Selective Mining Units and Variance Adjustment

All of the resources reported here have been estimated on the assumption that the deposits will be mined by open-pit. Recoverable MIK allows for block support correction by means of a variance adjustment to account for the change from sample size support to the size of the minimum Selective Mining Unit (SMU) in order to produce estimates of recoverable resources at pre-defined gold cut off grades. This process requires an assumed grade control drill spacing and the assumed size of the minimum SMU. The variance adjustment factors were estimated from the gold metal variogram models assuming a minimum Selective Mining Unit (SMU) of 5 by 12.5 by 5 metres (E, N, RL) with high quality grade control sampling on a 5 by 12.5 by 2.5 metre pattern (E, N, RL). This is similar to the grade control sampling pattern as that applied to Centamin's Sukari Mine, located in Egypt. The variance adjustment factors are considered to reflect Centamin's view of planned open pit mining selectivity. The variance adjustments were applied by means of the direct lognormal method using calculated panel to block adjustments and information effects.

The application of the variance adjustments to the resource estimates is expected to provide estimates of recoverable resources without the need to apply additional mining dilution or mining recovery factors. If a larger SMU size or a broader grade control drill pattern is implemented the selectivity assumed in the reported resources may not be realised.

14.9 Classification

The classification is based on the search pass used to estimate the block. In order to limit small isolated volumes of different classification (spotted dog) the search passes used to populate each block were locally averaged. Pass one nominally equates to Indicated Resources and passes two and three equate to Inferred Resources. The maximum extrapolation distance of reported resources is limited to 100 m from drill hole data and limited to a depth of 250 m below surface.

This scheme is considered by H&SC to take appropriate account of all relevant factors, including the relative confidence in tonnage and grade estimates, confidence in the continuity of geology and metal values, and the quality, quantity and distribution of the data.

The classification appropriately reflects the Competent Person's view of the deposit.

14.10 Block model validation

The block models were validated visually in cross section and plan, and by comparing the sample and block statistics. As expected, the model represents a smoothed version of the original samples, with less of the local variability present in the sample data. Grade trends within the zones are aligned with the respective search and kriging orientations, and reasonably reflect interpreted trends in the mineralisation.

No mining has yet occurred at the Kona South deposit so mine production data were unavailable for comparison.

14.11 Reported estimates

The Mineral Resources at Kona South at a cut-off of 0.5 g/t gold form a coherent zone with a strike length of around 2.4 km north-south and a plan width of 210 m. The upper limit of the mineralisation occurs at surface and the reported resources are limited to a maximum depth of 250 m below surface. The resources form a tabular body between 50 and 140 m thick, which dips around 70° to the west.

The Mineral Resource Estimates are reported by classification at a range of gold cut-offs Table 14-7. The 0.5 g/t gold cut-off is considered the preferred scenario.

Table 14-7: Kona South resource estimates by cut-off

Cut-off (Au g/t)	Indicated			Inferred		
	Tonnage (Mt)	Grade (g/t Au)	Metal (Moz Au)	Tonnage (Mt)	Grade (g/t Au)	Metal (Moz Au)
0.00	72.1	0.38	0.89	166	0.2	0.92
0.10	44.4	0.60	0.85	61	0.4	0.81
0.20	33.9	0.74	0.81	41	0.5	0.72
0.25	30.9	0.79	0.78	35	0.6	0.68
0.30	28.2	0.84	0.76	31	0.6	0.64
0.40	23.4	0.94	0.71	23	0.7	0.55
0.50	**19.6**	**1.03**	**0.65**	**16**	**0.9**	**0.45**
0.60	16.4	1.13	0.59	12	1.0	0.37
0.70	13.6	1.23	0.54	9	1.1	0.31
0.80	11.3	1.32	0.48	6	1.3	0.26
0.90	9.3	1.42	0.43	5	1.4	0.21
1.00	7.7	1.52	0.38	4	1.5	0.18
1.50	2.9	2.04	0.19	1	2.1	0.09

Table 14-8, Table 14-9 and Table 14-10 present the estimates split by oxidation domain for each of the deposits at gold cut-offs of 0.3, 0.5 and 1.0 g/t respectively. The 0.5 g/t gold cut-off is considered the preferred scenario.

Table 14-8: Estimates by weathering domain at 0.3 g/t Au cut-off

Oxidation	Indicated			Inferred		
	Tonnes (Mt)	Au (g/t)	Au (Moz)	Tonnes (Mt)	Au (g/t)	Au (Moz)
Transported	0.1	0.82	0.00	0.2	0.5	0.00
Oxidised	1.4	0.81	0.04	1.2	0.5	0.02
Transitional	2.0	0.79	0.05	0.9	0.5	0.01
Fresh	24.7	0.84	0.67	28	0.7	0.60
Total	**28.2**	**0.84**	**0.76**	**31**	**0.6**	**0.64**

Table 14-9: Estimates by deposit and weathering domain at 0.5 g/t Au cut-off

Oxidation	Indicated			Inferred		
	Tonnes (Mt)	Au (g/t)	Au (Moz)	Tonnes (Mt)	Au (g/t)	Au (Moz)
Transported	0.1	1.04	0.00	0.1	0.7	0.00
Oxidised	1.0	0.97	0.03	0.4	0.7	0.01
Transitional	1.4	0.96	0.04	0.4	0.7	0.01
Fresh	17.1	1.04	0.57	15	0.9	0.43
Total	**19.6**	**1.03**	**0.65**	**16**	**0.9**	**0.45**

Table 14-10: Estimates by deposit and weathering domain at 1 g/t Au cut-off

Oxidation	Indicated			Inferred		
	Tonnes (Mt)	Au (g/t)	Au (Moz)	Tonnes (Mt)	Au (g/t)	Au (Moz)
Transported	0.0	1.49	0.00	0.0	1.2	0.00
Oxidised	0.4	1.41	0.02	0.0	1.3	0.00
Transitional	0.5	1.43	0.02	0.0	1.3	0.00
Fresh	6.8	1.54	0.34	4	1.5	0.18
Total	**7.7**	**1.52**	**0.38**	**4**	**1.5**	**0.18**

14.12 Sensitivity analysis

14.12.1 Sensitivity to treatment of top indicator bin default grade

There can be a reasonably large difference between the mean and median of the top indicator bin in zones where the gold grades are highly positively skewed. The choice of using the mean or median can have a large impact on the global and local resource estimates. For the estimates presented in this report the average of the mean and median values was applied to the top indicator bin for each of the mineralised domains as this was felt to be a good compromise between the conservative median and optimistic mean values. In order to assess the sensitivity of the estimates to this assumption H&SC conducted estimates using the mean and median top indicator bin values. The results of this study at a gold cut-off of 0.5 g/t are presented in Table 14-11 as percentages relative to the reported estimates.

It can be seen that the Kona South estimates are relatively unaffected by the approach to the top indicator bin values, which is expected because the mean and median grades for the top indicator bin are similar.

Table 14-11: Difference to reported estimates using different top bin statistics

Mean			Median		
Tonnes	Au Grade	Au Metal	Tonnes	Au Grade	Au Metal
100.02%	100.46%	100.48%	99.98%	99.54%	99.52%

14.13 Comparison to previous estimates

The mineral resources reported here represent the maiden Kona South estimate. No previous estimates exist.

23 Adjacent Properties

The closest exploration permit to the Kona permit is another Centamin 100% owned exploration permit FarakoNafana, which hosts the northern strike extension of the same Lolosso corridor. The FarakoNafana permit area lies about 50 km north of the Kona permit area. The exploration work on this permit is at an early grassroots stage, with only mapping and soils sampling results reported.

24 Other Relevant Data and Information

It is considered that all relevant information and explanations have been provided in the body of this report to make it understandable and not misleading.

25 Interpretation and Conclusions

H&SC is of the opinion that the Mineral Resource estimates are suitable for public reporting and are a fair representation of the in-situ gold concentration and contained metal for the Kona Project.

26 Recommendations

Centamin plans to continue exploration on the Kona permit with work focused towards growing the resources and the generation of resource quality drill targets.

Drilling for 2019 on the Kona Permit is budgeted to include approximately 30,000 m of RC to test new targets and infill resources. A further 4,000 m of diamond drilling is budgeted to target deep plunge models and expand the metallurgical variability test work of the Kona South deposit. Centamin informs H&SC that USD $4.7M has been budgeted for this work.

The Kona permit is part of Centamin's ABC Project which includes Kona, FarakoNafana permits, as well as applications for permits covering Zandougou, Windou, Gbemanzo, Gouramba, Boa and Gbande. A large airborne magnetic and radiometric survey is planned for 2019, encompassing the entire Lolosso Corridor Project area. This is expected to cost USD $450,000. This detailed magnetic and radiometric coverage is expected to fast track target generation and new discovery from the second half of 2019. The proportion of the 2020 budget allocated to the Kona permit area will depend on the results of the studies described above.

In addition to the planned exploration described above H&SC recommends the following:

- Additional, relatively low gold grade CRMs are recommended to be included in the list of CRMs used to verify the gold assaying. The cost is expected to be around USD$ 300
- H&SC recommends that a portion of the assay results from Bureau Veritas Minerals Laboratory are checked by sending sample pulps to a second, independent, internationally recognised laboratory. It is recommended that around 200 samples are selected for reassay, covering a range of grades, from the within the mineralised zones. It is expected that this will cost around USD $4,500.
- More density test work is required for the weathered portions of the Kona South deposit in order to generate reliable density data. This is likely to require wax coating samples prior to density measurement. Centamin currently operate wax sealed density test work on weathered drill core at their Doropo Project, located in the north east of Cote d'Ivoire.

CERTIFICATE OF QUALIFIED PERSON

I, Rupert Osborn, do hereby certify that:

1. I am a Senior Consultant of H&S Consultants Pty Ltd, 3/6 Trelawney Street, Eastwood, NSW, 2122, AUSTRALIA.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report, Mineral Resource Estimates of the Kona South Deposit, Cote d'Ivoire" with an Effective Date of December 10, 2019.
3. I graduated with a degree in Geology from University of Edinburgh, UK in 2003. In addition, I have obtained a Masters degree (MSc) in Mining Geology from Camborne School of Mines, University of Exeter, UK in 2004 and have worked as a geologist for a total of 14 years since my graduation from university. I am a member of the Australian Institute of Geosciences (AIG) (Membership Number 4917).
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) 2011 and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the Kona South site for two full days in December 2018.
6. I am responsible for the preparation of all Sections of this report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have had no prior involvement with the Kona South deposit or the Kona permit.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report for which I am responsible and have ensured that these have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading

Dated March 29, 2019.

"Signed" .

Rupert Osborn, MSc, MAIG

Senior Consultant at H&SC

27 References

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