INDEPENDENT TECHNICAL REPORT MINERAL RESOURCE ESTIMATE BLUE LAKE PORPHYRY DEPOSIT, KAINANTU, PAPUA NEW GUINEA



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1 SUMMARY

1.1 INTRODUCTION

K92 Mining Ltd ("K92ML") is the registered holder of Exploration Licence 470 ("EL470"), in PNG as issued by the applicable government authorities in accordance with the PNG Mining Act 1992 (the "Mining Act").

Exploration Licence 470 is effective until February 04, 2021. K92ML have lodged an application for renewal for a further two years. The Blue Lake deposit is situated within EL470, see Figure 1-1.



Figure 1-1. EL470 geology and known vein and porphyry prospects.

(K92ML, 2021)

1.2 GEOLOGY AND MINERALIZATION

The Kainantu region is in the northeastern flank of the northwest trending Papuan Mobile Belt which is a major foreland thrust belt. The regional structural package of the Kainantu district is bounded in the northeast by the northwest trending Ramu-Markham Fault, a major suture zone that marks the northern margin of the Australian Craton, and in the southeast by the Aure Deformation Zone. The belt is characterized by a number of north-northeast trending fault zones that commonly host major ore deposits.

The Blue Lake Porphyry Project at Kotampa is approximately 4 km southwest of K92ML's producing high-grade Kora and Judd intrusion-related gold deposits at the Kainantu Gold Mine. Drilling at Blue Lake has defined a large tonalite porphyry stock, comprising multiple overprinting intrusives, that are variably mineralized with gold and copper within Akuna Granodiorite. The mid-Miocene Akuna Intrusive Complex consists of multiple phases ranging from olivine gabbros, dolerites, hornblende gabbros and biotite diorites to granodiorites

A prominent silica-clay lithocap is present overlying mineralized propylitic (epidote-chlorite) alteration, with higher grade potassic alteration. The mineralized porphyry is concentrically zoned and tilted towards the northwest. This zonation is apparent both in metal (sulphide) distribution, with bornite grading into chalcopyrite with a molybdenum periphery, and finally into pyrite, as well as in alteration mineral assemblages, with biotite-K feldspar giving way peripherally to epidote-albite through a transitional actinolite zone. The prograde assemblages have been largely overprinted by intense sericite-pyrite alteration. There is a prominent silica-clay cap, characterized by dominant pyrophyllite, with alunite feeder zones. See Figure 1-2 below.





The highest grades are associated with a potassic alteration core, characterized by biotite, K-feldspar and chalcopyrite/bornite mineralization, with a propensity of quartz stockwork veins. Copper/Gold mineralization is approximately at a 1:1 ratio and open to the south-west.

1.3 K92 MINING EXPLORATION

Surficial Au-Ag-Cu mineralization, associated with enargite-bearing breccia and vuggy silica, was identified by K92ML geologists in the Blue Lake area on EL470 during September 2017 after which a large coincident Au-Cu soil geochemical anomaly was defined by soil sampling.

Detailed mapping, rock chip and soil sampling revealed a substantial (1.2 km x 0.8 km) geological, geochemical (Au-Cu) anomaly which was coincident with a historic airborne electromagnetic anomaly see Figure 1-3.

An initial program of ten diamond drillholes was completed at the prospect in 2019. The first drill hole, KTDD0001, returned an open-ended intercept of 174.6m @ 0.28 g/t Au, 0.22 % Cu, from 259.3m. and was terminated in mineralization at 433.9m. 16 holes were drilled in a second phase commencing in November 2020, with multiple long intervals of significant gold-copper mineralization intersected.



Figure 1-3. Geochemistry and airborne EM anomalies at Blue Lake prospect (K92ML, 2020)

1.4 MINERAL RESOURCE ESTIMATE BLUE LAKE PORHYRY DEPOSIT

Mineral Resource estimates were generated by Simon Tear (PGEO), of H&S Consultants Pty Ltd, ("H&SC") based in Brisbane, Qld, Australia. The effective date of the Mineral Resource estimate for the Blue Lake porphyry deposit is the 1st of August 2022, which was the date that the latest database was received by HS&C.

The entire resource is classified as Inferred, based on the Qualified Person's experience with similar porphyry copper deposits elsewhere, especially in PNG. This takes into account a number of factors, including data distribution, the continuity of geology and metal grades including variography, the QAQC data, the quality of the density data and sampling method and core recoveries. It is also assumed that the deposit will be mined by a bulk mining method, e.g. open pit or block caving. The Mineral Resources reported in this section have been classified under the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves. The Mineral Resources have been reported using a gold equivalent ("AuEq") cut off grade, see Table 1-1.

Mt	Au g/t	Cu %	Ag g/t	AuEq g/t	CuEq %	Au Mozs	Cu Mt	Ag Mozs	AuEq Mozs	CuEq Blbs
549	0.21	0.23	2.42	0.61	0.38	3.7	1.3	43	10.8	4.7

 Table 1-1. Blue Lake Deposit Inferred Mineral Resources at 0.4 g/t AuEq Cut-off Grade

The gold equivalent cut off of 0.4g/t, is based on cut off grades used for other similar deposits in the region and was advised by K92ML.

- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
- Mineral Resources were compiled at 0.1, 0.2, 0.3, 0.4, 0.5, 0.6 g/t AuEq cut-off grades.
- Density was based on 2,473 measured density data recordings (weighed core trays and measured core technique) which were composited and subsequently modelled unconstrained using Ordinary Kriging.
- Reported tonnage and grade figures are rounded from raw estimates to reflect the order of accuracy of the estimate.
- Minor variations may occur during the addition of rounded numbers.
- Estimations used metric units (metres, tonnes and g/t)
- Gold equivalents are calculated as AuEq = Au g/t + Cu%*1.607 + Ag g/t*0.0125. Copper equivalents are calculated as CuEq = Cu% + Au g/t*0.006222 + Ag g/t* 0.00007778. Gold price US\$1,600/oz; Silver US\$20/oz; Copper US\$3.75/lb.

The Mineral Resource estimates are based on 26 diamond core holes with logged geology and assays, totalling 16,530.3m. Downhole sampling was on 1m intervals with all drillcore sampled. Data was supplied in an orthogonal local grid coordinate system.

An initial review of the assay data in 3D and cross section indicated two distinct, broad mineral zones,

- 1. A large lower copper/gold zone (Zone 2) predominantly coincident with a mineralised altered tonalite, and
- 2. An upper copper-poor zone (Zone 1) generally concomitant with low, sub-economic copper grades and lower densities, both attributable to being part of the lithocap to the underlying intrusive. The gold mineralization in this zone is very variable and "spotty", often occurring as small, unconnected zones of mineralization.

Gold grades appeared to be more ambiguously distributed in both zones, with localised intercepts of high grade gold scattered within the lithocap unit.

The complete drill hole dataset was composited to 2m intervals for gold, copper, silver and a gold equivalent and was subsequently modelled using Ordinary Kriging ("OK"). The unconstrained modelling of the 2m composites data confirmed the two distinct zones of mineralization and allowed for the interpretation of the porphyry body in conjunction with supplied alteration data.:

Porphyry-style mineralization is interpreted to be bound in the west by the Baupa Transfer Fault and in the east and northeast by the drilling and the Blue Lake Transfer Fault respectively. The mineralization appears to taper to the north and south, with the deposit open at depth.

The interpreted porphyry body and its associated mineralization has overall dimensions of 1500m (X) by 1300m (y) by 1100m (Z) with a modest plunge to grid south-east. Mineralization is close to surface (1950mRL approx.) in the grid west and is open at depth. The Mineral Resource is terminated by a notional-pit outline down to 500m RL. Drillhole spacing was nominally on 100m centres in the centre of the deposit extending to 200m in the periphery. See Figure 1-4 below.

The density data was composited to 4m giving 1,879 data points which were subsequently modelled unconstrained using OK, using similar search parameters and rotations to the global metal grade interpolation. Density showed a marked segregation between the upper lithocap dominated zone and the lower altered tonalite zone.



Figure 1-4. Blue Lake Porphyry – Section, viewed north-north-east

Drill holes showing downhole gold and copper grades and distribution of mineralization

Mineral Resources are reported for 0.4 g/t AuEq cut-off; with the tabulation below (Table 1-2) containing other cut-off values provided for information only.

AuEq Cut off	Mt	Au g/t	Cu %	Ag g/t	AuEq g/t	CuEq %	Au Mozs	Cu Mt	Ag Mozs	AuEq Mozs	CuEq Blbs
0.1	1,247	0.13	0.16	2.17	0.41	0.26	5.2	2.0	87	16.4	7.1
0.2	1,080	0.15	0.17	2.28	0.45	0.28	5.2	1.8	79	15.6	6.6
0.3	808	0.18	0.20	2.43	0.52	0.33	4.7	1.6	63	13.5	5.9
0.4	549	0.21	0.23	2.42	0.61	0.38	3.7	1.3	43	10.8	4.7
0.5	382	0.25	0.25	2.39	0.68	0.42	3.1	1.0	29	8.3	3.7
0.6	233	0.30	0.28	2.43	0.77	0.49	2.2	0.7	18	5.8	2.6

Table 1-2. Mineral Resources at Different Cut-Off Grades

The Mineral Resource classification is based on a range of considerations.

Positive aspects:

- Relatively simple geological model that conforms to the gold/copper porphyry style.
- All drilling is diamond core of an appropriate core size.
- Good core recovery with no relationship between metal grades and recovery.
- Good sampling procedures and no issues with the QAQC data.
- Significant amount of density data of a reasonable quality.

Negative aspects:

- Data point spacing (i.e. wide drill hole spacing) and the limited amount of drilling.
- There is an absence of any detailed drilling to get a better measure of any trends in the metal distribution and/or grade continuity as exemplified by the weak variography.
- No information on likely metallurgical recoveries.

1.5 CONCLUSIONS

The Kainantu district is recognized as an important mineral district, owing to the presence of multiple economic vein deposits, as well as additional veins and porphyry prospects, at various stages of exploration.

Drilling results to date indicate the Blue Lake Porphyry has the potential to be a large, mineralized Cu-Au porphyry deposit. Locally, the roots of the lithocap remain in situ (dominated by pyrophyllite, typically present deep in lithocaps and nearest to porphyry mineralization). The Blue Lake deposit remains open along strike and down plunge. Additionally, with a higher grade core, it is possible that the mineralization is much more extensive than currently understood and higher grades may be expected in the deeper parts of the system.

1.6 **RECOMMENDATIONS**

The general drill hole spacing and hence data distribution is considered wide for a large part of the deposit. This, plus the nature of the mineralization impacts negatively on the variography, which in turn indicates that much

closer spaced drilling, perhaps in a localised test area, is required for more confidence in any grade continuity, which in turn is reflected in the resource classification. In H&SC's experience modelling of gold (and copper) composite data with such wide drill hole spacings is relatively high risk, hence the Inferred Resource classification.

The assay values from the drilling and simple unconstrained modelling of the composite data, particularly for copper, indicate quite clearly the subdivision of the mineral body into an upper gold lithocap zone and a lower porphyry intrusive copper/gold zone. Cross referencing with the alteration zones indicated that more work is required in defining these zones, and if they specifically relate to mineral styles and metal grade tenors.

The entire mineralized district covered by EL470 should be assessed but with priority given to the Blue Lake deposit and the A1 porphyry prospect. Wider scale geological mapping to understand the geological setting and more surface alteration mapping to define the distribution of the lithocap is recommended.

Additional drilling is recommended to target the definition and expansion of the zone of quartz stockwork veins and bornite mineralization within the potassic core at Blue Lake.

The work program (Table 1-3) has been planned taking into consideration the current level of exploration on the tenement. Some programs will require detailed surface work which should include assessment of lithocaps and vein expressions, as well as geochemical and geophysical anomalies prior to commencement of drilling.

Tenement No.	Term End Date	-	ed Work 1 Budget	Planned 2 Year Program
		Unit	Amount	
EL470	04/02/2023	PGK	4,800,000	16 km ² reconnaissance mapping, 6 km ² detailed geological mapping, significant soil + rock chip sampling (including costeaning), samples for petrology, 25 km ² airborne EM geophysics, 24 cored drill holes.

Table 1-3. EL470 Work Program and Budget

2 INTRODUCTION

2.1 ISSUER

This report is an Independent Technical Report dated 01 August 2022 of the geology, exploration, and mineral resource estimate for the Blue Lake gold-copper deposit on Exploration Licence 470. The Blue Lake Property is located in the Eastern Highlands Province of Papua New Guinea, approximately 180 km west-northwest of Lae.

K92 Mining Inc. ("K92") requested H&S Consultants ("H&SC"), to prepare a report in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") incorporating the results of recently completed Mineral Resource estimates of the Blue Lake gold-copper deposit on Exploration Licence 470.

K92 intends that this report be used as an Independent Technical Report as required under Part 4 "Obligation to File a Technical Report" of NI 43-101 to support publicly disclosed information.

2.2 TERMS OF REFERENCE AND PURPOSE

At K92's request, the scope of the report includes the following:

- Production of an Independent Technical Report prepared in accordance with NI 43-101
- Preparation of a Mineral Resource estimate for the Blue Lake deposit

2.3 INFORMATION USED

This report is based on technical data provided by K92ML. K92ML provided open access to all the records necessary to enable a proper assessment of the project and resource estimates. K92ML has warranted in writing that full disclosure has been made of all material information and that, to the best of the K92ML's knowledge and understanding, such information is complete, accurate and true.

With respect to Items 6 and 9 of this report, the author has relied in part on historical information including exploration reports, technical papers, sample descriptions, assay results, computer data, maps and drill logs generated by previous operators and associated third party consultants. Historical documents and data sources used during the preparation of this report are listed in Item 27: References.

2.4 SITE VISIT BY QUALIFIED PERSONS

Mr. Simon Tear of H&SC visited the Kainantu minesite in October 2018.

Mr. Anthony Woodward of Nolidan carried out a helicopter reconnaissance of the Blue Lake prospect during his January 2020 visit to the Kainantu mining operations of K92 Mining.

3 RELIANCE ON OTHER EXPERTS

Information relating to tenure in Item 4 was reviewed by means of the public information available through the the PNG Mineral Resource Authority website. Nolidan has relied upon this public information, as well as tenure information from K92ML and has not undertaken an independent detailed legal verification of title, tenement conditions and ownership of the Property.

4 PROPERTY DESCRIPTION AND LOCATION

The Blue Lake Property is located within the Kainantu Goldfields in the Eastern Highlands Province of Papua New Guinea, approximately 20 km north of Kainantu township and 180 km west-northwest of Lae (Figure 4-2). The project is located in the south west of EL470, at 6°06′25″ S Latitude and 145°53′27″ E Longitude.



Source: K92ML (2022)

4.1 TENURE

The Property comprises an exploration licence (EL470) which is owned 100% by K92 Mining Limited ("K92ML"). A tenement map is shown in Figure 4-2 and tenement details are summarised in Table 4-1.

The Property as described herein is 100% owned by K92 Mining Limited ("K92ML"); a company incorporated in Papua New Guinea, which is 100% owned by K92 Holdings International Limited ("K92 Holdings"), which is owned 100% owned by K92 Mining Inc. (formerly Otterburn Resources Corp.).

K92 Mining Inc. is a company incorporated under the laws of British Columbia, Canada; the common shares of which are publicly listed on the Toronto Stock Exchange.

Nolidan has not undertaken any title search or due diligence on the tenement titles or tenement conditions. The tenement's status has not been independently verified by Nolidan other than a viewing of tenement information on the PNG Mineral Resource Authority website.





Tenements are issued by the PNG Mining Minister on recommendation from the Mining Advisory Council (MAC) under the Mining Act 1992. The Head of State, acting on advice from the National Executive Council issues the special Mining Lease whilst the Minister for Mining issues the other types of licenses. The relevant tenement is: an Exploration License (EL).

An exploration license may be granted for a term not exceeding two years and may be extended for periods not exceeding 2 years. The area of land in respect of which an exploration license may be granted shall be no more than 750 sub-blocks (one sub-block = 3.41 km²) and one area comprising one sub-block or more than one sub-block, each of which shall share a common side with at least one other such sub-block.

K92ML is the registered holder of the tenements in PNG (MRA, 2020), as issued by the applicable government authorities in accordance with the PNG Mining Act 1992 (the "Mining Act").

Exploration Licence 470 (EL470) is effective until February 04, 2021; K92ML have lodged an application for renewal for a further two years; To the extent known by Nolidan, there are no other option agreements or joint venture terms in place for the Property and there are no other significant factors and risks that may affect access, title, or the right or ability to perform work on the Property.

Table 4-1. Project Tenure Details

Source: K92ML (2022)

Tenement No.	Grant Date	Expiry Date	Renewal Appin. Date	Area (km²)	Owners [#]
EL470*	05/07/1982	04/02/2021	30/10/2020	92.65	K92ML

*EL470 is pending renewal as of 21/12/2021

Table 4-2. Project Expenditure Commitment Details

Tenement No.	Term End Date	Commitment Year 1* (PGK)	Commitment Year 2* (PGK)	Proposed Work	Program Budget
				Unit	Amount
EL470	04/02/2023	2,400,000	2,400,000	PGK	4,800,000

Source: K92ML (2022)

4.2 ROYALTIES

The Mining Act 1992 (Act) provides that all minerals at or below the surface of any land (i.e. gold, silver, copper and other minerals) are the Property of the State. K92ML, pursuant to the Mining Lease from the State, would own what is mined from the Property.

There appear to be no royalties (other than the mandated government royalties under the Mining Act for any future production), back-in rights, payments, or other agreements or encumbrances on the Property.

4.3 OTHER SIGNIFICANT FACTORS AND RISKS

Under the laws and upon grant of a mining licence (ML) or a special mining licence (SML) the State may elect at its discretion to take, at sunk cost, up to a 30% participating interest in any major mineral development in PNG. Upon exercise of that option, the State will fund its share of capital and ongoing costs and the mine developer will be repaid its share of sunk costs. The State retains the option in respect of Exploration Licences 470 should it be converted into a Mining Licence or Special Mining Licence.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 PHYSIOGRAPHY

The Property lies within an area of mostly rugged topography, with transecting rivers forming lower lying areas. Elevations range from 400m to 1900m above sea level. Vegetation is mostly primary rainforest with areas of shifting cultivation in valley floors.

5.2 ACCESS

The Property is accessed by a two-hour drive along the sealed Lae-Madang Highway from Lae. Lae is the capital city of the Morobe Province and second largest city in PNG. It is serviced by daily flights from Port Moresby and other PNG centres and hosts the largest cargo port in PNG.

A 10 km long formed access road from the Lae-Madang Highway, commencing at Gusap Airstrip to the Kumian Process Plant and Office facility. The access road crosses one single lane bridge at the Ramu River.

Access to Blue Lake locality to date has been by road to Karapumpa Village, then by foot to the prospect, or by helicopter support from the Kumian site.

5.3 CLIMATE

The climate at Kainantu has the Köppen classification of Af (tropical rainforest) with hot temperatures and wet conditions. Daytime temperatures reach 30°C dropping to night-time lows of 20°C. A pronounced wet season occurs between November and April, although rainfall is common throughout the year. Rainfall averages 235 mm/month during the November to April wet season, and 137 mm/month during the dry season. Annual rainfall averages approximately 2000 mm. Project operation/exploration is subject to the weather; reduced visibility when cloudy prevents operation of helicopters and heavy rainfall or earthquakes can trigger landslides.

5.4 LOCAL RESOURCES

The Property is located 180 km from Lae, 21 km from Kainantu township and 56 km from Goroka. Goroka is the Capital of Eastern Highlands Province and contains Local and Provincial Level Government Offices.

5.5 POWER

Yonki Dam provides water for the Ramu Hydro Power Station and the Yonki Toe of Dam Power Station operated by PNG Power Ltd. Currently the Ramu 1 Hydro Power station is supplying 54 MW from three generators on to the Ramu Grid while the Yonki Toe of Dam supplies 14MW. They are supplemented by 4MW from the Pauanda Hydro Power station, 10MW from the Baiune Hydro Power station at Bulolo in Morobe Province and a combined thermal generation capacity of 20MW from the diesel power stations in Lae, Madang and the Highlands centres, giving a total generation capacity of 102MW into the Ramu Grid (PNG Power website, 2014).

5.6 GUSAP AIRSTRIP

The Gusap Airstrip is a fully licenced, international grass strip located in the Ramu Valley and maintained jointly by K92ML and Ramu Agricultural Industries mainly for use in emergencies and for charter flights.

5.7 INFRASTRUCTURE

EL470 surrounds the Kainantu gold-copper mine which is located within ML150. All mine infrastructure, exploration camps, exploration data and diamond drill core storage are located within LMP78 which is located within EL693.

6 HISTORY

6.1 PREVIOUS OWNERSHIP

EL470 was granted to Renison Goldfield Consolidated (PNG) (RGC) in July 1982 as PA470 and the area of EL693 was granted to RGC as PA462 in December 1986. RGC entered a Joint Venture over EL's 470 and 693 with Highlands Gold Resources Limited (HGL) in 1989, with HGL as the Operator. In 1994 RGC withdrew from the joint venture.

When HGL was restructured in 1996, the new company Highlands Pacific Resources Limited (HPL) inherited the properties. During this time, often quite detailed and focussed exploration work involving mapping, sampling, trenching, drilling, and geophysics (ground and airborne magnetics/radiometrics, CSAMT, IP) was undertaken and indicated high potential for a significant tonnage of high-grade gold mineralization within the Kora, Irumafimpa, Maniape and Arakompa vein systems. After the discovery of the Irumafimpa deposit, Highlands Pacific Limited (HPL) focused on high grade Au-telluride mineralization with little to minor work conducted on the porphyry Cu Au targets.

Barrick purchased the Kainantu tenement package including EL470 from HPL in December 2007 through its 100% owned subsidiary Placer Dome Oceania Limited and concentrated on increasing Mineral Resources at Irumafimpa-Kora and prioritizing the discovery of economic porphyry Cu-Au mineralization. This entity's name

was subsequently changed to Barrick Kainantu Limited (now K92 Mining Limited) which is the most recent holder of the Kainantu tenements.

Barrick conducted exploration from 2008 to August 2012. In addition to resource evaluation of the Kora deposit, their priority was discovery of a large porphyry system. Land access issues were the main challenge to implementing exploration activities prior to Barrick halting exploration and making a decision to divest the Kainantu project.

6.2 HISTORICAL EXPLORATION

Gold was discovered in the Kainantu area in 1928 on a small creek draining into Abinakenu Creek. Subsequent geological investigation and mapping of the Central Highlands including Kainantu District was conducted in the early 1940's to late 1950's by several petroleum and mineral exploration companies and government geologists. Investigations of mineralized areas had been made in the late 1950's to early 1960's by Resident Geological Staff of the New Guinea Mines Division (Dow and Plane, 1965). However, modern exploration did not commence within the area until the early 1970's.

The bulk of the exploration effort within the Kainantu District has focused on the Bilimoia field, centred about 16km north of Kainantu township where several distinct high grade gold±copper lodes were discovered by various entities from the mid 1960's up to the present day. Between 1948 and 1952 copper was discovered at Yonki Creek. The southern end of the Irumafimpa lodes was discovered some time prior to 1967, while the Kora lode was worked between 1967 and 1970, producing about 1,000 tonnes of gold and copper ore averaging three ounces recovered gold to the ton (Woodward et al, 2018). Between 1969 and 1972, most reconnaissance work concentrated on the Yonki copper-gold lode, south of Abinakenu Creek.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The Kainantu region is in the northeastern flank of the northwest trending Papuan Mobile Belt which is a major foreland thrust belt (Rogerson et al., 1987). The regional structural package of the Kainantu district is bounded in the northeast by the northwest trending Ramu-Markham Fault, a major suture zone that marks the northern margin of the Australian Craton, and in the southeast by the Aure Deformation Zone (Figure 7-1). Many of the major structures in the New Guinea Thrust Belt represent crustal-scale thrust faults and host fragments of obducted oceanic crust. The belt is characterized by Late Miocene, sub- horizontal to shallowly north-dipping, stacked thrust sheets of regionally metamorphosed and strongly cleaved Triassic to Eocene fine-grained sedimentary rocks and minor volcanic rocks. Following a middle Oligocene hiatus, siliciclastic sediments, carbonates and volcanic rocks were deposited until thrusting began in the middle Miocene (Rogerson et al, 1987; Dobmeier et al, 2012) accompanied by middle Miocene intrusions. A mild orogeny in Late Tertiary time folded and faulted Tertiary rocks and has continued to the present day (Dow and Plane, 1965). The belt is characterized by a number of north-northeast trending fault zones that commonly host major ore deposits (Williamson & Hancock. 2005).





7.2 LOCAL GEOLOGY

The Kainantu area is underlain by rocks of the Early Miocene Bena Bena Formation, comprising pelite, psammite, conglomerate and marl beds metamorphosed to greenschist to amphibolite grade (Table 7-1). These are unconformably overlain by Miocene age Omaura Formation consisting of volcano-lithic sandstones and siltstones and numerous fossiliferous limestone lenses. The overlying Yaveufa Formation consists of basaltic and andesitic flows, agglomerates, volcanoclastic sandstone and limestone (Tingey and Grainger, 1976). The mid-Miocene Akuna Intrusive Complex consists of multiple phases ranging from olivine gabbros, dolerites, hornblende gabbros and biotite diorites to granodiorites. Late Miocene age Elandora Porphyry dykes form small high level crowded feldspar porphyry dykes and diatreme breccias associated with gold and copper mineralization. A north-northeast trending transfer structure transects the area, with associated mineralization, alteration and porphyry complexes aligned along it.

Table 7-1.	Main regional	rock units identified	d within the Kainantu area.	

Rock Units						
Kainantu Formation – basal fluvial conglomerate, sandstone and mudstone overlain by well bedded tephra.						
~~~ Unconformity ~~~						
Elandora Porphyry – intermediate dykes, sills and stocks.						
Akuna Intrusive Complex – range in composition from olivine gabbros through to granodiorites.						

	Yaveufa Formation – basaltic and andesitic agglomerates, lithic tuffs, volcanoclastic sandstone, and limestone.					
Late Oligocene – Late Miocene	Omaura Formation – thin bedded to laminated calcareous siltstone and mudstone.					
~~~ Unconformity ~~~						
Early Mesozoic	Bena Bena Formation – pelite, psammite, conglomerate and marl metamorphosed to schist and phyllite. Steeply dipping sequence with shearing mineralization accompanying isoclinally folded faults and breccias.					

7.3 EL470 MINERALIZATION OVERVIEW

Drilling at Blue Lake has defined a large tonalite porphyry stock, comprising multiple overprinting intrusives, that are variably mineralized with gold and copper within Akuna Granodiorite. The highest grades are associated with a potassic alteration core, characterized by biotite, K-feldspar and chalcopyrite/bornite mineralization, with a propensity of quartz stockwork veins. Cu/Au mineralization is approximately at a 1:1 ratio and open to the southwest. A prominent silica-clay lithocap is present overlying mineralized propylitic (epidote-chlorite) alteration.

Peripherally, exploration activities have also identified other areas of vein and porphyry-style mineralization. Less advanced prospects on the Property include epithermal Au veins similar to Irumafimpa, IRGC veins similar to Kora, porphyry Cu-Au systems, skarn Cu, Pb and Zn mineralization and alluvial gold. The location of the deposits and prospects in relation to the Property boundary is shown below.



Figure 7-2. Geology and known vein and porphyry deposits and prospects on EL470

Source: K92ML (2021)

A summary of the mineralization style, host rocks, dimensions, and geological continuity for the porphyry prospects on EL470 is shown in Table 7-2 below.

Deposit / Prospect	Mineralization	Host Rocks	Dimensions	Continuity
Blue Lake	Porphyry Cu-Au. Indications of a large mineralized system.	Feldspar porphyry intrusions within Akuna Granodiorite	1500m (X) by 1300m (y) by 1100m (Z) in Resource estimate	Undefined

Table 7-2. Summary of mineralization, host rocks, and dimensions of porphyry prospects within EL470

Deposit / Prospect	Mineralization	Host Rocks	Dimensions	Continuity
A1	High-sulphidation and porphyry Cu-Au Brecciated vuggy silica-pyrite-enargite mineralization	Bena Bena Metamorphics, Akuna Diorite, Feldspar porphyry and breccias	Undefined	Undefined
Kokofimpa	Porphyry Cu-Au	Akuna Intrusive Complex and3 km x 3 km defined porphyryElandora porphyry intrusions within the Bena Bena Metamorphics3 km x 3 km defined porphyry system		Undefined
Tankaunan	Porphyry Cu-Au	Akuna Intrusive Complex and mid- late Miocene Elandora Porphyry Undefined intrusions within Bena Bena Metamorphics		Undefined
Timpa	Porphyry potentialTimpaAdvanced argillic alterationQuartz Breccia		Quartz breccia is 500 m by 100 m Other mineralization Undefined	Undefined

7.4 BLUE LAKE DEPOSIT GEOLOGY

The Blue Lake Porphyry Project at Kotampa is located approximately 4 kms southwest of K92 Mining's producing high-grade Kora and Judd intrusion-related gold deposits at the Kainantu Gold Mine. Drilling at Blue Lake has defined a large tonalite porphyry stock, comprising multiple overprinting intrusives, that are variably mineralized with gold and copper within Akuna Granodiorite. The mid-Miocene Akuna Intrusive Complex consists of multiple phases ranging from olivine gabbros, dolerites, hornblende gabbros and biotite diorites to granodiorites.

A prominent silica-clay lithocap is present overlying mineralized propylitic (epidote-chlorite) alteration, with higher grade potassic alteration. The mineralized porphyry is concentrically zoned and tilted towards the northwest. This zonation is apparent both in metal (sulphide) distribution, with bornite grading into chalcopyrite with a molybdenum periphery, and finally into pyrite, as well as in alteration mineral assemblages, with biotite-K feldspar giving way peripherally to epidote-albite through a transitional actinolite zone. The prograde assemblages have been largely overprinted by intense sericite-pyrite alteration. There is a prominent silica-clay cap, characterized by dominant pyrophyllite, with alunite feeder zones.

The highest grades are associated with a potassic alteration core, characterized by biotite, K-feldspar and chalcopyrite/bornite mineralization, with a propensity of quartz stockwork veins. Cu/Au mineralization is approximately at a 1:1 ratio, open to the south-west.



Figure 7-3. Blue Lake prospect Surface Geology
Source: K92ML (2021)

7.4.1 Host Rocks

Host rocks in the Blue Lake Prospect area are dominated by feldspar porphyry intrusions within the mid Miocene (18-7 my) Akuna granodiorite. A voluminous flow-banded porphyritic dacite cropping out extensively at surface and intersected in the upper parts of KTDD0001, KTDD0006 and KTDD0008 is interpreted as a possible dacitic dome (Pdac). Several generations of later north-east trending porphyritic dacite dykes are present within this dome complex.

Milled breccias, typical of phreatomagmatic or diatreme breccia pipes, are associated with the dacite intrusions Such breccias would have provided permeability for enhanced fluid flow as an aid to development of the extensive advanced argillic lithocap. There is likely a component of structural control to the acid altered lithocap, with several major structures mapped at surface and recognized in drill core within the dacite dome.

Pebble dykes, typical porphyry related features, are present at intervals in Blue Lake drill core and are commonly used as vectors towards increasing gold-copper mineralization. Shingle breccias, characterised by stacked tabular clasts with variably massive sulphide matrix, were intersected over broad intervals in holes KTDD0009 and KTDD0010. These are interpreted to represent a lens shaped body, formed by collapse following the escape of volatiles from underlying magmatic source rocks. They are thus also considered important mineralized porphyry features.

7.4.2 Metasomatism/Hydrothermal Alteration

Hydrothermal alteration at the Blue Lake Prospect is genetically related to the (7-9 my) Elandora porphyry dacite intrusions and associated milled matrix (phreatomagmatic) breccias, which in drill core are overprinted by enargite-pyrite vein-breccias in steep dipping structures (Corbett, 2019).

The lithocap of advanced argillic alteration is described in detail by Kavalieris and Bat-Erdene (2019) as a horizontal hilltop remnant of silica-alunite grading down to pyrophyllite-dickite and kaolinite mineral assemblages. The Blue Lake lithocap, based on currently known samples is moderately to deeply eroded, and characterized by pyrophyllite-diaspore overprinting paragonite-muscovite (sericite), and cut by vuggy silica and alunite-pyrite-enargite feeder zones as narrow veins and hydrothermal breccias. This type of alteration is typical of high sulphidation epithermal gold deposits.



Figure 7-4. Fractured Brecciated Lithocap

Source: K92ML (2020)

Alunite is primarily K-rich but includes some Na-alunite. The coarse crystalline alunite in vugs and veins associated with pyrite-enargite is undoubtedly magmatic hydrothermal (hypogene). Na-alunite may reflect higher temperature magmatic-hydrothermal fluids (Kavalieris and Bat-Erdene, 2019) and indicate proximity to the porphyry source.

Other characteristic minerals identified in the Blue Lake lithocap include topaz, dumortierite, lazulite, dickite, nacrite and kaolinite, with the latter three minerals representing a low temperature overprint. Deep anhydrite (gypsum line) encountered commonly in Blue Lake drill holes is also likely to be due to late descending acid sulfate fluids (Kavalieris and Bat-Erdene, 2019). Silica-sericite-pyrite (phyllic) alteration is prevalent as pervasive alteration and as selvages to veins.

Prograde mineral assemblages, pervasive beneath and surrounding the lithocap, are dominated by propylitic chlorite-magnetite-epidote and rare actinolite, with variable additional pyrite-chalcopyrite. Abundant magnetite is considered an important directly porphyry-related feature, where it is invariably associated with anomalous gold-copper, and occurs as disseminated replacement of primary mafic minerals, magnetite-pyrite-chalcopyrite fracture fill and larger lode-like veins as well as magnetite matrix breccias.

7.4.3 Mineralization

Enargite-pyrite veins and breccia fill, typical of high sulphidation epithermal Au-Ag mineralization, is recognized at the surface as narrow veins and within narrow structurally controlled zones of high sulphidation epithermal Au mineralization within the advanced argillic lithocap.



Figure 7-5. Enargite bearing Breccia from Blue Lake Source: K92ML (2020)

The pyrite-enargite feeder zones are linked to underlying porphyry Cu-Au mineralization and are an important exploration guide (Kavalieris and Bat-Erdene, 2019).

Quartz-sulphide veins, typical of porphyry and wall rock settings, include well-developed B veins, characterised by sulphide filled centres and sericite selvages, as well as wall rock hosted D veins (pyrite centre, minor quartz, sericite selvage) and rare A veins (Corbett, 2019). Quartz-magnetite veins and lodes with variable quantities of pyrite, chalcopyrite and hematite occur with high frequency in drill holes KTDD0001, KTDD0006 and KTDD0007. Chalcopyrite, bornite and molybdenite occur both in veins and as disseminations. Within shingle breccias, a paragenetic succession of sulphides (pyrite, chalcopyrite, bornite, chalcocite, covellite and enargite) commonly fill voids between the tabular clasts.

Where observed (KTDD0006, 548.0m), native gold is enclosed by chalcopyrite intergrown with bornite, K-feldspar and minor amounts of granoblastic quartz of magmatic-hydrothermal/porphyry-style (Coote, 2019).

7.4.4 Dimensions and Continuity

The interpreted porphyry body and its associated mineralization has overall dimensions of 1500m (X) by 1300m (y) by 1100m (Z) with a modest plunge to grid south-east. Mineralization is close to surface (1950mRL approximately) in the grid west.

Mineralization is interpreted to be bounded in the west by the Baupa Transfer Fault and in the east and north east by the drilling and the Blue Lake Transfer Fault respectively. The mineralization appears to peter out in the north and the south, but the deposit appears to be open at depth.



Figure 7-6. Blue Lake Porphyry – Section, viewed north-north-east Drill holes showing downhole gold and copper grades and distribution of mineralization Source: K92ML (2022)

8 DEPOSIT TYPES

Gold mineralization in Papua New Guinea is associated with intermediate and acid intrusions into a variety of host rocks. The New Guinea Thrust Belt hosts intrusion-related gold and copper mineralization, which were developed in two periods: during the older Sepik Event (30–22 Ma), and during the younger Maramuni Event (<17 Ma) (Sheppard and Cranfield, 2012). The Maramuni Event represents the main period of magmatism and related mineralization on mainland PNG.

Mineralization related to intrusions of intermediate composition of the Maramuni Event occurs along the whole length of the belt from Indonesia-PNG border to the Wau district south of the Huon Gulf, and sporadically into the offshore Papuan Islands (e.g. Woodlark Island). Notable prospects in the New Guinea Thrust Belt associated with the Maramuni Event include Frieda, Yandera (porphyry Cu–Mo–Au), Nena (high-sulphidation epithermal Cu– Au) and Kainantu (low-sulphidation epithermal Au) (Page and McDougall, 1972; Rogerson and Williamson, 1986; Espi et al., 2002).

Gold-copper deposits within the SW Pacific Magmatic Arcs have been classified into groups by Corbett and Leach (Corbett and Leach, 1997; Corbett, 2009):

- Porphyry-related (including gold skarn).
- High sulphidation gold-copper.
- Low sulphidation (including sediment-hosted replacement).
- Intrusion related Gold Deposits.

• Carbonate-base metal Au Deposits.



Figure 8-1. Conceptual model for porphyry and related low and high sulphidation mineralization. Source: modified by K92ML after Corbett 2009

Telescoping may overprint the varying styles of low sulphidation gold mineralization upon each other or upon the source porphyry intrusion.

The Blue Lake porphyry is considered to be part of the Bilimoia prospect. Some of K92ML's Kainantu prospects occur in Corbett's model and are highlighted in Figure 8-1.

9 EXPLORATION

9.1 DISCOVERY

The significance of the Blue Lake locality was initially recognized in early February 2017, when three small hand specimens were shown by a landowner to K92ML exploration personnel. The specimens comprised of intensely altered breccia and dacite, with pyrophyllite altered clasts or leached phenocrysts, respectively. The landowner indicated the specimens had originated from "Blue Lake". The Blue Lake Porphyry was later discovered in outcrop, during reconnaissance by K92ML in May 2017.

Surficial Au-Ag-Cu mineralization, associated with enargite-bearing breccia and vuggy silica, was identified by K92ML geologists in the Blue Lake area on EL470 during September 2017 after which a large (1.2 km x 0.8 km) coincident Au-Cu soil geochemical anomaly was defined by soil sampling.

9.2 GEOCHEMICAL SURVEYS

Detailed mapping, rock chip and soil sampling revealed a substantial (1.2 km x 0.8 km) coincident geological, geochemical (Au-Cu) anomaly. (Figure 9-3 and Figure 9-2).



Figure 9-1. Copper Soil Geochemistry at Blue Lake Source: K92ML (2020)



Figure 9-2. Gold Soil Geochemistry at Blue Lake

Source: K92ML (2020)

A significant conductor was identified from previously completed (2008) airborne electromagnetic (AeroTEM IV) geophysical surveys by UTS Geophysics over the Blue Lake Prospect, which is coincident with strong Mo anomalism in the soil geochemistry. Integrated datasets (geology, geochemistry, and geophysics) suggested a significant porphyry target existed at depth.

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Figure 9-3. Geochemistry and airborne EM anomalies at Blue Lake prospect Source: K92ML (2020)

9.3 AIRBORNE GEOPHYSICS 2021

In November 2021, airborne geophysics was flown over the entire ~860 km² Property held by K92Mining in the Kainantu region including EL470. Expert Geophysics Limited (EGL) carried out a helicopter-borne MobileMT electromagnetic and magnetic survey. MobileMT is the latest generation of airborne AFMAG technologies, designed in 2017 by the inventor of the ZTEM system. MobileMT measurement frequency range is 25 Hz – 30,000 Hz, while ZTEM range is 25 Hz – 720 Hz, thus delivering a much greater depth range of investigation. Electromagnetic and magnetic data was collected along east-west survey lines, nominally spaced at 200m, and north-south tie lines nominally spaced at 2,000 m.

The results from the MobileMT geophysics show good correlation between known mineral deposits and conductive bodies. New vein and porphyry targets on K92ML's licenses were identified as well as highlighting known mineralized porphyries, including A1, Blue Lake, Tankaunan and Timpa.



Figure 9-4. Airborne Geophysics Mobile MT (apparent conductivity) geophysics plan map proximal to the Blue Lake Porphyry Source: Expert Geophysics (2021)

10 DRILLING

An initial program of ten diamond drillholes was completed at the prospect in 2019. The first drill hole, KTDD0001, returned an open-ended intercept of 174.6m @ 0.28 g/t Au, 0.22 % Cu, from 259.3m. and was terminated in mineralization at 433.9m.

This hole formed part of an initial six-hole program (excluding three short 50m holes and a failed hole at 106m), with hole depths of 400m to 600m depth. The holes were drilled as a fence across the prospect, through the centre of the primary geochemical anomaly, on 200m centres. Three additional short holes targeted shallow gold mineralization in the lithocap. The objective of the program was to characterize the hypogene mineral assemblages, multi-element grade shells and structures, in order to build a geological model that would assist in locating the conceptual core of the porphyry.

This program identified extensive gold and copper mineralization associated with propylitic alteration beneath an advanced argillic lithocap and enabled the compilation of an alteration and grade shell model, together with intrusive lithologies and structure, to identify vectors towards mineralization and successfully target the porphyry core. All of the deeper holes intersected mineralization with two holes reporting potassic alteration. The pattern of alteration in the first few drillholes was interpreted to allow for the existence of a deeper potassic alteration zone with potentially significant higher grade gold-copper mineralization at depth.

A second phase of drilling commenced in November 2020, following an eleven-month hiatus. During this campaign, a 200-metre spaced grid was drilled over the Blue Lake Porphyry, with some additional deeper, targeted holes drilled. 16 holes were drilled in this phase, for a total of 13,048.30 metres, with multiple long intervals of significant gold-copper mineralization intersected, including 200.16m at 1.00 g/t AuEq (0.51 g/t Au, 0.28 % Cu) from 695.84m in hole KTDD0018.

Assessment of drill core by independent consultant Greg Corbett supported the conclusion that there is a major intrusive complex at the Blue Lake prospect with a flow-banded fractured dacitic dome cut by hydrothermal breccias and late mineral porphyritic dacite dykes. Many features in the drillcore are typical of those expected in a porphyry environment marginal to a speculated buried intrusion source (Corbett, 2019).

Following completion of the drill hole fence, in October 2019, petrological analysis of 37 drill core samples was undertaken by Applied Petrologic Services and Research.

Plus Minerals Consultants investigated the geology and alteration of the Blue Lake prospect by Short Wave Infra-red (SWIR) alteration mapping, by TerraSpec Hi-Res Spectrometer. 10 drill holes (3147 meters), 531 rock chips, and 83 coarse reject trench samples were analyzed. The aim was to interpret the geology and alteration zonation of advanced argillic rocks with associated Au-enargite mineralization and provide vectors to target deeper porphyry Cu-Au mineralization. The work confirmed existence of a large, high temperature lithocap with underlying propylitic alteration.



Figure 10-1. Drillcore from Blue Lake Hole KTDD0018, 845m.



Figure 10-2. Blue Lake Porphyry drill core from KTDD0018

Blue Lake Porphyry drill core; a) KTDD0018, 836.29 – 843.48m; intense quartz stockwork veins in potassic, overprinted by phyllic, alteration; b) KTDD0018, c. 880m, quartz-chalcopyrite veins amid pervasive biotite; c) KTDD0018, c. 870m, quartz-chalcopyrite veins amid pervasive phyllic alteration; d) KTDD0018, c. 815m bornite and chalcopyrite mineralization associated with biotite and K feldspar. Scale bar (image d) = 10mm.



Figure 10-3. Blue Lake mineralogy in drill core from holes KTDD0013 and KTDD0018

Blue Lake Project mineralogy in drill core; e) KTDD0013, 682.5m, biotite-K feldspar with quartz-chalcopyrite veins, 0.33 g/t Au, 0.75 % Cu; f) KTDD0018, 842.4m, biotite-sericite-magnetite-chalcopyrite, 0.57 g/t Au, 0.36 % Cu; g) KTDD0018, 845.2m, strong quartz-magnetite-chalcopyrite-sericite, 0.41 g/t Au, 0.30 % Cu; h) KTDD0018, 892.5m, biotite with sericite overprint and strong quartz-magnetite-chalcopyrite, 0.34 g/t Au, 0.40 % Cu; i) KTDD0022, 1032.9m, magnetite-quartz veins-chalcopyrite-anhydrite, 0.54 g/t Au, 1.03 % Cu; j) KTDD0024, 646.9m, intense sericite overprinting quartz veins, 0.49 g/t Au, 0.48 % Cu; k) KTDD0025, 600.3m, shingle breccia with biotite-K feldspar and anhydrite-chalcopyrite infill, 0.37 g/t Au, 0.36 % Cu; l) KTDD0025, 609.8m, hydrothermal breccia with biotite-K feldspar and quartz veins, chalcopyrite infill, 0.49 g/t Au, 0.59 % Cu. Scale bar = 10mm.

Hole_ID	Northing (AGD66)	Easting (AGD66)	mRL	Bearing (AMG)	Bearing (magnetic)	Inclination	max_depth
KTDD0001	9316122	371391	1596	120	115	-60	433.9
KTDD0002	9316122	371391	1596	120	115	-75	51
KTDD0003	9316122	371391	1596	120	115	-90	51
KTDD0004	9316122	371391	1596	120	115	-50	50.8
KTDD0005	9316057	371254	1670	120	115	-55	106
KTDD0006	9316057	371254	1670	120	115	-60	604.6
KTDD0007	9316275	371235	1569	128	123	-60	493.3
KTDD0008	9316011	371568	1688	128	123	-60	514.4
KTDD0009	9316391	371073	1490	128	123	-60	546.1
KTDD0010	9316509	370931	1478	133	128	-60	600.1

Table 10-1. Blue Lake Hole Parameters (2019 Drilling)

Table 10-2. Blue Lake Hole Parameters (2021/2022 Drilling)

Hole_ID	Northing (AGD66)	Easting (AGD66)	mRL	Bearing (AMG)	Bearing (magnetic)	Inclination	max_depth			
KTDD0011	9316434	371398	1481	130	125	-60	620.5			
KTDD0012	9315936	371284	1740	132	127	-60	645.1			
KTDD0013	9316076	371122	1646	133	128	-60	685.8			
KTDD0014	9316314	371525	1538	128	123	-60	700			
KTDD0015	9316174	370962	1552	128	123	-60	670.2			
KTDD0016	9315794	371138	1782	128	123	-60	665.9			
KTDD0017	9315916	370983	1684	128	123	-60	42			
KTDD0018	9315917	370984	1684	128	123	-60	896			
KTDD0019	9316437	371398	1481	178	173	-60	449.6			
KTDD0020	9316431	371398	1481	180	175	-60	1400.6			
KTDD0021	9315638	371014	1815	126	121	-60	800.1			
KTDD0022	9316431	371398	1481	180	175	-60	1175.3			
KTDD0023	9315866	370696	1661	128	123	-60	1000.5			
KTDD0024	9315917	370984	1684	112	107	-65	1160.8			
KTDD0025	9316122	371391	1596	168	163	-67	1042			
KTDD0026	9315638	371014	1815	84	79	-69	1069.2			
Hole_ID	From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %	Au Eq. g/t	Comments		
--	----------	--------	--------------	--------	--------	------	------------	----------------------------------	--	--
KTDD0001	5	20	15	0.63	4	0.02	0.71	KTDD0001		
KTDD0001	259.3	433.9	174.6	0.28	2	0.22	0.66	Ended in Mineralization		
KTDD0002	7	22	15	1.17	3	0.03	1.26	~50m hole testing lithocap		
KTDD0003	8	20	12	0.44	1	0.06	0.55	~50m hole testing lithocap		
KTDD0004	6.9	31.1	24.2	0.48	3	0.03	0.57	~50m hole testing lithocap		
KTDD0006	385	604.6	219.6	0.16	1	0.11	0.35	Ended in Mineralization		
including	456.9	519.9	63	0.27	1	0.16	0.54			
including	596	604.6	8.6	0.38	1	0.22	0.75			
KTDD0007	190	493.3	303.3	0.22	2	0.14	0.47			
Including	328	493.3	165.3	0.22	2	0.21	0.58			
Note: KTDD0005 failed at 106m										
Note: KTDD0008 yielded only a low grade intercept										
KTDD0009	428	471.8	43.8	0.04	2	0.40	0.71			

Table 10-3. Blue Lake – Significant Intercepts (2019 Drilling)

AuEq g/t = Au g/t + Ag g/t*0.0125 + Cu %*1.607

Hole_ID		From (m)	To (m)	Interval (m)	Au g/t	Ag g/t	Cu %	Au Eq. g/t	Comments
KTDD0011	37	7	620.5	243.5	0.05	2	0.10	0.24	To EOH
KTDD0012	19	98.2	270.5	72.3	0.12	3	0.09	0.30	
KTDD0012	56	52.1	645.1	83	0.05	2	0.18	0.36	To EOH
KTDD0013	41	.9.1	685.8	266.7	0.13	3	0.18	0.46	To EOH
including	61	.3	685.8	72.8	0.21	4	0.22	0.61	To EOH
including	66	60.7	685.8	25.1	0.33	8	0.30	0.91	To EOH
KTDD0014	99)	700	600.1	0.08	3	0.13	0.33	One long low grade interval (uniform, peripheral mineralization)
KTDD0015	16	5.95	597.5	431.55	0.14	3	0.16	0.43	

Table 10-4. Blue Lake – Significant Intercepts (2021/2022 Drilling)

including	484	597.5	113.5	0.28	3	0.26	0.74	
KTDD0016								No significant intercepts (intense, unmineralized phyllic alteration encapsulating upper part of potassic zone)
KTDD0017								Hole failed at 54m, in lithocap; re- drilled with KTDD0018
KTDD0018	642.05	896	253.95	0.44	2	0.26	0.88	
including	695.84	896	200.16	0.51	3	0.28	1.00	
including	796	896	100	0.75	3	0.31	1.29	
including	772.1	823	50.9	0.98	3	0.40	1.66	Bornite-biotite rich potassic core
KTDD0019	255.5	449.5	194	0.07	2	0.13	0.30	Last core run not recovered (hole failed at 451.7m; re-drilled with KTDD0020)
KTDD0020	266.6	806.36	539.76	0.12	2	0.18	0.43	
including	430.3	503	72.7	0.19	1	0.20	0.52	
including	469.03	503	33.97	0.28	1	0.25	0.69	
KTDD0021								Drilled alteration only; negligible mineralization
KTDD0022	840	1175.3	335.3	0.16	3	0.23	0.57	
KTDD0023	681	1000.5	319.5	0.14	2	0.22	0.52	
including	950	1000.5	50.5	0.2	2	0.27	0.66	
KTDD0024	437	724.4	287.4	0.25	3	0.23	0.66	
including	619	652	33	0.42	3	0.38	1.07	
and	820.4	943	122.6	0.2	4	0.37	0.84	
including	830	889	59	0.25	4	0.41	0.96	
KTDD0025	542	746	204	0.19	2	0.28	0.67	
including	590	616.4	26.4	0.33	3	0.51	1.18	
KTDD0026	810	1069.2	259.2	0.19	2	0.33	0.75	
including	839	1069.2	230.2	0.21	3	0.36	0.83	

AuEq g/t = Au g/t + Ag g/t*0.0125 + Cu %*1.607

10.1 SAMPLING AND DRILLING METHODS

10.1.1 Geochemistry

Samples consisting of rock chips, soils, or sediment were collected at the site by the K92ML geologists and placed in labelled, plastic, or calico bags.

Ridge and spur soil samples were collected at 50m spacing. An equidistant soil grid at 50m spacing was completed over an area of approximately 2km². More than 1,000 samples were collected. Soil samples were consistently

collected from the C horizon, approximately 1m deep, using a narrow shovel. The recovered soil profile was laid out on a sheet or on a 1-metre length of PVC cut in half, with only the bottom-of-hole sampled. The resultant samples collected were a bulk un-sieved sample of 1-2kg.

At the Kumian mine site, the bulk soil samples were dried in industrial ovens. The samples were then sieved, capturing fine grit samples for analysis with the coarse rejects stored for future reference. The samples were pulverised, then split, with half of the sample (approximately 400g) submitted for gold by Fire Assay (ppb) and 48 other elements, including copper, by X-ray fluorescence (XRF) (Olympus Vanta analyser).

10.1.2 Diamond Drilling

QED carried out the surface drilling using Atlas Copco CS6 and Alton rigs. Two owner operated drill rigs (Multi Power Discovery HD – Heli-portable deep hole drilling rigs) were also used. All drilling was carried out on a 12-hour shift basis, both on day and night shift.

For the surface drilling all holes were collared to various depths in PQ, followed by HQ and NQ casing off where needed to maintain competent samples through the lode system.

K92ML follows an established drilling protocol in which the driller prior to drilling is given a drill hole work plan specifying the expected lode target positions, hole depth, azimuth, dip, core size and drilling method to use, the plan also highlights any safety concerns such as proximity to workings. All drilling was monitored to ensure that all precautions were taken so that the diamond core recovered from the barrel was maintained in the best possible condition to maximise the information obtained by minimising breakage and core loss.

Drill hole collars were picked up using waypoint averaging with three hand-held GPS readings, for easting and northing, with the average of those three readings taken. Then the RL was corrected to a topographic surface i.e., a 5m DEM GeoSAR surface. Downhole surveys were undertaken using a Reflex digital survey instrument, with at least two downhole survey measurements for every hole. The downhole measurements were generally taken on regularly spaced intervals, but not always, ranging from 3m to 90m, but a visual check of down hole surveys did not identify any obvious issues with the readings or the hole traces.

Core orientations were performed for HQ and NQ core on the holes drilled from surface by K92ML.

Diamond core was laid out in the core trays by the drilling contractor/company driller, beginning in the upper left corner of each tray with respect to the long axis of the trays. The core trays were labelled with the hole number, tray number, start and finish depths. Plastic and wooden core blocks marked the end of each run with its downhole depth. Any core loss was recorded on the core block and run timesheet by the driller. Core was then removed from the drill site by the drilling teams and taken to the core shed for processing.

At the core shed the core was measured for core loss and RQD determination. A reference line is marked on the core and one metre intervals are annotated onto the core. The core is then logged according to a set of predefined codes, for lithology, alteration, veining and sulphide mineralogy. Figure 10-4 contains a flowsheet for the K92ML core handling procedure:



Figure 10-4. Flowsheet Diagram of Diamond Core Handling Process.

10.2 CORE RECOVERY ANALYSIS

The drill data is recorded into an MS Excel spreadsheet, for example core recovery, RQDs, density measurements, geological logging, and sample intervals, etc are all logged directly into an Excel spreadsheet using Tuffbook computers at the coreyard. Once validated by the Database Geologist and Senior Geologist the data is then entered into the site Access database.

Core is stored on weatherproof pallets. Pallets are nominally loaded to 1.5m high and contained 3x rows of core on them, core is strapped to the pallet with metal straps and tarpaulins used to cover the core to prevent weathering. Pallets of core per hole_id are then taken to a lay down area and stored for future reference.

Core recovery results are described in Section 14.3.1.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 SAMPLING

A sampling flow diagram is presented in Figure 11-1.



Figure 11-1. Diamond Core Sampling Process Flow Diagram

The core tray labelling and installation is done by the drilling crew and field assistance team at the drill site. The core is removed to the core yard where the geologist logs the core, determining sampling intervals according to the geology intersected. Once sample intervals are determined they are marked on the core by the geologist along with the sample number using a white paint marker or red chinagraph pencil. Sample intervals were guided by geological contacts/boundaries. A minimum sampling width of 0.1 metres and a maximum of 1 metre were used. Unmineralized areas at the start and end of the hole, was usually left unsampled. All mineralized occurrences were sampled.

Sampling of the core involved sawing the core in half along the reference line. For NQ, NQ2, HQ and PQ core the left hand (looking down hole) half core is sampled. The remainder of the core is returned to the core tray. Core samples were placed in numbered calico and plastic bags and a numbered sample ticket placed in each for dispatch to the on-site assay laboratory managed by Intertek Testing Services (PNG) LTD, an independent accredited laboratory.

K92ML has a documented QAQC procedure that includes the insertion of standards, blanks and duplicates into the sample suite for each hole.

11.2 SAMPLE PREPARATION

Intertek Laboratory services provides on-site laboratory facilities. The sample preparation for drill core samples is described below and as a flow diagram in Figure 11-2.

• Samples are sorted and dried at 105°C overnight

- Jaw crushed to 5mm
- Secondary jaw crush using a Boyd crusher to 2mm and then rotary split to give 1kg
- Pulverisation using an LM2 mill of the 1kg sample to 90% passing 106microns
- Duplicate splits 1 in 30



Figure 11-2. Sample Preparation Procedure

11.3 DENSITY MEASUREMENTS

Density data for 14 of the 26 holes was collected by K92ML and amounted to 2,473 samples. The density measuring method comprised the core tray weighing/core diameter measuring method. This means that each density sample represented 2-3m of core and not the typical industry practice of selected 10-15cm single piece samples. A number of very low density values were removed from the dataset as they were potentially in error. The whole core density determination method determines the dry bulk density of each full tray of core for a complete drill hole. The weight of an empty core tray is determined and the total length of core in the tray is measured after drilling is finished. Then six pieces of intact core in each tray are selected and the core diameter is measured using callipers and the average of the diameters is recorded on the record sheet. The volume of core in each tray is calculated by Pi multiplied by the radius of the core squared, multiplied by the length of the core in the tray.

Volume= Pi x R² x Length of core in the tray

The weight of the core in the core tray is measured and after the subtraction of the weight of the core tray the mass of the core was determined. The density is then calculated by the formula:

Density =Mass/Volume

The density data was composited to 4m giving 1,879 samples for the model process explained in section 14.4.3 Density Model.

11.4 SAMPLE ANALYSIS

The analytical method is detailed as follows:

11.4.1 Gold

- Fire Assay Method with a 30g charge (FA30)
- Samples are fired with a modified fire assay flux, prills digested at 100°C with aqua regia and read on an atomic absorption spectrometer (AAS)

11.4.2 Copper-Silver

- 3 acid digest at 180°C (Nitric, Perchloric & Hydrochloric mix).
- Diluted with water and read by AAS

11.5 QAQC PROGRAM AND RESULTS

The Blue Lake project area was acquired by K92ML in 2016 and since then QAQC programs have been implemented for both Blue Lake and Kora drilling. K92ML's documented QAQC program for all drilling comprises standards, blank standards, laboratory duplicates, and 2nd laboratory checks.

A definition of QAQC terms used in this report is supplied in Table 11-1.

Table 11-1. List of QAQC terms

l the sec	Description
Item	Description
Standard	A Certified Reference Material (CRM) used to measure accuracy of the sample prep and analysis of the samples.
Blank Standard	A sample with nil or negligible (i.e., undetectable) concentration of the tested element(s). Blank standards are used to monitor for contamination at the various stages of processing and assaying.
Field Duplicate	A second drillhole sample collected in the field. This sample provides a measure of the homogeneity of the sampled material, short scale grade continuity.
Laboratory Duplicate	This sample provides a check on sample homogeneity from the sample prep stage and the repeatability of the sample extraction. Sample collected as a sub-sample of the originally submitted 2-3kg sample after crushing and pulverizing. Sometimes referred to as a pulp duplicate.
2 nd Laboratory Checks	Check assays on all shipments are yielded from samples submitted to more than one laboratory (organization) for validation of consistency. Sometimes known as umpire laboratory checks.
Laboratory Replicate	A second measurement (often analytical reading) of the same sub-sample after sample digest; a check for sample prep homogeneity and machine calibration.

Twin Hole	A repeat hole located in very close proximity to an original hole i.e. <5m spatial difference.	
	It is used to validate the primary drilling and a check that the sampling is representative and provides a measure of short scale grade continuity.	

Both Blue Lake and Kora drill samples are submitted to the onsite laboratory run by Intertek, an accredited contract laboratory. The QAQC analysis below includes both Blue Lake and Kora as long term trends of the laboratory can easily be identified.

The Blue Lake samples were submitted to the Kumian onsite laboratory between the period 2019 to 2022 and are displayed on graphs with Kora QAQC results.

The K92ML 2018 QA/QC programs comprised the use of standards including blank samples, certified reference materials, laboratory duplicates and second laboratory check assays. The QAQC outcomes for the drilling were reported by H&SC in the relevant resource estimation reports. There were concerns over possible low-level contamination associated with the sample preparation. This was remediated the following year with an improved dust extraction system in the sample preparation location.

The K92ML 2019-2021 QA/QC programs comprised the use of standards including blank samples, certified reference materials, laboratory duplicates and second laboratory check assays. The QAQC also included a diamond hole twinning program of 4 pairs that was completed by K92ML in 2021 with variable and unbiased set of results, twinning previous historical surface drilling.

Standard insertions and check sample selections for the 2016-2022 drilling are listed below:

- All QAQC samples have an insertion rate, broken down as listed below:
 - Blanks: one inserted after 20th original sample as the 21st sample.
 - Standards: Gold, 1 after every 20 original samples as the 22nd sample.
 - Standards: Base metal, 1 after every 10 original samples as the 11th sample.
 - Duplicate as the 23rd sample.

11.5.1 Certified Reference Material

In the 2017 to 2018 resource period K92ML used two standards for gold only (G914-4, G915-8).

After the 2018 resource period, K92ML purchased a range of standards (Certified Reference Material) from Geostats Pty Ltd. The standards are certified for gold and in some instances, for copper and silver. Another set of standards were purchased from Gannet Holdings Pty Ltd for gold only. The standards comprise low, medium (head grade) and high grade values and were submitted to the laboratory as part of the sample suite.

As professionally prepared standards could not be hidden amongst the core samples they were submitted routinely as the 22nd sample in the sample sequence to the onsite laboratory (Intertek Laboratories). This meant that at least 2 standards were used for each hole.

Details of the standards are in Table 11-2.

CRM name	Certified for	Mean value	Lower bound	Upper bound	Supplier
G914-4	Gold (g/t)	0.2	0.18	0.22	Geostats PTY LTD
G915-8	Gold (g/t)	24.66	22.19	27.13	Geostats PTY LTD
G312-5	Gold (g/t)	1.60	1.44	1.76	Geostats PTY LTD
G915-2	Gold (g/t)	4.98	4.48	5.48	Geostats PTY LTD
G916-6	Gold (g/t)	30.94	27.85	34.03	Geostats PTY LTD
ST643	Gold (g/t)	4.94	4.45	5.43	Gannet Holdings PTY LTD
ST621	Gold (g/t)	33.24	29.92	36.56	Gannet Holdings PTY LTD
ST614	Gold (g/t)	1.00	0.90	1.10	Gannet Holdings PTY LTD
ST589	Gold (g/t)	2.42	2.18	2.66	Gannet Holdings PTY LTD
ST725	Gold (g/t)	12.38	11.14	13.62	Gannet Holdings PTY LTD
ST695	Gold (g/t)	33.50	30.15	36.85	Gannet Holdings PTY LTD
ST732	Gold (g/t)	4.98	4.482	5.478	Gannet Holdings PTY LTD
ST720	Gold (g/t)	0.30	0.27	0.33	Gannet Holdings PTY LTD

Table 11-2. Table of Certified Reference Materials (Standards)

-					
00040004	Copper (%)	2.2334	2.0101	2.4567	Geostats PTY LTD
GBM309-4	Silver (g/t)	42.3	38.1	46.5	Geostats PTY LTD
	Copper (%)	2.296	2.066	2.526	Geostats PTY LTD
GBM915-16	Silver (g/t)	51.2	46	56.5	Geostats PTY LTD
	Copper (%)	0.5412	0.48708	0.59532	Geostats PTY LTD
GBM910-4	Silver (g/t)	1.8	1.62	1.98	Geostats PTY LTD
	Copper (%)	1.3967	1.25703	1.53637	Geostats PTY LTD
GBM303-6	Silver (g/t)	5.5	4.95	6.05	Geostats PTY LTD
	Copper (%)	1.0084	0.90756	1.10924	Geostats PTY LTD
GBM910-6	Silver (g/t)	3.6	3.24	3.96	Geostats PTY LTD
	Copper (%)	0.2646	0.23814	0.29106	Geostats PTY LTD
GBM315-10	Silver (g/t)	4.7	4.23	5.17	Geostats PTY LTD

	Gold (g/t)	1.33	1.20	1.46	
GBMS911-3	Copper (%)	0.77	0.73	0.80	
	Silver (g/t)	1.7	1.53	1.87	Geostats PTY LTD
	Gold (g/t)	5.67	5.10	6.24	
GBMS304-4	Copper (%)	0.98	0.93	1.03	
	Silver (g/t)	3.4	3.06	3.74	Geostats PTY LTD
Blank	Gold (g/t)	0.1	0	0.2	

Copper (%)	0.01	0.00	0.02	Sourced locally from
Silver	1	<1	2	barren sediment

11.5.1.1 Gold Standards

During the K92ML period of drilling from 2016 to 2018 (up to the 2018 MRE) two standards were used exclusively in the early phases of the drilling at Kora. The standards comprised a low grade sample at 0.2g/t and high grade sample at 25g/t gold.

Figure 11-3. shows the results for the low grade standard and **Figure 11-4** shows results for the high grade standard. The central horizontal line on the graph is the certified value and the upper and lower horizontal lines are the +/-10% variance of the certified value and are placed on the graph to give an indication of the accuracy of the reported laboratory results and if there are any biases in the data. The X axis represents time, with the higher numbers being more recent relatively.

The results for the low standard show no apparent bias however there is variability above and below the mean the causes of which are being investigated.

Although Blue Lake did not use the high-grade standard, the results for the high grade standard are good, indicating possibly some under-reporting of gold grade but with no real significant bias.



Figure 11-3. Low Grade Gold Standard (G914-4)



Figure 11-4. High Grade Gold Standard (G915-8)

Figure 11-5 shows results for the low grade G312-5 standard for Blue Lake, Kora, and Judd. The results show no significant bias.



Figure 11-5. Low Grade Gold Standard (G312-5)

Although ST614 in Figure 11-6, was not used for Blue Lake the low grade gold standard shows slight bias above CRM value, however, within acceptable limits of variation.



Figure 11-6. Low Grade Gold Standard (ST614)









Figure 11-8. Low Grade Gold Standard (G904-7)

Gold standards, ST643-Figure 11-9 and G915-2-Figure 11-10 show overall a slight bias above the CRM value, but within acceptable limits. Some erratic results occurred in 2018-2020 as a drilling and sampling ramp up took place and staffing was stretched. In the 2020-2021 period some Covid-related effects on manning numbers also affected the quality of the results.



Figure 11-9. Gold Standard at mine cut-off grade standard (ST643)



Figure 11-10. Gold Standard at mine cut-off standard (G915-2)

High grade standard G916-6 (Figure 11-11) shows a positive bias above the CRM value, however, within acceptable limits.



Figure 11-11. High Grade Gold Standard (G916-6)

High grade standard ST695, Figure 11-12, shows no bias.



Figure 11-12. High grade gold standard (ST695)

11.5.1.2 Copper standards

Low copper value standard GBM315-10, Figure 11-13, shows a slight positive bias above the CRM value which is not considered significant.





Copper standards GBM910-4-Figure 11-14, GBM910-6-Figure 11-15 and GBM303-6-Figure 11-16 all show results that are slightly under reported, but within acceptable limits.



Figure 11-14. Copper standard (GBM910-4)



Figure 11-15. Copper standard (GBM910-6)



Figure 11-16. High grade copper standard (GBM303-6)

High grade copper standard GBM309-4, Figure 11-17, gave results slightly above the value of the standard, but within acceptable limits of variation.



Figure 11-17. High grade copper standard (GBM309-4)

11.5.1.3 Silver standards

The silver method used by Intertek at the on-site laboratory has accuracy limitations at low silver levels with a range of +/-3ppm for samples containing less than 10ppm silver. For silver standards under 10ppm (g/t), upper and lower bound lines of + or - 1.5g/t have been plotted on the graphs. To date the cost of the silver analysis method required for increased accuracy, has not been considered as the revenue generated by the mine for silver is minor, compared to the benefit of improved silver assay accuracy and has not been supported by K92ML's economic analysis of the matter.



Low grade silver standards, GBM910-4 Figure 11-18, GBM910-6 Figure 11-19, GBM315-10 Figure 11-20, show satisfactory results for the accuracy of the method used for silver analysis.

Figure 11-18. Silver standard (GBM910-4)



Figure 11-19. Head feed grade Silver standard (GBM910-6)



At approximately a head feed grade to a plant for silver the standard GBM303-6 Figure 11-21, shows a reasonable unbiased result.



Figure 11-21. Silver standard (GBM303-6) head feed sample

For high silver grade standard values the on-site laboratory had a modest low bias and under reports silver grade as shown in Figure 11-22 This is considered insignificant for the resource estimate.



Figure 11-22. Silver standard (GBM309-4)

11.5.1.4 Blanks results

Blank gravel standards were inserted into the sample sequence on the 21st, 41st sample, etc. The blank material consisted initially of clean crushed phyllites and then dacitic intrusives collected several kilometres away from any mineralization. The material was crushed in isolation from other samples. Several samples were submitted to the laboratory for analysis to demonstrate its suitability as a blank prior to its use.

In the 2018-2020 period a total 980 blanks samples were submitted. Gold results for the blank assaying are within acceptable limits of variation and are continually being monitored. Blank results (Figure 11-23) greater than 0.1g/t gold came to approximately 2% of all blanks submitted. Two of the elevated gold blank values > 0.1g/t returned from the laboratory had mineral sample assays greater than 1g/t before them in the sample sequence; 9 blank values had samples before them > 0.1g/t and the remaining 8 samples had values <0.1g/t before them. This suggests that the laboratory procedures have infrequently allowed for minor contamination between samples. Improvements in procedure occurred in the 2020-2021 period reducing the contamination mainly because of tightening up on cleanliness.



Figure 11-23. Gold blank results

There were minor contamination issues with the early drilling which was improved for the 2018-2020 drilling campaign. Results for the 2020-2021 campaign has suggested some minor contamination. However, this coincides with a change in the blank standard material, which probably accounts for the change in blank standard copper results Figure 11-24.



Figure 11-24. Copper blank results

Blank values of silver were inconclusive because of the inaccuracy of the analytical method.

11.5.1.5 Laboratory Duplicates

Laboratory (or pulp) duplicates were inserted every 23rd sample in the sample submission sequence for the diamond core samples.

The results of the gold pulp duplicates showed a good match with the original sample with no evidence of any bias (Figure 11-25).



Figure 11-25. Laboratory duplicates for gold

The results of copper pulp duplicates showed a good match with the original sample with no evidence of any bias (Figure 11-26).



Figure 11-26. Laboratory duplicates for copper

The results of silver pulp duplicates showed a reasonably good match with the original sample with no evidence of any bias (Figure 11-27). A larger scatter with higher silver grades is recognized but has no obvious bias.



Figure 11-27. Laboratory duplicates for silver

11.5.1.6 Second Laboratory checks

This program was carried out for Kora samples over the same period as Blue Lake results were submitted to the onsite laboratory. For this reason, these QAQC results are included and reflect the quality of the Blue Lake assay results.

For Kora a program of check assaying was carried out by K92ML whereby a series of 100 to 200 mineralised pulp core samples including CRMs were submitted to a secondary laboratory (SGS, in Townsville Queensland). The SGS assaying used the same techniques as Intertek with the comparison of results between laboratories providing a check on the original laboratories analytical accuracy.

Second laboratory checks are a routine process completed on approximately a 6 month cycle.

The periods have been graphed according to K92ML's mineral resource estimates.

The first graph (Figure 11-28) shows the gold results for the different periods. There is a slight positive bias to the original onsite Intertek laboratory for the 2020-2021 period which needs to be to be monitored.

For gold in the 2018-2020 period there were two extreme pairs of values, SGS achieved 2,569g/t versus 2,675g/t from Intertek and the second pair was 370g/t SGS versus 1,020g/t Intertek. Allowing for these extreme values the results are not too unsettling.



Figure 11-28. Gold- Second Laboratory checks

The results for copper show no obvious bias (Figure 11-29). The extreme value pairs (3 at 12-15% Cu) not included in the graph present no issues.



Figure 11-29. Copper- Second Laboratory checks

The results for silver (Figure 11-30) shows a bit more variability, particularly for the 2018 and 2018-20 drilling campaigns. A positive bias exists for medium to high grades associated with the second laboratory, SGS, but this is not considered a significant issue. The bias has not been maintained for silver grades over 200ppm.



Figure 11-30. Silver- Second Laboratory Checks

11.5.1.7 Hole Twinning

No hole twinning was done at Blue Lake.

11.5.1.8 Coarse Rejects

No coarse reject analysis was completed.

11.5.2 QAQC Summary

The Blue Lake 2019-2022 (and Kora 2018-2021) K92ML QA/QC program is considered to be of an acceptable level and conforms to common industry practice. The program has included the use of a range of CRMs for gold, copper and silver, laboratory duplicates, and 2nd laboratory checks.

The gold standards show a very small positive bias of 1 to 2% that seems to be slightly increasing with time. This needs to be continuously monitored but it may be a function of the standards themselves rather than any fundamental problem with the laboratory. However, all recent results are acceptable and considered reasonably accurate and the low level of bias is not considered significant at this stage. The copper standard results indicate an under reporting by 2 to 3% in standards with values under 1.5% copper. However, all results are within acceptable limits of variation. The silver standard results are inconclusive due to the relatively high lower detection limit of 1ppm and accuracy of analysis of +- 3g/t for the K92ML laboratory and the relative low level of some of the standards (1- 5ppm).

Blanks comprise a locally sourced dacite or phyllite fragment generally >5cm in size. The assay results for the blanks indicate possible very minor contamination but the levels are low enough to be considered as not significant. The level of contamination gold has markedly improved over time.

Laboratory duplicates comprise a second crushed pulp of the original sample analysed by the K92ML laboratory with the results showing no issue with the sample homogenisation and subsequent acid digest and analysis. A good range of assays values were included in the sample selection.

The second laboratory checks show no obvious bias. However, there is variation in results, but this is not considered significant at this stage. A good range of assays values were included in the sample selection.

No coarse reject samples have been tested.

None of the above issues are considered critical but the cumulative effect of various minor issues, may have a slight negative impact on the resource classification.

It is concluded that there are no major issues with the sample preparation or assaying of the drill core from the K92ML exploration work.

12 DATA VERIFICATION

12.1 SITE VISITS

A site visit to the Kainantu mine site was completed by Simon Tear of H&SC Consultants Pty Ltd in October 2018.

In January 2020 Anthony Woodward was shown the Phase 1 drill sites during a helicopter reconnaissance of the Blue Lake locality. Drill core from this work was inspected at the K92ML core yard.

12.2 LIMITATIONS

No independent samples were collected for analysis during the site visits. Industry standard procedures appear to have been used.

12.3 VERIFICATION OPINION

Based on the data verification performed, it is the QP's opinion that the collar coordinates, downhole surveys, lithologies, and assay results are considered suitable to support the mineral resource estimation.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

No metallurgical testwork has been carried out on Blue Lake mineralization.

14 MINERAL RESOURCE ESTIMATES

The effective date of the Mineral Resource Estimate for the Blue Lake deposit is the 1st August 2022, which was the date that the latest database was received by H&S Consultants Pty ("H&SC").

The Qualified Person is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the potential development of the MRE.

Table 14-1. Inferred Mineral Resources at 0.4 g/t AuEq Cut-off Grade

Mt	Au g/t	Cu %	Ag g/t	AuEq g/t	CuEq %	Au Mozs		Ag Mozs	AuEq Mozs	
549	0.21	0.23	2.42	0.61	0.38	3.7	1.3	43	10.8	4.7

(effective date	1 st August	2022)
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Mineral Resource estimates were generated by Simon Tear (PGEO), a Director and Consulting Geologist of H&SC, based in Brisbane, Qld, Australia. The Mineral Resources were publicly reported by K92 to the TSX in August 2022 in accordance with NI43-101 rules.

The Mineral Resources reported in this section have been classified under the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves.

14.1 DATABASE

Drill hole data was supplied by K92ML as a series of CSV files including hole collars, downhole surveys, assays, lithology, alteration, veining, densities and recoveries. The data was imported by H&SC into an MS Access 'resource database' with indexed fields, complete with checks for duplicate entries, unusual assay values and missing data. Additional error checking was done using the Surpac database audit option for incorrect hole depth, sample/logging overlaps and missing downhole surveys.

Drill hole collars were picked up using waypoint averaging with three hand-held GPS readings, for easting and northing, with the average of those three readings taken. Then the RL was corrected to a topographic surface i.e. a 5m DEM GeoSAR surface. Downhole surveys were undertaken using a Reflex digital survey instrument, with at least two downhole survey measurements for every hole. The downhole measurements were generally taken on regularly spaced intervals, but not always, ranging from 3m to 90m, but a visual check of down hole surveys did not identify any obvious issues with the readings or the hole traces.

Drill hole spacing was nominally on 100m centres in the core of the deposit extending to 200m on the periphery. Downhole sampling was on 1m intervals with all core sampled.

The Mineral Resource estimates are based on 26 diamond core holes with logged geology and assays, totalling 16,530.3m. A database summary is presented in Table 14-2, showing the data provided for a range of items.

Table 14-2. Database Summary						
Item	Holes	Records				
Collar	26	16,530.3m				
Survey	26	1,582				
Au g/t	26	14,237				
Ag g/t	26	14,237				

Table 14-2. Database Summary

ltem	Holes	Records
Cu %	26	14,237
AuEq g/t	26	14,237
Alteration	25	2,549
Lithology	25	2,944
Mineralization	21	2,031
Density	14	2,473
Recovery	26	10,033
MagSus	21	50,161
RQD	26	15,768

(AuEq = gold equivalent)

Geological logging consists of a major and minor lithology, with most holes having a degree of oxidation and broader alteration types identified in the alteration table. Additional information was available in the comment columns and the mineralization table.

Manual checking of logging codes for consistency was undertaken and assay data was also checked for extreme or unusual values. Assays below the lower detection limit were set to the lower detection limit, and no other extreme or unusual assay values of impact were identified.

The database was linked to the Surpac mining software for further resource estimation work, including compositing of assays, grade interpolation via Ordinary Kriging, block model creation and resource reporting.

All data was converted to an H&SC N-S orthogonal local grid for ease of working.

The resulting drill hole database was considered suitable for defining Mineral Resources.

14.2 GEOLOGICAL INTERPRETATION

A geological interpretation of the Blue Lake deposit, based on the available geological logging and assays, was provided by K92ML as a series of shells and surfaces generated in the Leapfrog software package. The shells are comprised of defined volumes for the various lithological units, alteration zones and quartz vein distributions, while the surfaces for topography and major structural features provided additional spatial constraints for the mineralization. No surfaces defining transported cover or oxidation were provided, the impact of oxidation is considered very limited in the overall scheme of things despite a small portion of the porphyry mineralization outcropping.

An initial review of assay data in 3D and cross section indicated two distinct, broad mineral zones, an upper copper-poor zone attributed to a lithocap unit and a lower copper/gold zone deemed to be the porphyry unit. Gold grades appeared to be more ambiguously distributed in both zones, with localised intercepts of high grade gold scattered within the lithocap unit. H&SC ran an unconstrained metal grade interpolation model covering both zones with a soft boundary between them. This maintained the designated two zones and was used to design a porphyry shape that is primarily a function of the distribution pattern of the copper (and gold) assays and geological sense.

Porphyry-style mineralization is interpreted to be bound in the west by the Baupa Transfer Fault and in the east and north east by the drilling and the Blue Lake Transfer Fault respectively. The mineralization appears to taper to the north and south, with the deposit open at depth.

A visual review of the data in conjunction with H&SC's experience suggested a relatively simple resource model for a porphyry-type copper/gold mineral body.

Figure 14-1 shows a 3D view of the deposit with the major geological features and drill hole traces.

Some significant gold assays were recorded in the upper zone, but grade continuity was poor and the current drill spacing is considered inappropriate for the style of (epithermal) mineralization. This upper area has been modelled for copper and gold but is not included in the Mineral Resource.



Figure 14-1. 3D View of the Blue Lake Porphyry Mineralization, looking North-West (Topography – Green; Baupa Transfer Structure – Blue; Blue Lake Transfer Fault – Grey; Porphyry - Brown)

14.3 DATA ANALYSIS

The drill hole assay data comprised sample intervals over a wide range, up to 6.1m, with approximately half at 1m. Considering the large-scale deposit type being estimated, it was deemed appropriate to composite the whole dataset to 2m intervals for gold, copper and silver and a gold equivalent, with no constraints. The gold equivalent value was based on K92ML's work at the nearby Kora deposit which used the formula:

AuEq = Au g/t + (Cu% * 1.607) + (Ag ppm * 0.0125)

(Gold price US\$1,600/oz; Silver US\$20/oz; Copper US\$3.75/lb; recoveries Au 93%, Cu & Ag 92.8%)

The unconstrained 2m compositing of the drillhole data produced a total of 8,141 composites, and a review of this data confirmed that there were two distinct zones of mineralization:

- 1. A large lower copper/gold zone (Zone 2) predominantly coincident with a mineralised altered tonalite, and
- An upper copper-poor zone (Zone 1) generally concomitant with low, sub-economic copper grades and lower densities, both attributable to being part of the lithocap to the underlying intrusive. The gold mineralization in this zone is very variable and 'spotty', often occurring as small, unconnected zones of mineralization.

A review of the composite data indicated some high-grade outliers for gold, mainly outside the Zone 2. The impact of any top cutting, via statistical experimentation, was considered minimal and therefore no top cutting was applied to the composite data.



A long section image (N-S) of the gold equivalent composite data is shown in Figure 14-2. The red ellipse is a representation of Zone 2 and the black ellipse is a representation of Zone 1.

Figure 14-2. Long Section with 2m Gold Equivalent Composites, looking West (zoom for better resolution)

Data analysis included summary statistics and variography for the zones, as well as analysis of grade versus sample recovery data.

14.3.1 Core Recovery

Core recovery data is available for 95.5% of the intervals with gold, copper, and silver assays, with an average core recovery of 94%. Sample recovery is important to ensure that there is no grade bias due to low sample recovery.

Figure 14-3 shows one way of approaching this type of analysis. The first graph compares average sample recovery and copper grade for a range of grades. This graph shows that the highest recoveries are associated with the highest grades, while lower grades are associated with lower recoveries.

The second and third graphs show the relationship of copper grade and recovery with depth (FROM). These graphs show that higher recoveries and higher grades occur at depths below ~200m, which explains the trend in the first graph.

There is no other apparent relationship between copper grades and recovery and it can be concluded that there is no obvious unexplained bias in copper grade due to low sample recovery. The same analysis for gold also shows no obvious bias.



Figure 14-3. Grade v Core Recovery (top) / Cu Grade v Depth (mid) / Recovery v Depth (bot)

14.3.2 Sample Length

A histogram of sample length (Figure 14-4) shows that the predominant sample length is 1m, so a composite length of 2m is considered appropriate given the model block size and the scale of the deposit. Samples were thus composited to 2m intervals for analysis and estimation.



Figure 14-4. Histogram of Sample Length for Blue Lake

14.3.3 Summary Statistics

Summary statistics for the composite data (Table 14-3) show that copper is lower in the lithocap (Zone 1), whilst the other elements are more consistent throughout the deposit. Outside of the previously mentioned 'spotty' gold mineralization in the lithocap zone, the coefficients of variation (CV=standard deviation (SD)/mean) for gold and copper are generally quite low, close to or below 2. This implies that there are no extreme values and from visual review the data is well structured such that that Ordinary Kriging is an appropriate estimation method.

Element	Zone	Samples	Min	Max	Mean	SD	CV
Au	1	3296	0.01	31.198	0.103	0.788	7.651
Au	2	4836	0.01	9.55	0.113	0.236	2.091
Au	Total	8132	0.01	31.198	0.109	0.533	4.899
Cu	1	3296	0.0006	0.715	0.031	0.038	1.227
Cu	2	4836	0.001	2.5477	0.138	0.120	0.866
Cu	Total	8132	0.0006	2.5477	0.095	0.109	1.152
Ag	1	3296	1	211	1.598	4.327	2.707
Ag	2	4836	1	222.3	2.108	3.989	1.892
Ag	Total	8132	1	222.3	1.902	4.138	2.176
Aueq	1	3296	0.0235	31.2557	0.172	0.793	4.607
Aueq	2	4836	0.025	9.894	0.362	0.361	0.995
Aueq	Total	8132	0.0235	31.2557	0.285	0.584	2.048

Table 14-3. Summary	/ Statistics for	Composite Data
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A histogram of composite copper grades for Zone 2 (Figure 14-5) shows a modest bimodal population, with a major peak at 0.15% Cu and a smaller distribution around 0.01% Cu. However, the two populations show considerable overlap and the drill hole grades generally show a smooth gradation from low to higher grades. There may be scope to further sub-divide the lower zone when the geology of the deposit is better understood.



Figure 14-5. Histogram of Copper Grade – Zone 2

There is no correlation between gold and copper either on a global basis or by zone.

No potentially deleterious elements were estimated as part of this exercise. An inspection of drill holes grades shows that arsenic is low, averaging 33ppm for the deposit; Sb, Bi and Cd also appear to be very low. There is significant sulphur in the unoxidized material, averaging 2%, which could be acid-producing.

14.4 DOMAINING

A review of the unconstrained 2m composite data for gold and copper indicated a distinct zone of elevated copper (and gold) mineralization associated with the tonalite intrusive. It was possible to delineate a segregating surface particularly for the copper mineralization that resulted in an upper low grade domain (Zone 1) and a lower higher grade domain (Zone 2) to the mineralization. The gold mineralization was much less obviously segregated and thus was treated as a single domain.

14.4.1 Variography

Copper variography was reasonable for Zone 2 but was poor for Zone 1. Gold variography was generally poor for both zones, which indicates possibly a lack of drilling and/or no structure to the data, potentially a function of the mineral style, and is typical for some porphyry deposits. Variogram map examples showing copper grade continuity in the three orthogonal directions for Zone 2 are shown in the figures below. Grade continuity in plan view was <150m (the red areas in Figure 14-6) with some overall long range geological continuity in the grid NNE direction (the cyan colour). The other maps for copper show short range grade continuity, with some long range geological continuity plunging 15° to 20° to the east (Figure 14-7) and 10° to 15° plunge to the south (Figure 14-8).



Figure 14-6. Plan View (X-Y) Variogram Map for the Zone 2 Copper (the legend shows normalised variance associated with the sample spacing)



Figure 14-7. Cross Section (X-Z) Variogram Map for the Zone 2 Copper



Figure 14-8. Long Section (Y-Z) Variogram Map for the Zone 2 Copper

Variograms were generated for the elements of interest i.e. Cu, Au, Ag and AuEq, although only copper produced recognisable variography.

Directional variograms were generated for each element. Figure 14-9 shows variograms for Zone 2 copper. The three variograms were combined to produce a 3D variogram model that was interpreted to have a southerly plunge (dip>direction: 10°>190°).



Figure 14-9. Examples of Variograms for Copper – Zone 2

Table 14-4 shows the variogram model parameters for copper, with the parameters applied to all four elements.

Element	Structure	Variance	X range	Y Range	Z Range
Cu	Nugget	0.18	-	-	-
	Exponential	0.81	200	200	90

Table 14-4. Variogram Model Para

14.4.2 Density

Density data for 14 of the 26 holes was supplied by K92ML; this amounted to 2,473 samples. The density measuring method comprised the core tray weighing/core diameter technique. This means that each density sample represented 2-3m of core and not the typical industry practice of selected 10-15cm single piece samples. A number of very low density values were removed from the dataset as they were potentially in error.

14.5 Estimation

H&SC employed a simple metal grade interpolation strategy whereby the unconstrained composite data was modelled unconstrained into the block model. The interpolation was controlled by using the variogram models and the search ellipse dimensions and parameters.

The unconstrained block model was reviewed and a porphyry shape was defined based on a nominal copper grade of 0.1% Cu and geological sense. The shape was modified using the mineral-constraining Baupa and Blue Lake Transfer Faults.

The interpreted porphyry body and its associated mineralization has overall dimensions of 1500m (X) by 1300m (Y) by 1100m (Z) with a modest plunge to grid southeast. Mineralization is close to surface (1950mRL approximately) in the grid west area and is interpreted to terminate at around the 500m RL, based on drilling data. Figure 14-10 is a 3D block model representation of the porphyry mineralised body with the copper variogram model dimensions (the larger ellipsoid) and the gold variogram model dimensions (the smaller ellipsoid).



Figure 14-10. 3D Model Blocks within Interpreted Porphyry Body, Looking NE

14.5.1 Block Model

The Blue Lake porphyry block model dimensions are shown in Table 14-5. The block size is 25m by 25m by 25m with no sub-blocking. A block size one half to one quarter of the more detailed drillhole spacing (100m) is considered appropriate for this type of deposit.

Blue Lake 2022	х	Y	Z
Origin	19000	49700	0
Maximum	20900	51300	2100
Block Size	25	25	25
Number of blocks	76	64	84
Length	1900	1600	2100

Table 14-5.	Blue Lake	Block Model	Dimensions
10010 21 01	Diac Eance	Diodicitinoaci	Philicipiono

14.5.2 Estimation Parameters

All elements (Cu, Au, Ag, AuEq) were estimated by Ordinary Kriging. This is considered appropriate because the CVs are generally low and the grades appear well structured spatially. No grade cutting was applied because no extreme values of significance were identified in relation to the porphyry shape.

Search ellipse dimensions were 200 by 200m by 90m (X, Y & Z) for a single search strategy with a minimum of 6 data and a maximum of 32. Search axis rotations generally matched the variogram directions.

Estimation search parameters are provided in Table 14-6 The maximum extrapolation of the estimates is 200m.

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Table 14-6. Estimation Search Parameters

Pass	X Radius	Y Radius	Z Radius	Minimum Samples	Maximum Samples	Minimum Octants
1	200	200	90	6	32	4

The mineral zones were treated separately with regards to the variography but similar search ellipses were employed with a soft boundary between Zone 1 and Zone 2. Each element was modelled separately, although there is some form of weak zoned correlation between gold and copper for Zone 2.

No assumptions were made regarding the correlation of variables during estimation as each element is estimated independently.

14.5.3 Density Model

The density data was composited to 4m giving 1,879 samples. These were subsequently modelled unconstrained using Ordinary Kriging with similar search parameters and rotations to the global metal grade interpolation. The density results showed a marked segregation between the upper lithocap dominated Zone 1 and the lower altered tonalite Zone 2.

Summary statistics from for the 4m composites are presented in Table 14-7.

Table 14-7. Summary Statistics of Drill Hole Density Data

Samples	Minimum	Maximum	Mean	Median	CV	SD
1879	1.6	3.21	2.27	2.26	0.15	0.35

Figure 14-11 shows the 4m density composite data distribution in long section view. It confirmed the density variation associated with the upper and lower zones.


Figure 14-11. Density Data Distribution Long Section View 4m Composites (zoom for better resolution)

Ordinary Kriging of the density values populated 67,340 block model cells. The remaining cells with no grades had values assigned according to the interpreted geology using the lithological and quartz vein distribution shells provided by K92ML (Table 14-8).

Geology	Density t/m ³
Lithocap	1.95
Dacite	2.09
Tonalite < 2% Vein Qtz	2.26
Tonalite 2-5% Vein Qtz	2.38
Tonalite < 5% Vein Qtz	2.48

Table 14-8. Density Assignments

Figure 14-12 shows the modelled density data for cross section 50700mN (100m section window). The subdivisions of the upper copper-poor lithocap and the lower copper/gold porphyry is quite clearly shown in the density data.



Figure 14-12. Interpolated Density Data Cross Section 50700mN

14.5.4 Estimation Results

A series of global estimates have been produced for a range of gold equivalent cut off grades (Table 14-9). The reported estimates were constrained by the interpreted porphyry shape, the bounding Baupa fault and a notional pit surface with 45° angled sides down to 500mRL.

Table 14 5. Blac Earle Estimates by Gold Equivalent ear on Grades										
AuEq		Au		Ag	AuEq	Au	Cu	Ag	AuEq	Density
Cut off	Mt	g/t	Cu %	ppm	g/t	Mozs	Mt	Mozs	Mozs	t/m³
0.1	1,247	0.13	0.16	2.17	0.41	5.2	2.0	87	16.4	2.35
0.2	1,080	0.15	0.17	2.28	0.45	5.2	1.8	79	15.6	2.38
0.3	808	0.18	0.20	2.43	0.52	4.7	1.6	63	13.5	2.38
0.4	549	0.21	0.23	2.42	0.61	3.7	1.3	43	10.8	2.40
0.5	382	0.25	0.25	2.39	0.68	3.1	1.0	29	8.3	2.39
0.6	233	0.30	0.28	2.43	0.77	2.2	0.7	18	5.8	2.39

Table 14-9. Blue Lake Estimates by Gold Equivalent Cut-off Grades

The data is also presented as set of grade tonnage curves in Figure 14-13.



Figure 14-13. Blue Lake Porphyry Grade-Tonnage Curves

Examples of the global gold equivalent block grade distribution within the porphyry outline are shown in Figure 14-14 and Figure 14-15.



Figure 14-14. 3D Model AuEq > 0 g/t Blocks Looking NW



Figure 14-15. 3D Model AuEq > 0 g/t Blocks Looking NE

14.5.5 Validation

The final block model was reviewed visually by H&SC, and it was concluded that the block model fairly represents the grades observed in the drillholes. H&SC also validated the block model statistically using a variety of histograms and summary statistics. Validation confirmed the modelling strategy as acceptable with no significant issues.

Examples of the composite values in comparison with block grades are shown in a series of cross-sectional figures (Figure 14-16). The diagrams show the results of the unconstrained global grade interpolation for all blocks (Zones 1 and 2), cut to the topographic surface, above the notional pit design and east of the Baupa Transfer Fault.





Figure 14-16. E-W Cross-Sections Showing AuEq > 0 g/t Blocks & 2m Composites (zoom for better resolution)

Table 14-10 shows the comparison of block grade means with averages for composite values for the porphyry mineral shape. Normal expectations would be for the composite mean to be slightly greater than the block mean. This is the case for gold but for copper and silver the block grade means are marginally higher, but this is not considered significant at this stage.

Floment	Drill	Holes	Resource Model		
Element	Samples	Ave Grade	Blocks	Ave Grade	
Cu_%	4,954	0.136	47,221	0.137	
Au g/t	4,954	0.134	47,221	0.134	
Ag ppm	4,954	2.119	47,221	2.277	
AuEq g/t	4,954	0.379	47,221	0.384	

Table 14-10. Comparison of Means for Drill Hole and Model Grades for the Porphyry Zone

Figure 14-17 shows the cumulative frequency curves for AuEq composite values and block grades for the porphyry zone. The figure indicates no significant issues with the grade interpolation. There are one or two minor changes in slope of the block grades which is attributed to the wide spaced drilling.



Figure 14-17. Cumulative Frequency Curves for Zone 2 Composite Values & Block Grades

14.5.6 Classification

The Mineral Resource classification is based on a range of considerations:

Positive aspects

- Relatively simple geological model that conforms to the gold/copper porphyry style.
- All drilling is diamond core of an appropriate core size.
- Good core recovery with no relationship between metal grades and recovery.
- Good sampling procedures and no issues with the QAQC data.
- Significant amount of density data of a reasonable quality.

Negative aspects

- Data point spacing (i.e. wide drill hole spacing) and the limited amount of drilling.
- There is an absence of any detailed drilling to get a better measure of any trends in the metal distribution and/or grade continuity as exemplified by the weak variography.
- No information on likely metallurgical recoveries.

The Mineral Resources have been classified as Inferred.

14.5.7 Mineral Resources

Reporting of the Mineral Resources for the Blue Lake porphyry deposit was done using the following constraints:

- 1. Gold equivalent cut off of 0.4g/t, based on cut off grades used for other similar deposits in the region and advised by K92ML.
- 2. Within the general porphyry shape.
- 3. Above a notional pit based on two 45° angled slopes intersecting at the base of the porphyry interpretation approx 500mRL.
- 4. East of the Baupa Transfer Fault.

Gold equivalent formula:

AuEq g/t = Au g/t + Cu%*1.607 + Ag g/t*0.0125

Copper equivalent formula:

CuEq % = Cu% + Au g/t*0.006222 + Ag g/t* 0.00007778

Assumptions:

- Metal prices of US\$ 3.75 /lb for copper, US\$ 1,600 /oz for gold & US\$20/oz for silver.
- Metal recoveries of 93% for gold and 92.8% for copper and silver, based on K92ML's Kora mine production.

Table 14-11 contains the Inferred Mineral Resources for the Blue Lake porphyry deposit.

Mt	Au g/t	Cu %	Ag g/t	AuEq g/t		Au Mozs			AuEq Mozs	
549	0.21	0.23	2.42	0.61	0.38	3.7	1.3	43	10.8	4.7

Table 14-11. Inferred Mineral Resources at 0.4 g/t AuEq Cut-off Grade

(effective date 1st August 2022)

The entire resource is classified as Inferred, based on the Qualified Person's experience with similar porphyry copper deposits elsewhere, especially in PNG. This scheme takes into account a number of factors, including data distribution, the continuity of geology and metal grades including variography, the QAQC data, the quality of the density data and sampling method and recoveries. It is also assumed that the deposit will be mined by a bulk mining method, e.g. open or block caving.

The Mineral Resource estimate stated in this Technical Report has been estimated and reported in accordance with the 2014 CIM Definition Standards for Mineral Resources & Mineral Reserves.

The gold equivalent block grade distribution for the Mineral Resources is shown in Figure 14-18 and Figure 14-19.



Figure 14-18. AuEq Block Grade Distribution for the Mineral Resources (view looking down to NNE)



Figure 14-19. AuEq Block Grade Distribution for the Mineral Resources (view looking west)

14.5.8 Previous Estimates

There have been no previous Mineral Resource estimates for the Blue Lake copper-gold porphyry deposit.

14.5.9 Discussion of Factors Affecting the Mineral Resources

Issues impacting on the Mineral Resources and their classification are:

• Deposit geology: the porphyry copper-gold style of mineralization is often recognised for poor grade continuity due to the relatively random pervasiveness of the mineralising fluids. The ability to physically put a finger on any of the gold or copper mineralization contacts, e.g. the high grade zones, is considered very variable and in this case is not really advisable or achievable. To counteract this H&SC has fused a combination of composite length, variography and search parameters (especially the minimum number of data points required) so as to minimise the possible over-statement of metal grades within the resource estimates.

- Sampling methods: the resource estimates have been generated from diamond drilling results which is generally considered the best sampling technique for this type of deposit (assuming good core recoveries, which is the case here).
- Drillhole spacing: the general drill hole spacing and hence data distribution is considered wide for a large
 part of the deposit. This, plus the nature of the mineralization impacts negatively on the variography,
 which in turn indicates that much closer spaced drilling, perhaps in a localised test area, is required for
 more confidence in any grade continuity, which in turn is reflected in the resource classification. In
 H&SC's experience modelling of gold (and copper) composite data with such wide drill hole spacings is
 relatively high risk, hence the Inferred Resource classification.
- Density data: there is a sufficient amount of quality data for density grade interpolation. Results of the modelling seem to indicate only modest variations between parts of the mineralising system. Thus, there is a moderately high level of confidence in the density for the Mineral Resource. Sample selection for density measurement is at risk of a positive bias with samples of competent core preferentially selected. This has been offset in part by K92ML with the substantial use of the weighing core tray/measured core diameter method. An assumption has been made that there are no significant cavities or that if they exist their impact is minimal.
- The QAQC procedures and outcomes: the procedures employed by K92ML are considered to be to industry standard and the QAQC outcomes impart a reasonably high level of confidence in the appropriateness of the sampling methods and the accuracy of the assays.
- Core recoveries: the current recovery of >95% is reasonable but for some of the initial drilling it was a little low (around the 90% mark). Generally lower recoveries are more associated with nearer surface material and not necessarily part of the porphyry mineralization. However, the confidence level in the accuracy of the gold and copper grades of the samples is high and is not related to sample recovery.
- Reconciliation: there is no mining of the deposit and hence no reconciliation.
- Top cutting: the use of top cuts for gold has provoked in the past considerable discussion with K92ML. No top cuts were applied to the composite data for Blue Lake. Whilst the use of top cutting is regarded as standard industry practice, H&SC considers that it is often used rather arbitrarily with no sound geological or statistical basis. H&SC is generally reluctant to apply top cuts preferring to control any high grade samples by a combination of geological interpretation, composite length, variography and search parameters.
- Modelling method: based on the drill hole data and its distribution and the style of mineralization Ordinary Kriging is considered the most appropriate modelling method for metal grade interpolation. Coefficients of variation for the gold and copper composites in the porphyry zone are relatively low, typical for this type of deposit, around the 1.8-2 mark. This indicates limited skewed data and thus in combination with visual reviews of the composite grade distribution, the OK method is acceptable for grade interpolation. This is in preference to a more sophisticated and time-consuming modelling method like Multiple Indicator Kriging, at this stage. The use of the Inverse Distance Squared modelling method is considered by H&SC to be a more retrogressive and less sophisticated process in comparison to OK.
- Geological interpretation: the supplied geological interpretation comprised a range of lithotypes, structures and alteration shells. A review of the assay values from the drilling and simple unconstrained modelling of the composite data, particularly for the copper, indicate quite clearly the subdivision of the mineral body into an upper gold lithocap zone and a lower porphyry intrusive copper/gold zone. Cross referencing with the alteration zones indicated that more work is required in defining these zones, and if they specifically relate to mineral styles and metal grade tenors. The lower copper/gold zone from the unconstrained modelling was converted to a mineral wireframe representing the 'porphyry' mineralization and was used for resource reporting. H&SC used the supplied fault structures to constrain the reporting of the Mineral Resources.
- Block size: Often a small block size can lead to over-smoothing of interpolated grades and thus an overstatement of grade for the Mineral Resource, especially with a deposit of this type. In this case the block size of 25m by 25m by 25m is a function of the relatively wide spaced drilling for the core of the deposit i.e. 100m, the nature of the mineralization and likely bulk mining methods.

- Minimum number of data for grade interpolation: H&SC has kept the minimum number of data for the grade interpolation search relatively high at six. In H&SC's experience using a lower number of minimum data invites an increase in risk to the interpolated grades particular at the margins of the deposit or in areas of wide drillhole spacing.
- Reporting constraints: a 0.4g/t gold equivalent cut off was used to report the mineral resources and this
 is based on H&SC's experience and K92ML's advice. The results are nominally similar to other recently
 reported mineral resources of a similar deposit type and Australasian location. A notional open pit
 surface with 45° side angles was used as a further constraint for the resource reporting. This may not be
 needed if the deposit was to be mined underground using a bulk mining method like block caving, which
 is a possibility as the deposit appears to be open at depth.

14.5.10 Other Factors

The Qualified Person is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the potential development of the Mineral Resource estimate.

15 MINERAL RESERVE ESTIMATES

This item is not applicable for this report.

16 MINING METHODS

This item is not applicable for this report.

17 RECOVERY METHODS

This item is not applicable for this report.

18 PROJECT INFRASTRUCTURE

This item is not applicable for this report.

19 MARKET STUDIES AND CONTRACTS

This item is not applicable for this report.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

This item is not applicable for this report.

21 CAPITAL AND OPERATING COSTS

This item is not applicable for this report.

22 ECONOMIC ANALYSIS

This item is not applicable for this report.

23 ADJACENT PROPERTIES

The Blue Lake Property near Kainantu occurs within a well-endowed belt of epithermal and porphyry style mineralization that reportedly contains several major deposits (Figure 23-1). The authors of this report are unable to verify this information and the information is not necessarily indicative of the mineralization on the Property that is the subject of this technical report.



Figure 23-1. Location of Blue Lake (Kainantu) project and gold deposits within major mineralized province. Source: PNG Chamber Mines and Petroleum (2018)

K92ML has a substantial land package of exploration tenements, totalling approximately 862 km² surrounding the Blue Lake Property.

24 OTHER RELEVANT DATA AND INFORMATION

Strong community relations are imperative to exploring in PNG with community agreement required before any exploration activities can take place. The Kainantu area has been beset with community relations issues since modern exploration commenced, resulting in many prospective areas not being explored and very limited drilling. The K92ML External Affairs &Social Development team have worked to gain the trust of the local landowners, and this has resulted in access being granted in many areas which have not previously undergone detailed exploration.

As part of K92ML's commitment to deal equitably with local communities Service Agreements between K92ML and local landowners are put in place prior to any exploration activities commencing.

25 INTERPRETATION AND CONCLUSIONS

25.1 QAQC PROGRAMS

The QAQC procedures employed by K92ML are considered to be to industry standard and the QAQC outcomes impart a reasonably high level of confidence in the appropriateness of the sampling methods and the accuracy of the assays.

25.2 MINERAL RESOURCE ESTIMATE

The copper-gold mineralisation at Blue Lake is consistent with a porphyry copper style. The deposit outcrops locally (1950mRL) and plunges moderately to the south where is remains open at depth.

The drilling comprised diamond core for appropriate core sizes with excellent core recoveries and all sampling was to industry standard. The drillhole database is suitable for resource estimation

The assay results from the drilling have allowed for the identification of two distinct minerals zones; an upper copper-poor gold enhanced zone with epithermal characteristics, recognised as the lithocap, overlying a lower copper-gold-rich tonalite porphyry body. The resource estimation has focussed on the porphyry mineralisation as the drilling is too wide spaced to allow for the delineation of gold zones within the lithocap.

Drilling data for the whole deposit was composited to 2m intervals and modelled unconstrained using Ordinary Kriging. Variography was moderate for the lower copper/gold zone but was weak for the upper gold zone. The modelling and the drilling data allied to geological sense allowed for the interpretation of a 3D porphyry mineral body.

Density data was of a good quality with sufficient amounts that the data could be composited to 4m and modelled unconstrained using Ordinary Kriging.

The drilling completed to date is sufficient to define Inferred Mineral Resources. The classification of the deposit is based primarily on the wide drillhole spacing. Completion of some infill drilling should provide a better measure of the grade continuity and hence improve the confidence in the Mineral Resource.

Reporting of the Mineral Resources used a 0.4g/t gold equivalent cut off from a good equivalent equation derived for the nearby Kora mine operation. Additional constraints included truncation of the mineralisation by the Baupa Transfer Fault, contained within the interpreted 3D porphyry wireframe and a nominal pit design using 45° angled slopes down to a depth of 500mRL, the base of the currently define mineralisation.

The Mineral Resource Estimates reported in this section have been classified under the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves. The Mineral Resources have been classified as Inferred.

25.3 EXPLORATION POTENTIAL

The Kainantu district is recognised as an important mineral district, owing to the presence of multiple economic vein deposits, as well as additional veins and porphyry prospects at various stages of exploration. K92ML has a very substantial land package of exploration tenements surrounding EL470. Several exploration companies are active in the immediate surrounds, emphasising the potential of the district.

Drilling results to date indicate the Blue Lake Porphyry has the potential to be a large mineralized Cu-Au porphyry deposit. Locally, the roots of the lithocap remain in situ (dominated by pyrophyllite, typically present deep in lithocaps and nearest to porphyry mineralization). The Blue Lake deposit remains open along strike and down plunge. Additionally, with a higher grade core, it is possible that the mineralization is much more extensive than currently understood and higher grades may be expected in the deeper parts of the system.

The occurrence of widespread advanced argillic alteration in the Bilimoia area including at Blue Lake, suggest a number of separate underlying porphyry Cu-Au systems are likely to be found by deep drilling. At Blue Lake a pronounced silica-clay lithocap overlies the mineralized porphyry and K92ML geologists have postulated that a similar lithocap at A1 may conceal a large porphyry at depth.

Recent studies show advanced argillic alteration has separated into a number of zones (Plus Minerals, 2019). The airborne geophysical (Advanced Mobile MT or magnetotelluric) survey completed in late-2021 has outlined several high conductivity targets coincident with mapped silicification.

Evidence of a much larger paleo-lithocap, likely formed by copious porphyry activity, is presented in the high proportion of ubiquitous silicified float (boulders) that fills the drainages and colluvium deposits for 20 km to the Markham River.

26 RECOMMENDATIONS

26.1 MINERAL RESOURCE ESTIMATES

The general drill hole spacing and hence data distribution is considered wide for a large part of the deposit. This, plus the nature of the mineralization impacts negatively on the variography, which in turn indicates that much closer spaced drilling, perhaps in a localised test area, is required for more confidence in any grade continuity, which in turn is reflected in the resource classification. In H&SC's experience modelling of gold (and copper) composite data with such wide drill hole spacings is relatively high risk, hence the Inferred Resource classification.

The assay values from the drilling and simple unconstrained modelling of the composite data, particularly for copper, indicate quite clearly the subdivision of the mineral body into an upper gold lithocap zone and a lower porphyry intrusive copper/gold zone. Cross referencing with the alteration zones indicated that more work is required in defining these zones, and if they specifically relate to mineral styles and metal grade tenors.

The mineralisation remains open at depth and therefore exploration should be undertaken to test the deposit at greater depths. There are indications that the mineralisation will increase in tenor at depth.

26.2 EXPLORATION

The entire mineralized district covered by EL470 should be assessed but with priority given to the Blue Lake deposit and the A1 porphyry prospect. Wider scale geological mapping to understand the geological setting and more surface alteration mapping to define the distribution of the lithocap is recommended.

Additional drilling is recommended to target the definition and expansion of the zone of quartz stockwork veins and bornite mineralization within the potassic core at Blue Lake.

The work program has been planned taking into consideration the current level of exploration on the tenement. Some programs will require detailed surface work which should include assessment of lithocaps and vein expressions, as well as geochemical and geophysical anomalies prior to commencement of drilling.

Tenement No.	Term End Date	Proposed Work Program Budget		Planned 2 Year Program
		Unit	Amount	
EL470	04/02/2023	PGK	4,800,000	16 km ² reconnaissance mapping, 6 km ² detailed geological mapping, significant soil + rock chip sampling (including costeaning), samples for petrology, 25 km ² airborne EM geophysics, 24 cored drill holes

Table 26-1. EL470 Work Program and Budget

DATE AND SIGNATURE PAGE

Effective Date: 1st August 2022

For and on behalf of H&S Consultants Signed "Simon Tear" Date: 20 September 2022

Simon Tear BSc (Hons), , PGeo IGI, EurGeol Qualified Person

For and on behalf of Nolidan Mineral Consultants Signed "Anthony Woodward" Date: 20 September 2022

Anthony Woodward, BSc Hons MSc MAusIMM MAIG, Qualified Person

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CERTIFICATE OF QUALIFIED PERSON

Simon James Tear

I, Simon James Tear, BSc(Hons), P.Geo, EurGeol as a co-author of this report "INDEPENDENT TECHNICAL REPORT MINERAL RESOURCE ESTIMATE BLUE LAKE PORPHYRY DEPOSIT, KAINANTU, PAPUA NEW Guinea", prepared for K92ML, effective date 1st August 2022, do herby certify that :

I am a Director and Consultant Geologist of H&S Consultants Pty Ltd, with a business address of Level 4, 46 Edward Street, Brisbane, QLD 4000, Australia.

I graduated from the Royal School of Mines, Imperial College, London, UK in 1983 with a BSc (Hons) degree in Mining Geology.

I am registered as a Professional Geologist with the Institute of Geologists of Ireland (registration number 17) and as a European Geologist with the European Federation of Geologists (registration number 26). I have worked as a geologist in the mining industry for over 35 years. I have extensive experience with a variety of different types of mineral deposits and commodities in Europe, Africa, South America, Asia and Australia. I have over 23 years' experience with the resource estimation process including 3.5 years minesite experience (open pit and underground) and have worked on feasibility studies. I have completed over 125 resource estimations on a variety of deposit types including narrow vein gold, structural gold, nickel laterite, stratabound base metal including Iron Ore and industrial minerals. I have completed over 30 reports that are in accordance with the JORC Code and Guidelines and/or NI43-101 rules.

My relevant experience for the purpose of this Technical Report is:

- Involvement from high level review to geological interpretation and resource estimation for over 50 gold projects worldwide including narrow vein epithermal and mesothermal gold deposits.
- Completion of geological modelling and/or resource estimates for the following narrow gold vein deposits: Cavanacaw (N.Ireland), Nbanga (Burkino Faso), Kestanalik (Turkey), Savoyardy (Kyrgyzstan), Woolgar, Barambah, Glen Eva and Koala (all Queensland).
- Due diligence/property assessment for the following narrow gold vein deposits/mines: Curraghinalt (N.Ireland), Tolukuma (PNG), Lorena, Pajingo (both Queensland), Bronzewing, Marda (both Western Australia)
- Completion of a geological interpretation and resource estimates for the Kora Vein system in 2018 and 2020

I have visited the project's mining lease and operations on one occasion dated 21st to 23rd October 2018 for 3 days.

I have read the definition of "qualified person" set out in Section 1.1 of the national Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of this Technical Report.

I am responsible, either wholly or partly, for Sections 1, 14, 25 and 26, of the Technical Report.

I do not hold, directly or indirectly, any shares in K92ML, K92PNG, K92 Holdings, K92 or other companies with interests in the exploration assets thereof. I am independent of K92ML, K92PNG, K92 Holdings, K92, and, the Property, as independence is described by Section 1.5 of NI 43-101.

Prior to 2018, I had no involvement with the Property that is the subject of the Technical Report.

I have read NI 43-101 and this Technical Report has been prepared in compliance with the version of NI43-101 that came into effect on 30 June 2011.

To the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Simon J Tear PGeo, EurGeol

Director & Consultant Geologist

H&S Consultants Pty Ltd

Date: 20th September 2022.

CERTIFICATE OF QUALIFIED PERSON

ANTHONY JAMES WOODWARD

I, Anthony James Woodward hereby certify that:

I am a Consulting Geologist and Professional Geoscientist residing at 14 Carlia Street, Wynnum West, Queensland 4178, Australia (Telephone +61-438 747141). I am independent of the issuer as independence is described in Section 1.5 of NI 43-101.

I graduated from the University of Nottingham, UK in 1968 with a B.Sc. (Hons) in Geology and from James Cook University, Townsville, Australia in 1976 with a M.Sc in Exploration and Mining Geology.

I have over 35 years' experience in the minerals industry as a Geologist in the fields of mineral exploration, mine geology and mineral resource estimation. I have had senior exploration roles with Buka Gold, Niugini Mining, Eltin Minerals and Oakbridge Ltd. I have conducted evaluation of advanced exploration and mining projects in Australia, Brazil, Fiji, Indonesia, Kazakhstan, New Zealand, and Turkey. I worked as Technical Services Manager and Chief Geologist at the Vatukoula Gold Mine in Fiji (Emperor Mines Ltd) from 1995 to 2005 and as Technical Services Manager for Anvil Mining Congo at the Kinsevere copper mine, DRC from 2007 to 2008. At these mines I was responsible for mine and exploration geology, surveying, mine planning, environment, drilling, and assay laboratory. Most recently, I have been an exploration consultant in the Philippines involved with total exploration program management on tenements prospective for both epithermal gold-molybdenum and porphyry copper-gold deposits including regional exploration targeting through to deposit resource drilling.

Applicable to the Kainantu Project is my extensive experience in mineral deposits in volcanic terrains, specifically the Vatukoula and Tuvatu epithermal gold deposits in Fiji. I have also worked on epithermal/hydrothermal and porphyry-style mineralization in similar environments in Papua New Guinea, Fiji, New Zealand, Philippines, Indonesia, Brazil and Turkey as well as Australia.

I am a Member of the Australian Institute of Geoscientists (Member No. 2668).

For the purposes of the Technical Report entitled: "Independent Technical Report, Mineral Resource Estimate Blue Lake Porphyry, Kainantu, Papua New Guinea", effective date 1st August 2022, of which I am a part author and responsible person, I am a Qualified Person as defined in National Instrument 43-101 ("the Rule").

I am responsible either wholly or partly for the preparation of Sections 1 to 13, 15 to 27 of the technical report.

I have visited the Kainantu Project on the 12th and 13th of November 2014, the 21st to 25th November, 2016 and 15th to 17th January 2020 and have had no prior involvement with the Kainantu Property.

I have read the Rule and this technical report is prepared in compliance with its provisions. I have read the definition of "qualified person" set out in the Rule and certify that by reason of my education, affiliation with a professional association (as defined in the Rule) and past relevant work experience, I fulfil the requirement to be a "qualified person" for the purposes of the Rule.

To the best of my knowledge, information and belief the technical report contains all scientific and technical information that is required to be disclosed in order to make this report not misleading.

I have no direct or indirect interest in the properties which are the subject of this report and I have had no involvement with the Property prior to 2014. I do not hold, directly or indirectly, any shares in K92ML, K92PNG, K92 Holdings, K92 or other companies with interests in the exploration assets thereof. I am independent of K92ML, K92PNG, K92 Holdings, K92, and, the Property, as independence is described by Section 1.5 of NI 43-101.

I will receive only normal consulting fees for the preparation of this report.

Signed at Brisbane this 20th September 2022.

ATUDOLAD.

Anthony James Woodward, BSc Hons, M.Sc., MAIG

APPENDIX: GLOSSARY OF TECHNICAL TERMS AND ABBREVIATIONS

This glossary comprises a general list of common technical terms that are typically used by geologists. The list has been edited to conform in general to actual usage in the body of this report. However, the inclusion of a technical term in this glossary does not necessarily mean that it appears in the body of this report, and no imputation should be drawn. Investors should refer to more comprehensive dictionaries of geology in printed form or available in the internet for a complete glossary.

"2D"	Two dimensional space, typically Y and Z planes
"3D"	Three dimensional space, Y, X, Z planes
"200 mesh"	the number of openings (200) in one linear inch of screen mesh (200 mesh approximately equals 75 microns)
"AAS"	Atomic Absorption Spectroscopy
"Ag"	chemical symbol for silver
"Au"	chemical symbol for gold
"AuEq"	Gold equivalent, assumptions include metal prices and assumed metallurgical recoveries.
"BLA"	Bilimoian Landowners Association
BSc (Hons)	Bachelor of Science with Honours
"block model"	A block model is a computer based representation of a deposit in which geological zones are defined and filled with blocks which are assigned estimated values of grade and other attributes. The purpose of the block model (BM) is to associate grades with the volume model. The blocks in the BM are basically cubes with the size defined according to certain parameters.
"bulk density" "BD"	The dry in-situ tonnage factor used to convert volumes to tonnage. Bulk density test work is carried out on site and is relatively comprehensive, although samples of the more friable and broken portions of the mineralized zones are often unable to be measured with any degree of confidence, therefore caution is used when using the data.
"°C"	Degrees Celsius
"Composite"	Drill hole sampling data under geological control will often have variable sample lengths. Prior to grade interpolation this data is standardised to equal lengths known as compositing, with the process generating gold grades for that standard interval. Ideally the composite is of the dominant sample length eg 1m or may factor in the largest sample interval, if there is a large number of these sample lengths.
"Cu"	Chemical symbol for copper
"DDH" "diamond drilling, diamond core"	Rotary drilling technique using diamond set or impregnated bits, to cut a solid, continuous core sample of the rock. The core sample is retrieved to the surface, in a core barrel, by a wireline.
"down-hole survey"	Drillhole deviation as surveyed down-hole by using a conventional single-shot camera and readings taken at regular depth intervals, usually every 50 metres.
"drill-hole database"	The drilling, surveying, geological and analyses database is produced by qualified personnel and is compiled, validated and maintained in digital and hardcopy formats.
"dynamic search interpolation method"	A grade interpolation method which constantly rotates the search ellipse axes to each block within the block model relative to the orientation of the nearest triangle in the constraining mineral wireframe.
"EL"	Exploration Lease
"FA"	Fire Assay: an laboratory analytical technique mainly used for gold

"grade cap, also called top cut"	The maximum value assigned to individual informing sample composites to reduce bias in the resource estimate. They are capped to prevent over estimation of the total resource as they exert an undue statistical weight. Capped samples may represent "outliers" or a small high-grade portion that is volumetrically too small to be separately domained.
"g/t"	grams per tonne, equivalent to parts per million
"g/t Au"	grams of gold per tonne
"Grade interpolation"	The spatial and mathematical process used to generate block grades between drillholes; can be used to extrapolate beyond limiting drillholes for modest distances. The method uses composited data in conjunction with variogram models for block grade weighting and data search parameters to select the appropriate data.
"HGL"	Highlands Gold Limited
"HPL"	Highlands Pacific Limited
"ID" "inverse distance estimation"	It asserts that samples closer to the point of estimation are more likely to be similar to the sample at the estimation point than samples further away. Samples closer to the point of estimation are collected and weighted according to the inverse of their separation from the point of estimation, so samples closer to the point of estimation receive a higher weight than samples further away. The inverse distance weights can also be raised to a power, generally 2 (also called inverse distance squared, ID2). The higher the power, the more weight is assigned to the closer value. It is a relatively unsophisticated grade interpolation method
"Inferred Resource"	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve. It is reasonably expected that the majority of Inferred Mineral Resources with continued exploration.
"Indicated Resource"	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Ore Reserve.
"IRG" or "IRGC"	Intrusion Related Gold or Intrusion Related Gold Copper
"JORC"	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (the 'JORC Code' or 'the Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The Code is a required minimum standard for Public Reporting b. JORC also recommends its adoption as a minimum standard for other reporting. Companies are encouraged to provide information in their Public Reports that is as comprehensive as possible. The definitions in the JORC Code are either

	identical to, or not materially different from, those similar codes, guidelines and standards published and adopted by the relevant professional bodies in Australia, Canada, South Africa, USA, UK, Ireland and many countries in Europe.
"kriging neighbourhood analysis, or KNA"	The methodology for quantitatively assessing the suitability of a kriging neighbourhood involves some simple tests. It has been argued that KNA is a mandatory step in setting up any kriging estimate. Kriging is commonly described as a "minimum variance estimator" but this is only true when the block size and neighbourhood are properly defined. The objective of KNA is to determine the combination of search neighbourhood and block size that will result in conditional unbiasedness.
"km"	Kilometre Unit of Length = 1000 metres. km ² unit of area = 1km x 1 km
"kVa"	1000 volt-amperes
"lb"	Avoirdupois pound (= 453.59237 grams). Mlb = million avoirdupois pounds
"micron (μ)"	Unit of length (= one thousandth of a millimetre or one millionth of a metre).
"mm"	Millimetre (=1/1000 metre)
"LMP"	licence for mining purposes
"LOM"	Life of Mine
"LTC"	Land Titles Commission
"m"	Metric Metre
MAusIMM(CP)	Member of The Australian Institute of Mining and Metallurgists (Certified Professional)
MAIG	Member of The Australian Institute of Geoscientists
"Measured Resource"	A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Ore Reserve or under certain circumstances to a Probable Ore Reserve.
"Multiple Indicator Kriging (MIK)"	A relatively more sophisticated method of non-linear grade interpolation compared to Ordinary Kriging; often best suited to open pit gold deposits.
"Mineral Resource"	A 'Mineral Resource' is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
"ME"	Mining Easements
"ML"	Mining Lease
"MOA"	Memorandum of Agreement
"MRA"	Mineral Resources Authority of Papua New Guinea
"MRA" "NN" "nearest neighbour estimation"	Mineral Resources Authority of Papua New Guinea Nearest Neighbour assigns values to blocks in the model by assigning the values from the nearest sample point to the block attribute of interest.

"OK" "ordinary Kriging estimation	 Kriging is an inverse distance weighting technique where weights are selected via the variogram according to the samples distance and direction from the point of estimation. The weights are not only derived from the distance between samples and the block to be estimated, but also the distance between the samples themselves. This tends to give much lower weights to individual samples in an area where the samples are clustered. The kriging estimates are controlled by the variogram parameters. The variogram model parameters are interpreted from the spatial distribution and value of the data
"oz"	Troy ounce (= 31.103477 grams). Moz = million troy ounces
"PGK"	Papua New Guinea Currency, Kina.
"рН"	measure of the acidity or basicity of an aqueous solution (scale 1 to 14)
"PhD"	Doctorate of Philosophy
"PNG"	Papua New Guinea
"Portal"	Opening/access to the underground Mine, Adit
"QA/QC"	Quality Assurance ("QA") concerns the establishment of measurement systems and procedures to provide adequate confidence that quality is adhered to. Quality Control ("QC") is one aspect of QA and refers to the use of control checks of the measurements to ensure the systems are working as planned.
"RC drilling"	Reverse Circulation drilling. A method of rotary drilling in which the sample is returned to the surface, using compressed air, inside the inner-tube of the drill-rod. A face- sampling hammer is used to penetrate the rock and provide crushed and pulverised sample to the surface without contamination.
"ROM"	Run of Mine, usually referring to an ore stockpile near the crusher
"survey"	Comprehensive surveying of drillhole positions, topography, and other cadastral features is carried out by the Company's surveyors using 'total station' instruments and independently verified on a regular basis. Locations are stored in both local drill grid and UTM coordinates.
"Stoping"	An underground excavation made by the mining of ore from steeply inclined or vertical veins
"t"	Metric Tonne (= 1 million grams) "kt" = thousand tonnes
"te"	Chemical symbol for tellurium
"t/h"	Tonnes per hour
t/m³	Tonnes per metre cubed (density units)
"TSF"	Tails Storage Facility
"unfolded space"	Undulating 3D veins projected onto a 2D plane.
"variogram"	The variogram (or more accurately the Semi-variogram) is a method of displaying and modelling the difference in grade between two samples separated by a distance h, called the "lag" distance. It provides the mathematical model of variation with distance upon which the Krige estimation method is based.
"wireframe"	This is created by using triangulation to produce an isometric projection of, for example, a rock type, mineralization envelope or an underground stope. Volumes can be determined directly of each solid.