Khoemacau Copper Project, Botswana

HKEX Competent Person Report

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1 EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

The relevant assets comprise the Khoemacau Copper Mine ("KCM" or "the Project") mining and prospecting licence areas, located within the Ngamiland and Ghanzi districts of northwest Botswana, in the Kalahari Desert.

The Project consists of a current operating underground copper mine (Zone 5), and a total of 14 other deposits which have defined Mineral Resources and are planned to be under production in the future.

Mining commenced in 2021 at the Zone 5 deposit with ore processed through the 3.65 Mtpa Boseto processing plant. Commissioning of the Zone 5 mine, based on a Prefeasibility Study (PFS), was completed in 2023 to support an Expansion Project focused on development and mining of three additional areas (Mango, Zeta North East (Zeta NE) and Zone 5 North (Zone 5N)) that will replace Zone 5 production from the Boseto processing plant. The study proposes expansion of production from Zone 5 from 3.65 Mtpa to 4.50 Mtpa that would be processed through a new processing plant co-located in the immediate vicinity of the existing Zone 5 underground mines.

1.1.1 Location, Climate and Access

KCM's mining and prospecting licence areas occur in a sparsely populated region of northwest Botswana in the Kalahari Desert, within the Ngamiland and Ghanzi districts, and cover an area of 4,040 km^2. The licence area is approximately 70 km southwest of the town of Maun and 50 km south of the village of Toteng. The town of Maun is the third-largest town in Botswana and serves as a tourism gateway for access to much of northern Botswana.

Although officially still a village, Maun has developed rapidly from a rural frontier town and has spread along the Thamalakane River. It has established shopping centres, hotels, accommodation lodges and car hire, whilst retaining a rural atmosphere, and local tribesmen continue to bring their cattle to Maun to sell.

The Project lies at an altitude of approximately 1,000 m above sea level in the Kalahari Sandveld, a gently undulating sand-covered plain with variations of about 150 m from east to west. The climate of the Project area is semi-arid and tropical, with highly variable and unreliable rainfall, with annual rainfall normally less than 500 mm.

The northern region of Botswana has a limited history of mining activity, although a variety of commodities have been mined both historically and recently including diamonds, copper, silver, gold and nickel. Other economic minerals in the region include uranium and coal.

There is established infrastructure available to support the Project including, grid power, and wellfield water supplies. Labour and supplies for most of the basic mining and exploration needs for the Project can be obtained from within Southern Africa.

1.1.2 Ownership, Licences and Permits

KCM is wholly owned by private company Cuprous Capital Ltd, which in turn is owned 88.1% by Cupric Canyon Capital LP ("Cupric"), a company majority owned by funds advised by Global Natural Resource Investments ("GNRI") and 11.9% by Resource Capital Fund VII LP. GNRI was formed by a management buyout of the former Barclays Natural Resource Investments private equity business from Barclays Bank PLC in October 2015 and is focused on the global natural resources sector, specifically on upstream oil and gas (excluding the US), mining, associated services and power. Established in 1998, Resource Capital Funds ("RCF") is a group of commonly managed private equity funds with a mining sector specific investment mandate.

In February 2013, Cupric completed the acquisition of the Toronto Stock Exchange listed company Hana Mining Ltd and the locally registered company, Hana Ghanzi Copper (Pty) Ltd and since renamed the latter Khoemacau Copper Mining (Pty) Ltd. In July 2015, KCM acquired Discovery Copper Botswana ("DCB"), now wholly owned by KCM, which included the Boseto operation, in particular the processing plant, and various early-stage resources. The Boseto processing plant was in operation for approximately 2.5 years producing copper-silver concentrate from three open pit mining areas. Operations at Boseto were halted in February 2015 just before the project was acquired by KCM.

In November 2023, MMG announced that it has entered into a Share Purchase Agreement (SPA) to acquire the parent company of the KCM in Botswana. The transaction aligns to MMG's strategy to build a portfolio of high-quality mines supplying the minerals most important to a decarbonised world.

The prospecting licence area consists of 10 prospecting licence blocks: four DCB licences over the Boseto Operation (PL098/2005 to PL101/2005) and six KCM licences (PL001/2006 to PL005/2006, and PL095/2019). Additionally two mining licence tenements are in place as described below.

In March 2015, KCM was granted a mining licence (ML2015/5L) contained within PL002/2006, PL001/2006 and PL004/2006, for the Zone 5 and NE Fold (which is part of the Banana Zone) areas. In 2019, part of ML2015/5L covering the Banana Zone was converted back to a prospecting licence status, resulting in the creation of new prospecting licence PL095/2019. In 2018, KCM was granted an expansion to the Zone 5 mining licence, contained within PL099/2005. DCB was granted its mining licence (ML2010/99L), contained within PL099/2005, on 20 December 2010. DCB was granted two amendments to the mining licence: one allowing underground mining to be undertaken at the Zeta pit (2014) and the other allowing enlargement of the area toward the northeast to include Zeta NE (2015).

Details on tenement status, and other agreements, licences, surface rights and permits are detailed in this report.

1.2 PROJECT HISTORY

1.2.1 Exploration History

The first documented grassroots exploration for copper within the Project area was in the early 1960s by Johannesburg Consolidated Investments. Since then, there has been sporadic exploration in the area which has included:

- Soil geochemistry, field mapping, structural and petrographic studies.
- Airborne and ground geophysical surveys (aeromagnetic, airborne electromagnetic, seismic, and gravity). Interpretation of the geophysics has been critical in understanding the stratigraphic architecture of the Project area.
- Extensive DDH and RC drilling.
- Metallurgical and geotechnical investigations.

Data has been integrated and interrogated to assemble a detailed stratigraphic column and regional to local scale Leapfrog Geo 3D model. The data and interpretation work were used to project geology to surface and create a sub-Kalahari sand geology map of the basin. 3D wireframe solids built in Leapfrog Geo are now used as KCM's base model to delineate local structures, lithological units and mineral distribution. The mapping and interpretation program enabled reconstruction modelling of early basin architecture and fold features, that are used for target generation across the Project.

In 2019, the Zone 5 deposit was drilled for grade control mine planning and has since advanced into development with underground operations and a +20-year LOM. Additional resource and exploration drilling then focused on the Zone 5N, Zeta NE and Mango deposits, all located in the northeast of the project licence area, and all having similarities to Zone 5.

The Banana Zone was extensively explored between 2010 and 2012 with additional exploration drilling, geophysical surveys and geotechnical studies completed from 2013 to present. Mineral Resources at NE Fold, South Limb Definition and New Discovery were updated in June 2022 using a higher copper cut-off grade and assessed for underground mining.

1.2.2 Mining History

Mining has been undertaken on three deposits within the Project area. The Boseto Copper Operation (DML operated Zeta and Plutus open pits and processing plant) produced approximately 6 Mt of ore between 2012 and 2015. The amount of oxidised and transitional material was underestimated in the Mineral Resource modelling and metallurgical testwork, resulting in lower-than-expected metal recovery through the Boseto Plant. Once the pits reached the sulphide ore, high stripping ratios made further open pit development uneconomic. It should be noted though, that the Boseto Plant performed to specification once sulphide ore was being produced in the pits.

Construction at Zone 5 commenced in 2019, with first ore being milled in early 2022. The ore is extracted via longhole open stoping. To the end of 2023, the Boseto Plant had milled a total of 5.8 Mt of ore from Zone 5 averaging 1.6% Cu and 18 g/t Ag (mill reconciled tonnages and grades).

1.2.2.1 Current Mining Operations

The current underground mine operation (Zone 5) produced its first concentrate in June 2021, and delivers more than 155,000 tonnes of copper concentrate at 35–40% copper content, containing some c. 60 kt of copper and c. 1.6 Moz of silver metal in concentrate annually.

The estimated mine life for the current operation is 20 years, based on currently drilled mineralisation, with C1 cash costs over the life estimated at approximately $1.15/lb* of copper and $1.85/lb[1] on an all-in sustaining basis. Total direct capital cost for construction and commissioning the current operations was US$411 million, offering a capital efficiency of c. $6,300 per annual tonne of copper. These attractive unit cost metrics reflect the high grades of the Zone 5 orebody, its ideal geometry for highly productive mechanised mining, and access to the upgraded and enhanced Boseto processing plant and the newly constructed and reliable infrastructure.

The current operations involved the construction of the 3.65 Mtpa underground mine at Zone 5 (three mining corridors producing on average 1.2 Mtpa of ore each) and the refurbished and enhanced Boseto processing plant. The mined ore is trucked approximately 35 km from the Zone 5 mine to the Boseto processing facility.

Power is sourced at 132 kV from the BPC grid via a 50 km overhead transmission line connection, with diesel generation capacity as backup power only. Water is supplied from two wellfields, at Boseto (existing refurbished) and Haka (new development including 40 km of underground pipeline from Haka to Zone 5), along with dewatering boreholes from the mine at Zone 5.

1.2.2.2 Future Mining Operations

A mining expansion plan based on expansion of current mining activity at Zone 5 as well as the development of new mining corridors at Mango, Zeta NE and Zone 5N has been studied to PFS

[1] C1 cost shown pre silver stream and AISC shown post silver stream.

level. Mine designs and design criteria are based on established designs and criteria from the existing Zone 5 operation. An Economic Study has been completed on NE Fold, New Discovery and South Limb Definition deposits in the Banana Zone area.

Mining at Zone 5 is currently undertaken by contractors using bulk open stoping methods, with production of between 1.2 Mtpa and 1.3 Mtpa from each of three separate declines ("corridors"), that is planned to be expanded to 1.5 Mtpa per decline for a total run-of-mine (ROM) production of 4.5 Mtpa to be treated in a new processing facility built at Zone 5. Contract mining will be transitioned to the development of the new declines at the Expansion deposits to initial stoping.

Khoemacau has shown intent to take over the mining at Zone 5 on an owner-operated basis in H2 2025, using a staged approach such that operations are not heavily interrupted. Declines are 6.0 m x 6.0 m and top and bottom ore drives being 5.0 m x 4.6 m. Stoping is typically 7–12 m wide x 40 m stopes at 25 m sublevels. Stoping parameters have been estimated by geotechnical data and modelling.

New declines at Mango, Zeta NE (two boxcuts) and Zone 5N will be developed to produce between 1.2 Mtpa and 1.3 Mtpa. This will generate total production of new Expansion Deposit ore feed of 3.65 Mtpa which is intended to replace feed from Zone 5, with the Zone 5 feed now treated in the new Zone 5 processing plant. Mining methods at each decline will transition to open stoping with fill once mining depths exceed 400 m.

Fleet provisions for expansion at Zone 5 as well as the new declines are considered sufficient for the production levels contemplated. Underground mine services, including ventilation, fuel, lubrication and maintenance for the mining fleet, dirty water reticulation, service water, and electrics are based on provisions already made at Zone 5. Provisions at Zone 5 are already considered adequate for production of 4.5 Mtpa.

1.3 GEOLOGY AND MINERAL RESOURCE ESTIMATES

1.3.1 Geology and Mineralization

Copper and silver mineralisation at the Project is hosted within the Ghanzi-Chobe Fold and Thrust Belt that forms the southern portion of the much larger, Pan-African Mobile Belt. The Pan-African Mobile Belt stretches from Namibia through Botswana, Zambia and into the Democratic Republic of Congo. In Botswana, the Ghanzi-Chobe Belt is also known as the Kalahari Copper Belt. The belt is host to several well-known stratabound sediment-hosted copper deposits and mining operations.

The Kalahari Copper Belt stratigraphic sequence consists of a basal rift related bimodal volcanic suite named the Kgwebe Formation. The Kgwebe Formation is unconformably overlain by the Ghanzi Group metasediments. This group, from oldest to youngest, consists of the Kuke Formation, Ngwako Pan Formation (NPF), D'Kar Formation and Mamuno Formation.

The entire region has been subject to compression, folding and thrusting along northeast trends resulting in structurally repeated stratigraphically controlled mineralisation over hundreds of kilometres. The structural orientation and related permeability are key aspects in the mineral trap site development. Deposits generally occur at the margins of basement structures where the stratigraphic redox boundary is controlled by sediment deposition and structural geometry. Flexural slip along bedding on the limbs of parasitic folding were important primary fluid pathways. Brittle fractures, and tectonic breccia at local and deposit scale are the dominant secondary structural mechanisms.

The area is characterised as a sediment-hosted copper deposit with a multi-stage mineralisation history that includes both diagenetic (sediment hosted) and epigenetic (structurally hosted) events.

Although mineralisation differs slightly at each deposit, economic grades are dominantly related to shearing, folding and tensional failure along and close to the Ngwako Pan and D'Kar redox contact. Disseminated and hydrothermal vein-hosted sulphide mineralisation styles combine to produce continuity of high-grade copper and silver mineralisation over tens of kilometres. These higher-grade copper sulphide zones typically contain disseminated cleavage parallel lenticles and massive quartz-carbonate and breccia veins hosting chalcopyrite, bornite and chalcocite mineralisation.

Sulphide assemblages are commonly zoned. The sequence is developed vertically upward from the base of the D'Kar Formation and can be seen to develop horizontally along strike at some deposits. The typical zonation sequence consists of low sulphur, low iron, copper sulphides (chalcocite and bornite) and passes upward with increasing iron content (chalcopyrite and pyrite). This sulphide zonation coincides with copper solubility precipitating of low soluble sulphides at the first reductant while chalcopyrite and pyrite remain in solution. Common oxide minerals present across the project area are chrysocolla and malachite, typically found within veins and fracture fill.

1.3.2 Mineral Resources as at 31 December 2023

A review of the drilling, survey, density, sampling and assaying procedures for the datasets used to compile the Mineral Resources indicates the use of practices that were standard across the industry at the time of data collection, including those for quality assurance and quality control (QAQC) monitoring. ERM concluded that the data used in the Mineral Resources and Ore Reserve modelling did not contain material errors that would impact the reliability and representativity of the data inputs.

ERM visited the Project in November 2023 and considers the data has been collected, validated and stored following good industry accepted practices.

Geological models have been developed for each deposit in the Project area as well as mineralisation domains which constrain the grade estimates. The predominant sulphide ore assemblage varies slightly from deposit to deposit, but is typically vein hosted massive bornite with chalcocite, minor chalcopyrite and silver.

The Mineral Resources are reported only for sulphide material as there are known metallurgical issues with copper recovery in the oxide and transition zone mineralisation. The location of the top of sulphide material is variable across the Project area. Most of the Mineral Resources are considered amenable to underground mining scenarios. Exceptions at this point in time are the North East Fold (NE Fold) and Chalcocite deposits at either end of the Banana Zone area, as well as the upper portion of the Zeta Underground and Plutus Resources.

A total of 15 block models have been generated for the deposits within the Project area. A summary of the Mineral Resources is presented in Table 1-1. The models were generated between 2009 and 2022 by several different authors. Review of each model and the associated input and documentation indicate they are suitable for reporting as Mineral Resources in accordance with the JORC Code (2012) guidelines and the requirements of Chapter 18 of the HKEx Listing Rules.

Table 1-1 Global open pit and underground Mineral Resources for Khoemacau Project area as of 31 December 2023

Resource classification	Tonnage (Mt)	Grade			Contained metal	
		Cu (%)	Ag (g/t)	CuEq (%)	Cu (kt)	Ag (koz)
Underground						
Measured	14	1.9	19	2.1	270	8.5
Indicated	72	2.0	27	2.2	1,400	61
Inferred	230	1.6	20	1.8	2,700	150
Subtotal	**310**	**1.7**	**22**	**1.9**	**5,300**	**220**
Open pit						
Measured	-	-	-	-	-	-
Indicated	9	1.1	16	1.2	100	5
Inferred	50	0.51	3.9	0.54	250	6
Subtotal	**59**	**0.60**	**5.8**	**0.64**	**360**	**11**
Open pit + Underground						
Measured	14	1.9	19	2.1	270	8.5
Indicated	81	1.9	25	2.1	1,500	66
Inferred	280	1.4	17	1.6	3,900	150
TOTAL	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**
Stockpiles – Measured	0.031	1.5	13	1.6	0.45	0.013
GRAND TOTAL	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**

Notes:

- Reported on a dry in-situ basis and on a 100% ownership basis at 31 December 2023. Contained metal does not imply recoverable metal. Figures are rounded after addition so may show apparent addition errors.
- Depleted to 31 December 2023. Remnant pillars inside the mining area are considered sterilised and are not included in the stated Mineral Resources.
- Reporting cut-off criteria are variable and detailed in notes to Table 1-2.

Cut-off grades across the Project have largely been determined using reasonable metal prices for the time of model generation to determine an economic threshold. The resultant cut-off grade for the recently modelled underground Mineral Resources is US$60–$65 Net Smelter Return (NSR) which equates to approximately 1% Cu. Full details of cut-off grades and additional constraints by deposit are included below in Table 1-2. Figure 1-1 shows a breakdown of contained metal by deposit.

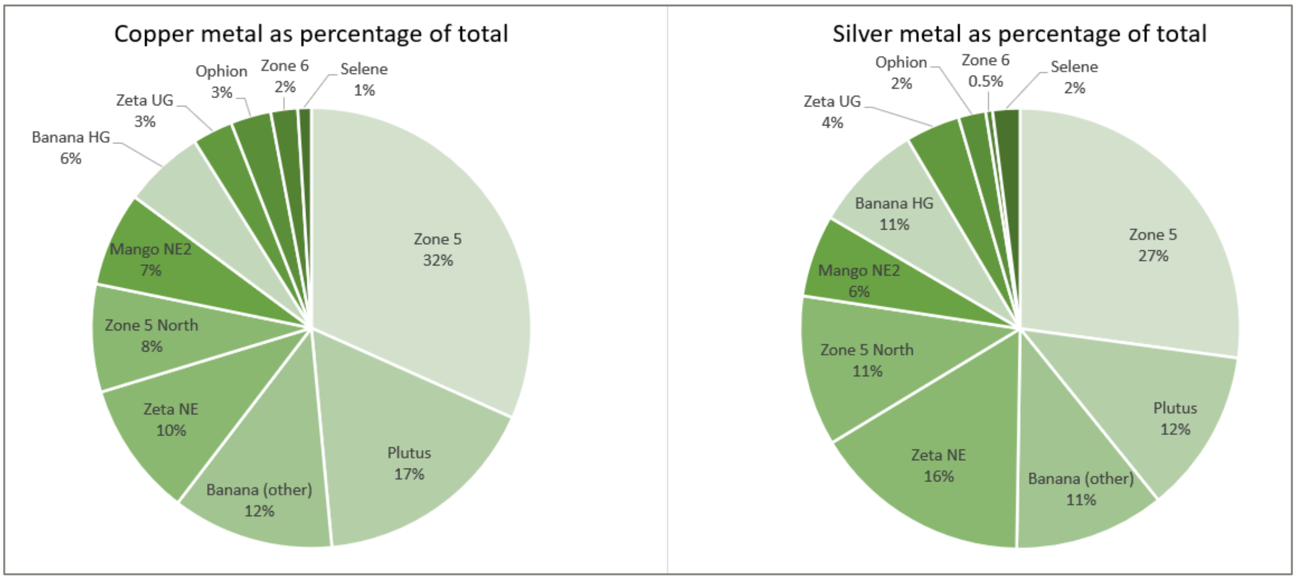


Figure 1-1 Pie chart of contained metal by area

Table 1-2 Mineral Resources by deposit for Khoemacau Project area as of 31 December 2023

Deposit	Measured			Indicated			Inferred			TOTAL				Contained metal		Cut-off grade
	Tonnage (Mt)	Grade Cu (%)	Grade Ag (g/t)	Tonnage (Mt)	Grade Cu (%)	Grade Ag (g/t)	Tonnage (Mt)	Grade Cu (%)	Grade Ag (g/t)	Tonnage (Mt)	Grade Cu (%)	Grade Ag (g/t)	Grade CuEq (%)	Cu (kt)	Ag (Moz)	
Zone 5[2]	10	2.1	20	27	1.9	19	52	2.1	23	89	2.0	21	2.2	1800	61	$65 NSR
Zeta NE[3]				8.9	2.5	53	20	1.7	33	29	2.0	39	2.3	570	37	1% Cu
Zone 5N[3]				4.4	2.6	44	19	1.8	30	23	1.9	32	2.2	450	24	1% Cu
Mango NE2[3]				11	1.9	23	10	1.9	19	21	1.9	21	2.1	410	15	1% Cu
NE Fold[4]				9.3	1.1	16	0.07	2.6	29	9.3	1.1	16	1.2	100	4.9	0.26% Cu
New Discovery[5]				3.4	1.9	35	4.1	1.4	21	7.5	1.6	27	1.8	120	6.6	1% Cu
South Limb Definition[5]				2.6	2.2	33	2.9	2.4	36	5.6	2.3	34	2.6	130	6.2	1% Cu
North Limb North[6]				0.01	1.0	14	6.2	1.6	31	6.2	1.6	31	1.9	100	6.2	1% Cu
North Limb Mid[6]							3.0	1.4	20	3.0	1.4	20	1.6	42	2.0	1% Cu
North Limb South[6]							1.6	1.1	15	1.6	1.1	15	1.2	18	0.74	1% Cu
Chalcocite[7]							50	0.50	3.9	50	0.50	3.9	0.54	250	6.2	0.26% Cu
South Limb South[8]							6.3	1.2	13	6.3	1.2	13	1.3	79	2.6	1% Cu
South Limb[8]							3.3	1.5	20	3.3	1.5	20	1.6	49	2.1	1% Cu
South Limb Mid[8]							8.0	1.4	20	8.0	1.4	20	1.6	110	5.1	1% Cu
South Limb North[8]							1.2	1.5	20	1.2	1.5	20	1.6	18	0.78	1% Cu
Zeta Underground[9]	0.88	1.8	31	4.7	1.7	30	4.3	1.4	23	9.8	1.6	28	1.8	160	8.9	1.07% CuEq
Plutus[10]	2.4	1.3	13	9.3	1.3	13	57	1.4	12	69	1.4	12	1.5	940	27	1.07% CuEq
Selene[11]							7.1	1.2	20	7.1	1.2	20	1.3	83	4.5	1% Cu
Ophion[11]							14	1.1	12	14	1.1	12	1.1	150	5.3	0.6% Cu
Zone 6[11]							5.2	1.6	7.2	5.2	1.6	7.2	1.7	85	1.2	1% Cu
Stockpile	0.031	1.46	13							0.031	1.46	13	1.6	0.45	0.013	
TOTAL	**13**	**2.0**	**19**	**84**	**1.8**	**25**	**270**	**1.4**	**17**	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**	

Notes to table:

1. All Mineral Resources reported on a dry in-situ basis and on a 100% ownership basis, at 31 December 2023. Contained metal does not imply recoverable metal. Figures are rounded after addition so may show apparent addition errors.

2. Underground Mineral Resources include all blocks inside MSO shapes returning $65 NSR, based on $3.54/lb copper, $21.35/oz silver, recoveries averaging 88% for copper and 84% for silver and assumed payability of 97% and 90% respectively. Depleted to 31 December 2023. Remnant pillars inside the mining area are considered sterilised and are not included in the stated Mineral Resources.
3. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade was selected based on assumed prices of US$3.54/lb and US$21.35/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 84% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$66/t of NSR value.
4. Open pit Mineral Resources reported using the formula CuEq% = Cu% + (Ag g/t +0.0083) inside an optimised pit shell developed using US$3.39/lb copper, US$20/oz silver, average recovery of 79% for copper and silver, US$2/t mining cost, US$11.60/t processing cost, a 45° slope angle in sulphide, and assumed payability of 97% for copper and 90% for silver. Only sulphide material is reported.
5. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade was selected based on assumed prices of US$3.20/lb and US$20/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 83% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$66/t of NSR value.
6. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade of 1% in line with New Discovery.
7. Open pit Mineral Resources reported for sulphide material only inside a revenue factor 1.2 optimised pit generated using US$4.03/lb copper, 88% recovery for copper and silver, US$3/t mining cost, US$10/t processing cost and a 42° slope angle.
8. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade of 1% Cu in line with South Limb Definition.
9. Underground Mineral Resources reported above a cut-off grade of 1.07% CuEq (CuEq = Cu + Ag*0.0113); US$3.24/lb copper and US$25/oz silver and a 5 m minimum mining width.
10. Underground Mineral Resources reported above a cut-off grade of 1.07% CuEq (CuEq = Cu + Ag*0.0113); US$3.24/lb copper and US$25/oz silver.
11. Underground Mineral Resources reported inside high-grade zone and for sulphide material only.

1.3.3 Current versus historical Mineral Resources

ERM notes there is a difference in the Mineral Resource estimate reported in this report (370 Mt @ 1.5% Cu), compared with previous figures disclosed on the KCM website (454 Mt @ 1.4% Cu). Reasons for the differences are described in detail in the relevant sections of this report. In summary the difference is largely attributable to the Banana Zone resource, which (according to MMG) is considered a non-core part of the project and wasn't considered material by MMG in determining its acquisition price, as MMG didn't include the Banana Zone resource in its discounted cashflow model.

Banana Zone has been managed by multiple companies and technical specialists in the past. In the course of completing due diligence on the resource, ERM have been unable to locate the exact supporting information that KCM have previously relied upon, dated 2014, to report the Banana Zone Mineral Resource. The Competent Person has reverted to the next-most-recently available information, dated from 2010 to 2012, to report a Mineral Resource estimate for Banana Zone.

Recent work in other parts of the Banana Zone that are considered underground targets (New Discovery, South Limb Definition) were reported at a 1% Cu cut-off grade. The reporting of the older Banana Zone resource components, previously considered open pit targets and reported at 0.5% Cu cut-off grade, has been recompiled at the 1% Cu cut-off grade in-line with this more recent reporting and associated work indicating they should be considered as underground targets. The combination of reverting to earlier models and using a more reasonable COG results in the change in the reported MR tonnage.

The Competent Person has not identified any material issues with the information it is relying on to report the MRE in the CPR.

1.4 EXPLORATION TARGETS

There are two historical Exploration Targets that were reported by DML as part of the 2013 Mineral Resource updates for Zeta and Plutus. No other Exploration Targets have been defined for the Project area. The text and figures relating to the Exploration Targets have been taken from the Mineral Resource report document (Stewart and Purdey, 2013).

It must be noted that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource in the area of the declared Exploration Target, and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

In addition to the Mineral Resource estimates reported above, an Exploration Target of 7–15 Mt at 1.1–1.5% Cu is reported for Zeta.

In addition to the Mineral Resource estimates reported above, an Exploration Target of 6–19 Mt at 1.1–1.5% Cu is reported for Plutus (Table 8-15).

1.5 EXPLORATION POTENTIAL

Exploration has included extensive soil and core multi-element geochemistry testing, geophysical surveying, geological interpretation, geological mapping, structural studies, litho-geochemical sampling, three-dimensional (3D) interpretation, reverse circulation (RC) and diamond core (DDH) drilling, petrographic studies, and estimation of Mineral Resources.

Recent exploration drilling programs were principally aimed at expanding and infill drilling the three Expansion Project deposits to upgrade classification and provide sufficient information to support the PFS. Other recent exploration work included targeting and discovery of additional copper-silver prospects at favourable but previously unexplored targets.

A significant portion of the KCM Mineral Resource is classified as Inferred due to the very steep sub-vertical nature of the ore-bodies. This geometry makes it logistically and economically prohibitive to drill at a suitable density, that would enable conversion of Inferred Resources to a higher confidence classification (i.e. Indicated or Measured Resources) at this stage of project development.

The Project area has very good potential for both the addition of additional Mineral Resources below those that are already defined, and for the discovery of further mineralisation outside of the known resources. The best potential is at depth, down dip of known resources in the central part of the Project area around Zone 5, Zeta and Mango proximal to the Kgwebe inliers. Additional potential is recognised in the base of the D'Kar Formation across the Project area where it has not been fully tested by drilling. Mineralisation shows good continuity of grade and thickness over hundreds of metres at the deposit scale.

1.6 HYDROLOGY AND HYDROGEOLOGY

1.6.1 Project Area

The Project lies within a gently undulating sand-covered plain and there are no permanent surface water resources in the Project area. The closest defined watercourse being Lake Ngami (approximately 16 km from the Boseto processing plant) and is fed by the Kunyere and Nhabe rivers, which constitute an "overspill" drainage system from the southern margins of the Okavango Delta.

The groundwater quality in the region is highly variable and ranges from relatively fresh quality near zones of rainfall recharge associated with river valleys and near-surface perched aquifer environments to significantly saline occurrences in the deeper aquifers.

Initial hydrogeological investigations were first completed in the wider Khoemacau area in 2009 and subsequently focused on the Zone 5 mine area in 2014, 2018 and 2019 and focused on identification and characterisation of potential water supply sources.

The Haka borefield was first identified in 2014 as being essential to future operations and has provided a water supply for the exploration camp and field activities undertaken from that time. The borefield was developed during the Zone 5 project development and has provided potable water to the Zone 5 activities since Q1 2020.

A dynamic Integrated Water Balance Simulation Model was first developed in 2018 for the initial Zone 5 development and included all major water flows and total dissolved solids (TDS) concentrations to formulate a site water and salt balance and develop an operational logic to optimise the site's water use.

A numerical groundwater flow model was developed in 2019 to predict groundwater inflows into the Zone 5 underground mine and was updated in 2021 using the latest available groundwater levels and actual dewatering borehole abstraction rates since production commenced.

1.6.2 Water Management

Surface water management focuses on maximising the diversion of rainfall runoff from catchments not impacted by the project development and the infrastructure required to manage the ongoing mining operation at Zone 5 and the associated mine site infrastructure is already in place. This includes storm water drains to provide flood flow attenuation prior to discharge to the downstream environment.

A 20-year simulation of water use on site has been developed and incorporates the current operations and the future expansion project mines and plant. The analysis represented all major flows, and the inherent variability of each according to the current operational logic, including all dirty water flows, rainfall runoff, evaporation, and seepage from the site, associated stormwater dams and open pits, clean water flows to offices, change houses, workshops, camps etc. and related effluent flows. The simulation also included TDS concentrations to form a comprehensive site water and salt balance.

Modelling indicates that the raw water demand is met over the 20-year simulation period using current assumptions regarding rainfall, production forecasts, borefield yields and flow logic. The simulation results suggest that some of the borefields may need further development to support and sustain the increased water demand of the Expansion Project.

1.7 MINING AND ORE RESERVE ESTIMATES

A Feasibility Study was completed for the initial KCM project during 2018 and was based on mining 3.65 Mtpa from Zone 5 and processing this output through the Boseto processing plant (27.8 km distant). An initial JORC (2012) compliant Ore Reserve for Zone 5 was estimated from this study and was subsequently updated in June 2020, June 2021 (not publicly released), and December 2022 based on the technical design assumptions proposed.

1.7.1 Current Operations

The detailed design and engineering of the Zone 5 mine was completed during the period 2017 to 2018 and surface construction works started in early 2019 and were completed in late 2021.The development of the mine commenced in February 2020 with initial ore production from ore development commencing in August 2020 and being stockpiled for later processing.

Ore stoping commenced in Q3 2021 and ramped up to capacity by the end of CY2022 and sustained ore production at the designed capacity through Q1 2023. Ore stockpiles reached a peak of 377 kt in June 2021 ahead of process plant commissioning and first concentrate production.

Longhole stoping is an optimal mining method for the Zone 5 orebody where effective mineralisation widths range from 3 m to >20 m. In this case, a “top-down” method has been adopted whereby vertical mining advance through the orebody is undertaken down dip and development ore drives are established along the strike of the orebody, and once the extremity of the orebody is reached, stoping retreats back along strike. This method provides the earliest cash flow from production given that stoping can commence as soon as initial ore levels are established.

The initial sequence adopted at Zone 5 employs open stopes with rib pillars for regional and local support. However, there is a geotechnical requirement to leave and abandon increasingly larger pillars (predominantly mineralised at ore grades) as depth increases for localised and regional stability. This situation reaches a transition point where cemented fill becomes advantageous as the additional cost associated with the fill is more than offset by the increased recovery of the orebody. The Zone 5 planning and design has assumed that this inflection occurs at approximately 420 m below the surface.

A return and fresh airway ventilation system for each decline has been designed with a link to the surface via ventilation raises. The declines are used as intake airways, until the fresh airway is required for cooling purposes and the return air will be directed out through the raises.

Air cooling will be required when mining reaches >550 m vertical depth especially during the peak of the summer months. The proposed air-cooling system consists of a central refrigeration plant located on surface feeding bulk air coolers located on ledges in the boxcuts.

The Zone 5 mine has been specifically designed to exploit the autonomous capabilities of the loaders and more specifically via the use of ore passes which vertically separate the unmanned activities from the manned activities. Approximately 70% of the stope ore mucking is completed using remote loading using an operator located in a control room on the surface.

1.7.2 Expansion Project

An Expansion Project was initiated following the construction and commissioning of the Zone 5 mine and has been based on the development and mining of 3.65 Mtpa from three new mining areas (Mango, Zeta NE and Zone 5N) that will replace the Zone 5 ore feed into the Boseto processing plant, with production from Zone 5 being expanded from 3.65 Mtpa to 4.50 Mtpa and processed through a new processing plant co-located in the immediate vicinity of the existing Zone 5 underground mines. The work completed is of a least that required for inclusion into a PFS.

Mining layouts for each of the deposits were generated by applying the open stoping mining method design criteria. The results of economic modelling resulted in a positive financial outcome and KCM has determined it appropriate to be issued in support of a JORC (2012) compliant Ore Reserve estimate for an expanded operation.

The official KCM Ore Reserve estimate for the project at 31 December 2023 had not been publicly issued at the effective date of this report and the following table (Table 1-3) provides an approximation of the underlying Ore Reserve estimate that is likely to be reported.

The following approximation has been produced using an analysis completed at 30 April 2023 during the PFS and has been adjusted for mine production and estimates of overbreak using KCM monthly reports for the remainder of CY2023.

Table 1-3 Mine Expansion Project Ore Reserve estimate (31 December 2023)

Deposit	Category	Tonnes (Mt)	Copper (%)	Silver (g/t)
Zone 5*	Proven	5.9*	2.4*	22*
	Probable	21.2*	1.9*	19*
Zone 5N	Proven	-	-	-
	Probable	3.0	2.3	38
Mango	Proven	-	-	-
	Probable	6.2	1.8	22
Zeta NE	Proven	-	-	-
	Probable	8.1	1.8	37
Total	Proven	5.9	2.4	22
	Probable	38	1.9	25
Grand Total		**44**	**2.0**	**25**

* Estimate only using CY2023 depletion of PFS tabulation.

Source: Modified CSA Global, 2023b

1.7.3 Life of Mine Study

The Life of Mine (LOM) Study is a strategic analysis of future production opportunities that builds upon the Expansion Project and analyses a possible future production scenario that completes a mine plan and schedule using an inventory comprising all categories of confidence from the current Mineral Resource estimate (Measured, Indicated, and Inferred) to produce a full LOM opportunity.

This strategic option schedules out an additional 16 years of mine life to approximately 2040 and assumes the Expansion Project plant throughput assumptions remain intact (Figure 1-2).

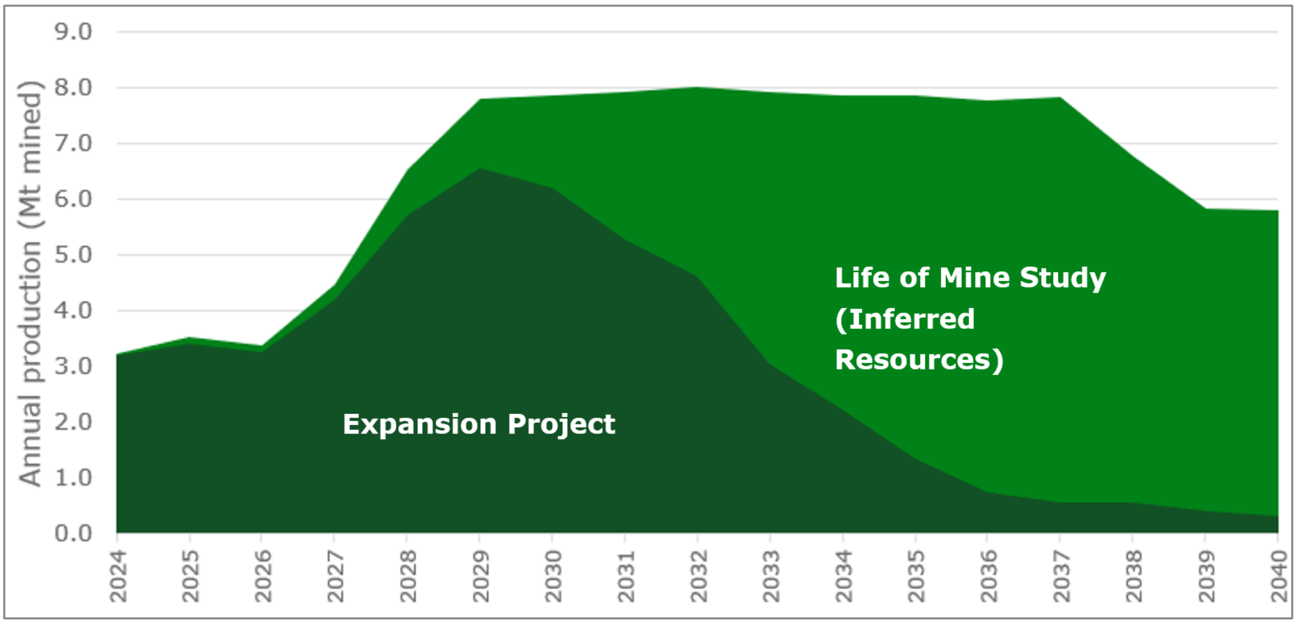


Figure 1-2 LOM Study – production profile
Source: ERM, 2024

1.8 METALLURGY AND PROCESSING

The plant is operating at a high standard and the concentrate is high grade and relatively clean. The recovery is lower than expected but this is directly related to recovery being mineralogically driven. Recovery optimisation is a part of KCM's continuous improvement program and is ongoing. The Boseto mill utilisation is <90% and this needs to be addressed in the future.

Future processing of Zone 5 ore through the new plant will incur a ramp up of two years even though the plant is a replica of Boseto and the ore has a history of processing.

With the existing Boseto plant, future processing of the new ores (Zone 5N, Mango NE, Zeta NE) will need to be blended and so there will be a subsequent ramp up and optimisation requirement of the plant. There is no historical processing of these new ores to rely on and metallurgical testing has only been done to PFS level. These ores are in the Indicated and Inferred Mineral Resource category and at this stage there is no other mitigation other than what has been done. There is an inherent risk with this strategy.

Campaign processing based on ore domains may give better results than blending. The mixing of chalcopyrite and chalcocite ores is not ideal, as chalcopyrite is slow floating and chalcocite is fast floating. Also, with the high intensity grinding (HIG) mill, chalcocite is likely to be overground because it is soft, however, this is less of an issue for chalcopyrite.

Metallurgical testing and understanding the mineralogy has been completed at a very high standard. Zone 5 ore has been tested using composites but there has been no variability testing.

The flowsheet developed for the Zone 5 expansion replicates the existing Boseto plant. This minimises risk, maintains a simple flowsheet and commonality of equipment reduces the requirements for spare parts holdings.

The crushing plant has been achieving forecast budget throughput. The mill utilisation has been <90% and this is being addressed with the original equipment manufacturer (OEM). The flotation, thickening and filtering have been improved and there are no current issues.

The Boseto tailings dam is managed by Knight Piésold and there are no issues. A new tailings dam will be required for the expansion.

The onsite laboratory is achieving good QAQC results based on external assay checks.

1.9 NON-PROCESS INFRASTRUCTURE AND LOGISTICS

1.9.1 Power

Botswana has a reliable grid power supply which is very different to several neighbouring countries where power reductions or blackouts remain a common issue. The mine site was connected to the grid through infrastructure constructed by KCM and where ownership has been transferred to the Botswana Power Corporation (BPC) who are now responsible for operation and maintenance of the lines.

A long-term power purchase agreement is in place with BPC and less than 1% outage has been experienced since connection to National Grid in the first half of 2021.

Electricity generation is dominated by coal-fired power plants and supported by two emergency diesel power plants as the country’s contingency plan in the event of power supply deficits. KCM also has plans to lower operating costs through the development of solar farms located in the vicinity of key infrastructure.

Current operations at Zone 5 have an estimated peak demand of 42 MW and the lines are sized to accommodate an expansion of operations where a much higher peak demand is currently estimated at 85 MW.

1.9.2 Water

Water for the current operations is provided by the Boseto and Haka borefields and dewatering activities at the Zone 5 mines. These current sources are well understood and have been by extensive drilling programs, flowrate tested to determine the yields and subsequently modelled to establish production or dewatering boreholes which have been equipped for water production.

The increased raw water requirements required for the new Zone 5 processing plant and the underground expansion of operations will come from the dewatering at each of the mines and be supplemented, if required, from the existing Boseto borefield.

The existing Haka borefield will be extended to supply additional potable water for the increased demand in human consumption and specific applications where good water quality is essential.

1.9.3 Surface Infrastructure

Currently, the operations are accessed from a main arterial A3 road (bitumen surfaced), from Toteng village via the Old Ghanzi Road (gravel), and a dedicated bitumen surfaced haul road for ore transportation from the current mine to the processing plant.

The current site has many well serviced workshops including a newly constructed structural steel cladded heavy mining equipment workshop with maintenance bays, a small office complex and warehousing for spares storage. The compound also supports a structural steel cladded boilermaker workshop, a tyre repair workshop, and a washdown bay for mining equipment.

The office complex at Zone 5 comprises brick and mortar buildings with pitch roofs, prefabricated installations, and containerised buildings. The brick buildings include the mining offices, male/female and visitors change house with fully equipped laundry, medical clinic with observation rooms, dispensary, and mines rescue centre. The prefabricated buildings include the IT offices, muster rooms, control and automation room, and the mining contractor offices.

1.9.4 Supply and Logistics

The Boseto site has a fuel farm of approximately 1 ML capacity feeding a light vehicle fuel delivery area, and the standby power plant. The Zone 5 fuel farm consists of approximately 0.6 ML capacity feeding service tanks at the mining contractor facility, the haulage contractors' facility, and a light vehicle bowser. A large standalone is located at the Zone 5 standby power plant.

A modern explosive storage facility and magazine has been constructed by a reputable explosives contractor who currently supplies emulsion explosives and safely stores electronic detonators.

Inbound cargo moves primarily from South Africa via road transport that is well established and the ports of Durban (South Africa) and Walvis Bay (Namibia) service two well-established road transport corridors. Walvis Bay is typically used for the transportation of bulk and break-bulk cargos of various commodities and the Durban port is mainly used for automotive logistics.

Concentrate produced from the Boseto processing plant is currently loaded to 2-tonne Bulka Bags utilising an automatic weighing and loading plant and there is potential to introduce bulk shipping of concentrates to improve efficiency.

The KCM site enjoys excellent air access via Gaborone and Johannesburg for heavy goods and services or the Tambo International Airport (Johannesburg) which also provides international air access. The Maun International Airport provides direct and easy access to the mine site.

1.9.5 Accommodation

Khoemacau has three accommodation villages that house the operational team with a total bed capacity of 1,452 persons and the standard is considered higher than typical African mine sites.

It is proposed as part of the Expansion Project that the existing accommodation will be extended to accommodate approximately 1,300 additional persons (approximately 845 new beds) and likely developed next to the current Kgwebe village.

1.9.6 Communications and IT Services

Cellular phone towers are located at Kgwebe and Zone 5 and an optic fibre cable was installed in conjunction with the power grid infrastructure. There are emergency power backup systems for communication infrastructure at Zone 5 and Boseto and the Kgwebe camp tower has a solar power backup system installed. A modern networked computing system is installed across the current site operations that can be extended as part of the future Expansion Project.

1.9.7 Security

Security at the operations is managed through a system of guarded access gates and the Mining Lease is fenced off and regular patrols/inspections along the fence are undertaken to ensure that the fence remains intact and there are no security breaches.

1.10 PROJECT ECONOMICS

1.10.1 General

Capital and operating cost estimates for both the Expansion Project and the LOM Study covered by the PFS were current at June 2023 and under that basis remain largely sufficient for use given the lengthy operational time period covered by the LOM Study.

1.10.2 Project and Sustaining Capital Costs

The capital cost estimate has been determined through the application of actual mine costs gleaned from the Zone 5 project development, budget quotations, database costs and estimated costs to bills of quantities, material take-offs and estimate quantities. No provisions were made for the escalation of any cost elements and are presented in real money terms, free of escalation or inflation.

All currencies with the exception of the Euro have depreciated against the US Dollar (US$), making items costed in the study more expensive. It should be noted that while the Botswanan Pula (BWP) makes up 67% of the project expenditure, MMG is a USD denominated company therefore depreciation is not considered to be an issue.

The following tables outline the project and sustaining capital estimates for each new mine in the study.

Table 1-4 Project capital costs estimated by mine area

Item	Zone 5 + Expansion	Zone 5N	Mango	Zeta NE	TOTAL
Processing plant	250.3	-	-	-	250.3
Surface infrastructure	-	78.7	87.7	87.5	253.9
Mining	48.9	42.0	38.9	50.5	180.3
Total (US$)	**299.2**	**120.7**	**126.6**	**138.0**	**684.5**

Source: Modified CSA Global, 2023b

Table 1-5 Sustaining capital costs estimated by mine area

Item	Zone 5 + Expansion	Zone 5N	Mango	Zeta NE	TOTAL
Mining	794.6	165.9	144.8	267.0	1,372.3
Other	98.2	11.6	10.5	19.7	140.0
Closure	24.2	7.5	7.5	7.5	46.7
Total (US$)	**917.0**	**185.0**	**162.8**	**294.2**	**1,559.0**

Source: Modified CSA Global, 2023b

1.10.3 Mining Capital

Key large projects include the establishment of boxcuts at each of the newly scheduled mines (Zone 5N, Mango and Zeta NE) and the rapid development of access declines, level access and other primary infrastructure in use over the subsequent LOM.

At Zone 5, the current access boxcuts remain in service and the establishment of a paste backfill plant in the key capital project in conjunction with additional capital mine infrastructure to support an expanded operation.

Most of the sustaining capital expenditure relates to decline and sublevel access development and the continuation of the backfill reticulation system at each mine.

1.10.4 Processing Capital

The processing capital appears reasonable, however, inflation current in Africa would need to be considered in forward-escalation estimates up to the point of investment decision for the Expansion Project.

1.10.5 General Infrastructure Other Capital

Surface infrastructure costs relate to the establishment of three additional standalone mining operations distant from each other and includes buildings (administration, workshops etc.), power and water, and other necessary infrastructure like communications. “Other” capital costs include sustaining capital provisions determined from estimates contained in the 2023 KCM LOM budget. Items include sustaining capital allowances for centralised services, environmental and community, finance and administration, human resources, and safety and health costs.

1.10.6 Closure

Closure scope and costs were determined by external consultants during 2023 and the site team is currently working on a documented plan with stakeholder inputs that addresses environmental and social aspects and makes financial provisions for closure and reclamation of the site.

1.10.7 Operating Costs

The operating cost estimate has been determined through the application of actual mine operating costs since commencement, budget quotations, and database costs and is based on costs and information as of June 2023. No provisions have been allowed for escalation of any costs. The estimate is presented in real money terms, free of escalation or inflation.

The following table outlines the unit operating cost estimates resulting from the Expansion Project and LOM Study benchmarked against the full-year costs for CY2023 at the current operations at the Zone 5 mine and the Boseto processing plant.

Table 1-6 LOM Study operating cost estimates

Activity	Zone 5 Expansion	Zone 5N	Mango	Zeta NE	Current Zone 5 costs CY2023
Mining	29.10	37.10	26.70	30.60	33.50
Ore haulage	0.50	1.80	3.10	0.80	3.92
Processing	8.60	8.80	8.80	8.80	9.12
Centralised services	1.40	0.90	0.90	0.90	2.06
Site G&A	1.90	0.50	0.50	0.50	
Corporate G&A allocation	0.90	0.60	0.60	0.60	#
Unit cost (US$/t ore milled)	**42.40**	**49.70**	**40.60**	**42.30**	**-**

#Corporate G&A allocation unknown.

Source: Modified CSA Global, 2023b

1.11 ENVIRONMENT AND SOCIAL

Potential environmental and social issues include the ongoing need for effective management of wastes, water, wastewater, and impacts upon ecological sensitive receivers, the continued success of efforts to establish and maintain community trust, and careful planning for mine closure and reclamation. These issues can be effectively managed with the implementation and evolution of existing management plans.

The Company is compliant with applicable laws and regulations. Monitoring of environmental and social performance has been undertaken for air quality, noise and vibration, surface water and groundwater, and has included the establishment of a community grievance mechanism. Environmental and social performance tracking is conducted frequently, and no major recurring concerns have arisen.

The capacity of the Project's Environmental and Social Team, management systems, and monitoring programs are generally robust and satisfy regulatory requirements. Additional studies and plans are required to address biodiversity considerations in the Project area in line with international good practice. As referred under Section 1.10.6, activities and financial estimates for mine closure and reclamation are under review by the site management team.

1.12 RISKS AND OPPORTUNITIES

Mining is a relatively high-risk business when compared to other industrial and commercial operations. Each mine has unique characteristics and responses during mining and processing, which can never be wholly predicted. ERM's review of KCM indicates mine risk profiles typical of large-scale mines at similar levels of resource, mine planning and development in Botswana and elsewhere. Until further studies provide greater certainty, ERM notes that it has identified a number of risks with the Project as outlined in Table 16-2.

ERM has followed Guidance Note 7 issued by the Stock Exchange of Hong Kong Limited as a guide in the identification and classification of risks and opportunities.

Risks are ranked as High, Medium or Low, and are determined by assessing the perceived consequence of a risk and its likelihood of occurring. ERM notes that in most instances it is likely that through the successful implementation of controls identified through detailed review of the operation, existing documentation and additional technical studies, many of the normally encountered risks may be mitigated or at least significantly reduced.

Similarly, perceived opportunities could be "Realised" by implementing suitable enabling mechanisms. Table 16-3 summarises several opportunities identified that KCM could benefit from if acted upon.

2 INTRODUCTION

2.1 CONTEXT, SCOPE AND TERMS OF REFERENCE

ERM Australia Consultants Pty Ltd ("ERM"), was engaged by MMG Limited ("MMG" or the "Company") to prepare a Competent Person's Report ("CPR" or "the report") for inclusion in its Circular in respect of the proposed acquisition of the Khoemacau Copper Mine ("KCM" or "the Project") in accordance with the Hong Kong Exchange ("HKEx") Listing Rules.

The content of the report will be guided by the JORC[2] and VALMIN[3] codes to the extent possible, and the rules and guidelines that pertain to CPRs in accordance with Chapter 18 of the HKEX Listing Rules. In preparing this CPR, ERM has:

- Adhered to the VALMIN Code.
- Relied on the accuracy and completeness of the data provided to it by the Company, and that the Company made ERM aware of all material information in relation to the Project.
- Relied on the Company's representation that it will hold adequate security of tenure for exploitation and assessment of the Project to proceed. An Independent Solicitor's Report elsewhere in the Circular provides a detailed discussion of the Company's tenements.

2.2 RELEVANT ASSETS

The relevant assets comprise the KCM mining and prospecting licence areas, located within the Ngamiland and Ghanzi districts of northwest Botswana, in the Kalahari Desert. The Project area covers 4,040 km^2, consists of a current operating underground copper mine (Zone 5), and a total of 14 other deposits which have defined Mineral Resources and are planned to be under production in the future.

Mining commenced in 2021 at the Zone 5 deposit with ore processed through the 3.65 Mtpa Boseto processing plant. Commissioning of the Zone 5 mine, based on a Prefeasibility Study (PFS), was completed in 2023 to support an Expansion Project focused on development and mining of three additional areas (Mango, Zeta North East (Zeta NE and Zone 5 North (5N)) that will replace Zone 5 production from the Boseto processing plant. The study proposes expansion of production from Zone 5 from 3.65 Mtpa to 4.50 Mtpa that would be processed through a new processing plant co-located in the immediate vicinity of the existing Zone 5 underground mines.

2.3 REVIEW METHODOLOGY

ERM's methodology included:

- An evaluation of available reports, data and data compilation.
- Assessment and review of the data for the following areas:
  - Review of the Mineral Resource estimates (15 block models)
  - Review of the Ore Reserve estimates (including non-mining modifying factors) for the Expansion Project and Life of Mine (LOM) Study
  - Review of metallurgy and processing
  - Review of environmental and social.
- Conduct a Competent Person's site visit.

[2] *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition*. Prepared by The Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

[3] *Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets. The VALMIN Code, 2015 Edition*. Prepared by the VALMIN Committee, a joint committee of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists.

- Discussions with Project personnel of the Company prior to and after the site visit.
- Independent validation and reporting of Mineral Resources and Ore Reserves in accordance with the guidelines of the JORC Code.
- Prepare a risk analysis of the Project, in accordance with Guidance Note 7 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited.
- Preparation of a CPR and provision of drafts of the CPR to MMG to ensure factual accuracy and reasonableness of assumptions.

2.4 COMPLIANCE WITH VALMIN AND JORC CODES

The report has been prepared in accordance with the VALMIN Code[4], which is binding upon Members of the Australian Institute of Geoscientists (AIG) and the Australasian Institute of Mining and Metallurgy (AusIMM), the JORC Code[5] and the rules and guidelines that pertain to CPRs in accordance with Chapter 18 of the HKEX Listing Rules.

2.5 SITE VISITS AND INSPECTIONS

A site visit to the Project was completed in December 2023 for the purposes of personal inspection and was completed by Maree Angus (Geology and Mineral Resources), Terry Burns (Mining and Ore Reserves including Hydrology/Hydrogeology, Non-Process Infrastructure and Logistics), and Francois Grobler (Valuation).

All three are Competent Persons in relation to the JORC Code and Practitioners in relation to the VALMIN Code.

The purpose of the site visit was to: ground truth the project; complete surface and underground mine inspections; visit the processing plant along with any other relevant operational areas; visit the core processing facility and any other features of material interest; and hold discussions with key project technical personnel.

2.6 INFORMATION SOURCES

During preparation of this CPR, ERM has relied on information prepared and/or provided by MMG, KCM and/or third-party consultants. The ERM team of technical consultants have reviewed all information provided, completed reasonableness checks and benchmarking as appropriate and have taken reasonable steps to ensure the validity of information provided, but has not independently verified that all data and information are reliable or accurate. ERM accepts no liability for the accuracy or completeness of the data and information relied on in preparing this report.

2.7 COMPETENT PERSON AND RESPONSIBILITIES

The Statements of Mineral Resources and Ore Reserves have been reported in accordance with the recommended guidelines of the JORC Code and are suitable for inclusion in a CPR as defined by Chapter 18 of the HKEX Listing Rules.

2.7.1 Team Responsibilities

Team members who have contributed to this Project report are outlined in Table 2-1 below. Also refer to Appendix A (Team Experience and Qualifications).

[4] Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (The VALMIN Code), 2015 Edition, prepared by the VALMIN Committee of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. http://www.valmin.org

[5] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC). http://www.jorc.org

Table 2-1 Team roles and responsibilities

Team member	Contribution
Sonia Konopa	Project management and overall responsibility for the Report as Competent Person
Maree Angus	Competent Person – Mineral Resource Estimation and Exploration Targets
Terry Burns	Competent Person – Mining and Ore Reserve Estimation including Hydrology/ Hydrogeology, Non-Process Infrastructure and Logistics, and Project Economics
Damian Connelly	Metallurgy and Processing
Ben Ridley	Environmental and Social
Graham Jeffress	ERM Partner Authorisation
Jeremy Clark	HKEX Compliance Peer Review

2.7.2 Mineral Resource Estimates

The information in this report that relates to Mineral Resources and Exploration Targets is based on information compiled by ERM Principal Geologist Mrs Maree Angus (BSc (Hons), MAusIMM (CP Geo), MAIG), who is a full-time employee of ERM and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code (2012). Reporting of the Mineral Resources estimate complies with the recommended guidelines of the JORC Code (2012) and is therefore suitable for public reporting.

2.7.3 Ore Reserve Estimates

The information in this report that relates to Mining and Ore Reserves is based on information compiled and reviewed by ERM Technical Consulting Director (Mining Transaction and Corporate Advisory), Mr Terry Burns, BAppSc (Geology), GDipEd (Secondary), PGDipGeosci (Mineral Economics), GDipEng (Mining), FAusIMM (CP). Mr Burns has sufficient experience that is relevant to the technical assessment of the Mineral Assets under consideration, the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Practitioner as defined in the 2015 Edition of the "Australasian Code for the public reporting of technical assessments and Valuations of Mineral Assets" (2015 VALMIN Code), and as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (2012 JORC Code). Mr Burns consents to the inclusion in the CPR of the matters based on his information in the form and context in which it appears.

2.7.4 HKEX Competent Person

The information in this CPR that relates to Technical Assessment of the Mineral Assets, Exploration Targets, or Exploration Results is based on information compiled and conclusions derived by Mrs Sonia Konopa, a Competent Person who is a Fellow of the AusIMM (membership number 101561). Mrs Konopa is not an employee of MMG. Mrs Konopa has sufficient experience that is relevant to the Technical Assessment of the Mineral Assets under consideration, the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Practitioner as defined in the 2015 Edition of the "Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral Assets", and as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mrs Konopa consents to the inclusion in the CPR of the matters based on his information in the form and context in which it appears.

Mrs Sonia Konopa meets the requirements of a Competent Person, as defined by Chapter 18 of the Listing Rules. These requirements include:

- Greater than five years' experience relevant to the type of deposit
- Fellow of the AusIMM and Member of the AIG, which are Recognized Professional Organizations as per the HKEx and JORC Code
- Does not have economic or beneficial interest (present or contingent) in any of the reported Relevant Assets
- Has not received a fee dependent on the findings outlined in the CPR
- Is not an officer, employee or proposed officer for the Client or any group, holding or associated company of the issuer
- Assumes overall responsibility for the CPR.

Mrs Konopa is a mining professional with over 35 years of international experience in the mining industry. She has previously worked in various operational and leadership roles across Australia, Papua New Guinea, Indonesia, Laos and Europe. Mrs Konopa has extensive international expertise in consulting services, technical advice and guidance across a range of commodities and geological settings. In the last eight years, she has held resource management roles at the Martabe gold mine and Toka Tindung gold mine in Indonesia. Mrs Konopa's broad practical experience extends to Mineral Resource estimation, compliance reporting, exploration, project management and business development projects.

Mrs Konopa has over 15 years international experience as a mining consultant and has taken a lead role in numerous independent reviews including CPRs for numerous major international financial stock exchanges including Australia, Hong Kong, Singapore, London, Indonesia and Toronto. She has a detailed understanding of the requirements of investors and financial institutions as well as compliance reporting to international standards including JORC, NI 43-101 and CRIRSCO.

Mrs Konopa is a full-time employee of ERM and is currently employed in the role of Manager – Mining Transaction Corporate Advisory. Recent work for clients has included project manager and principal project reviewer, and Competent Person responsibility for CPR, ITAR and ITSR reports produced to support a number of initial public offerings and major exchange transactions completed under the JORC Code (or equivalent international standards).

2.8 LIMITATIONS AND EXCLUSIONS

ERM's review was based on various reports, plans and tabulations provided by MMG either directly from the mine site and other offices, or from reports by other organisations whose work is the property of MMG. MMG has not advised ERM of any material change, or event likely to cause material change, to the operations or forecasts since the date of asset inspections.

The work undertaken for this CPR is that required for a technical review of the information, coupled with such inspections as the Team considered appropriate to prepare this report.

It specifically excludes all aspects of legal issues, commercial and financing matters, land titles and agreements, except such aspects as may directly influence technical, operational or cost issues and where applicable to the JORC Code guidelines.

ERM has specifically excluded making any comments on the competitive position of the Relevant Asset compared with other similar and competing producers around the world. ERM strongly advises that any potential investors make their own comprehensive assessment of both the competitive position of the Relevant Asset in the market, and the fundamentals of the copper and silver markets at large.

2.8.1 Notice to Third Parties and Indemnification

This CPR has been prepared by ERM for the purposes of MMG for inclusion in its Circular in respect of the proposed acquisition of the Project in accordance with the Listing Rules and is not to be used or relied upon for any other purpose.

ERM has created this report using data and information provided by or on behalf of MMG. Unless specifically stated otherwise, ERM has not independently verified that all data and information is reliable or accurate. ERM accepts no liability for the accuracy or completeness of that data and information, or obtained by it from MMG or any third parties, even if that data and information has been incorporated into or relied upon in creating this CPR.

If a third party chooses to use or rely on all or part of this CPR, then any loss or damage the third party may suffer in so doing is at the third party's sole and exclusive risk.

The report has been produced by ERM in good faith using information that was available to ERM as at the date stated on the cover page and is to be read in conjunction with the circular which has been prepared and forms part of the referenced transaction. This CPR contains forecasts, estimates and findings that may materially change in the event any of the information supplied to ERM is inaccurate or is materially changed.

ERM is under no obligation to update the information contained in the report.

Notwithstanding the above, in ERM's opinion, the data and information provided by or on behalf of MMG was reasonable and nothing discovered during the preparation of this report suggests that there was significant error or misrepresentation of such data or information.

2.8.2 Results are Estimates and Subject to Change

The interpretations and conclusions reached in this CPR are based on current scientific understanding and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

The ability of any person to achieve forward-looking production and economic targets is dependent on numerous factors that are beyond ERM's control and that ERM cannot anticipate. These factors include, but are not limited to, site-specific mining and geological conditions, management and personnel capabilities, availability of funding to properly operate and capitalise the operation, variations in cost elements and market conditions, developing and operating the mine in an efficient manner, unforeseen changes in legislation and new industry developments. Any of these factors may substantially alter the performance of any mining operation.

2.8.3 Capability and Independence

As part of ERM, Sustainable Mining Services is a leading geological and mining consulting team providing high-quality solutions to our clients in the global minerals industry. Our team includes geologists, mining engineers, hydrologists, hydrogeologists, data, technology, and resource specialists with experience on all types and stages of mineral projects from around the world.

ERM offers an integrated and comprehensive set of services which cover the full lifecycle of mineral assets. Our services include corporate advisory, operational support, mining and feasibility studies, resource estimation, geometallurgical modelling, exploration, data and water management, and technology expertise. ERM's highly experienced teams provide insight and innovative solutions to produce optimal outcomes for our clients.

Our specialists are supported by a huge team of scientists, engineers, social, environmental, health, safety, and sustainability consultants from our parent company.

ERM has conducted an internal check to confirm there is no conflict of interest in relation to our engagement in this Project or with MMG.

Our internal quality assurance procedures (with respect to conflict of interest) include:

- Communication of potential assignments to all directors, management staff and contractors involved on the project
- A review of our accounting and project management system to identify prior work undertaken or current work underway that is relevant to this proposal
- A requirement that all personnel (staff and contractors) adhere to ERM's conflicts of interest policy.

2.8.4 Effective Date of CPR

This CPR, dated 24 May 2024, is based upon data collected by the Company up to and including 31 December 2023, which is the effective date of the report.

3 PROJECT OVERVIEW

KCM's mining and prospecting licence areas occur in a sparsely populated region of northwest Botswana in the Kalahari Desert, located within the Ngamiland and Ghanzi districts, and cover an area of 4,040 km^2. The licence area is approximately 70 km southwest of the town of Maun and 50 km south of the village of Toteng.

Copper and silver mineralisation at the Project is hosted within the Ghanzi-Chobe Fold and Thrust Belt that forms the southern portion of the much larger Pan-African Mobile Belt. In Botswana, the Ghanzi-Chobe Belt is also known as the Kalahari Copper Belt. The Kalahari Copper Belt consists of a deformed package of metasedimentary and metavolcanic host rocks that contains several significant stratabound sediment-hosted copper deposits.

Mineralisation in the Project area is characterised as sediment-hosted copper with multi-stage mineralisation history that includes both diagenetic (sediment hosted) and epigenetic (structurally hosted) events.

KCM entered commercial production in 2021 following several years of successively more detailed technical evaluation, construction and commissioning of the Zone 5 mine, the Boseto processing facility refurbishment and surface infrastructure.

The initial project, developing the Zone 5 deposit, was one of the most significant high-grade copper developments in Botswana in recent years, The initial project, comprising the Zone 5 mine, the 3.65 Mtpa Boseto processing plant and associated infrastructure has a LOM in excess of 20 years.

KCM immediately commenced analysis and evaluation into an expansion opportunity (c. 3.0 Mtpa to 4.0 Mtpa) via exploration and resource development necessary to define additional mineral resources at the Mango NE (Mango), Zeta NE and Zone 5N deposits that could potentially expand annual production at increased production rates (c. 8.0 Mtpa) and/or increase the initial LOM beyond the initial project plans.

The proposed expansion opportunity ultimately investigated the feasibility of increasing the production from the Zone 5 underground mine and constructing a new processing plant in the vicinity of the Zone 5 mine to process the increased mine production. The earlier mentioned Mango, Zeta NE, and Zone 5N deposits (Expansion Deposits) would then ultimately displace the Zone 5 mine ore currently processed at the Boseto plant.

3.1 PROJECT LOCATION AND ACCESS

KCM's mining and prospecting licence areas occur in a sparsely populated region of northwest Botswana in the Kalahari Desert, located within the Ngamiland and Ghanzi districts, and cover an area of 4,040 km^2. The licence area is approximately 70 km southwest of the town of Maun and 50 km south of the village of Toteng.

Data coordinates are the Universal Transverse Mercator (UTM), using World Geodetic System 1984 (WGS 84) projection, Zone 34S.

Access to the Project (Figure 3-1) is via the sealed national A3 highway from the town of Maun to the village of Toteng (approximately 60 km), then by unsealed road for approximately 26 km from Toteng to KCM's Boseto processing facility. Access to the Zone 5 underground mining area (and the exploration camp) is via Boseto on a sealed access road for approximately 32 km. There is year-round access from Maun to the Boseto operation and the Zone 5 mine. The total travelling time from Maun to the Boseto operation is approximately one hour via car and another half hour to the Zone 5 mine.

A Veterinary Cordon Fence (Kuke Fence), erected to prevent the spread of cattle diseases, transects the property and limits access to some locations in the south of the property except along manned control gates. Helicopter access is available at both Boseto and the Zone 5 mine.

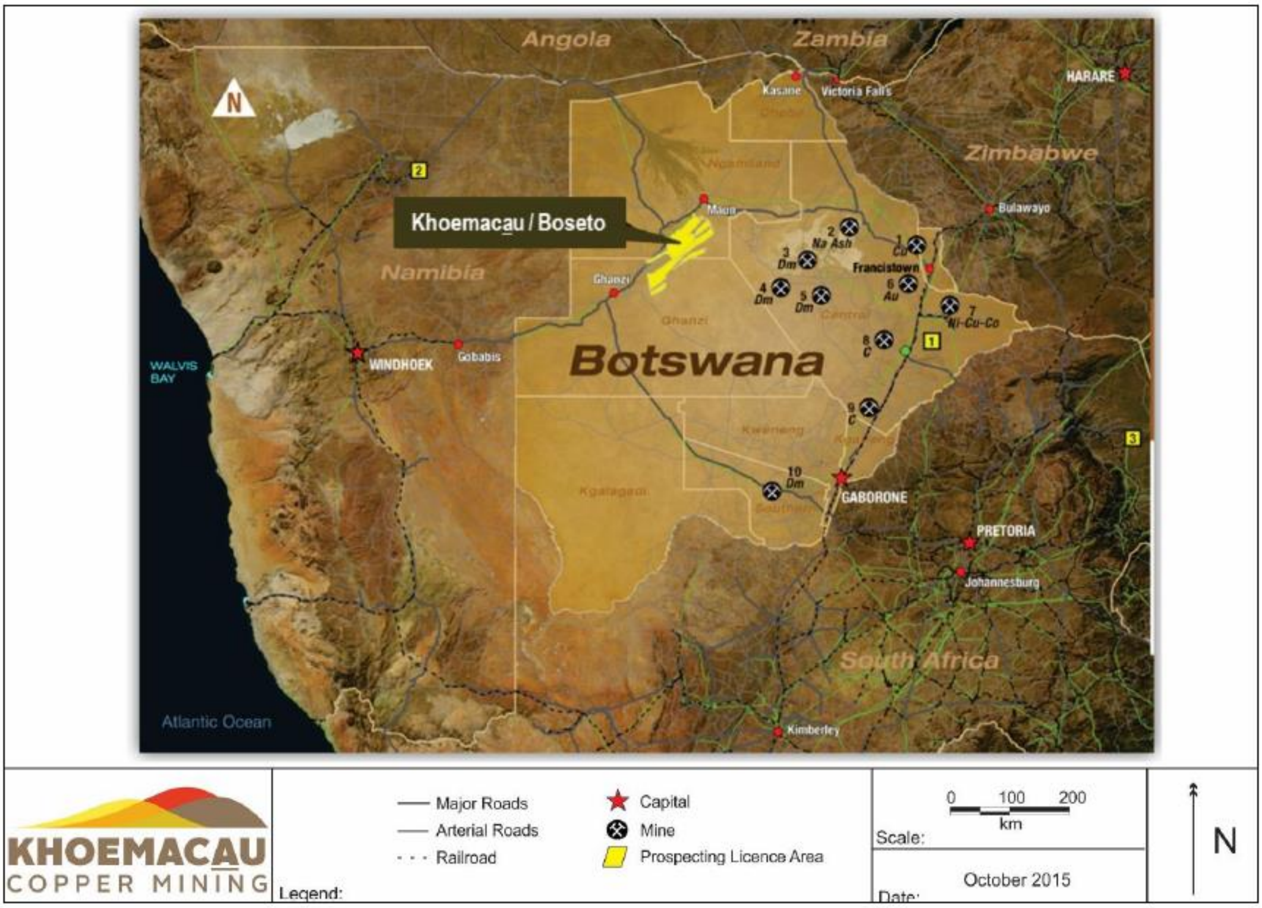


Figure 3-1 General location map

Source: KCM, 2015

3.2 REGIONAL ENVIRONMENT

The Project lies at an altitude of approximately 1,000 m above sea level in the Kalahari Sandveld, a gently undulating sand-covered plain with variations of about 150 m from east to west. The almost uniformly flat landscape has a few low hills toward the south of the Ngamiland and Ghanzi districts. The Kgwebe Hills, Ngwanalekau Hills and the Mabeleapodi Hills in the south and southwest of the Ngamiland District and the Tsau Hills to the south of the Kuke Fence in the Ghanzi District, provide minor topographic diversity.

The main topographic feature in the area is the Ghanzi Ridge, which is located approximately 30 km northwest of the Project and strikes northeast to southwest. It has a peak elevation of 1,134 m near the town of Ghanzi and reaches 924 m elevation near Maun.

Vegetation varies from, sparse thorn scrub and large open grassy plains, to medium to dense tree and bush savannah that predominates in the north and east.

Wildlife is abundant and includes hartebeest, kudu, impala, ostrich, lion, giraffe, leopard, antelope and elephant. Due to the network of veterinary and ranch fences, many of these animals reside inside the Central Kalahari Game Reserve (CKGR) in the south of the property. Numerous species of birds, reptiles and insects also reside in the area.

3.3 GEOGRAPHY AND CLIMATE

The climate of the Project area is classified as semi-arid and tropical, with highly variable and unreliable rainfall. Rainfall is concentrated in the summer months from October to April and typically falls in high-intensity convectional showers that are often highly localised. Winters are very dry, usually with no precipitation in July and August. Annual rainfall is normally less than 500 mm.

Climate data from Maun indicates that temperatures range between an average low of 8°C in June and July to an average high of 33°C in October. The average annual temperature is 22°C. Mining and exploration activities are conducted year-round.

3.4 INDUSTRY

The town of Maun located 70 km northwest of the Project, is the third-largest town in Botswana and serves as a gateway for access to much of northern Botswana.

The economy of Maun is supported by tourism and the town serves as a hub for tourists to explore the Tsodilo Hills, Makgadikgadi Pans and surrounds.

Although officially still a village, Maun has developed rapidly from a rural frontier town and has spread along the Thamalakane River. It has shopping centres, hotels and lodges as well as car hire, although it retains a rural atmosphere and local tribesmen continue to bring their cattle to Maun to sell.

3.5 REGIONAL AND LOCAL INFRASTRUCTURE

The northern region of Botswana has a limited history of mining activity, although a variety of commodities have been mined both historically and recently including diamonds, copper, silver, gold and nickel. Other economic minerals in the region include uranium and coal.

Grid power has been connected to the Boseto and Zone 5 sites via the North West Transmission Grid Connection Project, a Botswana Pula (BWP) 4.6 billion investment by the Government of Botswana operated by the Botswana Power Corporation (BPC). The two sites are connected via the Lekgotlwane 220/132 kV substation just outside Toteng, and a 50 km-long 132 kV transmission line with two 20 MVA 132/11 kV substations at Boseto and Zone 5, respectively. Existing diesel generation capacity on site is being used as emergency power only.

Water is supplied from three main wellfields at Boseto (existing refurbished) and Haka (new development), along with dewatering boreholes from the mine at Zone 5. The freshwater supply to Zone 5 is through the Haka wellfield located some 40 km to the north. The Haka wellfield water system is licensed for 2 ML/d with seven boreholes. The water is pumped from each of the seven boreholes to the Haka reservoir and is then pumped to the Zone 5 via a 40 km long large-diameter underground pipeline.

Labour and supplies for most of the basic mining and exploration needs for the Project can be obtained from within Southern Africa.

3.6 CURRENT OPERATIONS

The current underground mine operation (Zone 5) produced its first concentrate in June 2021, and delivers more than 155,000 tonnes of copper concentrate at 35–40% copper content, containing some c. 60 kt of copper and c. 1.6 Moz of silver metal in concentrate annually.

The estimated mine life for the current operation is 20 years, based on currently drilled mineralisation, with C1 cash costs over the life estimated at approximately $1.15/lb* of copper and $1.85/lb[6] on an all-in sustaining basis. Total direct capital cost for construction and commissioning the current operations was US$411 million, offering a capital efficiency of c. $6,300 per annual tonne of copper. These attractive unit cost metrics reflect the high grades of the Zone 5 orebody, its ideal geometry for highly productive mechanised mining, and access to the upgraded and enhanced Boseto processing plant and the newly constructed and reliable infrastructure.

The current operations involved the construction of the 3.65 Mtpa underground mine at Zone 5 (three mining corridors producing on average 1.2 Mtpa of ore each) and the refurbished and enhanced Boseto processing plant. The construction program was completed in July 2021. The mined ore is trucked approximately 35 km from the Zone 5 mine to the Boseto processing facility on a purpose built, fully sealed haul road, with a separate access road for light vehicles.

Power is sourced at 132 kV from the BPC grid via a 50 km overhead transmission line connection. Diesel generation capacity is being used as backup power only. Water is being supplied from two wellfields, at Boseto (existing refurbished) and Haka (new development including 40 km of underground pipeline from Haka to Zone 5), along with dewatering boreholes from the mine at Zone 5.

3.7 FUTURE OPERATIONS

A mining expansion plan based on expansion of current mining activity at Zone 5 as well as the development of new mining corridors at Mango, Zeta NE and Zone 5N has been studied to PFS level. Mine designs and design criteria are based on established designs and criteria from the existing Zone 5 operation. An Economic Study has been completed on NE Fold, New Discovery and South Limb Definition deposits in the Banana Zone area.

Mining at Zone 5 is currently undertaken by contractors using bulk open stoping methods. Current production of between 1.2 Mtpa and 1.3 Mtpa from each of three separate declines (“corridors”) is planned to be expanded to 1.5 Mtpa per decline for a total run-of-mine (ROM) production of 4.5 Mtpa to be treated in a new processing facility built at Zone 5. Contract mining will be transitioned to the development of the new declines at Mango, Zeta NE and Zone 5N to the point of initial stoping. Khoemacau has shown intent to take over the mining at Zone 5 on an owner-operated basis in H2 2025, using a staged approach such that operations are not heavily interrupted. Declines are 6.0 m x 6.0 m and top and bottom ore drives being 5.0 m x 4.6 m. Stoping is typically 7–12 m wide x 40 m stopes at 25 m sublevels. Stoping parameters have been estimated by geotechnical data and modelling.

New declines at Mango, Zeta NE (two boxcuts) and Zone 5N will be developed to produce between 1.2 Mtpa and 1.3 Mtpa for total production of new Expansion Deposit ore feed of 3.65 Mtpa which is intended to replace feed from Zone 5, with the Zone 5 feed now treated in the new Zone 5 processing plant. Mining methods at each decline will transition to open stoping with fill once mining depths exceed 400 m.

Fleet provisions for expansion at Zone 5 as well as the new declines are considered sufficient for the production levels contemplated. Underground mine services, including ventilation, fuel, lubrication and maintenance for the mining fleet, dirty water reticulation, service water, and electrics are based on provisions already made at Zone 5. Provisions at Zone 5 are already considered adequate for production of 4.5 Mtpa.

[6] C1 cost shown pre silver stream and AISC shown post silver stream.

4 LICENCES AND PERMITS

4.1 PROJECT OWNERSHIP

KCM is wholly owned by private company Cuprous Capital Ltd, which in turn is owned 88.1% by Cupric Canyon Capital LP ("Cupric"), a company majority owned by funds advised by Global Natural Resource Investments ("GNRI") and 11.9% by Resource Capital Fund VII LP. GNRI was formed by a management buyout of the former Barclays Natural Resource Investments private equity business from Barclays Bank PLC in October 2015 and is focused on the global natural resources sector, specifically on upstream oil and gas (excluding the US), mining, associated services and power. Established in 1998, Resource Capital Funds ("RCF") is a group of commonly managed private equity funds with a mining sector specific investment mandate.

In February 2013, Cupric completed the acquisition of the Toronto Stock Exchange listed company Hana Mining Ltd and the locally registered company, Hana Ghanzi Copper (Pty) Ltd and since renamed the latter Khoemacau Copper Mining (Pty) Ltd. In July 2015, KCM acquired Discovery Copper Botswana ("DCB"), now wholly owned by KCM, which included the Boseto operation, in particular the processing plant, and various early-stage resources. The Boseto processing plant was in operation for approximately 2.5 years producing copper-silver concentrate from three open pit mining areas. Operations at Boseto were halted in February 2015 just before the project was acquired by KCM.

In November 2023, MMG announced that it has entered into a Share Purchase Agreement (SPA) to acquire the parent company of the KCM in Botswana. The transaction aligns to MMG's strategy to build a portfolio of high-quality mines supplying the minerals most important to a decarbonised world.

4.2 MINERAL CONCESSIONS

ERM provides this information for reference only and has relied on KCM to confirm land titles and ownership rights are current.

The prospecting licence area consists of 10 prospecting licence blocks: four DCB licences over the Boseto Operation (PL098/2005 to PL101/2005) and six KCM licences (PL001/2006 to PL005/2006, and PL095/2019). Additionally two mining licence tenements are in place as described below. The licence details are summarised in Table 4-1 (KCM, DCB Mining licences), Table 4-2 (KCM prospecting licences) and Table 4-3 (DCB prospecting licences), and the licence locations are shown in Figure 4-1.

Table 4-1 Summary of KCM and DCB mining licences

Mining licence number	Area (km²)	Expiry date
ML2015/5L (KCM)	360	20 March 2035
ML2010/99L (DCB)	58.9	19 December 2025
Total	**418.9**	

Table 4-2 Summary of KCM's prospecting licences

Prospecting licence number	Area (km²)	Expiry date
PL001/2006	346.8	31 Dec 2024
PL002/2006	459.2	31 Dec 2024
PL003/2006	544.0	31 Dec 2024
PL004/2006	388.7	31 Dec 2024
PL005/2006	75.4	31 Dec 2024

PL095/2019	293.7	30 Sep 2024
Total	**2,107.8**	

Table 4-3 Summary of DCB's prospecting licences

Prospecting licence number	Area (km²)	Expiry date
PL098/2005	519.9	31 Dec 2024
PL099/2005	812.1	31 Dec 2024
PL100/2005	502.6	31 Dec 2024
PL101/2005	10.1	31 Dec 2024
Total	**1,844.7**	

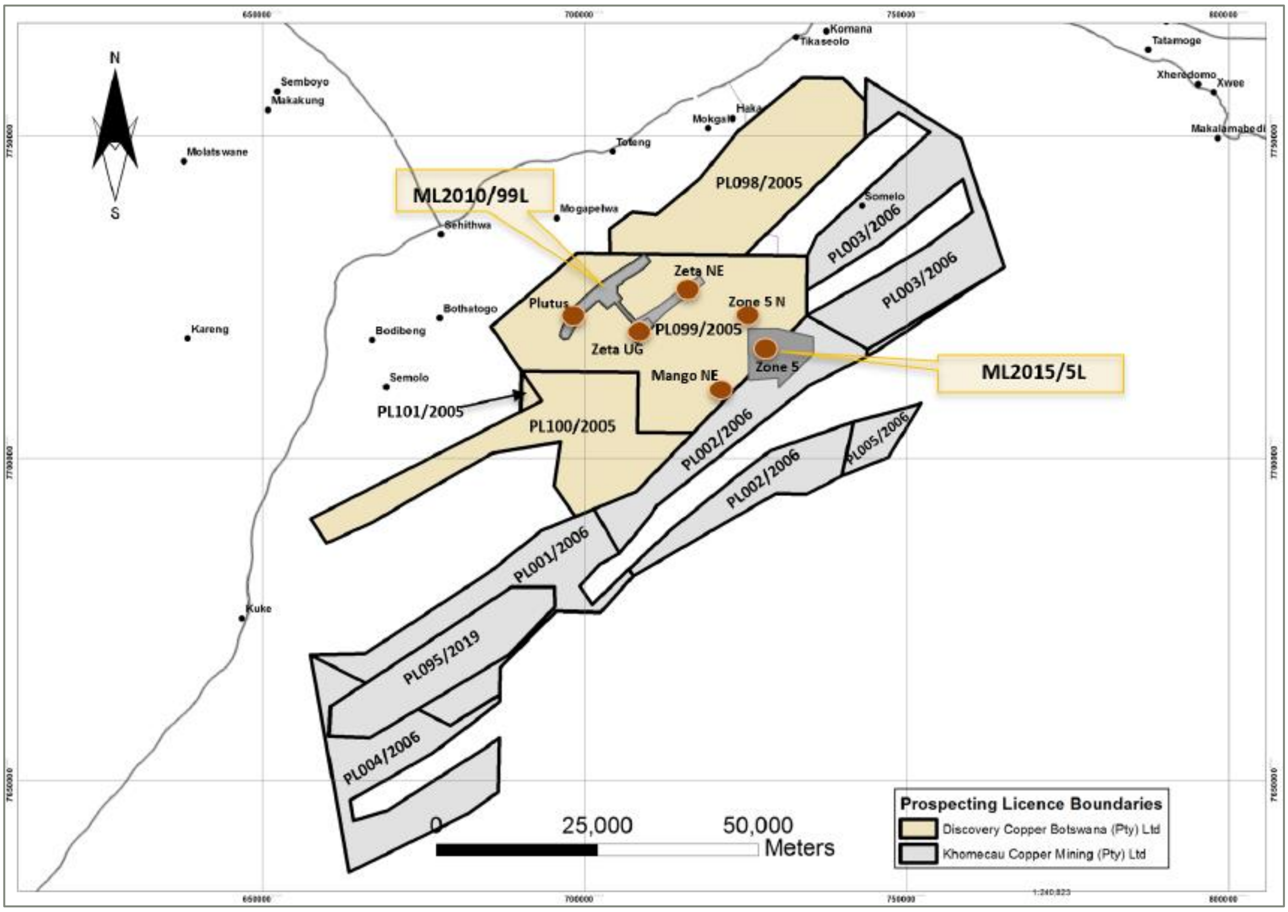


Figure 4-1 Prospecting and mining licence locations
Source: KCM, 2023

Exploration work during the first year of the two-year extension (work completed during 2021) concentrated on drilling to increase economic confidence of the three deposits for the Expansion Project. During 2022, exploration work has focused on infill drilling the three Expansion Project deposits to upgrade Mineral Resource classification and drilling high-priority regional exploration targets.

In March 2015, KCM was granted a mining licence (ML2015/5L) contained within PL002/2006, PL001/2006 and PL004/2006, for the Zone 5 and NE Fold (which is part of the Banana Zone) areas. In 2019, part of ML2015/5L covering the Banana Zone was converted back to a prospecting licence status, resulting in the creation of new prospecting licence PL095/2019. In 2018, KCM was granted an expansion to the Zone 5 mining licence, contained within PL099/2005. DCB was granted its mining licence (ML2010/99L), contained within PL099/2005, on 20 December 2010. DCB was granted two amendments to the mining licence: one allowing underground mining to be undertaken at the Zeta pit (2014) and the other allowing enlargement of the area toward the northeast to include Zeta NE (2015).

Botswana's Mines and Minerals Act allows a company to apply for an extension of its prospecting licences at the end of the two-year licence period without having to relinquish any licence area. To be granted the extension, the company must demonstrate that it has completed significant expenditure and exploration work on the licences as committed to in the previous licence extension. The exploration programs completed during the recent extension period for the proposed Expansion Project should demonstrate this has been met.

4.3 TENEMENT STAUS

ERM reviewed a compilation report by legal firm Herbert Smith Freehills and local advisory services from Akheel Jinabhai & Associates ("AJA").

Herbert Smith Freehills and AJA were engaged by MMG to conduct a legal due diligence on the proposed transaction and the due diligence included among other aspects, the matter of renewal of prospecting and mining licences.

The findings from the report were that the prospecting licences in the data room appear to be in good standing, as confirmed in writing by the Department of Mines, via several certificates of good standing which were issued on 28 September 2023 in respect of prospecting licences held by both KCM and DCB.

AJA cautions, however, that:

"Whilst in practice the Minster will usually renew a prospecting license beyond the maximum renewal period prescribed in the MMA in the circumstances described above, there is no legal obligation in the MMA that requires the Minister to do so, with section 17 (6) of the said Act merely providing the Minister with a discretionary right to do so. The Minister can only exercise his discretion if the requirements of section 17(6) of the MMA are met (i.e., KCM has made a discovery, has expended or made proper efforts to complete evaluation work on the resource/discovery, and has not yet completed such work). Notwithstanding, we are not aware of the Minster ever having declined his discretion to review, and the Department of Mines tends not to strictly follow the letter of the law when it comes to many matters such as these under the Act. This in our view is a low risk (but nevertheless is still a risk)."

AJA advises furthermore that going forward, and assuming the Transaction progresses, MMG will need to ensure that renewal applications be made well in advance prior to the expiry date in order to mitigate the risk of non-renewal or delays in renewal.

4.4 OTHER AGREEMENTS, LICENCES AND PERMITS

4.4.1 Government

The Botswana Government has the right to acquire a 15% working interest in the relevant mine on issue of a mining licence for that mine. The interest value is based on a pro-rata share of past exploration, current and future project costs. The Botswana Government declined to take up this right on the Zone 5 and Boseto mining licences.

4.4.2 Royalties

The Botswana Government retains a royalty of 3.0% on base metals net smelter return (NSR) and 5.0% on precious metals NSR.

4.4.3 Surface Rights and Permit

Surface rights for two properties (farms OM178 and OM107) where the Zone 5 mining licence lies (ML2015/5L) were issued to KCM in September 2014. Surface rights for the Boseto operation (ML2010/99L) were issued to KCM. KCM and DCB have surface rights to all farms on which development or other activity is occurring.

The Botswana Minister of Local Government holds surface rights for the Central Kalahari Game Reserve (CKGR) and the Wildlife Management Areas.

Many local farm landowners hold surface rights over prospecting licences PL098/2005 to PL101/2005, PL001/2006 to PL005/2006, and PL095/2019.

The area is sparsely populated and is predominantly used for cattle and game farming. The project lies within the Hainaveld and Toteng ranch areas. The Kuke Veterinary Cordon Fence cuts across the licence areas. A small part of the Company's southwestern licence area extends into the CKGR and the surrounding Wildlife Management Areas, but does not impact the three Expansion Project deposits, which are located on a different prospecting licence. The Botswana Minister of Local Government holds surface rights for the CKGR and the Wildlife Management Areas.

Various local farm landowners and users hold surface rights over the 10 prospecting licences. All surface rights holders and lawful occupiers of the land are notified prior to the commencement of exploration activities, and agreements are put in place where applicable. KCM is responsible for rehabilitation of any disturbed areas.

Drill pads are reclaimed and rehabilitated during demobilisation at the end of each drill program. Authorisation of the Environmental Management Plan for exploration activities was given on 30 March 2020 and is valid for five years.

4.5 ERM OPINION

In ERM's opinion, the renewal of the current Prospecting Licences expiring in 2024 is highly likely, however, MMG should note AJA recommendations, to make all subsequent renewal applications well in advance to reduce the risks related to renewal.

5 PROJECT HISTORY

5.1 EXPLORATION HISTORY

The first documented grassroots exploration for copper within the Project area was in the early 1960s by Johannesburg Consolidated Investments. Since then, there has been sporadic exploration in the area which has included:

- Soil geochemistry, field mapping, structural and petrographic studies.
- Airborne and ground geophysical surveys (aeromagnetics, airborne electromagnetics, seismic, gravity). Interpretation of the geophysics has been critical in understanding the stratigraphic architecture of the Project area.
- Extensive DDH and RC drilling.
- Metallurgical and geotechnical investigations.

Data has been integrated and interrogated to assemble a detailed stratigraphic column and regional to local scale Leapfrog Geo 3D model. The data and interpretation work were used to project geology to surface and create a sub-Kalahari sand geology map of the basin. 3D wireframe solids built in Leapfrog Geo are now used as KCM's base model to delineate local structures, lithological units and mineral distribution. The mapping and interpretation program enabled reconstruction modelling of early basin architecture and fold features, that are used for target generation across the Project.

In 2019, the Zone 5 deposit was drilled for grade control mine planning and has since advanced into development with underground operations and a +20-year LOM. Additional resource and exploration drilling then focused on the Zone 5N, Zeta NE and Mango deposits, all located in the northeast of the project licence area, and all having similarities to Zone 5.

The Banana Zone was extensively explored between 2010 and 2012 with additional exploration drilling, geophysical surveys and geotechnical studies completed from 2013 to present. Mineral Resources at NE Fold, South Limb Definition and New Discovery were updated in June 2022 using a higher copper cut-off grade and assessed for underground mining.

Previous exploration and development activities in the area are summarised in Table 5-1.

Table 5-1 Summary of Project area exploration and mining development

Year	Company	Activity
1962	Johannesburg Consolidated Investments	Operated a geological mapping campaign in and around the current Project area. No economical mineralisation was discovered.
1967–1970	Anglovaal – joint venture with De Beers, US Steel and Tsumeb Corporation	Conducted drilling and soil geochemistry in and around the Project area. Credited with the discovery of the Zeta deposit.
1970–1980	US Steel	Conducted several exploration programs that included soil geochemistry, ground-based geophysics, trenching and drilling. These programs led to discovery of additional significant copper mineralisation mainly within the Zeta deposit area and at Plutus. In 1980, US Steel estimated a non-compliant historical resource for Zeta. With a low copper price and no infrastructure nearby, the project was not viable and was discontinued.

Year	Company	Activity
1989–1994	Anglo American Corporation (AAC)	AAC (as Anglo American Prospecting Services) completed several exploration programs, including large-scale airborne geophysical surveys, Landsat and photo-geological interpretation, ground-based geophysical surveys, soil geochemistry (including geobotanical anomalies) and drilling (142 holes, core and RC) focused on both the Zeta deposit and the NE Fold area of the Banana Zone. Again, at the prevailing copper price, the exploration work failed to identify an economically viable area.
1996–2000	Delta – joint venture with Kalahari Gold and Billiton	In 1996, Glencore/BHP Billiton used data from US Steel and AAC for deposit modelling, but much of the drillhole data was not considered reliable. Only 51 drillholes were deemed sufficient for deposit modelling and only 16 were supported by complete drill logs and assay results. Billiton completed an in-house Mineral Resource estimate and recommended a drill program. In 1999, Delta followed up with 27 RC holes totalling 3,300 m within the NE Fold of the Banana Zone. Delta concluded that mineralisation was epigenetic, controlled by both lithology and structure and consistent of high-grade pods within a larger low-grade zone.
2002–2007	Stellent	Stellent acquired the licences over the Project area and in 2007, Hana Mining Ltd ("Hana") took control of the Project under a share purchase agreement resulting in 100% ownership of the Project.
2005	Discovery Metals (Botswana) Limited ("DML")	DML acquires the Boseto area prospecting licenses and continued drilling at Zeta and Plutus.
2007–2013	Hana	Hana completed several exploration campaigns within the project area from 2007 including extensive soil sampling, ground geophysical surveys and both RC and core drilling. Until 2012, Hana focused on the Banana Zone in the southern part of the prospecting licences. Hana moved its focus to Zone 5 in 2012 just before being acquired by Cupric.
2010–2018	Hana and KCM	Between 2010 and 2018, several high resolution magnetic and radiometric surveys were completed over the Project area. The surveys were merged and used to differentiate magnetic fabric successfully mapping in detail lithological units, structural breaks, facies transitions, sub-basin development, unit thickness changes, structural breaks, redox contacts and marker horizons under +40 m of Kalahari Sand cover.
2012–2015	DML as DCB	Mining in the Boseto area at Zeta and Plutus open pits.
2013	Cupric	Cupric acquired Hana and its five prospecting licences and changed the name of the Botswanan entity to Khoemacau Copper Mining (Pty) Ltd (KCM).
2013–present	KCM	KCM conducted several exploration programs that included soil geochemistry, airborne and ground-based geophysics, multi-element geochemistry, desktop and scoping studies and extensive drilling. These programs successfully led to discovery of additional copper-silver mineralisation at several deposits and upgraded the global mineral inventory.
2015–2016	KCM	A regional gravity survey was completed and successfully mapped north-northeast trending deep seated structures.

Year	Company	Activity
Mar 2015	KCM	In March 2015, the Zone 5 mining licence was approved for the 22-year mine life underground initial (also called the "Starter Project") project of +60 ktpa copper and +2 Moz per annum silver.
Jul 2015	Cupric	Cupric acquired DCB. The acquisition included the Boseto operation and processing plant, as well as four prospecting licences with various early-stage resources (yellow shaded licences in Figure 4-1). The Boseto processing plant had been in operation for approximately two and a half years producing copper-silver concentrate from three open pit mining areas. Operations at Boseto were halted in February 2015 just before the project was acquired by KCM.
Nov 2015	KCM	It was announced that a feasibility study had been completed that demonstrated the viability of utilising the recently acquired Boseto mill to process Zone 5 ore by hauling it ~30 km for treatment. A further PFS was announced at the same time involving a multi-mine plan and an expanded processing facility at Boseto or construction of a second processing facility at Zone 5.
2015	KCM	A seismic orientation survey was completed at Zone 5 to test if the mineralisation was continuous at depth. Data confirmed the lithologies hosting the ore shear at Zone 5 have a low acoustic impedance and can be successfully mapped by reflection seismic to depths of >1.5 km.
2016–2021	KCM	Continued focus on exploration at the Expansion deposits (Zone 5N, Mango NE, Zeta NE).
2018	KCM	A feasibility study and FEED program for the "Starter Project" was completed involving mining 3.65 Mtpa from Zone 5 and processing it through a refurbished Boseto plant. Airborne electromagnetic survey to identify conductive units and marker horizons at depth and in section. The survey struggled to identify strong conductors in areas of known copper deposits and/or with steep dipping limbs.
2019–2020	KCM	During 2019 and 2020, the Zone 5 boxcuts and excavations, underground mine development and associated infrastructure was completed.
Jun 2021	KCM	Achieved successful production of first copper-silver concentrate from Zone 5 at the Boseto processing plant.
Jun 2023	KCM	An "Expansion Project" PFS was completed that was based on developing and mining ~3.65 Mtpa from three new mining areas (Mango, Zeta NE and Zone 5N) and processed through the existing Boseto plant, and an expansion of the production volumes from Zone 5 to 4.50 Mtpa processed through a new processing plant sited in the vicinity of Zone 5.
Nov 2023	MMG	MMG announced that it has entered into a Share Purchase Agreement (SPA) to acquire the parent company of the Khoemacau Copper Mine in Botswana. The transaction aligns to MMG's strategy to build a portfolio of high-quality mines supplying the minerals most important to a decarbonised world.

5.2 MINING HISTORY

Mining has been undertaken on three deposits within the Project area. The Boseto Copper Operation (DML operated Zeta and Plutus open pits and processing plant) produced approximately 6 Mt of ore between 2012 and 2015. The amount of oxidised and transitional material was underestimated in the Mineral Resource modelling and metallurgical testwork, resulting in lower-than-expected metal recovery through the Boseto Plant. Once the pits reached the sulphide ore, high stripping ratios made further open pit development uneconomic. It should be noted though, that the Boseto Plant performed to specification once sulphide ore was being produced in the pits.

Construction at Zone 5 commenced in 2019, with first ore being milled in early 2022. The ore is extracted via longhole open stoping. To the end of 2023, the Boseto Plant had milled a total of 5.8 Mt of ore from Zone 5 averaging 1.6% Cu and 18 g/t Ag (mill reconciled tonnages and grades).

6 GEOLOGY

6.1 REGIONAL GEOLOGY

Detail relating to the regional geology of the Project area is sourced from the Prefeasibility Study Technical Report for the Khoemacau Expansion Project (CSA Global, 2023).

Copper and silver mineralisation at the project is hosted within the Ghanzi-Chobe Fold and Thrust Belt that forms the southern portion of the much larger, Pan-African Mobile Belt. The Pan-African Mobile Belt stretches from Namibia through Botswana, Zambia and into the Democratic Republic of Congo (Figure 6-1). In Botswana, the Ghanzi-Chobe Belt is also known as the Kalahari Copper Belt. The belt is host to several well-known stratabound sediment-hosted copper deposits and mining operations.

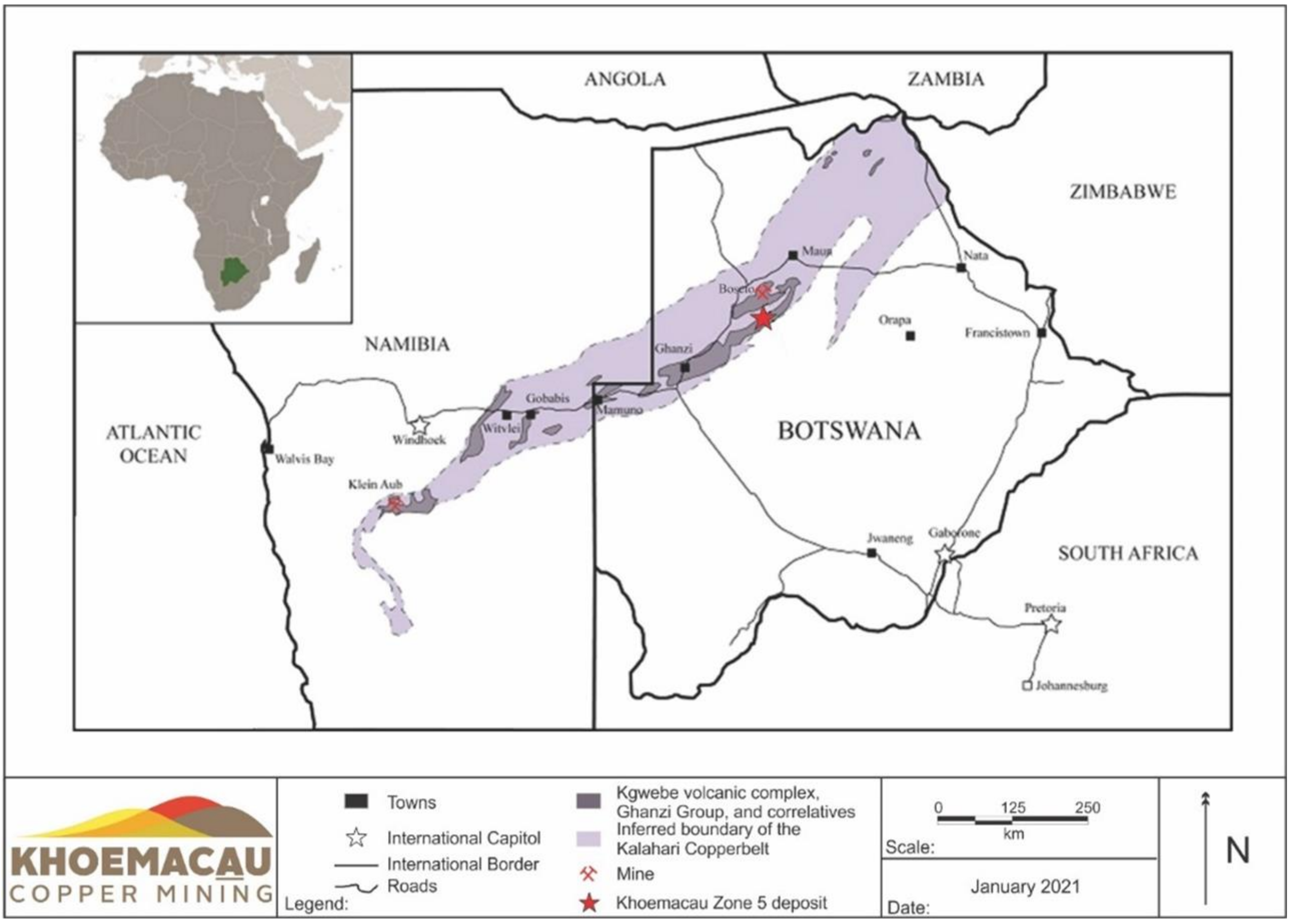


Figure 6-1 Kalahari Copper Belt location

Source: KCM 2021

The Kalahari Copper Belt consists of a deformed package of metasedimentary and metavolcanic rocks that were deposited during the late Mesoproterozoic to early Neoproterozoic eras along the rifted northwest margin of the Kalahari Craton. The late Neoproterozoic collision of the Kalahari and Congo cratons resulted in the formation of the Pan-African Damara Orogeny that forms the present-day structural configuration of the Kalahari Copper Belt.

The deposits of the Kalahari Copper Belt share key geologic similarities to the deposits of the Central African Copper Belt of Zambia and Democratic Republic of Congo. These similarities include:

- Host rocks ranging in age from early Proterozoic era to late Tertiary era were deposited in a basin setting during a transgressional sequence

- Carbonate and haematite alteration is present adjacent to sulphide quartz veins
- Stratiform copper mineralisation is associated with a regionally extensive reduction-oxidation (redox) boundary
- Copper sulphides display a vertical zonation away from the redox boundary
- Ore textures suggest a multi-stage mineralisation history that includes both early diagenetic replacement and later epigenetic pre-kinematic to syn-kinematic mineralising events (veins) with moderate-temperature to high-temperature salinity brines
- Metal source contributed from red beds with anomalously hot and saline fluids enhancing metal leaching
- Disseminated galena, sphalerite and (iron-cobalt-nickel) sulph-arsenides occur in the hanging wall associated with pyrite and chalcopyrite.

Notable differences include:

- The Kalahari Copper Belt has associated silver and no cobalt. Many deposits in the Central African Copper Belt, in particular deposits in the Democratic Republic of Congo, are enriched with cobalt rather than silver.
- The major silver carrier minerals are chalcocite, covellite and bornite.
- The Kalahari Copper Belt has a strong relationship with structural controlled mineralisation. Flexural slip, parasitic folding and associated faulting are the dominant mineralising controls.
- The Kalahari Copper Belt has an additional source of base metals from the underlying Kgwebe bimodal volcanic complex.
- The footwall sandstones in the Kalahari Copper Belt have confirmed copper-silver mineralisation below the redox boundary. Deposits of the Central African Copper Belt have no known economic mineralisation in the footwall sandstones.

6.2 MINERALISATION STYLE

The entire region has been subject to compression, folding and thrusting along northeast trends resulting in structurally repeated stratigraphically controlled mineralisation over hundreds of kilometres. The structural orientation and related permeability are key aspects in the mineral trap site development. Deposits generally occur at the margins of basement structures where the stratigraphic redox boundary is controlled by sediment deposition and structural geometry (Figure 6-2). Flexural slip along bedding on the limbs of parasitic folding were important primary fluid pathways. Brittle fractures, and tectonic breccia at local and deposit scale are the dominant secondary structural mechanisms.

Although mineralisation differs slightly at each deposit, economic grades are dominantly related to shearing, folding and tensional failure along and close to the Ngwako Pan and D'Kar redox contact. Disseminated and hydrothermal vein-hosted sulphide mineralisation styles combine to produce continuity of high-grade copper and silver mineralisation over tens of kilometres. These higher-grade copper sulphide zones typically contain disseminated cleavage parallel lenticles and massive quartz-carbonate and breccia veins hosting chalcopyrite, bornite and chalcocite mineralisation.

Sulphide assemblages are commonly zoned. The sequence is developed vertically upward from the base of the D'Kar Formation and can be seen to develop horizontally along strike at some deposits. The typical zonation sequence consists of low sulphur, low iron, copper sulphides (chalcocite and bornite) and passes upward with increasing iron content (chalcopyrite and pyrite). This sulphide zonation coincides with copper solubility precipitating of low soluble sulphides at the first reductant while chalcopyrite and pyrite remain in solution. Common oxide minerals present across the project area are chrysocolla and malachite, typically found within veins and fracture fill.

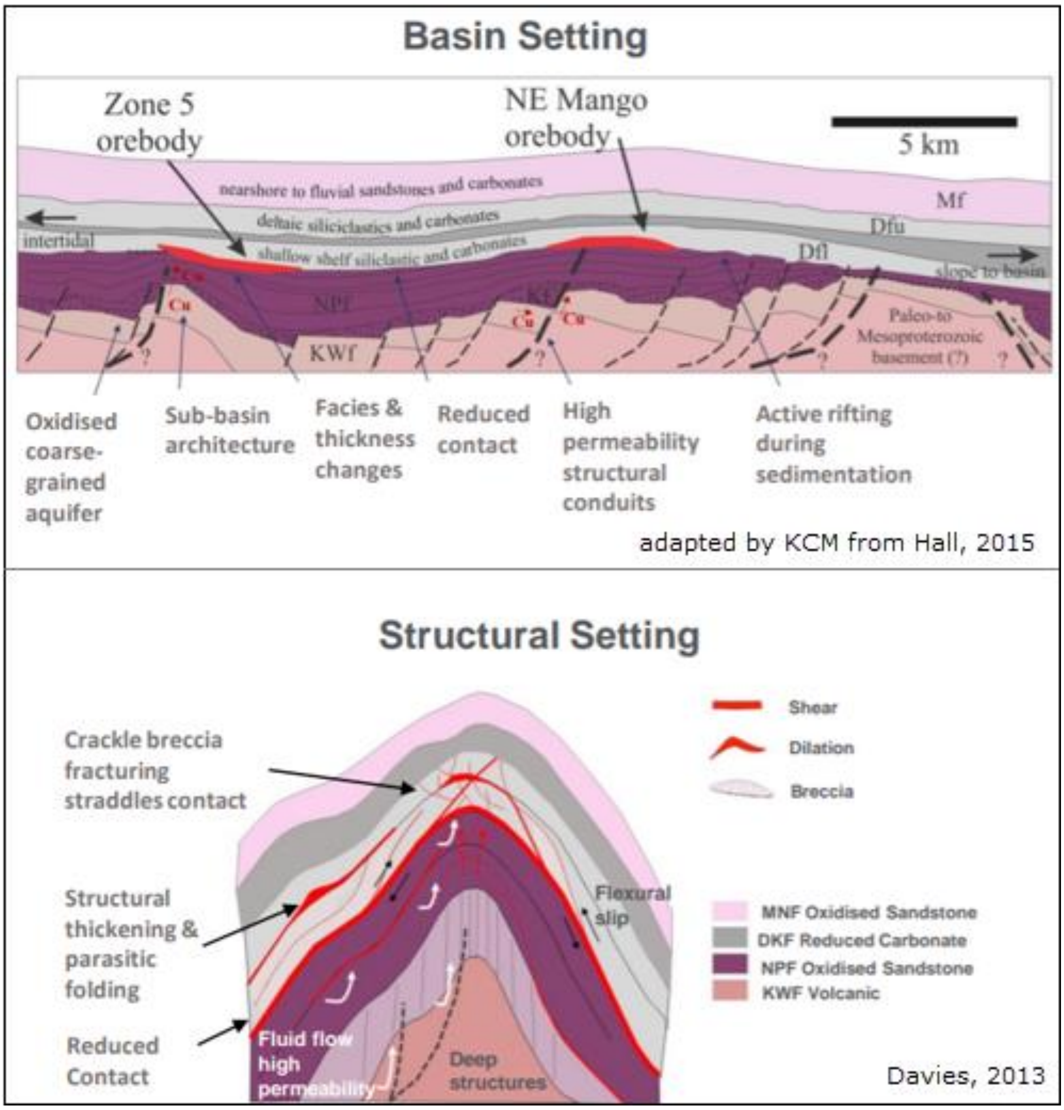


Figure 6-2 Schematic of mineralisation controls
Source: KCM

6.3 LOCAL GEOLOGY

The Project area lies within the central portion of the Kalahari Copper Belt. Figure 6-3 shows the geological setting of the Project area and summarises the general structure and local stratigraphy.

The Kalahari Copper Belt stratigraphic sequence consists of a basal rift related bimodal volcanic suite named the Kgwebe Formation. The Kgwebe Formation is unconformably overlain by the Ghanzi Group metasediments. This group, from oldest to youngest, consists of the Kuke Formation, Ngwako Pan Formation (NPF), D’Kar Formation and Mamuno Formation.

The **Kgwebe Formation**, comprising a bimodal volcanic sequence of porphyritic rhyolites and subalkaline basalts, overlies an Archaean basement complex. The suite is comprised of sub-arkose sediments interbedded with dacites and rhyolite flows that have undergone greenschist metamorphism. The formation was emplaced during the initial stages of an intracontinental rift basin. Recent studies in the Project area reported a U-Pb zircon minimum age of 1086 ± 5 Ma (Hall et al., 2018a) from a porphyritic rhyolite sample from the Makgabana Hills and a U-Pb zircon maximum age of 1106 ± Ma (Schwartz et al., 1995). The Kgwebe Formation has been altered in several places and have likely provided metals through alteration and leaching of hydrothermal fluids or by Ghanzi Group basinal brines.

The **Ghanzi Group** sediments were deposited during a marine incursion and basin infilling after a regional rifting event that has undergone moderate temperature greenschist metamorphism. The sequence consists of the deposition of the continental alluvial deposits of the NPF, followed by a period of thermal subsidence and basin expansion, during which the fine-grained sediments of the D'Kar Formation were deposited (Masters, 2010).

The **Kuke Formation** sits at the base of the Ghanzi Group and is made up of a pebbly to coarse-grained sandstone and conglomerate derived from fragments of the underlying Kgwebe Formation (Mobie, 2000). The Kuke Formation is a 500 m thick sequence of cross-bedded quartz arenites and mudstone interclasts. It is clear from historical regional mapping along the Monikau and Kgwebe Hills that the Kuke Formation is thickest along the boundary with the Kgwebe Formation and thins rapidly away from it, indicating that the Kgwebe Formation formed a basin high or horst structure at the time of deposition (Catterall, 2015).

The **Ngwako Pan Formation** (NPF) comprises oxidised, coarse-grained sandstone quartzite and arkoses interbedded with minor shale. This unit is identified as a typical red bed sequence approximately 2–3 km thick. The NPF is characterised by laminated cross-beds interbedded with pebbly granules/stones. It has been interpreted to be deposited from a fluvial to ebb-tidal marine facies environment.

The **D'Kar Formation** lies above the NPF. The lower ductile siltstones and carbonaceous units of the D'Kar Formation are the main host for most of the copper and silver mineralisation. The D'Kar rocks are composed of shallow marine sediments deposited >981 ± 3 Ma (sulphide Re-Os age from Hall et al., 2018a and 2021) and consist of finely laminated and chemically reduced mudstones and siltstones intercalated with carbon-rich limestone and thin, organic-rich, lagoonal black shale. It has been interpreted to be deposited in a shallow marine shelf facies environment just below the fair weather wave base.

The **Mamuno Formation** is at the top of the sequence and comprises predominantly gritty oxidised sandstones and siltstones. The Mamuno Formation overlies the D'Kar Formation and is 1–2 km thick. The formation outcrops in the east of the Project area.

The host rocks are unconformably overlain by unconsolidated Kalahari sand and calcrete ranging in thickness from 2 m to 60 m.

Outcrop is exposed along the northeast trending Ghanzi Ridge which makes up the basal metavolcanic sequence known as the Kgwebe Formation. Outcrop off the ridge is very limited due to thick Kalahari sand cover that blanket most of the Project area (cover thickness ranges from 2 m to 60 m). As a result, most geology has been mapped from exposure in exploration trenches, drillholes or from aeromagnetic survey interpretations. A 3D geology model was developed in collaboration with independent stratigraphic and geochemical specialists. The interpretation used detailed aeromagnetic and electromagnetic survey data, multi-element analysis and drillhole data focused on depositional environment, basin architecture, stratigraphic framework, and structural configuration of the regional and local geology along the Kalahari Copper Belt.

Advances in the understanding of the Project area have confirmed the overall sedimentary basin architecture and structural association of the basin. Basement normal faulting during early subsidence and extension formed a series of horst and grabens across the Project area where organic-rich, shallow waters exhibiting an abundance of sulphur were restricted along passive, transitional margins. Prior to mineralisation, copper-bearing, moderate temperature basinal brines were confined to the lower oxidised red-bed sandstone and upper bimodal volcanic basalts. Copper-bearing metals were leached from the red-bed and upper bimodal basalt rocks.

During deformation and basin inversion associated with the Damarion Orogeny (~550 Ma), metal enriched brines migrated along basement structures, major faults and lithological contacts depositing copper at the redox boundary and structural trap sites. Folded stratigraphy characterised by upright to slightly inclined or overturned folds produces fold hinge patterns trending northeast and southwest, repeating the geology and mineralisation several times across the Project area. The structural pattern exhibits a series of major northeast trending, anticline highs and syncline lows displaying older cores and younger limbs highlighting the original basin architecture.

Deposits in the Project area generally occur at the margins of basement highs where stratigraphic redox boundaries are controlled by sediment deposition and structural geometry. Deep-seated faults formed across the Project area will exhibit high permeability and focus fluids to transitional margins, chemical fronts and structural trap sites.

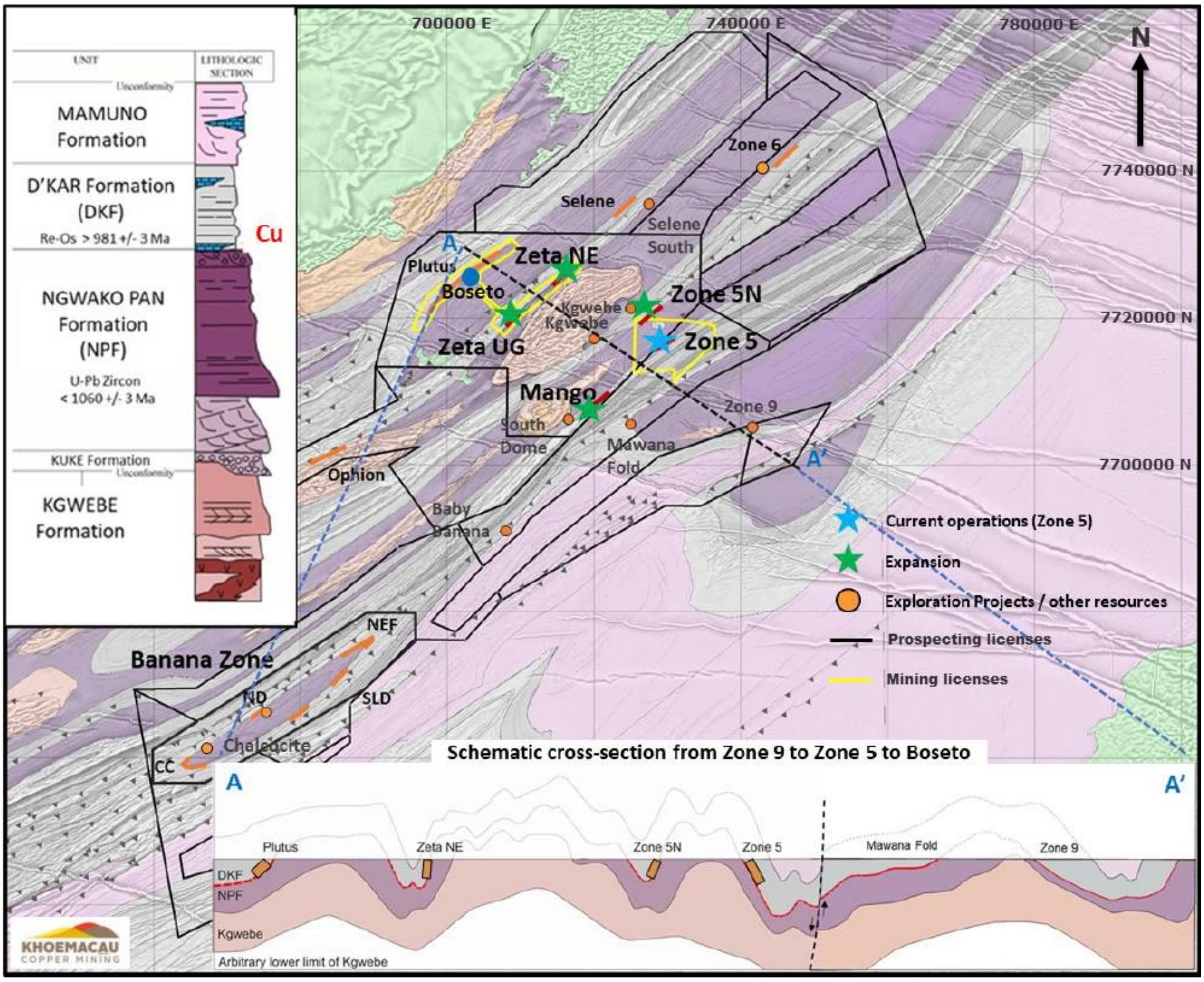


Figure 6-3 Local geology of Project area

Source: KCM

6.4 DEPOSIT GEOLOGY

For the purpose of this section, the deposits of the Project area have been grouped where similarities exist.

6.4.1 Zone 5

Detail of the local geology at Zone 5 is taken from the 2022 MR Report (CSA Global, 2022) and various KCM presentations.

Locally, the Zone 5 Mine area lies within the Ghanzi-Chobe Supergroup, flanked to the northwest by Karoo volcanics and to the southeast by the Mamuno Formation. Key stratigraphic units at

Zone 5 are the NPF (an oxidised, purple-red, coarse-grained sandstone identified as a typical red-bed sequence) and the D'Kar Formation which unconformably lies above the NPF and is dominated by reduced facies (mainly parallel laminated, grey-green siltstones and mudstones with interbedded fine-grained sandstones). Copper and silver mineralisation occurs 25–30 m above the contact between the D'Kar Formation and NPF. Mineralisation is sub-parallel to lithology and crosscuts host units at the redox boundary between copper-bearing, oxidising boundaries and reducing stratigraphy. Mineralisation is hosted within the Limestone (LST) unit in the southwest to the Carbon Rich Siltstone (CAR) and the interbedded Alternating Siltstone and Sandstone unit (ALT) toward the northeast. The host rock assemblage sits between two competent sandstone units – the footwall NPF and the hangingwall Marker Sandstone unit (MSST). An example section through the Zone 5 lithology model is shown in Figure 6-4.

The major deformation mechanism has been dominated by flexural slip and minor parasitic folding which have been fundamental in controlling and focusing ore fluids. Localised thrusting, parasitic folding and shearing have thickened the mineralisation and replicated the stratigraphy resulting in the enrichment of copper and silver grades over wide intervals.

Horizontal to shallow southwest plunging shoots overprinted by a vertical plunge are present in the central fold limb. These plunges are controlled by parasitic folds with axes that are parallel and sub-parallel to the main regional folds along the limb, and the parasitic folds are typically related to shearing and occur at micro scale in the core. This is generally seen within more ductile units that consistently exhibit higher strain and play a major role in controlling fluid flow from the red-bed sandstones to the more reduced shales and siltstones.

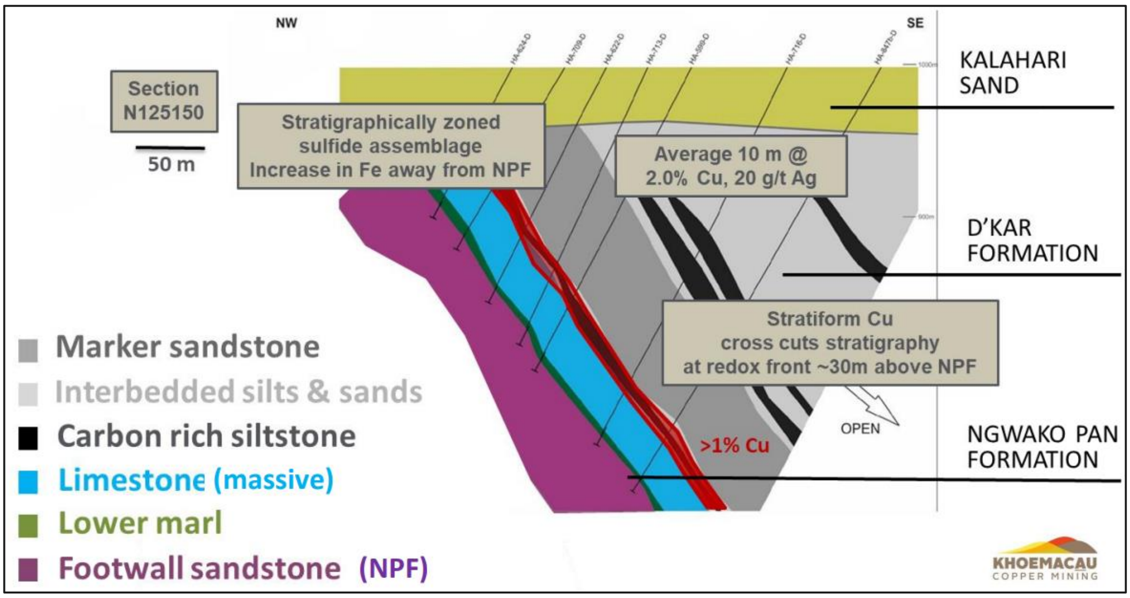


Figure 6-4 Example section through Zone 5

Source: KCM

Low grade, disseminated sphalerite, galena and pyrite occur in the hangingwall of the deposit and extend up into the D'Kar Formation stratigraphy. The mineralisation is strongly, vertically zoned with low sulphur/low iron copper sulphides (chalcocite and bornite) in the base of the sequence with increasing iron (chalcopyrite) away from the footwall contact.

Disseminated chalcopyrite and chalcocite occur in both the hangingwall and footwall mineralisation that defines the 0.1% Cu envelope surrounding the high-grade copper zone. Intense disseminated chalcopyrite dominates the hangingwall sulphides averaging 4 m true thickness. Fine-grained disseminations of chalcocite with minor chalcopyrite/bornite, ranging in thickness from 5 m to 10 m, dominate the footwall. Bedding parallel, narrow, unmineralised quartz-calcite veining is also common throughout the zone.

The predominant ore assemblage typically consists of vein-hosted massive bornite with chalcocite, minor chalcopyrite and silver. Replacement of bornite with secondary chalcocite is common within the mineralised zone. The ore minerals are predominantly vein-hosted and make up the high grade zones modelled as Footwall, Central and Hangingwall, which range in thickness from 2 m to 30 m. Within the high grade, an extensive system of quartz and quartz-carbonate veins are common, with minor hematite staining.

6.4.2 Zone 5 North

Detail of the local geology at Zone 5N is adapted from the 2023 KCM PFS Technical Report (CSA Global, June 2023).

The mineralisation at Zone 5N deposit is interpreted to represent a pressure shadow of the Zone 5 deposit with many similarities and characteristics. The deposit has been drilled over a strike length of 4.6 km with mineralisation striking 235° and dipping 65° to the northwest. Economic mineralisation has an average thickness of 5 m and is hosted in the hangingwall sequence within the marl and marly siltstone units over a strike length of 1.6 km. The deposit has been drilled to a depth of 1,100 mbs and remains open along strike and at depth. Geological logging has defined a consistent base of overburden including Kalahari sand and calcrete at 45 mbs.

A variably oxidised surface cap, defined by acid soluble copper assays and logged drill core, contains both oxide plus sulphide minerals. The base of this surface boundary has been defined parallel to topography and lies approximately 65 mbs. Oxide mineralogy above this surface includes malachite, chrysocolla and minor native copper.

Mineralisation occurs at the stratigraphic contact and is largely controlled by unit thickness and structure. Some of the highest grades occur in the central-northeast portion of the deposit. This portion of the deposit is host to the highest grades and best intersections over a strike length of 1.6 km.

Economic mineralisation typically consists of massive bornite with accompanying chalcocite and minor chalcopyrite. Mineralogy is frequently mixed in the high-grade (>1% Cu) mineralised zone and is largely controlled by parasitic folding and associated brittle faulting and localised shearing.

Several localised parasitic folds with axes parallel and sub-parallel to the regional anticline fold can be traced down the limb and stretch along the strike of the central portion of the deposit (Figure 6-5). The folds increase the unit thickness of the siltstone and marl copper host rocks and represent higher-grade mineral targets displaying high strain, local fracturing, and breccia veining. At 400 mbs, a change in dip angle steepens the limb from 62° to 67°. This subtle change in dip is all that is needed to focus fluids, improve permeability, and increase the thickness of reduced rocks acting as an excellent mineral trap.

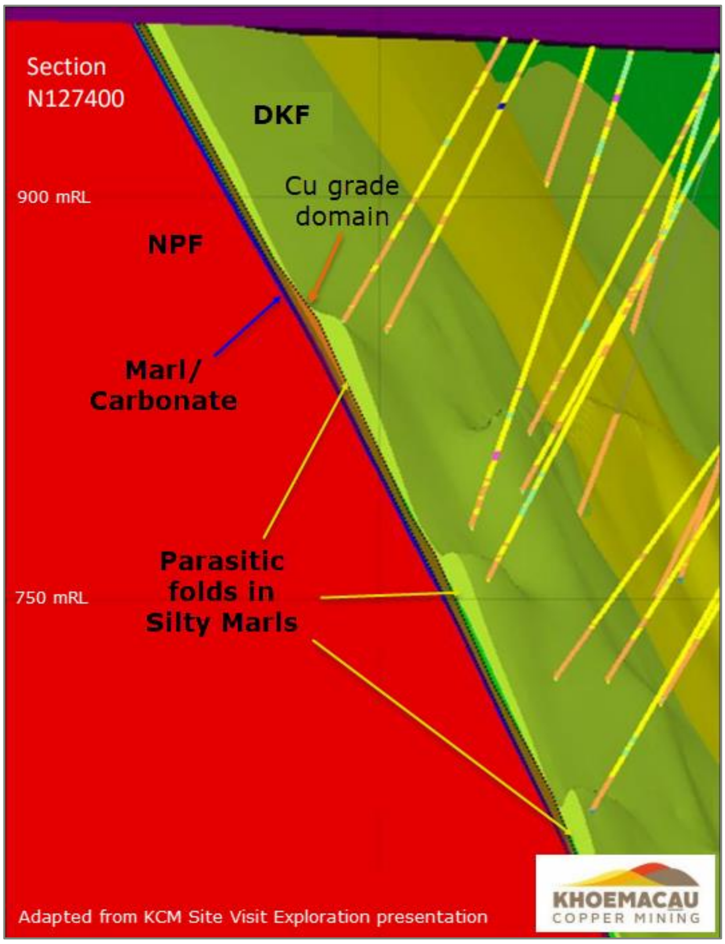


Figure 6-5 Section looking southwest – Zone 5N

Source: KCM

6.4.3 Zeta North East and Boseto Area Deposits

This description of the local geology at Zeta NE is taken from the 2023 KCM PFS Technical Report (CSA Global, June 2023).

The local geology for Zeta Underground (Zeta UG) and Zeta NE is very similar to Plutus, with broadly similar vertical and lateral sulphide mineral zonation, though deformation at Plutus was less intense (Hall, 2013). Ophion and Selene, which are southwest and northeast respectively along strike from Zeta NE also have similar local geology, though with less deformation again than Plutus.

Mineralisation at Zeta NE is hosted in a major brittle-ductile reverse fault and shear zone along a fold limb in the lowermost D'Kar Formation – generally in the alternating sandstone and silty marl units.

The base of overburden surface, which includes the Kalahari sand and calcrete, averages 6 mbs. An undulating base of oxide surface, identified by the presence of oxide and sulphide minerals, has been defined at 50 mbs. Common oxide minerals present are chrysocolla, malachite and native copper typically found within veins and fracture fill.

The Zeta NE deposit displays very high strain related to late-stage deformation. The deposit was wedged against the Kgwebe Formation during regional compression, resulting in tight anticlinal folds in the upper D'Kar Formation and a major reverse fault and shear zone in the lower D'Kar Formation. The fault and shear zone served as the main fluid conduit during mineralisation and is comprised of multiple narrow faults, fractures, breccias and shears that together have an average width of 11 m. Figure 6-6 is a schematic section showing tight anticlinal folds and a brittle-ductile reverse fault and shear zone hosted within the lower D’Kar Formation.

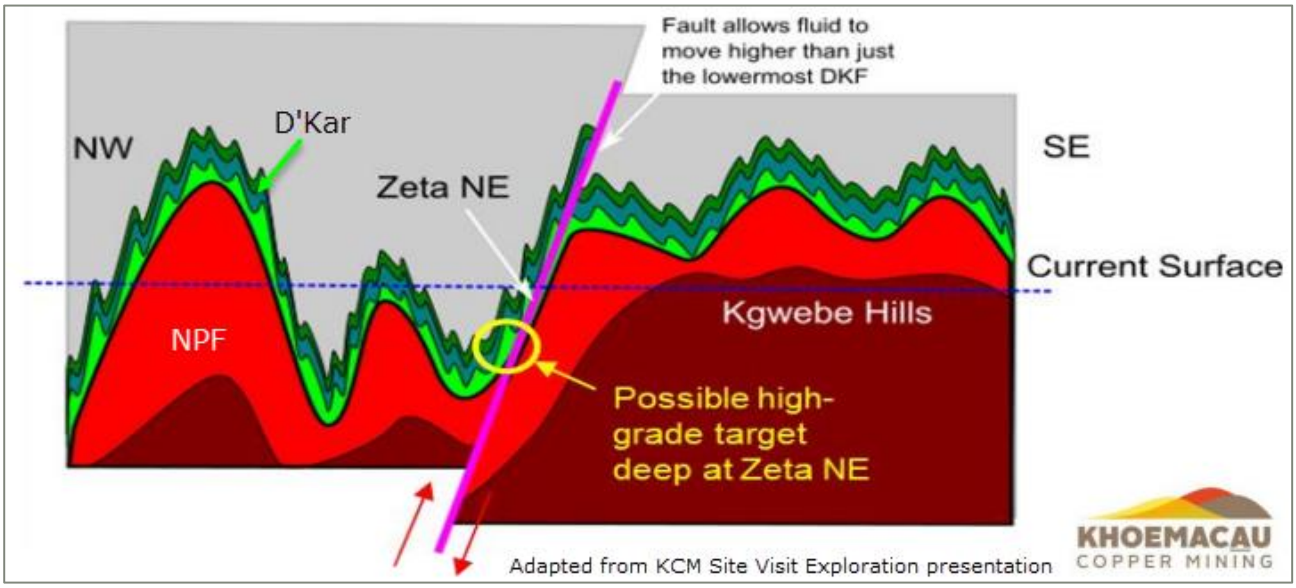


Figure 6-6 Schematic section through Zeta NE
Source: KCM

Brittle faulting, schistose textures and boudinage characteristics are most intense where the NPF is thinnest above of the Kgwebe Formation and is directly related to higher copper-silver grades. The hangingwall of the fault and the footwall of the shear zone range in thickness from 4 m to 28 m, displaying an increase in strain in front of the Kgwebe high.

Mineralisation predominately occurs within the faulted shear zone and is largely controlled by cataclastic faults, breccia veins and ductile shearing. The highest grades occur in the central northeast portion of the deposit and are hosted in the alternating sandstone, siltstone and silty marl units. This portion of the deposit has a total strike length of 1.9 km. Economic mineralisation typically consists of massive bornite with accompanying chalcocite and minor chalcopyrite. Mineralogy is frequently mixed in the high-grade (>1% Cu) mineralised zone.

Two high-grade (>1%) copper domains exist within the brittle-ductile fault zone and are separated by 5–10 m of barren to low-grade (0.2%) copper mineralisation. Bornite, chalcocite and chalcopyrite are the main copper sulphide minerals present in the high-grade wireframes – averaging 4 m wide in both the hangingwall and footwall zones. The footwall zone is continuous across the strike of the deposit. Higher-grade mineralisation is not always present in the upper hangingwall zone but is continuous over the central portion of the deposit. Where the hangingwall and footwall are both intersected, both zones plus dilution have an average width of 13 m.

6.4.4 Mango NE

This description of the local geology at Mango NE is adapted from the 2023 KCM PFS Technical Report (CSA Global, June 2023).

The Mango NE deposit is situated 1 km southwest along strike from the Zone 5 deposit on the southeast limb of a regional anticline.

The deposit has defined mineralisation over a total strike length of 5 km dipping at 65° to the southeast. The central portion of the deposit is host to economic mineralisation over a strike length of 1.5 km with an average thickness of 8 m. The deposit has been drilled to 700 mbs and remains open both along strike and at depth.

Mineralisation is hosted in the lower D'Kar Formation – in alternating interbedded sandstone and marlstone units. An overburden surface has been defined using the logged base of Kalahari sand and calcrete at 35–40 mbs. A variably oxidised and transitional surface cap, defined by acid soluble copper assays and logged drill core, contains both oxide plus sulphide minerals. The base of the surface has been defined parallel to topography and lies approximately 100 mbs with minor deeper undulations where local fracturing has occurred. Oxide mineralogy above this surface includes malachite, chrysocolla and minor native copper.

Stratigraphy in the southwest central portion of the Mango deposit is characterised as a shallow water, semi-arid environment that is likely related to a restricted basin high. The presence of sulphate-bearing minerals (possibly anhydrite) below a thick limestone package, an orientation change along strike and down dip in the central portion of the deposit and a northeast plunging fault grading into deepwater facies together with thin, bedded carbonate units indicate several similarities to Zone 5 and Zone 5N depositional environments.

The deposit has overall less strain than Zone 5N and Zeta NE but shows similarities like open undulating folds plunging shallowly toward the northeast and down the limb, and structural thickening of units and mineralisation through parasitic folding and parallel faulting as seen in (Figure 6-7).

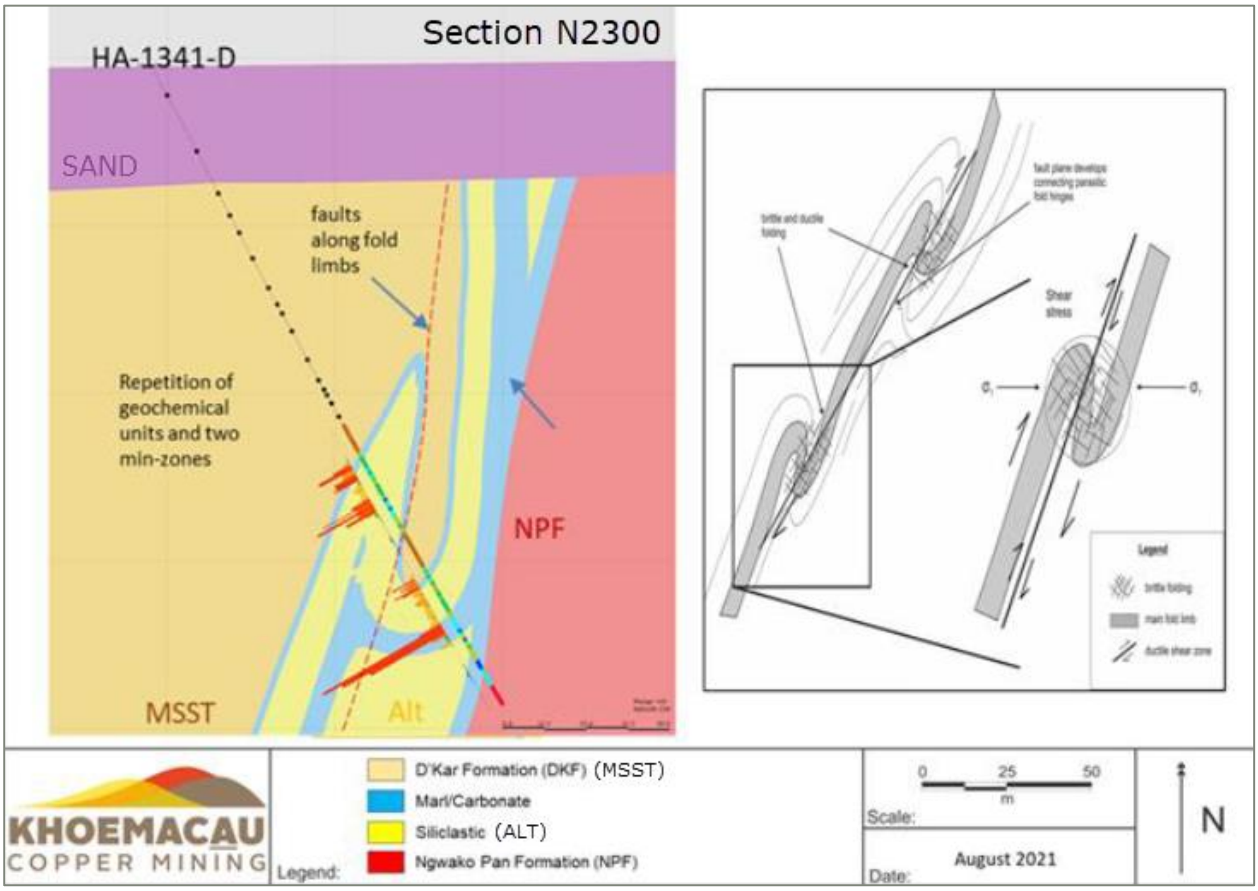


Figure 6-7 Cross-section showing parasitic fold – Mango
Source: KCM

High-grade copper sulphide mineralisation typically consists of chalcopyrite and bornite with minor chalcocite. Mineralisation is generally hosted in foliation planes, quartz-calcite veins, and veinlets. A clear vertical and strong horizontal sulphide zonation occurs across the deposit, with chalcopyrite dominant in the southwest and in the hangingwall grade domain, while bornite is dominant in the northeast and in the footwall grade domain. Sulphide mineral mixing occurs in the central portion of the deposit between two interpreted downslope margins of the basin high in the southwest. The highest grades and thickest intersections occur in this mixed zone, likely related to basin architecture, carbon content of the different facies, structural complexity, and higher permeability within the central portion of the deposit. A subtle change in orientation is all that is needed to focus fluids, improve permeability, and increase the thickness of reduced rocks acting as an excellent mineral trap.

6.4.5 Banana Zone Deposits

This description of the local geology at Banana Zone is adapted from the 2022 KCM Banana Zone study.

The Banana Zone is a double plunging antiform located approximately 60 km to the southwest of Zone 5 (Figure 6-8). The entire reduced contact between the D'Kar Formation and NPF is continuously mineralised for 64 km. The northwest limb dips at 55–60° to the northwest, while the southeast limb dips steeper at 75–80° to the southeast. Both the northeast and southwest fold hinges plunge shallowly at 35–42°.

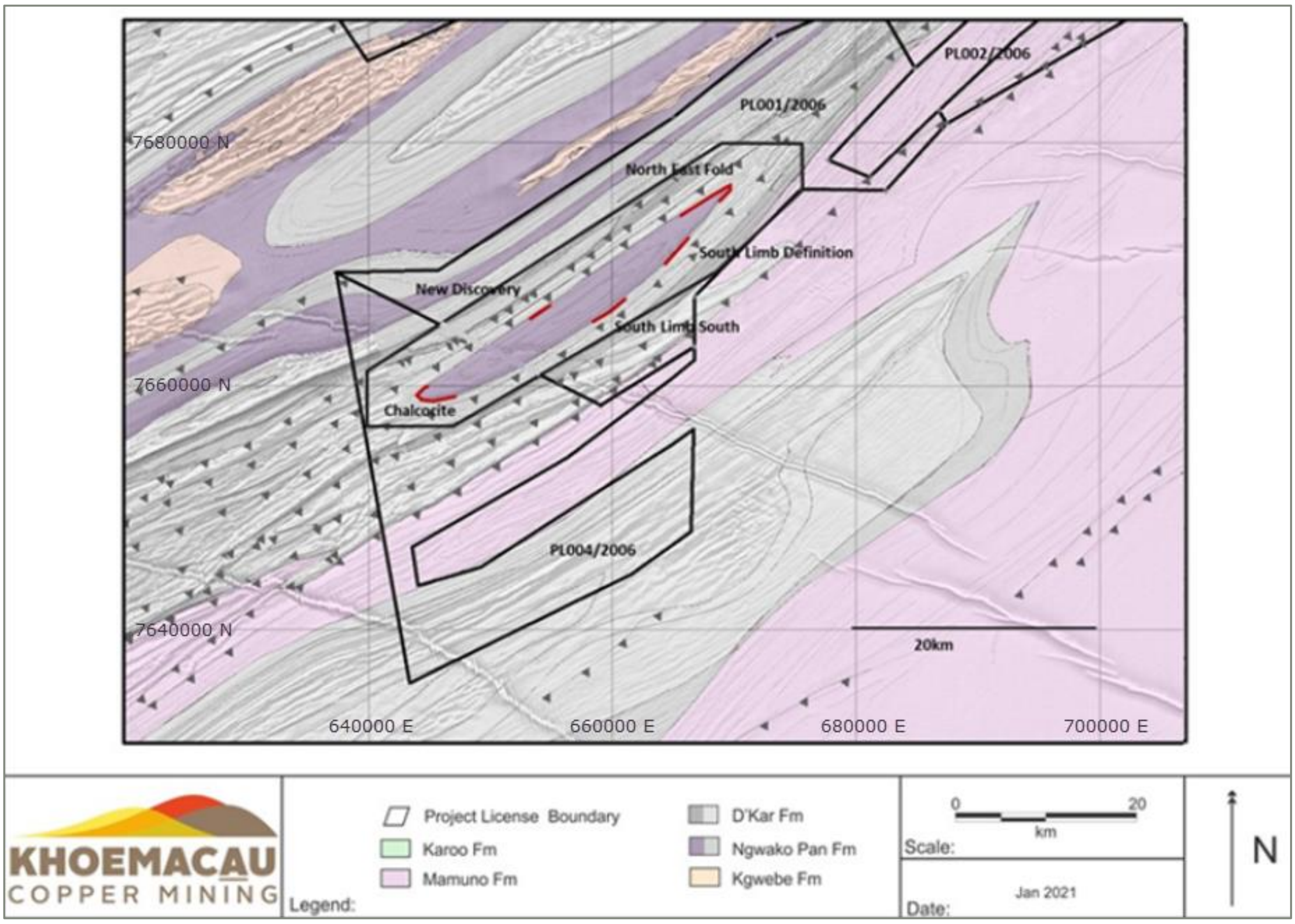


Figure 6-8 Local geology of the Banana Zone area
Source: KCM

The Banana Zone deposits share similar broad characteristics of alteration, host lithology and ore mineralogy. However, the main deposits have some specific characteristics.

6.4.5.1 New Discovery

The New Discovery deposit is situated on the northern limb of the Banana Zone regional anticline. The deposit has defined mineralisation over a total strike length of 3.5 km dipping at 55° to the northwest. The central portion of the deposit is host to economic mineralisation over a strike length of 1.2 km with an average thickness of 4 m. The deposit has been drilled to 700 mbs and remains open both along strike and at depth. Mineralisation is hosted in the lower D'Kar formation within the alternating interbedded sandstone and marlstone units.

An overburden surface has been defined using the logged base of Kalahari Sand and calcrete at 10 m below surface. A variably oxidised and transitional surface cap, defined by acid soluble copper assays and logged drill core, contains both oxide plus sulphide minerals. The base of the surface has been defined parallel to topography and lies approximately 25 mbs with minor deeper undulations where local fracturing has occurred. Oxide mineralogy above this surface includes malachite and chrysocolla.

Stratigraphy in the central portion of the deposit is characterised as deepwater facies. Sub-basin deposition was interpreted from magnetic stratigraphy mapping displaying on-lapping surfaces and stratigraphic thickening. The deposit has overall less strain than the deposits in the north but shows several structural similarities. Magnetic lithostratigraphy mapping and interpretation identified two north-northeast trending local structures that bound the deposit's higher grade mineralisation to the northeast and southwest.

The central portion of the deposit coincides with a change in orientation along strike as a flexure point and possible break in the sub-basin transitional margin displaying thinner units at the centre of the deposit to thicker units toward the northeast and southwest. The highest grades and thickest intersections occur at the flexure point which is likely related to structural complexity (higher permeability) and chemical capability (oxidised state and solubility of a more favourable reduced unit) of the mineralising fluids.

Two high-grade copper domains were generated using a >1% Cu threshold. The hangingwall and the footwall are separated by 5–10 m of moderate grades averaging 0.3–0.8% Cu. The higher-grade mineralisation is further surrounded by a low-grade (>0.1% Cu) halo that will be used as dilution for mining purposes. The main high-grade hangingwall domain is continuous over the strike length of 1.2 km and to 700 m depth. It sits approximately 20 m above the NPF redox contact, is intensely sheared and is hosted within the siltstone unit containing bornite and accompanying chalcopyrite and minor chalcocite.

6.4.5.2 South Limb Definition

The South Limb Definition deposit is located on the southern limb near the northeast fold hinge of the Banana Zone anticline. The deposit has been drilled over a total strike length of 5 km with mineralisation dipping at 80° toward the southeast. The economic mineralisation has a strike length of 2.3 km with an average thickness of 2.6 m. The deposit has been drilled to a total depth of 500 mbs and remains open along strike and depth. Mineralisation is hosted within the sheared lower marlstone at the contact with the NPF.

The base of overburden surface, which includes the Kalahari Sand and calcrete, averages 20 m below topography. An undulating base of oxide surface, identified by the presence of oxide and sulphide minerals, has been defined at 75 mbs.

South Limb Definition characterised as deepwater facies and displays sub-basin deposition, with overall less strain than the deposits in the north but shows several structural similarities. The magnetic lithostratigraphy mapping and interpretation identified a conjugate pair of local structures in the central portion of the deposit which coincides with a flexure in orientation along strike as a possible break and sub-basin flexural slope hinge or transitional margin. The highest grades occur on either side of this flexure point which are likely related to structural complexity (higher permeability) and lithological/rheological controls (a favourable reduced unit and facies change chemical trap).

Like New Discovery, the deposit lacks structural orientation measurements and multi-element data to fully understand the high-grade plunges and sulphide controls. The dominant mineralogy was identified visually in historical logging and has been confirmed as best as possible by reviewing core photos and the small amount of sulphur data obtained.

One high-grade copper domain was generated using a >1% Cu threshold. It is surrounded by a low-grade halo defined by >0.1% Cu that will be used as dilution for mining purposes. The grade domain is continuous over the strike length of 2.3 km and to 500 m depth. It sits at the NPF redox contact and is hosted within the sheared siltstone and lower marl unit.

6.4.5.3 North East Fold

The NE Fold deposit sits on the northeastern fold hinge of the Banana Zone. The deposit extends from the northern limb, around the fold hinge and along the southern limb. The deposit has been drilled over a strike length of 3.6 km. Mineralisation on the northeast limb dips at 45° toward the northwest. The fold closure plunges toward the northeast at 17° near surface and steepens at depth to 45°. The southern limb dips steeply at 70° to the southeast. Economic mineralisation is predominately situated at the fold hinge over a continuous strike of 1.2 km. The deposit has been drilled to a depth of 400 mbs and remains open along strike and at depth.

A consistent base of overburden including Kalahari Sand and calcrete reaches 25 mbs. A variably oxidised surface cap, defined by acid soluble copper assays and logged drill core, contains both oxide plus sulphide minerals. The base of this surface boundary has been defined parallel to topography but undulates between 70 mbs along the northern limb to 100 mbs in the fold nose. Oxide mineralogy above this surface includes malachite, chalcocite, chrysocolla and minor native copper.

The deposit is a structurally complex brittle-ductile shear zone with mineralisation sub-parallel to bedding. The deposit displays very high permeability and fluid influx. Mineralisation is controlled by flexural slip and tensional failure, parallel shearing, structural thickening and crackle breccia stockwork fracturing. Mineralisation occurs as multiple stacked horizons along the fold closure. The highest grades and thickest intervals are hosted in the fold hinge both above and below the NPF redox contact. Mineralisation in the hangingwall sequence of the lower D’Kar is hosted within the siltstone and lower marl units while mineralisation in the footwall NPF is hosted in the oxidised sandstone.

Four high-grade copper domains were identified using a >1% Cu threshold. The domains average 2.5–3.1 m thick and are each separated by 5–8 m of low to moderate grade material. The high-grade mineralisation is enveloped by a low-grade domain of >0.1% Cu that will be used as dilution for mining purposes. The upper hangingwall domain is hosted in the siltstone unit and consists of predominantly chalcopyrite mineralisation with minor bornite.

6.4.5.4 Chalcocite

The Chalcocite deposit is located on the southwest fold closure of the Banana Zone. The fold nose plunges at 35° to the southwest resulting in open folds and shallow dipping stratigraphy. Mineralisation extends along the southern limb of the fold for approximately 2 km, and along the northern limb for almost 1 km, having a total strike length of 7 km.

As with the other Banana Zone deposits, mineralisation is hosted within the alternating sequence of sandstones and siltstones at the contact between the D’Kar and NPF and is almost exclusively disseminated chalcocite over a substantial thickness. The zone lacks veining and associated massive bornite typically seen at neighbouring deposits in the north. One high-grade copper domain was defined using a threshold of 0.5% Cu. The mineralised zone averages 4 m in thickness on the north limb and 15 m on the south limb with dips ranging from 35° to 60°, respectively.

6.4.6 Zone 6

Detail relating to the local geology for Zone 6 is taken from the KCM Information presentation (June 2023).

The Zone 6 deposit is located approximately 30 km northeast of Zone 5N on the northern limb of the same regional syncline. The deposit has been well drilled in the central portion over a continuous strike length of 2 km, with mineralisation dipping at 45° toward the southeast. The economic mineralisation hosting the highest grades are in the central portion of the deposit and average a thickness of 4.5 m. The deposit has been drilled to a depth of 450 mbs and remains open at depth.

Mineralisation sits within brecciated veins and veinlets containing predominately disseminated chalcopyrite and bornite sulphide minerals hosted within the siltstone and lower marl units.

Zone 6 is generally low strain with abundant shallow water carbonate stromatolites suggesting a basement high and restricted sub-basin depositional environment is nearby.

6.5 PROPOSED GENETIC MODEL

The area is characterised as a sediment-hosted copper deposit (Figure 6-9) with a multi-stage mineralisation history that includes both diagenetic (sediment hosted) and epigenetic (structurally hosted) events. Copper-silver mineralisation generally occurs at the stratigraphic boundary between the oxidised NPF sandstone and the reduced rocks of the D'Kar Formation siltstone, but also show evidence of overprinting and/or remobilisation. The redox boundary is both a chemically reduced and a structurally controlled trap environment with two discrete mineralising events approximately 400 Ma apart (Hall et al., 2021).

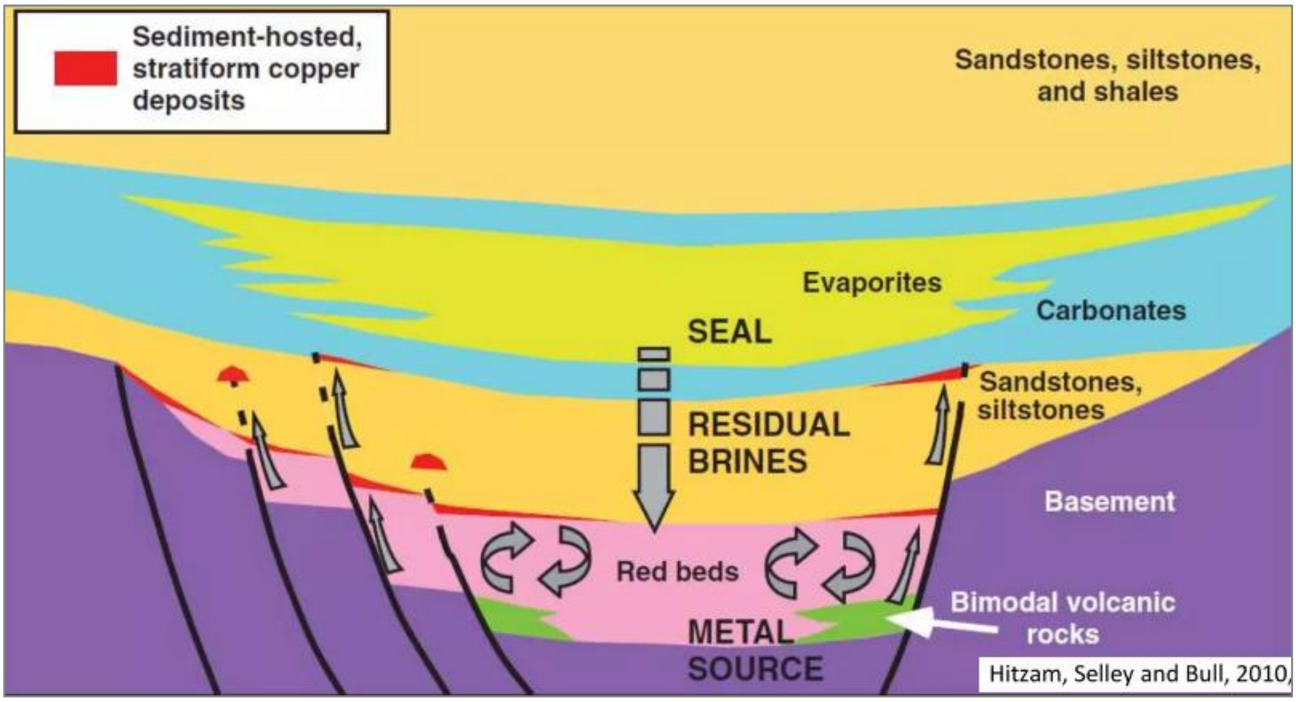


Figure 6-9 Genetic model for sediment hosted stratiform copper deposits

7 DATA VERIFICATION

KCM has a Data Management Procedure in place with associated documentation covering procedures such as drillhole setup, downhole surveying, drill core and RC logging, core orientation, geotechnical logging, sampling, and quality assurance/quality control (QAQC). These procedures ensure consistent data collection and validation practices.

ERM conducted a review of input data supplied by KCM to ensure the data used in the Mineral Resource and Ore Reserve modelling did not contain material errors that would reduce the reliability and representivity of the dataset. ERM visited the Project in November 2023 and considers the data has been collected, validated and stored following good industry accepted practices.

7.1 DRILLING TYPES AND CORE RECOVERIES

Drilling has been carried out on the Property by multiple companies and in many phases since 1967 (Table 7-1; Figure 8-1 to Figure 8-7). The table below includes geotechnical drilling (refer Section 7.4) and hydrogeological drilling (10 drillholes for 3,301 m, 2013 to 2018). Diamond (DD) drilling core diameter ranges from PQ (85 mm) to BQ (36.5 mm) with the diameter dependent on the capability of the drill rig in use at the time as well as on the downhole depth. Most drilling is HQ (63.5 mm) or NQ (47.6 mm) diameter. Many drillholes are pre-collared with RC drilling through the unconsolidated overburden and known areas of waste. The RC drillholes range from 4.5″ to 5.5″ diameter. Shallow rotary air blast (RAB) and aircore (AC) drilling has been used for broad-scale exploration coverage over some areas, though this assay data from these programs is not used in the Mineral Resource estimations.

Table 7-1 Summary of drillhole database by year drilled and drillhole type

Year drilled	Count				Metres drilled			
	DD	RC	AC/RAB	Total	DD	RC	AC/RAB	Total
1967	1	-	-	**1**	127	-	-	**127**
1968	5	-	-	**5**	552	-	-	**552**
1971	4	-	-	**4**	549	-	-	**549**
1972	20	-	-	**20**	3,293	-	-	**3,293**
1991	-	4	-	**4**	294	-	4	**294**
1993	29	4	-	**33**	5,865	-	4	**5,865**
1998	-	3	-	**3**	415	-	3	**415**
1999	-	24	-	**24**	2,914	-	24	**2,914**
2000	104	31	-	**135**	21,787	-	31	**22,420**
2001	1	-	-	**1**	154	-	-	**154**
2003	7	-	-	**7**	179	-	-	**179**
2004	6	-	-	**6**	1,432	-	-	**1,432**
2005	16	-	-	**16**	2,722	-	-	**3,288**
2006	36	-	-	**36**	4,597	-	-	**4,597**
2007	87	65	-	**152**	17,624	-	65	**17,624**
2008	408	133	-	**541**	49,932	-	133	**49,932**
2009	248	101	-	**349**	28,107	-	101	**28,107**
2010	315	427	84	**826**	95,523	-	427	**96,243**
2011	401	436	187	**1,024**	77,500	3,723	436	**81,036**
2012	316	720	-	**1,036**	91,114	-	720	**91,114**
2013	257	66	-	**323**	80,549	2,041	66	**82,590**
2014	76	29	-	**105**	54,577	-	29	**54,577**
2015	107	15	-	**122**	78,329	-	15	**78,329**

Year drilled	Count				Metres drilled			
	DD	RC	AC/RAB	Total	DD	RC	AC/RAB	Total
2016	20	97	-	**117**	28,500	-	97	**28,500**
2017	9	-	-	**9**	1,956	683	-	**2,639**
2018	43	46	-	**89**	28,252	3,209	46	**31,461**
2019	152	-	-	**152**	24,523	1,114	-	**25,636**
2020	77	-	-	**77**	23,365	1,606	-	**24,971**
2021	116	-	-	**116**	23,372	-	-	**23,372**
2022	208	-	-	**208**	40,995	606	-	**41,602**
2023	57	-	-	**57**	11,211	-	-	**11,211**
Unknown	48	-	-	**48**	-	-	1,192	**1,192**
TOTAL	**3,174**	**2,201**	**271**	**5,646**	**800,311**	**12,981**	**3,393**	**816,216**

Note: DD = diamond drillhole (and includes drillholes pre-collared with reverse circulation (RC), AC = aircore and RAB = rotary air blast drilling. Drillhole type determined from database notations and drillhole prefix. Table includes all drillholes for all areas in database except those flagged as Grade Control or Blast Holes, and those drillholes noted as Planned, Excluded or Abandoned. Metallurgical and geotechnical drilling has been included as DD; hydrogeological drilling has been included as RC. The "Unknown" drillholes are a series of metallurgical holes drilled at Plutus.

Since 2021, drilling at Zone 5 has comprised "on-ore" and "off-ore" underground drilling to support day-to-day mining and enhance the Mineral Resource estimation dataset at depth. The "on-ore" drilling assists in local short-term orebody delineation (Figure 7-1). Assaying for this drilling is performed on site by Alfred H Knight Group. This is not an ISO accredited laboratory, and the "on-ore" data is not used for the Mineral Resource modelling (although QAQC analysis indicates good performance). "Off-ore" drilling is collared from the Return Air Access, the Raising Main Chamber and underground stockpile areas to access the orebody at depth for planning and classification upgrade (Figure 7-2). Samples from these drillholes are analysed off-site at ALS Johannesburg and are critical inputs to the ongoing Mineral Resource modelling.

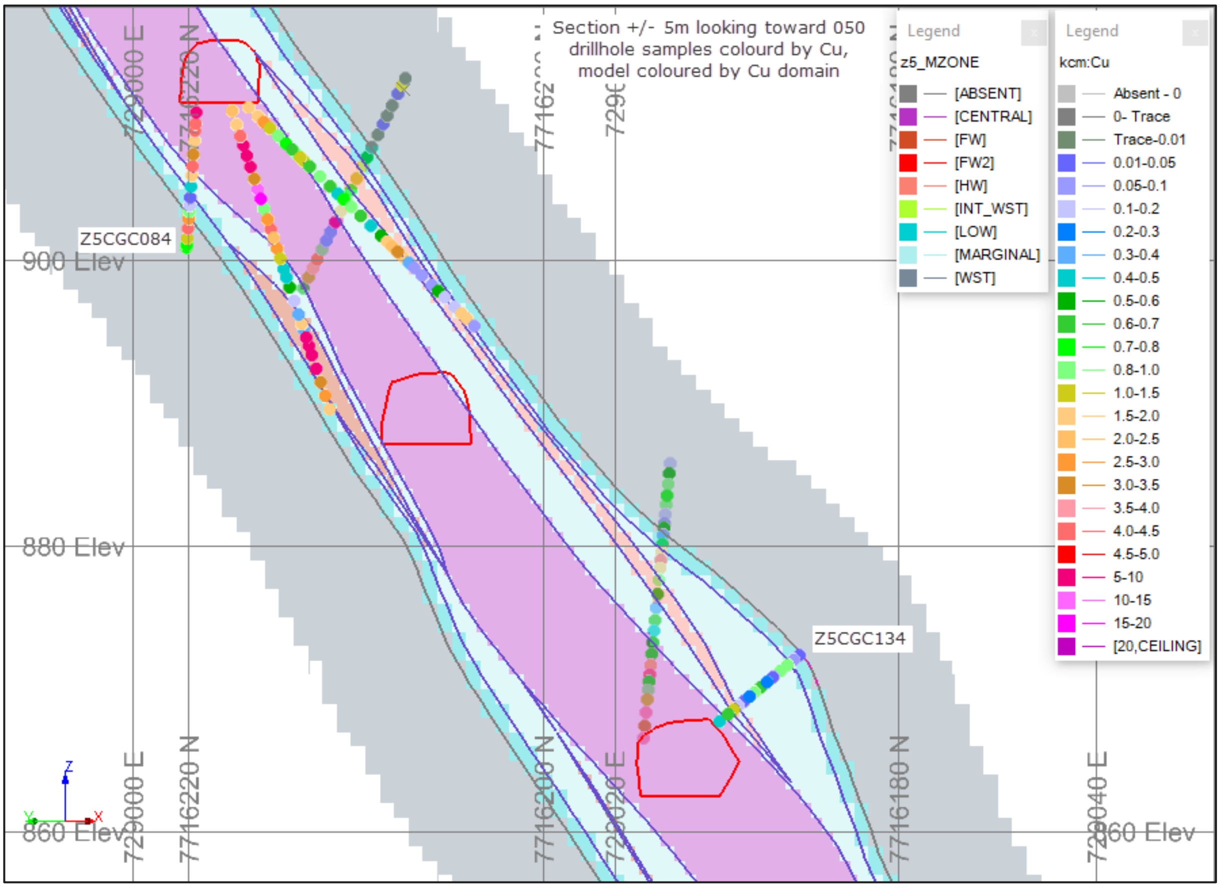


Figure 7-1 Example section through on-ore drilling at Zone 5

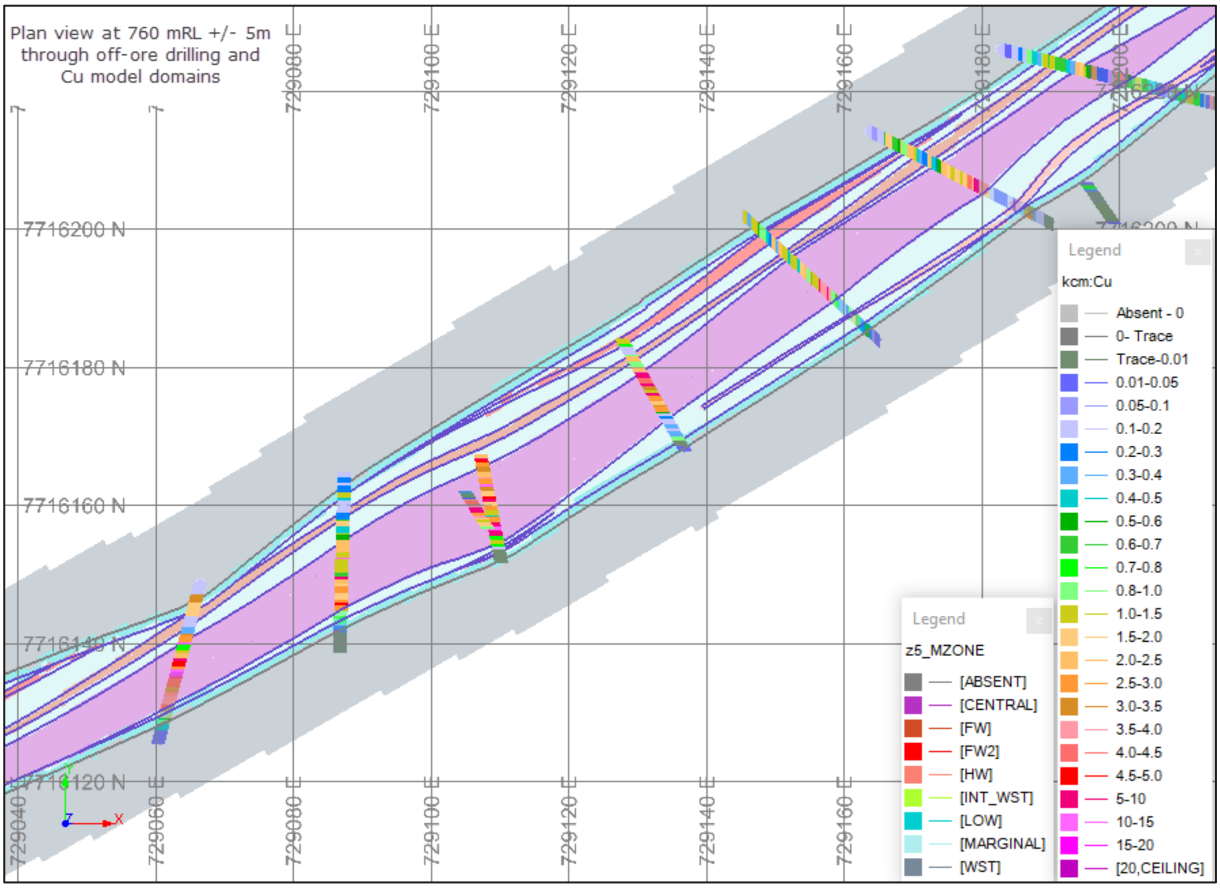


Figure 7-2 Example plan through off-ore drilling at Zone 5

Core recovery is usually very good through the mineralised zone, hence the use of triple tube drilling is not generally considered necessary. Global measurements give an average core recovery of 97% per drill run from 100 m downhole and this accounts for most of the fresh material used for the Mineral Resource modelling (Table 7-2). Observations by the Competent Person verify that areas of lower recovery are generally associated with areas of intense fracturing and/or faulting, rather than operator related core loss. These generally narrow zones are not considered material to the outcome of the Mineral Resource estimate. No obvious relationship between core recovery and grade has been observed.

Table 7-2 Mean global core recovery by area

Area	Count	Mean		Area	Count	Mean	
		Recovery (%)	Run (m)			Recovery (%)	Run (m)
Zone 5	88,304	98	1.1	Selene South	362	98	2.1
Zone 5N	10,627	97	1.5	Gaia	137	98	2.0
Zeta NE	7,553	95	1.7	Kronos	190	97	2.0
NE Mango	4,356	98	2.0	Mawana Fold	391	100	2.1
NE Fold	1,733	98	2.2	Nexus	97	92	1.9
South Limb Definition	207	95	2.5	Notus	157	96	2.2
New Discovery	1,822	98	2.8	Nyx	64	91	1.3
Banana other	882	97	2.2	Petra	301	97	1.7
Zeta	4,308	89	1.4	Quirinus	156	96	2.2
Plutus	2,437	97	2.4	SW Mango	333	98	2.1
Ophion	155	96	1.9	The Dome	56	98	1.7
Selene North	487	98	2.4	Zone 5 NE	74	99	1.4

Note: Length weighted mean recovery values for intersections >=100 m downhole.

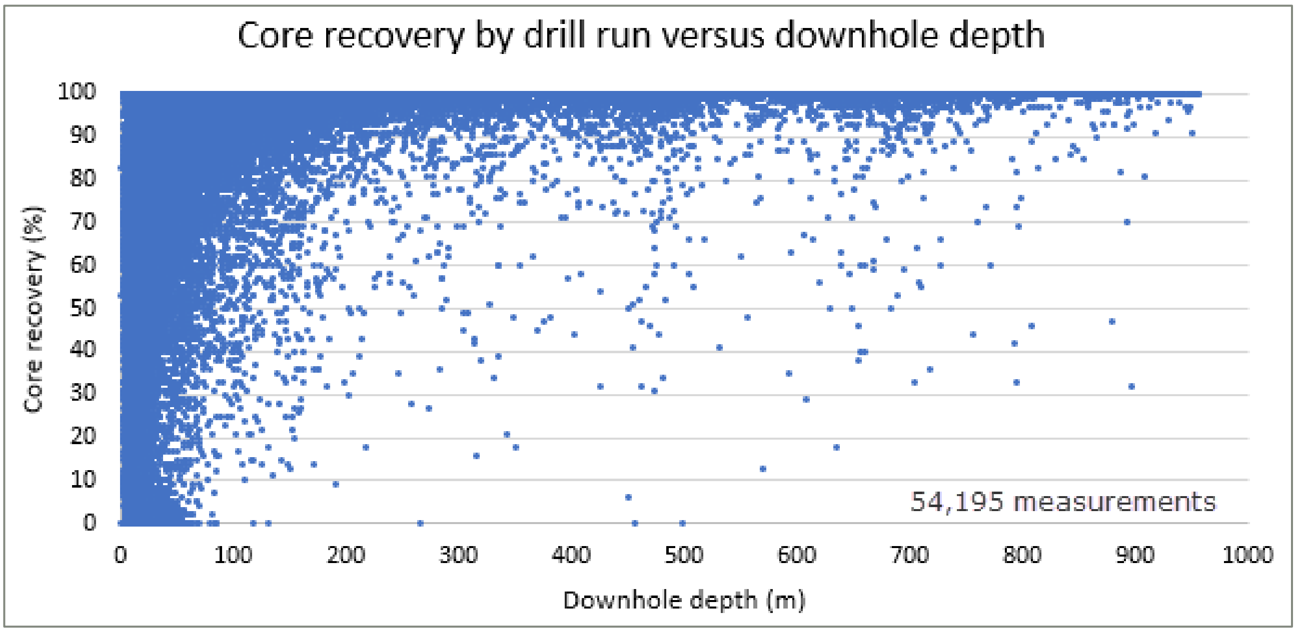


Figure 7-3 Downhole depth vs core recovery measurements for Mineral Resource model areas

The assay information from the DD and RC drillholes, in conjunction with associated geotechnical and hydrogeological studies, underpins the Mineral Resource and Ore Reserve estimates for the Project area. Drillholes without validated collar locations, downhole surveys or assays are not used in the Mineral Resource estimations.

7.2 TOPOGRAPHY AND COLLAR LOCATIONS

Early exploration and drilling used a digital terrain model (DTM) based on 1:80000 aerial photography flown in 2002. In 2013, Southern Mapping Consultants (Botswana) generated a high-resolution light detection and ranging (LiDAR) based DTM over the Project area.

Drillhole collar surveys have historically been performed by independent licensed surveyors (e.g. Drysdale and Associates Consulting, BBC Surveying Pty Ltd) using surveyed control points and Digital Global Positioning Systems (DGPS). Since November 2020, the Zone 5 Mine Chief Surveyor has surveyed collar locations using a DGPS after drillholes were completed.

Drillhole locations are stored in UTM WGS84 Z34S coordinates.

Historical drillholes without verified collar locations are not used for Mineral Resource estimation work.

7.3 DOWNHOLE SURVEYS

Downhole drillhole orientation surveys for early exploration drillholes were measured using Reflex EZ-Trac multi-shot instruments, generally from the bottom of drillhole upwards at consistent intervals (5 m to 10 m). The tool works well for RC drilling and care has been taken to remove readings influenced by the steel drillhole casing used in the upper portions of many of the drillholes. Readings from the Reflex EZ-Trac are magnetic and have been converted to true north using annual declination data obtained from the Natural Resource Canada website.

From 2013 onwards, downhole surveys have been conducted using the Reflex Gyro true north seeking tool which is capable of surveying in both magnetic and non-magnetic environments in any direction. Readings are taken from the bottom of the drillhole upwards at between 10 m and 50 m intervals depending on the final depth of the drillhole. Data is transferred from the on-board memory of the tool via Bluetooth and is locked from editing to generate an audit trail for the dataset.

Currently, the downhole survey tools are calibrated weekly against four known orientations with the expectations that readings returned be within 1.8° in azimuth and 0.3° in dip.

7.4 GEOLOGICAL AND GEOTECHNICAL LOGGING

Logging uses project-specific codes first implemented in 2010. KCM geologists currently log the drillholes onto structured paper logging sheets that are then entered into the AcQuire database. Only existing nomenclature can be used for details such as stratigraphic unit, major and minor lithology, weathering, alteration and mineralisation style and intensity, veining, structure. Additional data such as core recovery and rock quality designation (RQD) by drill run, and location of significant water downhole are also routinely collected.

From time to time, reviews of logging across the Project area have been undertaken to rationalise interpretations across the Project area. For example, a re-logging program in 2011 focused on 296 drillholes in the Banana Zone area, reconciling stratigraphy, mineralisation controls and styles as well as the overburden depth and oxidation profile in line with other areas in the Project.

Geotechnical core logging was implemented in 2008 with data initially collected for core recovery, RQD, lengths of intact core pieces, hardness, joint counts and joint infill data. The geotechnical logging method had been revised twice, in line with requirements and recommendations by specialist consultants (Middindi Consulting and OHMS Consulting). During 2013, a more comprehensive geotechnical and structural logging system was introduced including orientated core and measurements for the use of Bieniawski’s rock mass rating (RMR) classification system. Additional data included orientation measurements for bedding, veins, structures and joints.

The geotechnical logging was again revised in 2019 to include the Q rating system of Barton (1974). The new system used a slightly different classification system and logging codes for a more detailed description. Due to the detailed geotechnical logging procedures, logging of geotechnical holes after 2019 is constrained to 10 m above the mineralisation to the end of the hole, with a select few holes being logged from the surface to end of the hole.

A total of 65 geotechnical drillholes were completed at Zone 5 between 2013 and 2019 and a further two drillholes in 2022. The drillholes tested the planned boxcut, portal and decline locations for mining at Zone 5. Geotechnical drilling has also been completed at NE Fold (eight drillholes), Zeta NE (three drillholes) and Mango (three drillholes).

7.5 BULK DENSITY DETERMINATION

Bulk density measurements in the database for the Project area total 45,111. Values are measured on competent pieces of drill core selected by the logging geologist. Measurements are taken on small pieces (0.1 m to 0.2 m) of competent drill core at approximately 2 m intervals within mineralisation and at 50 m intervals outside the mineralisation. Measurements are taken using the water immersion method with the following equation applied:

Bulk density=Mass in air/(Mass in air - Mass in water)

Bulk density for the overburden sands (2.05 t/m^3) is based on detailed geotechnical work at NE Fold completed by Crossman, Pape & Associates (Crossman, 2014).

Values are checked prior to use in Mineral Resource estimations and those considered unreasonable for the location of the measurement are culled (45,079 of the measurements have values between 1.0 t/m^3 and 4.5 t/m^3; overall mean value = 2.7 t/m^3).

Most of the deposits in the Project area that have associated Mineral Resource models have some bulk density measurements (Table 7-3). Mean values from nearby areas have been used for some models where few or no measurements exist.

Table 7-3 Bulk density measurement coverage for the Project area

Area	Count	Mean (t/m³)	Area	Count	Mean (t/m³)
Banana (Chalcocite)	775	2.73	Plutus	1,326	2.68
Banana (North Limb)	2,092	2.67	Quirinus	42	2.70
Banana (NE Fold)	6,716	2.68	Selene North	5	2.53
Banana (North)	309	2.63	Selene South	112	2.69
Banana (South Limb)	1,812	2.71	South Mango Dome	136	2.76
Banana (South Limb Definition)	2,619	2.70	Zeta	1,108	2.67
Dikoloti	78	2.94	Zeta NE	1,391	2.71
Kgwebe Central	170	2.76	Zone 2	104	2.75
Mawana Fold	155	2.74	Zone 4	728	2.74
NE Mango	1,622	2.72	Zone 5	16,931	2.72
New Discovery	3,709	2.72	Zone 5 NE	78	2.74
Nexus	81	2.69	Zone 5N	1,178	2.71
Nyx	18	2.66	Zone 6	1,100	2.69
Ophion	16	2.76	Zone 8	17	2.57
Petra	558	2.68	Zone 9	93	2.63

Note: Count of values between 1 t/m³ and 4.5 t/m³.

7.6 SAMPLING, SAMPLE PREPARATION AND ASSAYING

7.6.1 Diamond Core

Similar procedures have been used for all phases of drilling and are summarised as follows.

After transport from the drill rig to the core shed, trays of drill core are cleaned and laid out for interval mark up and marking of the core centreline. The drill core is then logged and photographed. Intervals to be sampled are selected by the logging geologist and do not cross lithological or mineralisation boundaries. Currently, samples begin 10 m before and end 10 m after the mineralisation, into the footwall NPF (in early DD drilling the sampling margin was only 2–3 m either side of the mineralisation). Sample lengths range between 0.3 m and 1.0 m and are generally sawn half-core, with the same half of the core sampled down the drillhole wherever possible (minimum sample length for samples collected on the DML licences, pre-KCM ownership was 0.1 m). The samples are placed in individually numbered sample bags for shipping to the assay laboratory. The other half of the drill core is retained as a permanent record.

7.6.2 Reverse Circulation

Samples from RC drilling are collected at 1 m intervals downhole as bulk samples of approximately 30 kg. The relationship between drillhole diameter and the weight of sample collected is used to determine the recovery from the RC drilling. As for the DD drilling, sampling begins 10 m before, and ends 10 m after the mineralisation. The bulk RC sample is split to 1/16th of the original sample size (four splits) for a sample mass of approximately 1.5 kg for finer crushing and splitting at the assay laboratory. Currently, a portable x-ray fluorescence (XRF) (Olympus Delta DPO 2000 Series) is used to assist with assay interval selection for RC sampling.

7.6.3 Sample Preparation and Assaying

Preparation and assaying of Mineral Resource related samples has been completed by a number of different laboratories over time. Post-2006, all assaying has been completed by ISO accredited laboratories. This may also be true for pre-2006 assaying, but the details are not contained in the database.

The laboratory sample preparation methodology is essentially unchanged over time for the Project. Samples are weighed, dried and crushed (>70% passing 2 mm), before being pulverised (>85% passing 75 µm) and split for assay.

Assaying methodology has changed over time with slightly different methods used by each owner of the Project. Methodologies are summarised in Table 7-4. Minimal details are available for assaying pre-Hana and DML. Many of the drillholes within Mineral Resource model areas that were drilled in the early years of the Project have since been twinned by later drilling and are not used in the Mineral Resource modelling.

Table 7-4 Summary of assaying techniques

Company	Years	Laboratory	Methodology
US Steel	1970–1980	Unknown	XRF for all assays.
AAC	1989–1994	Unknown	Atomic absorption spectrometry (AAS) for all assays.
Delta Gold	1996–2000	Unknown	AAS for all assays.
DML	2006–2013	SGS, Genalysis or ALS, Johannesburg or Perth	Aqua Regia or three-acid digest* with inductively coupled plasma optical emission spectrometry (ICP-OES) finish (up to 33 elements including Cu, Ag, Pb, Zn).
Hana	2007–2013	ALS Johannesburg or Scientific Services Ltd, Cape Town	Cu, Ag, Pb, Zn – acid digest with AAS finish. Acid soluble copper (ASCu) – 5% H_2SO_4 cold leach with AAS finish. Mo by XRF.
KCM	2013–present	Scientific Services Ltd, Cape Town	Aqua Regia or four-acid digest with ICP-AES finish (33 elements including Cu, Ag, Pb, Zn). Cu >10,000 ppm re-assayed with AAS finish.
KCM	2014-	Scientific Services Ltd, Cape Town	Cu >1,000 ppm analysed for ASCu; 1 hour 5% H_2SO_4 cold leach with AAS finish.
KCM	2017-	Scientific Services Ltd, Cape Town	All mineralised samples assayed for S and Fe to aid mineralogical classification of Cu species.
KCM	Zone 5 Exploration and off-ore drilling	ALS Johannesburg or Alfred H Knight Laboratories, Zambia	Aqua Regia or four-acid digest with inductively coupled plasma optical emission spectrometry (ICP-OES) finish (33 elements including Cu, Ag, Pb, Zn). Cu >10,000 ppm re-assayed with ICP-AES finish. ASCu by H_2SO_4 leach with AAS finish. Fluorine (F) by KOH fusion and ion chromatography.

*Uncertainty exists around the digest method used for KCM assaying. Notations in documentation suggest either aqua regia or three-acid; both are considered partial digests.

7.7 QUALITY ASSURANCE/QUALITY CONTROL

QAQC data across the Project area is available and has been reviewed by various operators historically (back to 2006), and by the ERM Competent Person. The drillholes completed in years prior to that are largely located in the NE Fold and Zeta-Plutus areas and comprise only 3% of the total drillhole dataset. Many have since been twinned by later drilling and are no longer used in the Mineral Resource estimates.

Since 2007, QAQC has been conducted methodically by the various owners of the Property. ISO accredited laboratories have been used and most drill programs included the use of an 'umpire' laboratory as well as the usual insertion of Certified Reference Materials (CRMs) and blanks, and assaying of pulp and coarse duplicate samples. Use of these methods allows monitoring of analytical precision, analytical accuracy, and potential contamination during assaying. Insertion rates for each type of QAQC sample vary slightly from area to area, depending on the Company involved at the time, but are generally between 1 in 20 and 1 in 30 (Table 7-5). QAQC analysis is generally restricted to monitoring of copper and silver assays, though sporadic monitoring of sulphur and acid soluble copper assays has also occurred. The exception is the occasional inclusion of additional elements including acid soluble copper in Zone 5 QAQC.

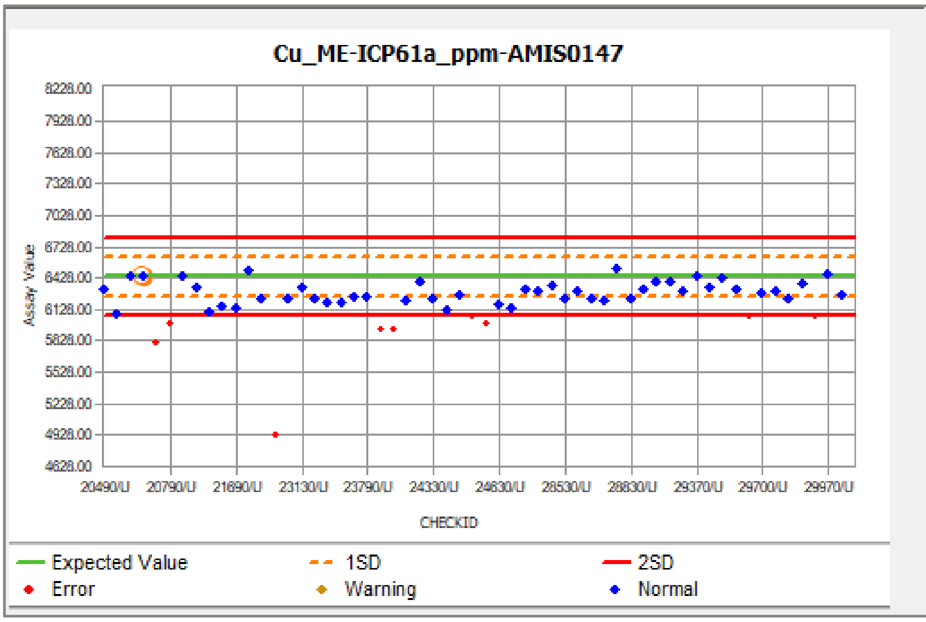
Table 7-5 Summary of QAQC coverage by area

Area	Count of Cu assays	Count of Cu QAQC samples				As percentage of total Cu assays			
		Blank	Duplicate	CRM	Total	Blank	Duplicate	CRM	Total
Chalcocite	5,045	193	183	182	**558**	4%	4%	4%	**11%**
Banana North Limb	9,442	340	288	329	**957**	4%	3%	3%	**10%**
NE Fold	16,676	530	517	516	**1,563**	3%	3%	3%	**9%**
Banana South Limb	9,544	342	310	352	**1,004**	4%	3%	4%	**11%**
South Limb Definition	4,862	174	178	184	**536**	4%	4%	4%	**11%**
Mawana Fold	284	11	11	10	**32**	4%	4%	4%	**11%**
Mango NE	5,675	262	248	264	**774**	5%	4%	5%	**14%**
New Discovery	5,509	210	209	197	**616**	4%	4%	4%	**11%**
Ophion	2,393	88	110	82	**280**	4%	5%	3%	**12%**
Plutus	7,741	464	461	476	**1,401**	6%	6%	6%	**18%**
Selene	2,422	119	161	112	**392**	5%	7%	5%	**16%**
South Mango Dome	520	20	18	20	**58**	4%	3%	4%	**11%**
Zone 5	42,796	2,060	2,009	2,609	**6,678**	5%	5%	6%	**16%**
Zeta	21,204	572	575	641	**1,788**	3%	3%	3%	**8%**
Zeta NE	5,435	309	334	329	**972**	6%	6%	6%	**17%**
Zone 5N	2,395	102	107	102	**311**	4%	4%	4%	**13%**
Zone 6	4,062	138	138	139	**415**	3%	3%	3%	**10%**
TOTAL	**146,346**	**5,934**	**5,857**	**6,544**	**18,335**	**4%**	**4%**	**4%**	**13%**

A variety of CRMs have been used over time and the range of expected values allows adequate monitoring of assays at low, medium and high grades for copper and silver. As an example, the current CRM list for the Zone 5 assaying is shown in Table 7-6. Examples of time sequence plots for two of the Zone 5 CRMs from the 2020–2022 drilling are shown in Figure 7-4 and Figure 7-5. The aim is to have results fall within the two standard deviations (SD) tolerance lines in these graphs, with samples outside that threshold being investigated for re-assaying.

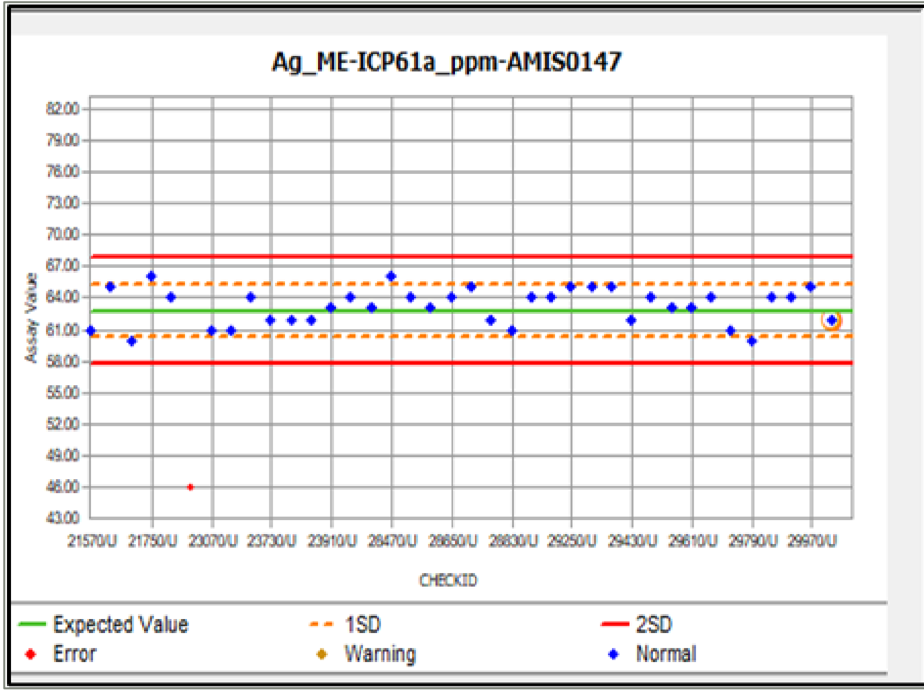
Table 7-6 Summary of Zone 5 CRMs

CRM	Cu (%)		Ag (g/t)	
	Mean	2 SD	Mean	2 SD
AMIS0071	0.8874	0.063	2.22	0.87
AMIS0072	1.65	0.095	3.5	0.9
AMIS0088	0.3216	0.0222		
AMIS0119	0.637	0.054		
AMIS0128	1.55	0.078	2.04	0.2
AMIS0147	0.644	0.368	62.8	5
AMIS0153	0.1993	0.0114	19.9	1.3
AMIS0158	0.037	0.0016	5.6	0.9
AMIS0161	0.4535	0.02		
AMIS0358	0.758	0.0314		
CDN-ME-1410	3.8	0.17	69	3.8



Statistics	
Cu_ME-ICP61a_ppm	AMIS0147
# of Analyses above Threshold	57
# Outside Warning Limit	9
# Outside Error Limit	9
# of Analyses below Threshold	0
% Outside Error Limit	15.7895
Mean	6226.8421
Median	6250
Min	4930
Max	6520
Standard Deviation	229.5349
% Rel. Std. Dev.	3.6862
Coeff. of Var.	0.0369
Standard Error	30.4026
% Rel. Std. Err.	0.4883
Total Bias	-0.0331
% Mean Bias	-3.3099

Figure 7-4 Time sequence plot for CRM AMISO47 (copper) 2020–2022



Statistics	
Ag_ME-ICP61a_ppm	AMIS0147
# of Analyses above Threshold	38
# Outside Warning Limit	1
# Outside Error Limit	1
# of Analyses below Threshold	0
% Outside Error Limit	2.6316
Mean	62.7368
Median	63.5
Min	46
Max	66
Standard Deviation	3.2189
% Rel. Std. Dev.	5.1308
Coeff. of Var.	0.0513
Standard Error	0.5222
% Rel. Std. Err.	0.8323
Total Bias	-0.001
% Mean Bias	-0.1006

Figure 7-5 Time sequence plot for CRM AMISO147 (silver) 2020–2022

Both internal and external QAQC audits have been performed on the CRM dataset periodically. Key findings from these reviews include:

- Copper CRMs and recent silver CRMs have generally performed well across the Project area over time with many of the apparent failures assessed as mislabelling.
- Umpire laboratory check analyses indicate a historical negative bias in silver assays through Scientific Services between 2008 and 2015. The magnitude of the bias has been estimated at 5–15% by KCM, which results in a conservative silver grade estimate in the area of the affected drillholes. Given silver contributes <10% of the deposit value, this issue is not considered material by the Competent Person.

Duplicate samples act as a check on sample representivity and have been included in the QAQC sample stream as either pulp duplicates or coarse (first split) duplicates. Pulp duplicates generally perform better than coarse duplicates, and copper results are better than those for silver. Both these outcomes are as expected. Examples of coarse duplicate scatterplots for assays from Mango NE, Zeta NE and Zone 5N are shown in Figure 7-6.

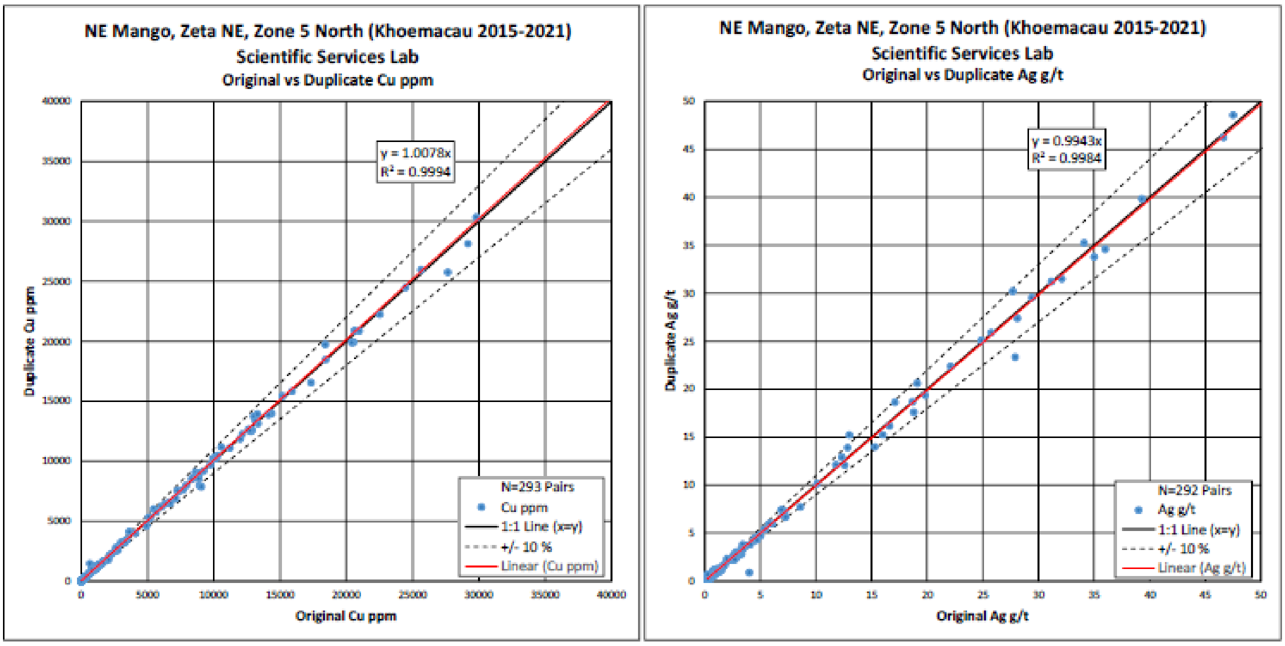


Figure 7-6 Example of coarse duplicate scatterplots (Expansion Project, 2015–2021)

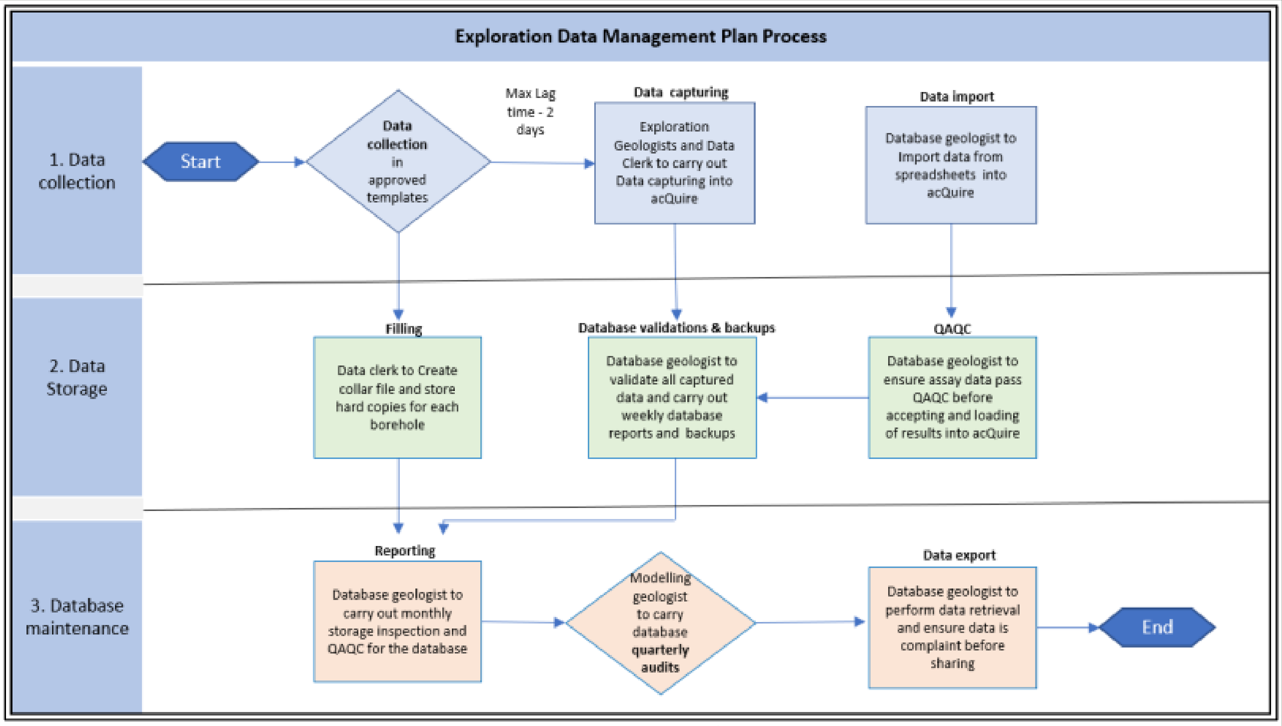
Sample contamination is monitored via the insertion of coarse "blank" (very low value) samples into the sample stream. Pre-2018, a non-certified blank was used with generally acceptable results. A certified blank (AMIS0405) has been used since 2018. Blank analyses generally show acceptable performance, with most "fails" being attributed to mislabelling of samples.

7.8 DATA QUALITY REVIEW

Prior to the introduction of an AcQuire database in 2019, an SQL Server database (Sable Data Warehouse Management System) was in place. Historical data was imported to the AcQuire system and any errors rectified. Automatic validations are in place to ensure the ongoing integrity of the logged data. The database is maintained on the site server with partial daily and full weekly backups. A procedure is in place to ensure efficient and error-free data handling both into and on export from the database (Figure 7-7).

A selection of drillhole collar and downhole surveys, as well as assay certificates and geological logs, from a variety of drill programs, were reviewed during the site visit by the Competent Person. The review indicates standard practices have been used. No material issues are noted by ERM. A QAQC database is available and has been maintained for most of the Mineral Resource related sampling. The results are considered acceptable, reflecting representative sampling and assaying of copper, the key economic variable.

The bulk density measurement procedure has been reviewed and ERM considers the dataset is appropriate for use in tonnage estimation across the Project. In conjunction with the geological logging and assaying, ERM considers there is sufficient information to support the classification applied to the Mineral Resource models.



Source: KCM Exploration Data Management Procedure (April 2022)

Figure 7-7 KCM Data Management Plan flowsheet

7.9 SAMPLE SECURITY

Samples for the Mineral Resource estimates are predominantly from surface drilling, though since 2021, most Zone 5 samples are from underground drilling. Company personnel are responsible for both RC and DD sample collection and organisation of samples for shipment to the laboratory. Samples are bagged and sealed prior to transport to the laboratory via commercial carriers. This process is supervised by senior site geologists.

Pre-2021 DD core, RC chips and laboratory pulps are stored on site within a gated compound. More recent pulps are stored at the assay laboratory. Computers and other sensitive documentation are stored in locked office buildings. No security breaches related to raw data are known.

7.10 DATA VERIFICATION STATEMENT

The review undertaken by the ERM Competent Person of the drilling, sampling and assaying procedures indicated industry standard practices have been utilised across the Project with no material issues identified. ERM considers the data supporting the Mineral Resource estimations has no material bias and is representative of the samples taken.

8 MINERAL RESOURCE ESTIMATES

The Khoemacau Mineral Resources have been independently reported by ERM in accordance with the JORC Code (2012) guidelines and the requirements of Chapter 18 of the HKEx Listing Rules.

8.1 MINERAL RESOURCE CLASSIFICATION SYSTEM UNDER JORC CODE

The JORC Code (2012) defines a Mineral Resource as *"a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality) 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 subdivided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories."*

Further, the JORC Code acknowledges *"Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results."*

Key considerations for the reporting of a Mineral Resource in accordance with the JORC Code (2012) guidelines include:

- The requirement for reasonable prospects for eventual economic extraction (RPEEE)
- Data collection methodology and record keeping for geology, assay, bulk density and other sampling information is of sufficient quantity and relevant to the style of mineralisation, with data quality checks returning reasonable results
- A geological interpretation has been compiled which supports mineralisation continuity
- The chosen estimation methodology is appropriate to the deposit style and reflective of internal grade variability, sample spacing and selective mining units
- Classification of the Mineral Resource has considered varying confidence levels and accounts for all relevant factors, i.e. relative confidence in tonnage/grade, computations, confidence in continuity of geology and grade, quantity and distribution of the data.

8.2 LOCATION OF THE MINERAL RESOURCES

A total of 15 models (19 areas) comprises the total reported Mineral Resources for the Project. Table 8-1 lists the model areas, report date, author and contributing drillhole metres for the Project. The variety of reporting dates, authors and cut-off grades is a function of changing Project owners and exploration priorities across the Project area over time. Zone 5 is currently in production, with Zone 5N, Zeta NE and Mango NE2 comprising the "Expansion Project" deposits which also have reported Ore Reserves.

Figure 8-1 to Figure 8-7 show the location of drillholes used in the Mineral Resource estimates listed in Table 8-1.

Table 8-1 Summary of datasets for reported Mineral Resources

Model area	Abbreviation	Year	Author	Contributing data	
				Drillholes	**Metres**
Zone 5	Zone 5	2022	KCM	941	294,744
Zeta North East	Zeta NE	2020	Ridge	223	35,293
Zone 5 North	Zone 5N	2023	Ridge	62	23,151
Mango North East	Mango NE	2021	Ridge	116	23,189
Zeta Underground	Zeta UG	2013	QG	500	53,314
Selene		2013	Xstract	52	5,345
Zone 6		2009	GeoLogix	36	4,791
Plutus		2013	QG	605	49,096
Ophion		2013	Xstract	63	6,070
North East Fold	NEF	2022	Ridge	259	42,821
New Discovery	ND	2022	Ridge	108	18,047
South Limb Definition	SLD	2022	Ridge	129	18,581
Chalcocite		2012	DRA	95	11,414
North Limb (North, Mid, South)	NLN, NLM, NLS	2010/2012	GeoLogix/DRA	266	31,183
South Limb (North, Mid, South)	SLN, SLM, SLS	2010/2012	GeoLogix/DRA	263	34,086
Total				**3,718**	**651,125**

Note: Tabulation includes drillholes that may have been used for domain interpretations but subsequently excluded from the MR estimation dataset.

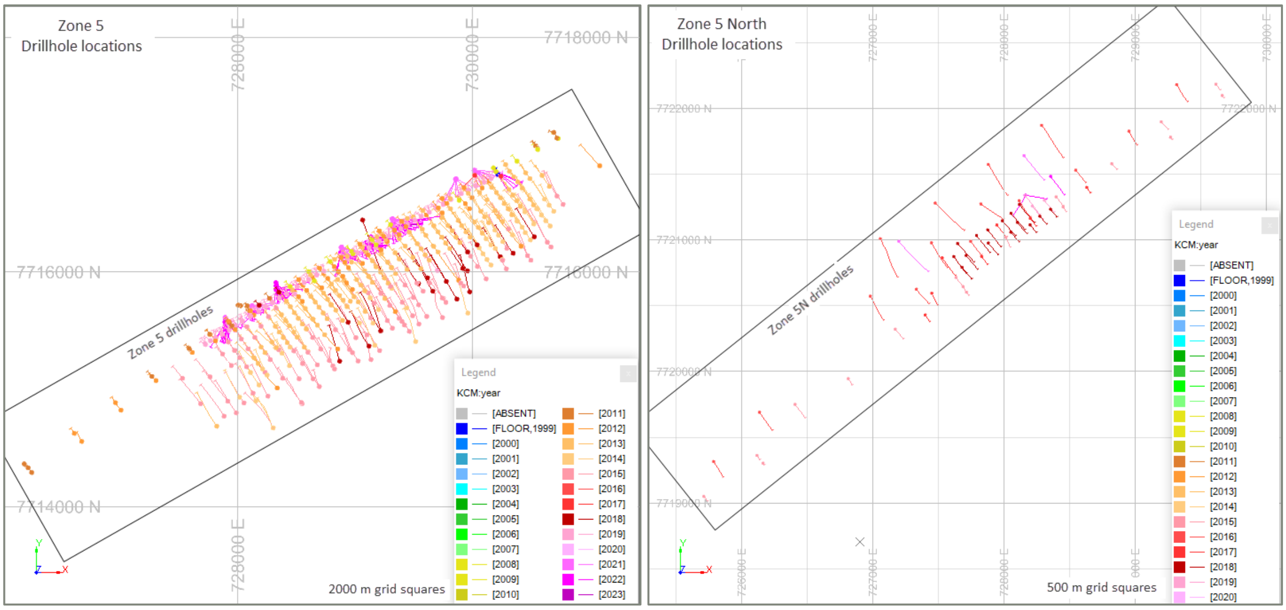


Figure 8-1 Drillhole plan for Zone 5 and Zone 5N

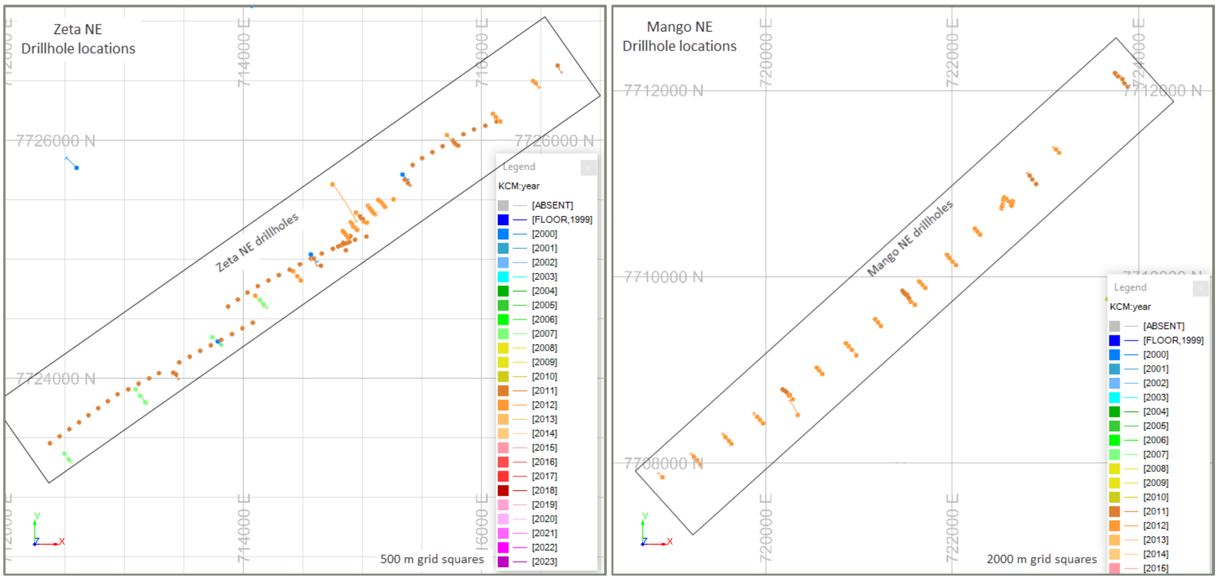


Figure 8-2 Drillhole plan for Zeta NE and Mango NE

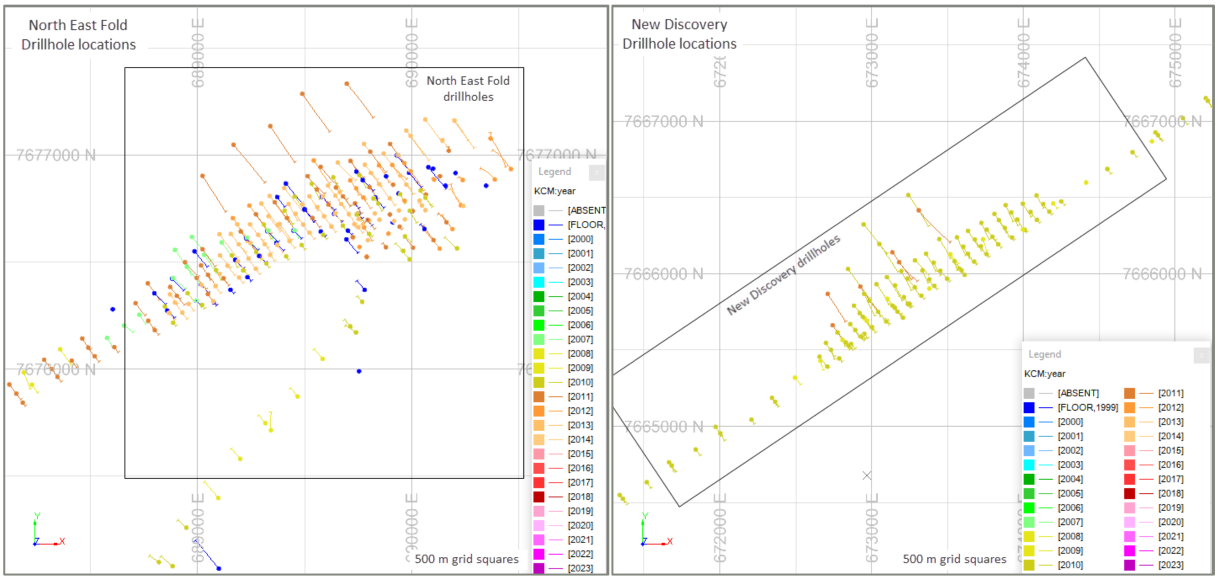


Figure 8-3 Drillhole plan for NE Fold and New Discovery

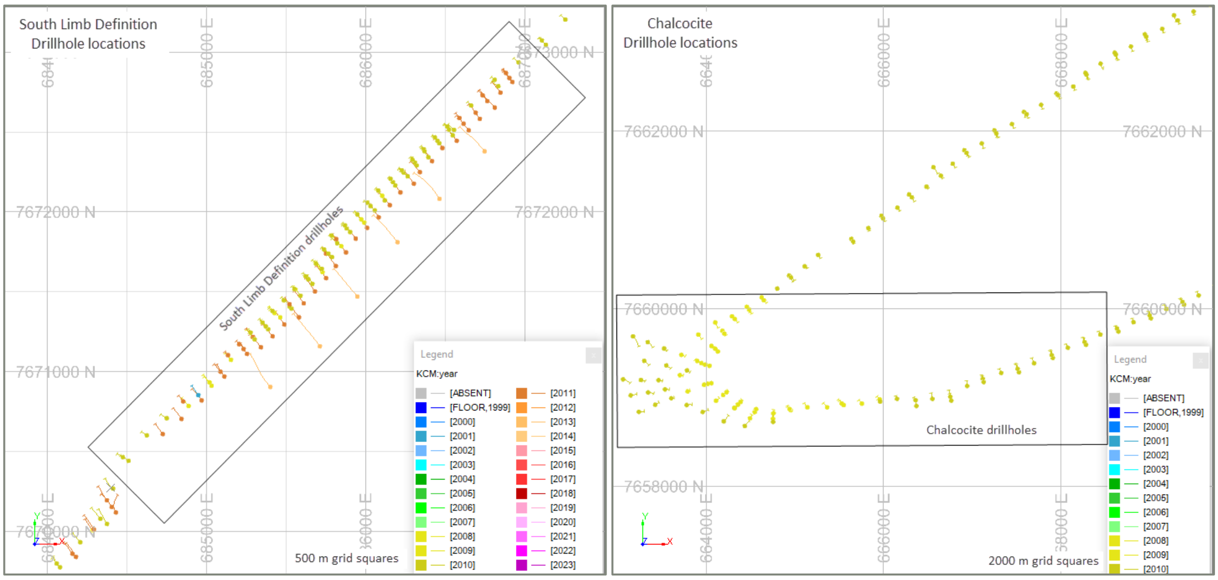


Figure 8-4 Drillhole plan for South Limb Definition and Chalcocite

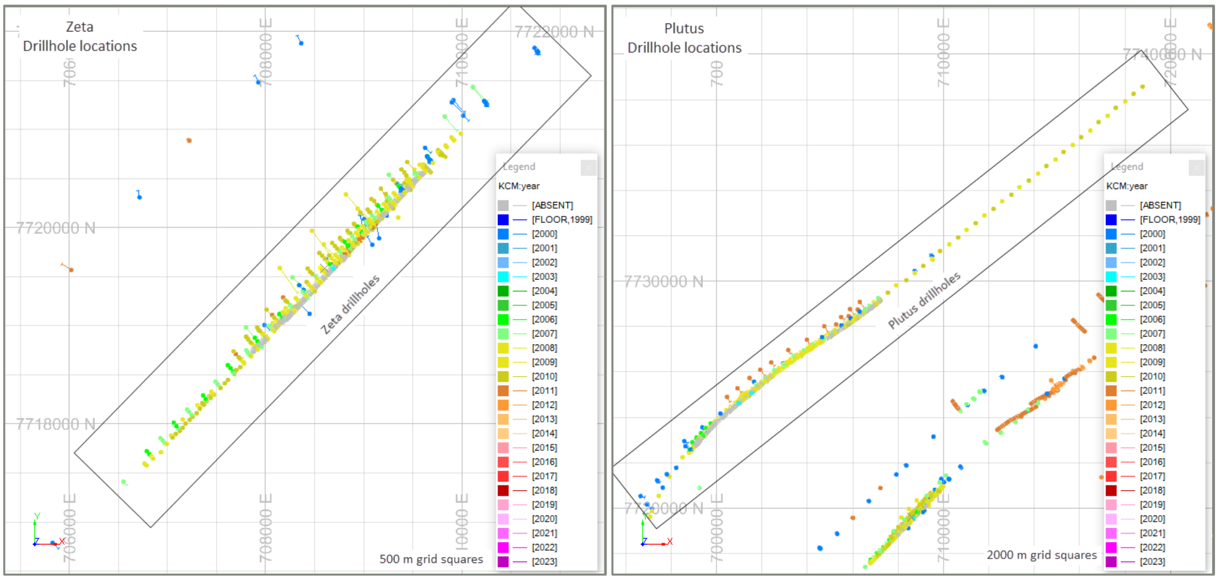


Figure 8-5 Drillhole plan for Zeta and Plutus

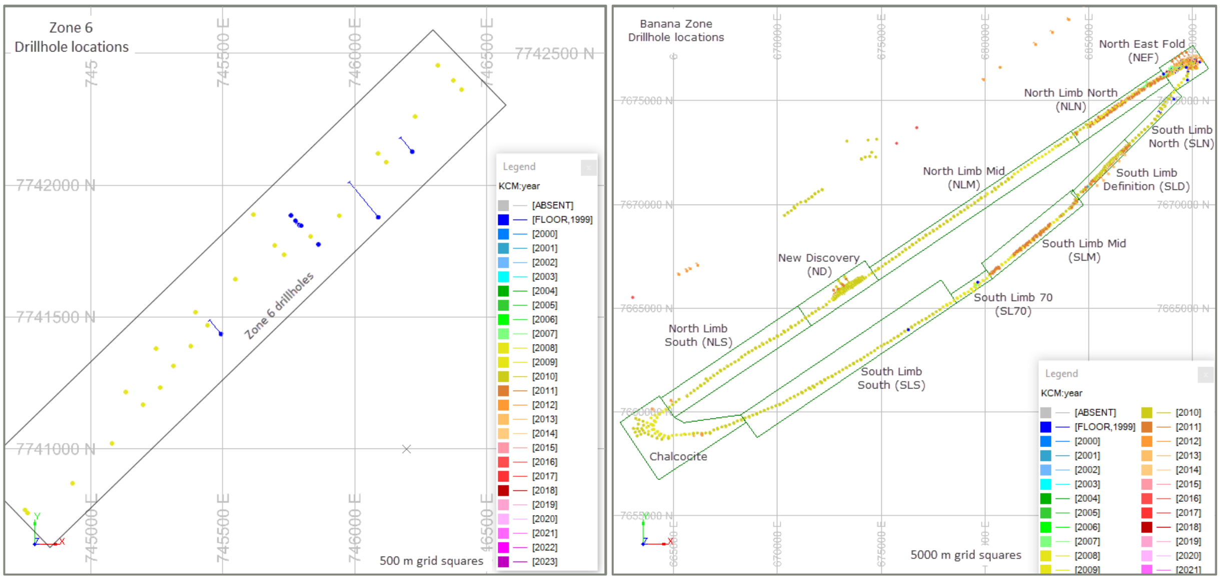


Figure 8-6 Drillhole plan for Zone 6 and Banana (other) Mineral Resource datasets

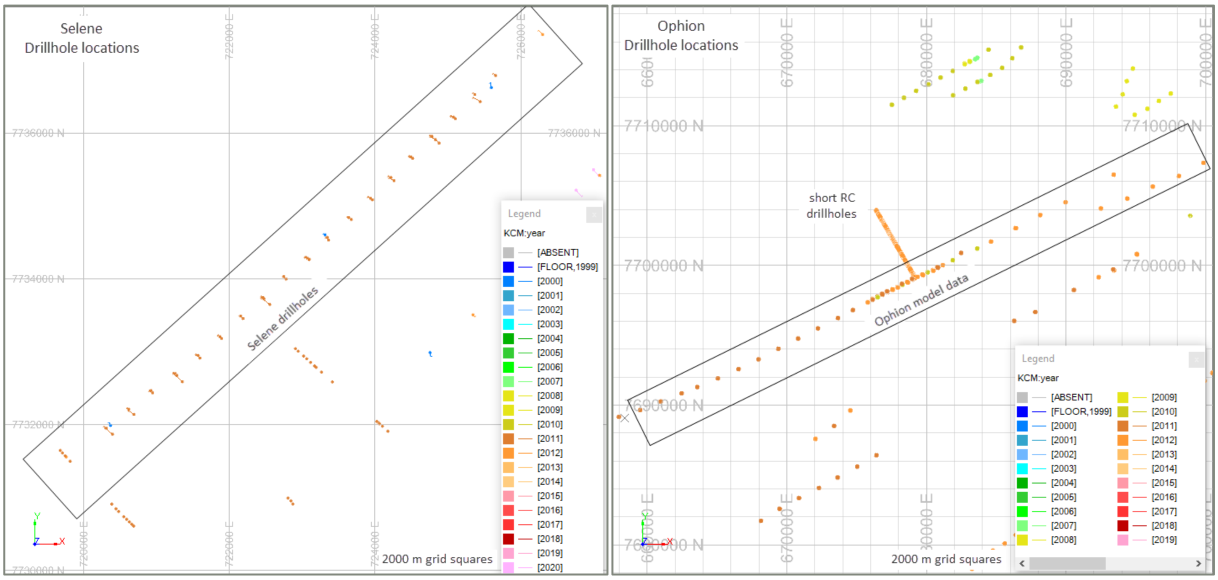


Figure 8-7 Drillhole plan for Selene and Ophion Mineral Resource dataset

8.3 STATEMENT OF MINERAL RESOURCES

8.3.1 Mineral Resource as at 31 December 2023

ERM's independent tabulation of the Mineral Resources for the Project area is shown in Table 8-2 (summary Mineral Resources) and Table 8-3 (detailed Mineral Resources). Figure 8-8 shows a breakdown of contained metal by deposit.

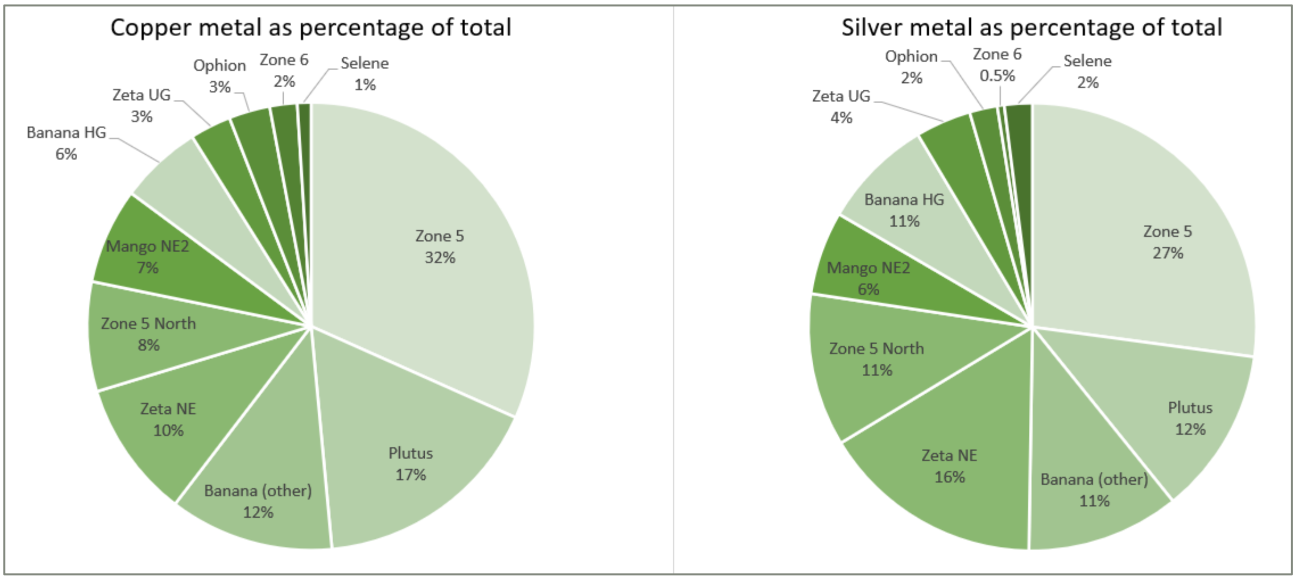


Figure 8-8 Pie chart of contained metal by area

The tabulations have been compiled in consideration of the reporting requirements of the JORC Code (2012) guidelines and of Chapter 18 of the HKEx Listing Rules and are considered suitable for public reporting. The Mineral Resource tabulations are inclusive of the Ore Reserves reported in Section 11.

Cut-off grades across the Project were originally determined using reasonable metal prices for the time of model generation to determine an economic threshold. The resultant cut-off grade for the recently modelled underground Mineral Resources is US$60-$66 NSR, which equates to approximately 1% Cu.

For this CPR, the Mineral Resource reporting cut-off criteria have been changed for some of the older models to reflect acquired orebody knowledge at adjacent deposits. As an example, the reporting cut-off grade for the 2010 and 2012 vintage models at the Banana Zone area has been increased from 0.5% Cu to 1.0% Cu, in line with the current reporting criteria at New Discovery and South Limb Definition. Similarly, the reporting cut-off grade for the Chalcocite deposit has been reduced from 0.5% Cu to 0.26% Cu, in line with recent work at the NE Fold deposit.

The majority of the total Mineral Resource for the Project is classified as Inferred (69% copper metal and 67% silver metal). There are multiple factors that contribute to this high proportion of Inferred material:

- Some of the deposits are drilled on very wide spacing which has resulted in an Inferred classification.
- The most recently updated Banana Zone and Expansion Project models have a higher level of orebody knowledge and closer drill spacing that warrants classification as both Indicated and Inferred.
- Drilling is most extensive at Zone 5 but a high proportion of the Mineral Resource there is classified as Inferred. Pre-mining exploration completed 180 drillholes greater than 500 m length and 27 drillholes greater than 1,000 m length. The orebody was generally

encountered where predicted in the exploration drilling. With an all-in cost estimated at A$300/m to A$400/m to reach the orebody from surface, coverage of wide areas at depth to the required drillhole spacing to reach the Indicated classification is economically prohibitive.

Figure 8-9 shows an example section through Zone 5 with the drillholes coloured by final depth. KCM is using a strategy of completing shorter, closely spaced fans of drillholes ("off-ore" drilling), collared from carefully selected areas of the mine development to improve classification, from Inferred to Indicated, and from Indicated to Measured, ahead of mining. Estimated all-in cost for these underground drillholes is A$150/m to A$200/m. The aim of these drillholes is to improve orebody knowledge and systematically convert Indicated to Measured and, as mining progresses, Inferred to Indicated.

Table 8-2 Summary of Khoemacau Mineral Resources as of 31 December 2023

Resource classification	Tonnage (Mt)	Grade			Contained metal	
		Cu (%)	Ag (g/t)	CuEq (%)	Cu (kt)	Ag (koz)
Underground						
Measured	14	1.9	19	2.1	270	8.5
Indicated	72	2.0	27	2.2	1,400	61
Inferred	230	1.6	20	1.8	2,700	150
Subtotal	**310**	**1.7**	**22**	**1.9**	**5,300**	**220**
Open pit						
Measured	-	-	-	-	-	-
Indicated	9	1.1	16	1.2	100	5
Inferred	50	0.51	3.9	0.54	250	6
Subtotal	**59**	**0.60**	**5.8**	**0.64**	**360**	**11**
Open pit + Underground						
Measured	14	1.9	19	2.1	270	8.5
Indicated	81	1.9	25	2.1	1,500	66
Inferred	280	1.4	17	1.6	3,900	150
TOTAL	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**
Stockpiles – Measured	0.031	1.5	13	1.6	0.45	0.013
GRAND TOTAL	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**

Notes to table:

- Reported on a dry in-situ basis and on a 100% ownership basis as of 31 December 2023. Contained metal does not imply recoverable metal. Figures are rounded after addition so may show apparent addition errors.
- Depleted to 31 December 2023. Remnant pillars inside the mining area are considered sterilised and are not included in the stated Mineral Resources.
- Reporting cut-off criteria are variable and detailed in Table 8-3.

Table 8-3 Khoemacau Mineral Resources by deposit as of 31 December 2023

Deposit	Measured			Indicated			Inferred			Total				Contained metal		Cut-off grade
	Tonnage (Mt)	Grade		Tonnage (Mt)	Grade		Tonnage (Mt)	Grade		Tonnage (Mt)	Grade					
		Cu (%)	Ag (g/t)		Cu (%)	Ag (g/t)		Cu (%)	Ag (g/t)		Cu (%)	Ag (g/t)	CuEq (%)	Cu (kt)	Ag (Moz)	
Zone 5[2]	10	2.1	20	27	1.9	19	52	2.1	23	89	2.0	21	2.2	1800	61	$65 NSR
Zeta NE[3]	-	-	-	8.9	2.5	53	20	1.7	33	29	2.0	39	2.3	570	37	1% Cu
Zone 5N[3]	-	-	-	4.4	2.6	44	19	1.8	30	23	1.9	32	2.2	450	24	1% Cu
Mango NE2[3]	-	-	-	11	1.9	23	10	1.9	19	21	1.9	21	2.1	410	15	1% Cu
NE Fold[4]	-	-	-	9.3	1.1	16	0.07	2.6	29	9.3	1.1	16	1.2	100	4.9	0.26% Cu
New Discovery[5]	-	-	-	3.4	1.9	35	4.1	1.4	21	7.5	1.6	27	1.8	120	6.6	1% Cu
South Limb Definition[5]	-	-	-	2.6	2.2	33	2.9	2.4	36	5.6	2.3	34	2.6	130	6.2	1% Cu
North Limb North[6]	-	-	-	0.01	1.0	14	6.2	1.6	31	6.2	1.6	31	1.9	100	6.2	1% Cu
North Limb Mid[6]	-	-	-	-	-	-	3.0	1.4	20	3.0	1.4	20	1.6	42	2.0	1% Cu
North Limb South[6]	-	-	-	-	-	-	1.6	1.1	15	1.6	1.1	15	1.2	18	0.74	1% Cu
Chalcocite[7]	-	-	-	-	-	-	50	0.50	3.9	50	0.50	3.9	0.54	250	6.2	0.26% Cu
South Limb South[8]	-	-	-	-	-	-	6.3	1.2	13	6.3	1.2	13	1.3	79	2.6	1% Cu
South Limb[8]	-	-	-	-	-	-	3.3	1.5	20	3.3	1.5	20	1.6	49	2.1	1% Cu
South Limb Mid[8]	-	-	-	-	-	-	8.0	1.4	20	8.0	1.4	20	1.6	110	5.1	1% Cu
South Limb North[8]	-	-	-	-	-	-	1.2	1.5	20	1.2	1.5	20	1.6	18	0.78	1% Cu
Zeta UG[9]	0.88	1.8	31	4.7	1.7	30	4.3	1.4	26	9.8	1.6	28	1.8	160	9.0	1.07% CuEq
Plutus[10]	2.4	1.3	13	9.3	1.3	13	57	1.4	12	69	1.4	12	1.5	940	27	1.07% CuEq
Selene[11]	-	-	-	-	-	-	7.1	1.2	20	7.1	1.2	20	1.3	83	4.5	1% Cu
Ophion[11]	-	-	-	-	-	-	14	1.1	12	14	1.1	12	1.1	150	5.3	0.6% Cu
Zone 6[11]	-	-	-	-	-	-	5.2	1.6	7.2	5.2	1.6	7.2	1.7	85	1.2	1% Cu
Stockpile (Zone 5)	0.031	1.46	13	-	-	-	-	-	-	0.031	1.46	13	1.6	0.45	0.013	
Total	**13**	**2.0**	**19**	**84**	**1.8**	**25**	**270**	**1.4**	**17**	**370**	**1.5**	**19**	**1.7**	**5,700**	**230**	

Notes to table:

1. All Mineral Resources reported on a dry in-situ basis and on a 100% ownership basis, as of 31 December 2023. Contained metal does not imply recoverable metal. Figures are rounded after addition so may show apparent addition errors.

2. Underground Mineral Resources include all blocks inside MSO shapes returning $65 NSR, based on $3.54/lb copper, $21.35/oz silver, recoveries averaging 88% for copper and 84% for silver and assumed payability of 97% and 90% respectively. Depleted to 31 December 2023. Remnant pillars inside the mining area are considered sterilised and are not included in the stated Mineral Resources.
3. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade was selected based on assumed prices of US$3.54/lb and US$21.35/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 84% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$66/t of NSR value.
4. Open pit Mineral Resources reported using the formula CuEq% = Cu% + (Ag g/t +0.0083) inside an optimised pit shell developed using US$3.39/lb copper, US$20/oz silver, average recovery of 79% for copper and silver, US$2/t mining cost, US$11.60/t processing cost, a 45° slope angle in sulphide, and assumed payability of 97% for copper and 90% for silver. Only sulphide material is reported.
5. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade was selected based on assumed prices of US$3.20/lb and US$20/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 83% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$66/t of NSR value.
6. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade of 1% in line with New Discovery.
7. Open pit Mineral Resources reported for sulphide material only inside a revenue factor 1.2 optimised pit generated using US$4.03/lb copper, 88% recovery for copper and silver, US$3/t mining cost, US$10/t processing cost, and a 42° slope angle.
8. Underground Mineral Resources reported inside the high-grade zones and for sulphide material only. Reporting cut-off grade of 1% Cu in line with South Limb Definition.
9. Underground Mineral Resources reported above a cut-off grade of 1.07% CuEq (CuEq = Cu + Ag*0.0113); US$3.24/lb copper and US$25/oz silver and a 5 m minimum mining width.
10. Underground Mineral Resources reported above a 1.07% CuEq cut-off (CuEq = Cu + Ag*0.0113); US$3.24/lb copper and US$25/oz silver.
11. Underground Mineral Resources reported inside high-grade zone and for sulphide material only.

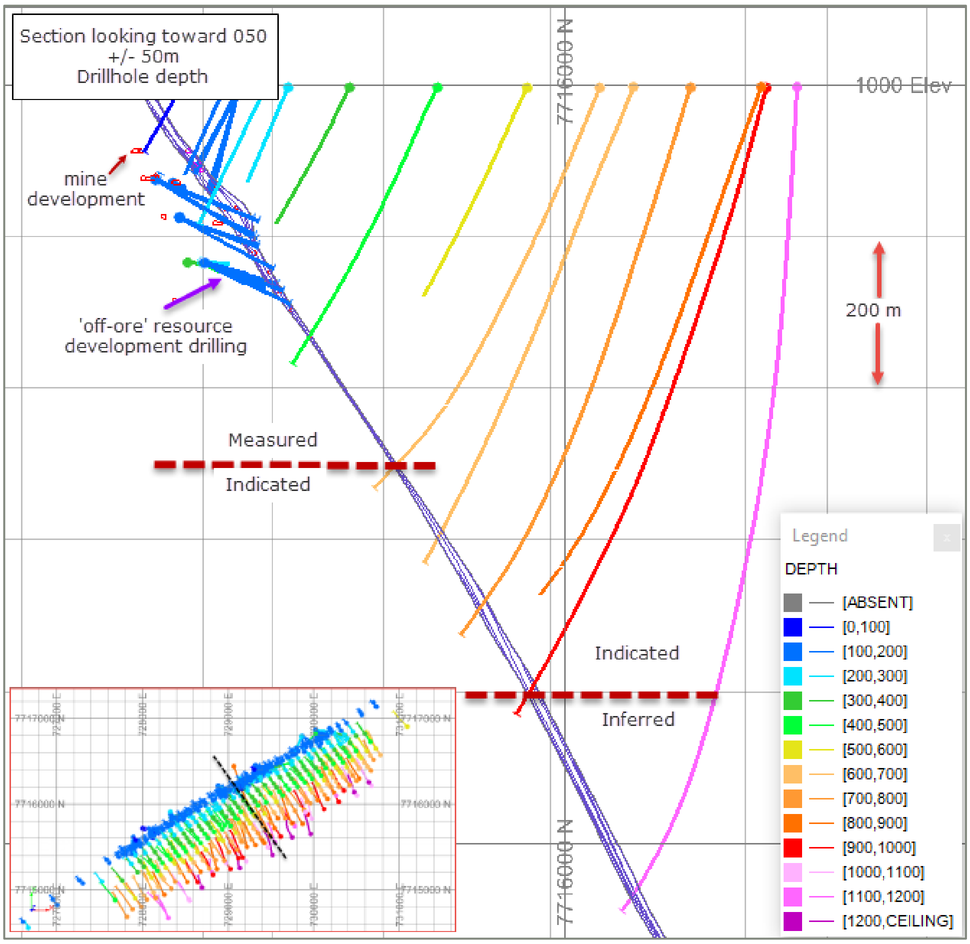


Figure 8-9 Example section through Zone 5 showing drillhole depth relative to Mineral Resource classification

The current average length of the off-ore drillholes is 187 m. The off-ore drillholes also offer the advantage of increased control over the angle if intersection of the drillholes with the orebody. An example layout for the off-ore drilling is shown in Figure 8-10. Infill underground drilling to date confirms the extension of the ores zones at depth and therefore supports previous resource estimates that have relied on surface drilling alone.

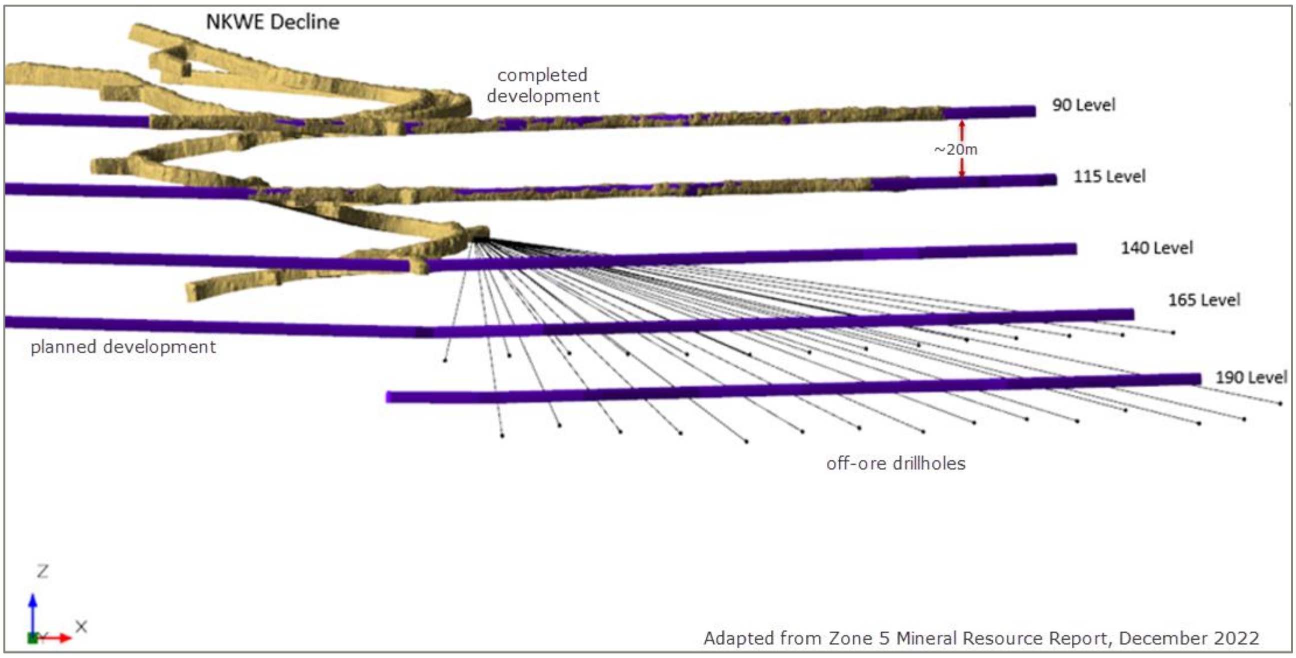


Figure 8-10 Example of off-ore drillhole layout
Source: KCM

8.3.2 Current versus historical Mineral Resources

ERM notes there is a difference in the Mineral Resource estimate reported in this report (370 Mt @ 1.5% Cu), compared with previous figures disclosed on the KCM website (454 Mt @ 1.4% Cu). Reasons for the differences are described in detail in the relevant sections of this report. In summary the difference is largely attributable to the Banana Zone resource, which (according to MMG) is considered a non-core part of the project and wasn't considered material by MMG in determining its acquisition price, as MMG didn't include the Banana Zone resource in its discounted cashflow model.

Banana Zone has been managed by multiple companies and technical specialists in the past. In the course of completing due diligence on the resource, ERM have been unable to locate the exact supporting information that KCM have previously relied upon, dated 2014, to report the Banana Zone Mineral Resource. The Competent Person has reverted to the next-most-recently available information, dated from 2010 to 2012, to report a Mineral Resource estimate for Banana Zone.

Recent work in other parts of the Banana Zone that are considered underground targets (New Discovery, South Limb Definition) were reported at a 1% Cu cut-off grade. The reporting of the older Banana Zone resource components, previously considered open pit targets and reported at 0.5% Cu cut-off grade, has been recompiled at the 1% Cu cut-off grade in-line with this more recent reporting and associated work indicating they should be considered as underground targets. The combination of reverting to earlier models and using a more reasonable COG results in the change in the reported MR tonnage.

The Competent Person has not identified any material issues with the information it is relying on to report the MRE in the CPR.

8.4 ESTIMATION PARAMETERS AND METHODOLOGY

Table 1, as required by the JORC Code, is presented as Appendix B to this CPR. A summary of the key features of the Mineral Resource estimation methodologies used is provided below.

Grade estimates for all models are constrained by interpreted 3D wireframes around the mineralised horizons. Recently generated models (post-2015) have utilised implicit modelling packages for lithology, oxidation and mineralisation domaining. Earlier modelling relied on sectionally compiled interpretations and at the time this was the usual approach across the industry.

For most of the models, low-grade (>0.1% Cu) and high-grade (>0.5% Cu or >1% Cu) domains have been interpreted. Some models have multiple high-grade lenses. The Zone 5 model also includes internal waste and marginal domains. Exceptions to the abovementioned mineralisation domain thresholds include Ophion and Selene, where limited high-grade continuity meant only a low-grade (0.3% Cu) domain was developed. For Zeta UG, the high-grade domain was defined at 1.5% Cu. The modelling at Zeta NE utilised a 1% CuEq high-grade domain. For all models, the boundary between the high-grade and low-grade domain was treated as a hard boundary for copper and silver grade estimation, i.e. only composites located within each domain could be used to estimate grades in that domain. Estimation of all variables is generally into the copper domains, except at Zone 5 where a separate high-grade silver domain has been developed.

For each model area, additional wireframes were constructed for the base of overburden (generally sand and/or calcrete) and the base of oxidation and top of sulphide. The location of the top of sulphide is critical to modelling across the Project area, as the current processing circuit is not optimised for treatment of oxide or transition ore. Detailed work has been completed by KCM to understand the nature of the boundary, hence the decision to use logging and the ratio of acid soluble copper (ASCu) to total copper and/or the molar ratio of copper-to-sulphur to define the oxidation profile.

Grade caps were considered for each deposit dataset and implemented either pre-compositing or post-compositing to the individual datasets where necessary. Tools such as histograms, log probability plots and visual checks were used to determine composite grades that required capping. The values chosen are generally considered reasonable by the Competent Person.

Where Ordinary Kriging (OK) was chosen as the estimation methodology, variography generally comprised conventional variograms or, in some cases, back transformed normal score variograms or relative pairs variograms. The wide drill spacing (200–400 m) at some of the smaller lower-tenor deposits resulted in the use of Inverse Distance (ID) methodologies, which do not require the use of a variogram. Modelled variograms for copper and silver in the recently updated Mineral Resource models are listed in Table 8-4.

Table 8-4 Variograms for recently re-estimated deposits

Deposit	Mineralised zone	Variable	Nugget	Sill 1	Range 1 (m)			Sill 2	Range 2 (m)		
					X	Y	Z		X	Y	Z
Zone 5	Central	Cu	0.25	0.51	8	5	2	0.24	158	111	9
		Ag	0.20	0.59	6	14	4	0.22	160	150	11
	Footwall	Cu	0.40	0.26	7	36	1	0.34	120	63	2
		Ag	0.34	0.37	34	28	2	0.29	167	125	5
	Hangingwall	Cu	0.36	0.37	33	14	1	0.28	107	68	3
		Ag	0.10	0.44	36	31	1	0.46	197	152	8
New Discovery	High grade	Cu	0.15	0.57	100	45	6	0.28	200	200	20
		Ag	0.15	0.42	72	65	4	0.43	210	170	20
	Low grade	Cu	0.15	0.25	130	170	10	0.60	200	200	20
		Ag	0.15	0.14	140	170	10	0.71	200	200	20
South Limb Definition	All	Cu	0.13	0.23	175	110	22	0.64	300	380	40
		Ag	0.10	0.25	210	110	23	0.65	380	330	40
Mango NE	High grade	Cu	0.07	0.49	100	100	10	0.44	145	145	15
		Ag	0.10	0.39	45	45	5	0.51	210	210	21

	Low grade	Cu	0.10	0.40	115	115	12	0.50	240	240	24
		Ag	0.05	0.40	150	150	15	0.55	250	250	25
Zeta NE	High grade	Cu	0.20	0.50	65	65	2	0.30	160	160	6
		Ag	0.20	0.50	85	85	2	0.30	170	170	8
	Low grade	Cu	0.05	0.35	155	155	2	0.60	325	325	6
		Ag	0.20	0.30	130	130	2	0.50	215	215	8
Zone 5N	High grade	Cu	0.15	0.22	220	220	50	0.63	490	400	100
		Ag	0.20	0.32	300	285	50	0.48	450	450	100
	Hangingwall	Cu	0.50	0.20	70	105	50	0.30	215	220	100
		Ag	0.40	0.33	120	120	50	0.27	235	235	100
	Footwall	Cu	0.10	0.32	220	105	50	0.60	400	390	100
		Ag	0.40	0.26	130	105	50	0.34	285	205	100

Drillhole spacing increases with depth at all the deposits. The impact of this is most pronounced where drilling density associated with mining areas progresses to wider spaced exploration drilling. At Zeta UG and Plutus octant searching was employed to accommodate the data clustering near the base of mining. This is a commonly used strategy and is considered reasonable.

At Zone 5, the difference in drillhole spacing is accommodated in the modelling by using two separate models. The "Global model" covers areas with drillhole spacings greater than 100 m (~600 mbs) and the "Selective model" covers the area of closer spaced drilling. This approach limits the dominance of close spaced samples in the well drilled area over more widely spaced sampling at depth. The approach is not uncommon, and the outcome is considered reasonable at Zone 5.

Grade estimation strategies vary across the Project, and this is understandable given the long timeframe and variety of model authors. The selected methodologies are each considered reasonable in consideration of the mineralisation style and amount of data available in each model area at the time of model construction. A summary of key components of the estimation strategy for each model is shown in Table 8-5 to Table 8-7.

Table 8-5 Estimation strategy – Zone 5, Mango NE, Zeta NE, Zone 5N

Model		**Zone 5**	**Mango NE**	**Zeta NE**	**Zone 5N**
Modelled variables		Cu, Ag, As, Pb, Zn + ratios	Cu, Ag, Pb, Zn, As, Mo + ratios	Cu, Ag, Pb, Zn, As, Mo + ratios	Cu, Ag, Pb, Zn, As, Mo + ratios
Dimensions	Strike length	4.2 km	5 km	5 km	4.6 km
	Dip	55 SE to 65 SE	65 SE	80 NW	65 NW
Model rotation		+60°	+50°	+50°	+50°
Composite length	Cu, Ag	1 m	Full	Full	2m
	Density	Raw data	5 m	2 m	5 m
Software		Datamine	HxGn MinePlan 3D	HxGn MinePlan 3D	Leapfrog
Copper domain thresholds (high grade / low grade)		0.1% / 1%	0.1% / 1%	0.1% / CuEQ>1%	0.1% / 1%
Domaining technique		Implicit	Implicit	Implicit	Implicit
Model setup	Block layout	Sub-cells at domain boundaries; separate models for close spaced vs wide spaced drilling areas	Sub-cells at domain boundaries	Sub-cells at domain boundaries	Sub-cells at domain boundaries
	Block size (m)	5 x 2 x 2; 15 x 2 x 2	10 x 5 x 5	10 x 2 x 2	10 x 5 x 5
Estimation method	Cu, Ag	OK with dynamic anisotropy	OK	OK	OK
	Density	ID^2	ID^2	ID^2	ID^2
Search ellipse (m)	Pass 1	115 x 110 x 50	200 x 200 x 200	400 x 400 x 400	300 x 300 x 100

	Pass 2	230 x 220 x 100	400 x 400 x 400	600 x 600 x 600	600 x 600 x 200
	Pass 3	460 x 440 x 200			
Minimum/maximum composites	Pass 1	4/15	3/8	2/7	11/15
	Pass 2	3/10	1/8	1/7	1/18
	Pass 3	2/10	-	-	-
Maximum composites per drillhole	Pass 1	n/a	1	1	3
	Pass 2	n/a	1	1	3
	Pass 3	n/a	-	-	-

Table 8-6 Estimation strategy – Banana Zone

Model		NE Fold	New Discovery	South Limb Definition	North Limb North	South Limb 70	Banana (other)
Modelled variables		Cu, Ag, Pb, Zn + ratio	Cu, Ag, Pb, Zn + ratio	Cu, Ag, Pb, Zn + ratio	Cu, Ag	Cu, Ag	Cu, Ag
Dimensions	Strike length	1.2 km	1.2 km	2.3 km	5.2 km	2 km	34.6 km
	Dip	45 NW	55 NW	80 SE	50 NW	65 SE	NW or SE
Model rotation		54°	56°	46°	56°	56°	56°
Composite length	Cu, Ag	Full	2 m	2 m	1 m	1 m	1 m
	Density	5 m	5 m	5 m	ID^2	ID^2	Assigned
Software		Leapfrog	Leapfrog	Leapfrog	Datamine	Datamine	MineSight
Copper domain thresholds		0.1% and 1%	0.1% and 1%	0.1% and 1%	0.1% and 0.5%	0.1% and 0.5%	0.1% and 0.5%
Domaining technique		Implicit	Implicit	Implicit	Sectional	Sectional	Sectional
Model setup	Block splitting	Sub-cells	Sub-cells	Sub-cells	Parent	Parent	Proportional
	Block size	5 x 5 x 5	10 x 5 x 5	10 x 5 x 5	40 x 4 x 4	40 x 4 x 4	40 x 6 x 4
Estimation method	Cu, Ag	ID	OK	OK	ID^3	ID^3	ID^3
	Density	ID^2	ID^2	ID^2	Assigned	Assigned	Assigned
Search ellipse	Pass 1	125 x 125 x 125	135 x 135 x 35	200 x 180 x 50	500 x 3 00 x 25	500 x 300 x 5	450 x 350 x 250
	Pass 2	250 x 250 x 250	200 x 200 x 50	300 x 280 x 70	1,000 x 600 x 50	1,000 x 600 x 50	-
	Pass 3	-	-	-	2,000 x 1,200 x 100	2,000 x 1,200 x 100	-
Minimum/ maximum composites	Pass 1	3/7	7/18	7/18	5/15	5/15	5/20
	Pass 2	3/6	7/18	7/21	3/15	3/15	-
	Pass 3	-	-	-	1/15	1/15	-
Maximum composites per drillhole	Pass 1	1	3	3	-	-	4
	Pass 2	1	3	3	-	-	-
	Pass 3	-	-	-	-	-	-

Table 8-7 Estimation strategy – Zeta UG, Plutus, Selene, Ophion, Zone 6

Model		Zeta UG	Plutus	Selene	Ophion	Zone 6
Modelled variables		Cu, Ag, S, AsCu, S:Cu	Cu, Ag, S, AsCu, S:Cu	Cu, Ag, S	Cu, Ag, S	Cu, Ag
Dimensions	Strike length	6 km	30 km	7 km	5.6 km	1.9 km
	Domain dip	80 NW	45-60 WNW-NNW	65 E	80 NW	45 SE
Model rotation		+40°	+50°	No rotation	+50°	+48° azimuth/ -39° dip
Composite length	Cu, Ag	1 m	1 m	1 m	1 m	1 m
	Density	Assigned	Raw	Assigned	Assigned	Assigned
Software		Datamine	Datamine	Datamine	Datamine	Datamine
Copper domain thresholds		0.3% and 1.5%	0.30%	>2 m true thickness and >0.3%	>2 m true thickness and >0.3%	0.1% and 0.5%

Domaining technique		Sectional	Sectional	Sectional	Sectional	Sectional
Model setup	Block splitting	Sub-cells at domain boundaries	Sub-cells at domain boundaries	Sub-cells at domain boundaries	Sub-cells at domain boundaries	Sub-cells at domain boundaries
	Block size (m)	5 x 25 x 10	5 x 25 x 6	40 x 80 x 40	40 x 80 x 40	50 x 50 x 2
Estimation method	Cu, Ag	OK	OK (octants)	OK	OK	ID^3
	Density	OK (octants)	OK (octants)	Assigned	Assigned	Assigned
Search ellipse	Pass 1	100 x 100 x 25	100 x 100 x 25	600 x 200 x 100	450 x 200 x 200	400 x 200 x 50
	Pass 2	200 x 200 x 50	200 x 200 x 50	-	675 x 300 x 300	-
Minimum/ maximum composites	Pass 1	6/24	6/28	4/24	10/32	5/40
	Pass 2	6/24	6/28	-	3/32	-
Maximum composites per drillhole	Pass 1	4	4	-	-	-
	Pass 2	4	4	-	-	-

The decision to estimate or assign density into model blocks is based on data availability at each deposit. Where values are assigned, they are mean values of the available dataset, split by oxidation domain. The exception to this is Selene, where no bulk density data has been collected. Mean bulk density values from the Zeta deposit are used for the Selene model.

For the most recently updated models (Zone 5, Zeta NE, Zone 5N, Mango NE), an estimate of the molar ratio of Cu:S is used to estimate copper and silver metal recovery in the model. The molar ratio is calculated using the equation:

$$Cu{:}S=((Cu\%-ASCu\%)/63.55)/(S\%/32.06)$$

Figure 8-11 shows an example of the Cu:S relationship seen in the dataset for Zone 5.

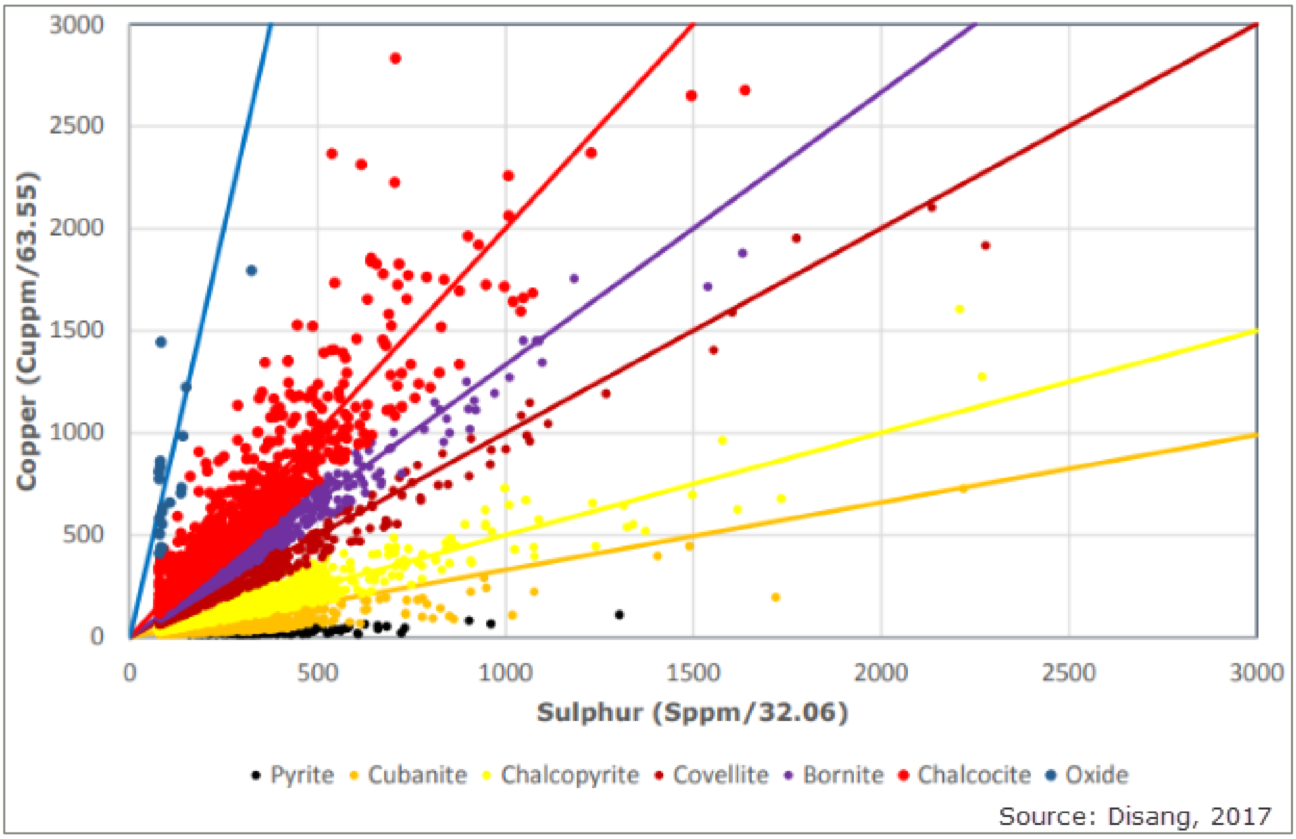


Figure 8-11 Zone 5 copper minerals phase diagram

A series of post-processes are applied to the recent models (Zone 5, Zone 5N, Zeta NE, Mango NE, NE Fold, South Limb Definition, New Discovery) to estimate copper concentrate grade

(CuCON) and expected copper and silver recovery. These equations are derived from metallurgical testwork, and the calculated values are tracked through production scheduling and used in cash flow modelling.

A summary of the equations used is presented in Table 8-8 to Table 8-10. The copper and silver recoveries are capped at 95% and 97%, respectively. The recovery value is then discounted by the proportion of oxide if the ASCu/Cu ratio was greater than 10%, using the formula: Recovery (Final) = Recovery (Initial) x (1-(ASCu/Cu)). Table 8-11 shows the expected recoveries and CuCON grade for the Mineral Resources that have been the focus of the most recent studies.

Table 8-8 Current copper recovery equations

Deposit	Estimated Cu:S ratio		Dominant ore mineral	Recovery equation
	From	To		
Zone 5, Zone 5N, Zeta NE, Mango NE, NE Fold, South Limb Definition	0.01	0.75	Chalcopyrite	86.12 + 0.56 x % Cu
	0.75	1.5	Bornite	86.42 + 0.56 x % Cu
New Discovery (uses only bornite equation)	1.5	99	Chalcocite	88.85 + 0.56 x % Cu

Note: Cu:S is molar ratio calculated using the formula Cu:S=((Cu%-ASCu%)/63.55)/(S%/32.06).

Table 8-9 Current silver recovery equations

Deposit	Estimated Cu:S ratio		Dominant ore mineral	Assigned recovery (%)
	From	To		
Zone 5, Zone 5N, Zeta NE, Mango NE, NE Fold, New Discovery, South Limb Definition	0.01	0.75	Chalcopyrite	83.3
	0.75	1.5	Bornite	83.1
	1.5	99	Chalcocite	87.1

Note: Cu:S is molar ratio calculated using the formula Cu:S=((Cu%-ASCu%)/63.55)/(S%/32.06).

Table 8-10 Current copper concentrate grade calculation

Estimated Cu:S molar ratio		Equation
From	To	
0.01	1	CuCON = 49.4 x Cu:S – (3.2 x %Cu)
1	2	CuCON = 24.0 x Cu:S + (4.8 x %Cu)

Note: Cu:S is molar ratio calculated using the formula Cu:S=((Cu%-ASCu%)/63.55)/(S%/32.06).

Table 8-11 Expected recovery and copper concentrate grades for recently updated Mineral Resources

Deposit	Cu recovery (%)	Ag recovery (%)	Cu concentrate grade (%)
Zone 5	87.9	83.8	41.1
Zone 5N	87.6	83.3	34.6
Zeta NE	88.4	84.4	45.3
Mango NE	87.5	83.2	31.3
New Discovery	85.9	83.4	38 (assigned)
NE Fold	79.0	79.2	38 (assigned)
South Limb Definition	87.4	85.7	38 (assigned)

Metallurgical testwork by DML for the Zeta and Plutus deposits, confirmed by testwork for Zone 5, the Expansion Projects and Banana Zone projects, determined that the oxide and transition material returned materially lower recoveries than the sulphide material. Hence Mineral Resource reporting is limited to sulphide material.

8.4.1 Validation

Methods common across the industry were used to validate the block models. The procedures generally comprised visual and statistical checks of block grades against input composite grades, followed by spatial checks such as trend or swath plots. For some models, concurrent Nearest Neighbour (NN) grade estimates were compiled as a check on the primary estimation methodology.

Review of the input composite grades to the block model mean grades generally show the model mean grade for copper and silver compare well to the input composites. Visual checks confirmed that in general the model reflects grade trends in the input data and model grades correlate reasonably with the composite grades. Areas of higher grade are generally well constrained locally around the drillhole intercepts.

In the swath plots reviewed, the overall trends between the block estimates and composites show a good correlation with no significant bias noted between the two sets of data. The plots indicate that, in general, the block estimates are well-conditioned with respect to the supporting data. Example sections and swath plots through the Zone 5 block model are shown in Figure 8-12 and Figure 8-13.

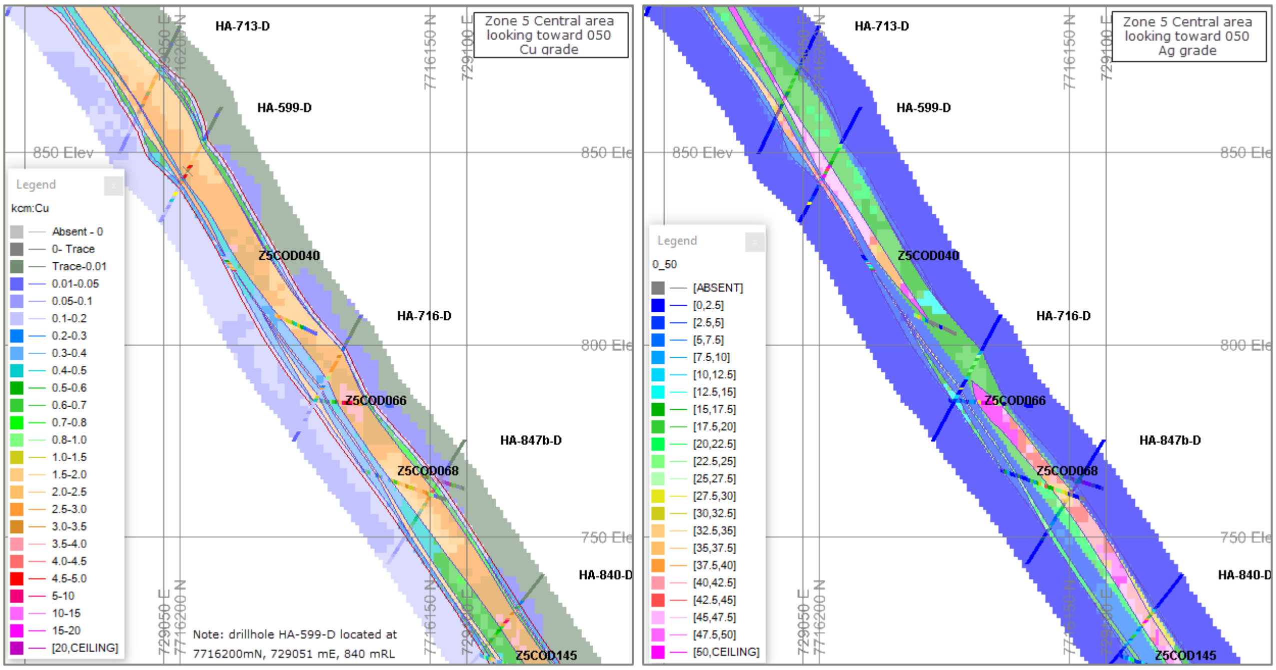


Figure 8-12 Example section through Zone 5 selective model

Figure 8-13 Trend plots by elevation, Central high-grade zone

8.4.2 Zone 5 Reconciliation

Monthly reconciliation data is collected for mining at Zone 5. Key indicators for performance of the Mineral Resource model include its performance against the grade control model, which includes more closely spaced data. On this metric, the current Zone 5 Mineral Resource model is tending to under-call copper grade (between parity and 13%) relative to the grade control model. Silver results are variable, with the first half of 2023 showing a 5% over-call in silver grade, and the second half of the year under-calling silver grade by an average of 12%. For the first two years of production, the overall reconciliation between the Mineral Resource and grade control models is excellent (within 1% on copper and silver metal).

Performance of the grade control model against mill production for the project to date shows an 8% tonnage under-call, a 1% copper grade over-call, a 3% silver grade under-call for an overall under-call of 7% for copper metal and 11% for silver metal.

8.4.3 Resource Classification

Similar to the selected estimation methodologies, the classification rationale employed varies by deposit, depending on the model author, and common practice at the time the model was compiled. In addition to the spatial components to the classification strategies outlined in Table 8-12, each modeller (and the Competent Person) also considered some or all the following estimation components:

- Drill sample recovery (generally good through the sulphide material).

- Quality of the dataset (generally reasonable database and assay QAQC and professionally located drillholes).
- Level of understanding of geological setting and continuity (well understood host rock package and mineralisation location that is usually intersected where predicted).
- Metallurgical factors (oxide and transition material has known recovery issues so is not reported in the Mineral Resources; the Karst zone at Zone 5 is also not reported due to poor recovery through the current processing circuit).
- Confidence in bulk density estimate (some of the deposits have assigned density values from data means and have been classified as Inferred).
- RPEEE – Zone 5 has demonstrated RPEEE as it is currently in production and mineralisation is open at depth. Calculation of NSR per block using similar inputs to those at Zone 5 for Zone 5N, Zeta NE, Mango NE, NE Fold, New Discovery and South Limb Definition indicates all have RPEEE.

The Zeta and Plutus areas have previously operated as open pit mines. Both have depth extensions that remain open at depth and their underground Mineral Resources are suited to processing at the Boseto plant. Chalcocite is considered an open pit opportunity given its similarity in morphology to NE Fold. An optimised pit shell constrains that Mineral Resource. The remaining Banana Zone Mineral Resources, as well as Selene, Ophion and Zone 6, are at an early stage of exploration and are considered underground opportunities. The lower level of confidence in these Mineral Resources is reflected in the Inferred classification that has been applied.

Note that the models in Table 8-12 are grouped and colour coded as follows:

- Zone 5 (model 1 – green) has an Ore Reserve and is in production.
- The Expansion Project deposits (models 2 to 4 – orange) have Ore Reserves and have been subject to further studies.
- The Banana Zone high-grade models (models 5 to 7 – blue) have significant infill drilling in upper elevations to give confidence in the Inferred classification at depth. These deposits were the subject of the Banana Zone Economic Study.
- Remaining Inferred material underneath and along strike from the Zeta and Plutus historical open pit operations (model 8 – purple; model 9 – grey) is supported by broad drill spacing of approximately 500 m at depth and along strike, but also by orebody knowledge obtained from closer spaced drilling in the pit areas. The remaining Inferred Mineral Resource for Zeta is almost entirely at depth and tightly constrained below the well drilled upper areas of the deposit.
- Most of the Inferred material in the Plutus Mineral Resource (model 9 – grey) is along strike from the open pits and supported by 500 m spaced single drillhole sections. This is a similar scenario to that seen for models 10 to 14 (yellow), which have also not had any infill drilling completed. Geological continuity and mineralisation continuity are demonstrated by the drilling that exists, but confidence in the Inferred tonnage and grade is lower than that for models 1 to 8.

Table 8-12 Current classification criteria (spatial component)

Model	Deposit	Measured	Indicated	Inferred
1	Zone 5	Minimum 3 drillholes, average distance to closest 3 drillholes <55 m	Minimum 3 drillholes, average distance to closest 3 drillholes <95 m	Minimum 2 drillholes, <150 m to closest drillhole + <=400 m spaced drillhole along strike
2	Mango NE	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <130 m	Minimum 2 drillholes, average distance to closest 3 drillholes <250 m; <=400 m drillhole spacing in shallow drilling

3	Zeta NE	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <140 m	Minimum two drillholes, average distance to closest three drillholes <350 m; <= 800 m drillhole spacing in shallow drilling
4	Zone 5N	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <120 m	Drillhole spacing <= 700 m + ~150 m halo around limit of drilling
5	NE Fold (Banana)	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <100 m, distance to closest drillhole <60 m	Minimum 2 drillholes, average distance to closest 3 drillholes <250 m, distance to closest drillhole <125 m
6	New Discovery (Banana)	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <100 m, distance to closest drillhole <60 m	Minimum 2 drillholes, average distance to closest 3 drillholes <250 m, distance to closest drillhole <125 m
7	South Limb Definition (Banana)	N/A	Minimum 3 drillholes, average distance to closest 3 drillholes <100 m, distance to closest drillhole <60 m	Minimum 2 drillholes, average distance to closest 3 drillholes <250 m, distance to closest drillhole <125 m
8	Zeta UG	N/A	Drillhole spacing 50 m x 100 m	All remaining to ~150 m below 500 m spaced drillholes at depth
9	Plutus	Drillhole spacing 25 m x 50 m	Drillhole spacing 50 m x 100 m	All remaining to ~550 mbs in well drilled areas; most material along strike from pits and to ~200 mbs in 500 m spaced drilling
10	Banana (other)	N/A	N/A	Drillhole spacing 200 m strike x 100 m down dip + 100 m along strike and 75 m down dip at limit of drillhole
11	North Limb North (Banana)	N/A	N/A	All (200 m drillhole spacing)
	South Limb 70 (Banana)	N/A	N/A	All (200 m drillhole spacing)
12	Selene	N/A	N/A	All (400 m drillhole spacing)
13	Ophion	N/A	N/A	All (400 m drillhole spacing)
14	Zone 6	N/A	N/A	All (down to ~800mRL)

8.5 EXPLORATION TARGETS

There are two historical exploration targets that were reported by DML as part of the 2013 Mineral Resource updates for Zeta and Plutus. No other Exploration Targets have been defined for the Project area. The text and figures relating to the Exploration Targets have been taken from the Mineral Resource report document (Stewart and Purdey, 2013).

8.5.1 Zeta

In addition to the Mineral Resource estimates declared above, an Exploration Target of 7–15 Mt at 1.1–1.5% Cu is declared for Zeta (Table 8-13). It must be noted that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource in the area of the declared Exploration Target, and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Table 8-13 Zeta Exploration Target

Exploration Target	Tonnage (Mt)	Cu grade (%)	Ag grade (g/t)
Zeta	7 to 15	1.1 to 1.5	20 to 25

Drilling at Zeta confirms the presence of mineralisation within the same stratigraphic horizon over a strike length of 9.5 km. The structure has been traced and confirmed by drilling a further 7 km to both north and south. Three drillholes confirm the continuity of stratigraphy and mineralisation to a depth to 600 mbs (400 mRL). Across the entire strike length, the stratigraphy is remarkable for both continuity and planarity.

Majority of the drilling is focused on the area of Zeta pits and down dip. This area hosts both the widest and highest-grade sections tested to date. It is apparent that the drilling to north and south of the pit areas is of generally narrower width and lower copper grade but is also only to shallow depths. There remain large areas that have not been tested which have potential to host shoots of higher tenor.

The target tonnage defined above is based on the presence of two shoots with the potential dimensions and grade tabulated below (Table 8-14). The grade and width were derived from the average of the drillhole intercepts occurring an area of 500 m strike x 500 m depth in the centre of Zeta pits, weighted to account for clustering ~8.5 m true width and 1.33% Cu. This area is shown as a solid red box on the top long section shown in Figure 8-14. The dashed red boxes show the assumed dimensions of the Exploration Targets, to illustrate the size of these with respect to existing drilling. The location of these boxes is not meant to imply the location of mineralisation, but to illustrate the size of target sought.

Table 8-14 Estimation of Zeta Exploration Target tonnage and grade

Component	Low case	High case	Units
Number of shoots	2	2	
Size of mineralised "shoot"	400	600	m strike
	500	500	m depth
Thickness	6	9	m
Density	2.8	2.8	t/m^3
Tonnage per shoot	3,360,000	7,560,000	t
Average grade	1.1	1.5	%
Total tonnage	6,720,000	15,120,000	t
Average grade	1.1	1.5	%

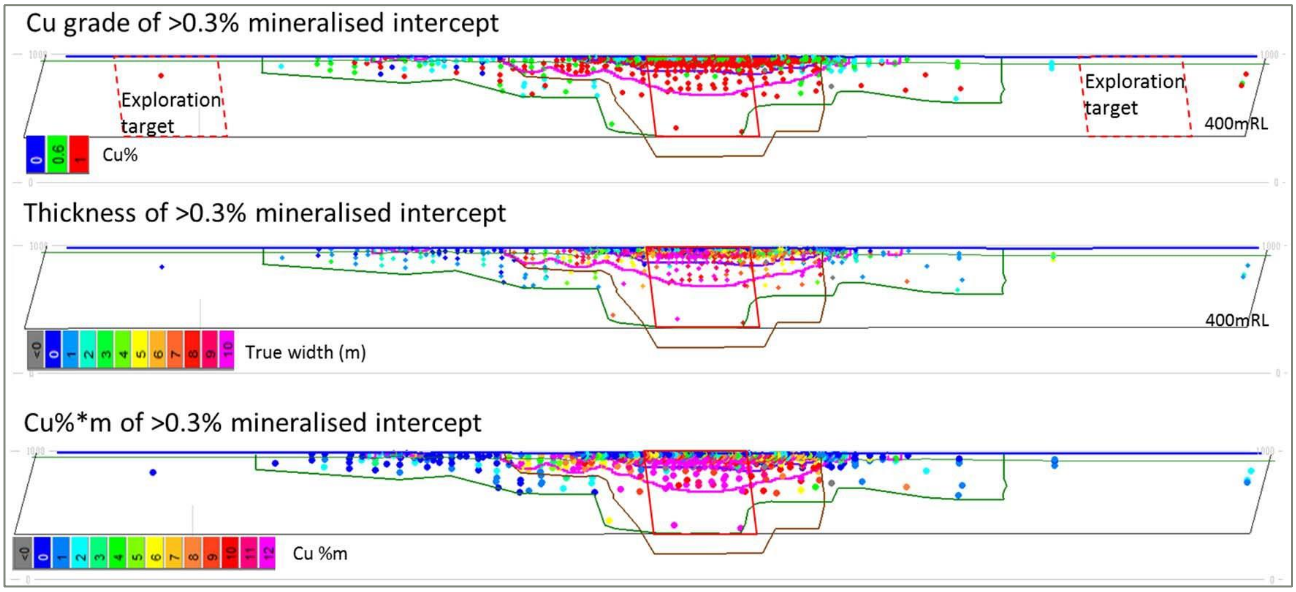


Figure 8-14 Long-section view showing Zeta Exploration Target areas in relation to existing drilling and resource boundaries

A single drillhole exists within the Exploration Target at Zeta. The Exploration Target is largely based on orebody knowledge from the open pit and from geophysical surveys. A single drillhole has been completed at Zeta (below the open pit area) since the Exploration Target was declared in 2013. The Exploration Target will be tested as part of future surface drilling programs, the timing of which will depend on the ranking compared to other targets and the priority assigned to these targets. Fences of drilling designed to intersect the mineralisation down to depths of about 600 mbs at 200 m spacing down dip would be required to determine the extent of potentially economic mineralisation.

8.5.2 Plutus

In addition to the Mineral Resource estimates declared above, an Exploration Target of 6–19 Mt at 1.1–1.5% Cu is declared for Plutus (Table 8-15). It must be noted that the potential quantity and grade is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource in the area of the declared Exploration Target, and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Table 8-15 Plutus Exploration Target

Exploration Target	Tonnage (Mt)	Cu grade (%)	Ag grade (g/t)
Plutus	6 to 19	1.2 to 1.3	10 to 15

Drilling at Plutus confirms the presence of mineralisation within the same stratigraphic horizon over a strike length of nearly 30 km. Depth continuity has been confirmed down to ~450 mbs over a strike length of 13 km, by holes at 600–900 m spacing. There is a strong geological likelihood that the mineralisation hosting horizon will continue to a depth of 600 mbs along the whole strike length. Some 16 km of the known strike length has not been tested below around 100 m.

To date, the drilling has not identified any consistently elevated core of grade, suitable for differentiating, wireframing and estimating separately. However, a significant area/volume of the interpreted structure meets cut-off criteria of >1.07% CuEq and >5 m width.

It is considered highly likely that further mineralisation that meets the underground cut-off criteria demonstrated for Zeta deposit will be present beneath the areas of shallow surface testing. The target tonnage defined is based on the presence of two to four shoots, with the potential dimensions and grade tabulated below (Table 8-16). The grade and width were derived from the average of the drillhole intercepts occurring within the well tested portions of Plutus – between 5.5 m and 7.5 m true width and 1.2–1.3% Cu. This area is shown as a solid red box on the top long section shown in Figure 8-15. The dashed red boxes show the assumed dimensions of the Exploration Targets, to illustrate the size of these with respect to existing drilling. The location of these boxes is not meant to imply the location of mineralisation, but to illustrate the size of target sought.

Table 8-16 Calculation of Plutus Exploration Target tonnage and grade

Component	Low case	High case	Units
Number of shoots	2	4	
Size of mineralised "shoot"	800	1,200	m strike
	250	250	m depth
Thickness	5.5	7.5	m
Density	2.8	2.8	t/m^3
Tonnage per shoot	3,080,000	4,620,000	t
Total tonnage	6,160,000	18,900,000	t
Average grade	1.2	1.3	%

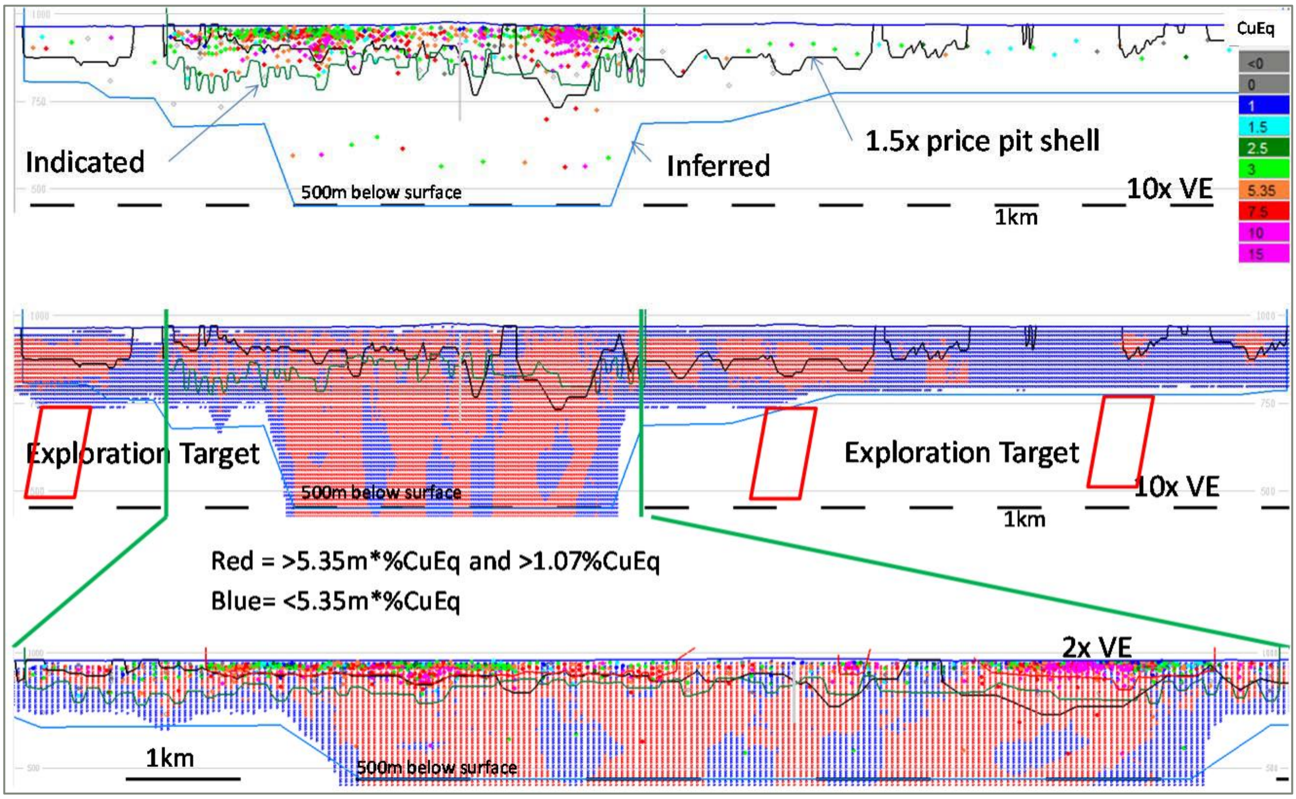


Figure 8-15 Long-section view showing Plutus Exploration Target areas in relation to existing drilling and resource boundary

There is no local drillhole support for the Exploration Target at Plutus. The Exploration Target is largely based on orebody knowledge from the open pit and from geophysical surveys. No further drilling has been completed at Plutus since the Exploration Target was declared in 2013. The Exploration Target will be tested as part of future surface drilling programs, the timing of which will depend on the ranking compared to other targets and the priority assigned to these targets. Fences of drilling designed to intersect the mineralisation down to depths of about 600 mbs at 200 m spacing down dip would be required to determine the extent of potentially economic mineralisation.

9 EXPLORATION POTENTIAL

The Project contains a number of deposits, prospects and targets at different levels of exploration maturity. In addition to the defined prospects and targets the project area has untested greenfield potential.

The controls on mineralisation at the map scale are well understood with all known potentially economic mineralisation hosted at or near the base of the D'Kar Formation. This stratigraphic level is an oxidation boundary forming a basin wide chemical trap for mineralisation and has been effectively mapped in potential field datasets.

Within the well-defined host rocks, mineralisation thickness and tenor vary. KCM believes that areas with economic grade and width of mineralisation is dominantly controlled by the primary basin architecture, while aspects of the understanding of the basin are understood KCM is in the process of developing a basin model which can be applied to exploration. Mineralisation shows good continuity of grade and thickness over hundreds of metres at the deposit scale. At the local scale, the distribution of mineralisation is controlled by folds and faults which developed during the compressional Damaran Orogeny. The local scale, structurally controlled variability effects the economically important high-grade zones of mineralisation, this is an important issue which may not be fully captured in the current broad spaced drilling on regional prospects.

This section of the report considers the exploration potential outside the areas with defined resources. At this time, 13 deposits have a JORC (2012) resource defined at Inferred or better classification (Section 8). Exploration Targets have been reported only for Zeta and Plutus in 2013 (Section 8.5).

Additional exploration potential is recognised:

- Beneath defined resources, all the resources are open at depth. Zone 5 has been drilled down to about 1,200 mbs where potentially economic grade and width is open.
- Along strike from known resources. Shallow drilling with sub-economic results does discount this position at most prospects, however, there are reasonable prospects of economic extensions in the subsurface below the zones already tested.
- A well-defined stratigraphic target, near the base of the D'Kar Formation, has been mapped from surface outcrop, regional drilling and interpreted from geophysical datasets. Large parts of this have been tested by shallow and wide spaced drilling which has led to the definition of the current deposits and targets as well as downgrading sections with poor results. The best results from regional drilling have been followed up and are now included in resource models. Other mineralised prospects have limited drilling and require follow-up work to define the extent of mineralisation. Significant sections of this prospective unit remain untested (Figure 9-1).
- Additional potential is recognised in areas currently considered to be low grade and sub-economic. Given improved economic conditions and metal prices in the future, these areas might be brought into a low-grade resource using a lower cut-off grade than currently applied.

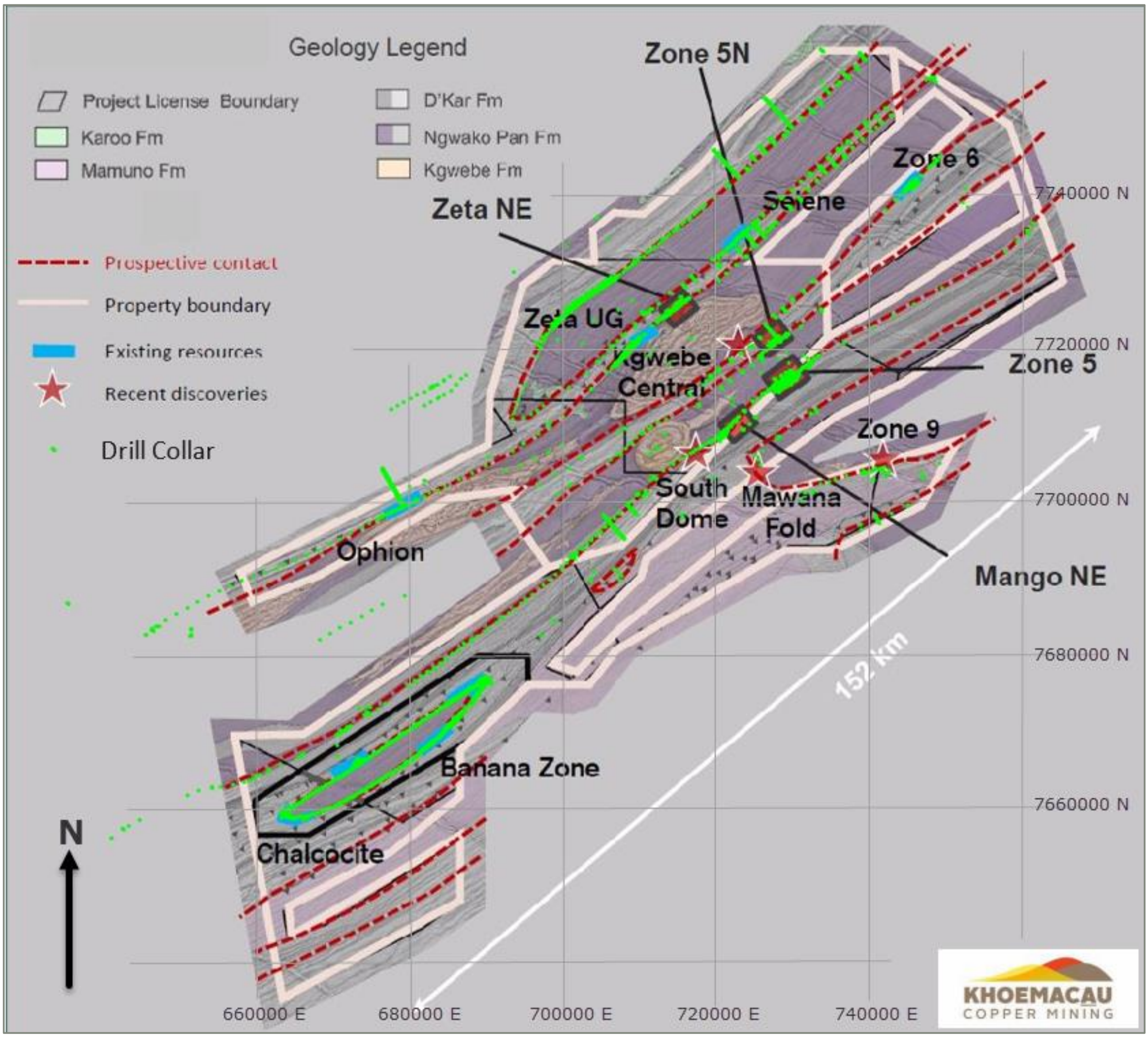


Figure 9-1 Drill collars and mapped prospective contact (target unit)

9.1 ZONE 5

The Zone 5 deposit is in production and has been explored to a depth of about 1,200 mbs. The main part of the deposit is well defined by drilling which underpins the Mineral Resource estimate (Section 8). All the deep drilling in the deposit area is included in the Inferred Resource. Mineralisation is open below the volume of the Inferred Resource and current drilling (Figure 9-2 and Figure 9-3).

Table 9-1 Zone 5 – selection of deep mineralised intercepts where mineralisation is open

Hole ID	From (m)	To (m)	Drilled width (m)	Cu (%)	Ag (ppm)
HA-1050-D	1130.1	1147.6	17.5	1.17	16.5
HA-1033-D	1210.2	1220.8	10.6	1.67	17.1
HA-1033-D	1230.0	1234.0	4.0	2.14	21.0
HA-1049-D	1090.0	1109.6	19.6	1.98	23.5
HA-1020-D	1180.8	1201.2	20.4	3.74	39.1

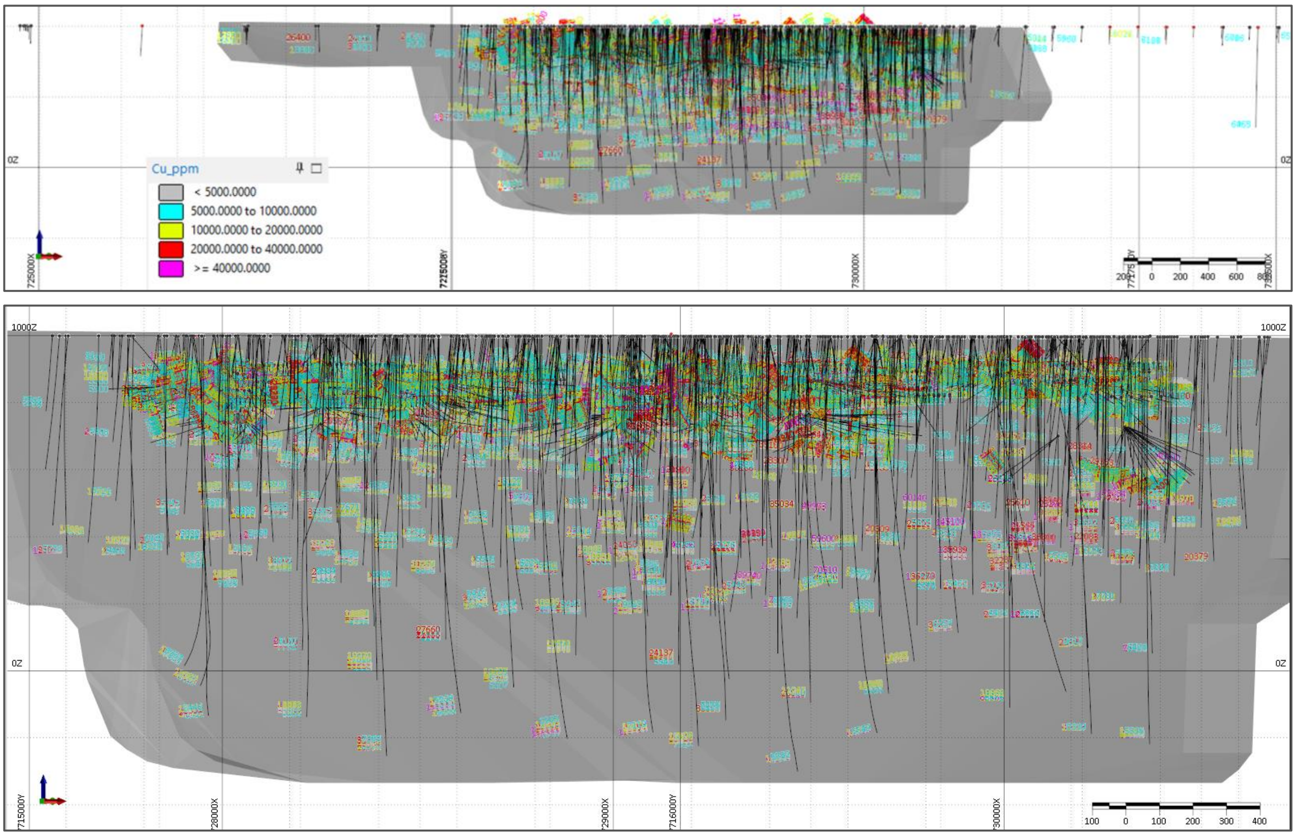


Figure 9-2 Zone 5 – long section facing northwest, with drilling with assay results for copper (above 0.5%) and area of Inferred Resource (grey)

Top: Whole deposit area with broad spaced drilling on strike. Drill spacing is about 200 m to northeast and 500 m to southwest. Bottom: Deep drilling shows significant mineralisation is open at depth.

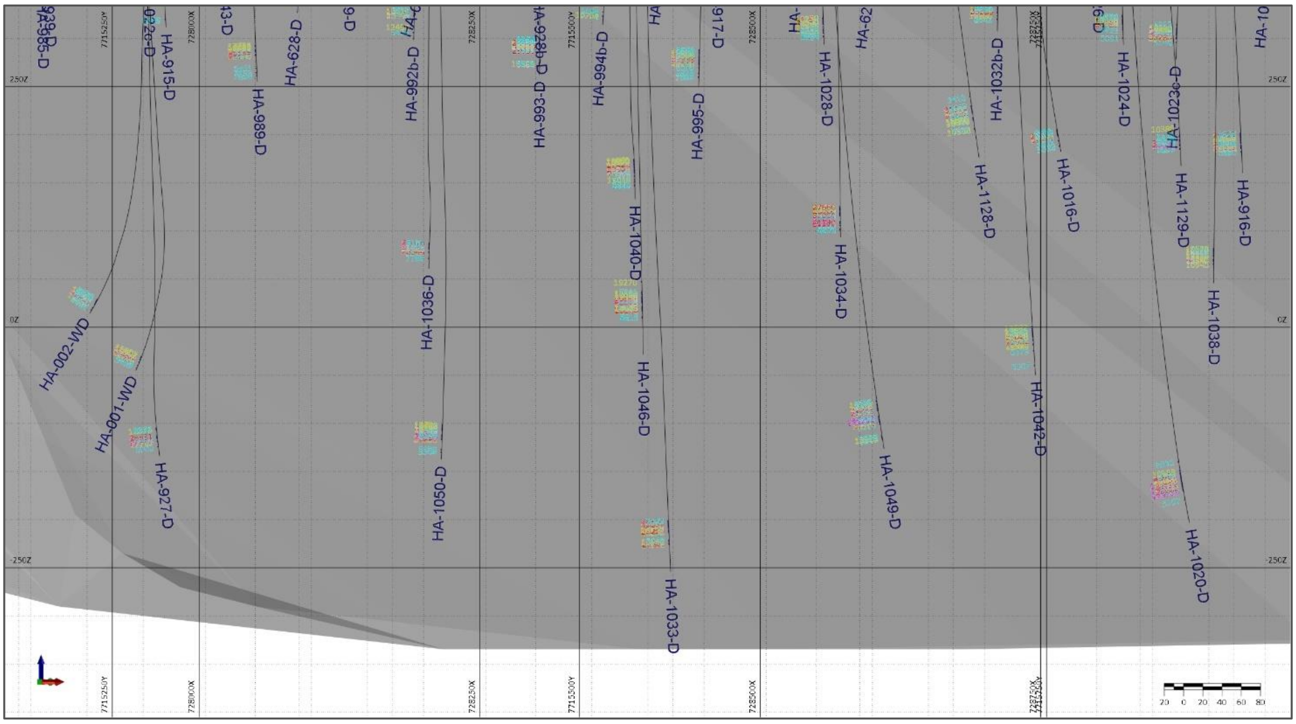


Figure 9-3 Zone 5 – long section detail, facing northwest

Note: Deep intercepts from this area are given in Table 9-1. See Figure 9-2 for assay legend.

9.2 ZONE 5 NORTH

The Zone 5N deposit has Indicated and Inferred resources (Section 8). All the drilled intercepts in the deposit area are included in the resource estimate. Mineralisation is open at depth, below 500 m under surface level. The drilling data show that it has not been exhaustively tested on strike and addition potential for mineralisation is recognised here.

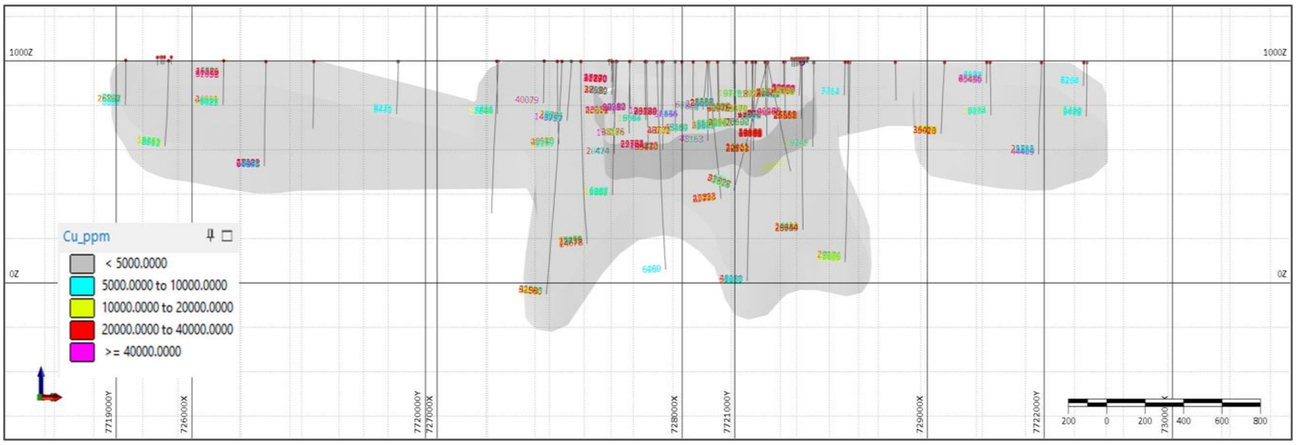


Figure 9-4 Zone 5N – long section facing northwest

Note: Drilling with copper assays and Inferred Resource volume (grey). Mineralisation is open at depth and not extensively tested on strike.

9.3 MANGO

The Mango deposit has been tested to a depth of about 700 mbs (Figure 9-5). Drilling data shows that mineralisation is open below this level. Drilling to the southwest of the Mango block model is on 500 m sections and some holes show some mineralisation not included in the resource (Figure 9-6). The holes HA-1349-D and HA-739-R intersected significant mineralisation about 40 m stratigraphically above the base of the D'Kar Formation (Figure 9-7) which supports the view that further exploration in this area may reveal extensions to known resources.

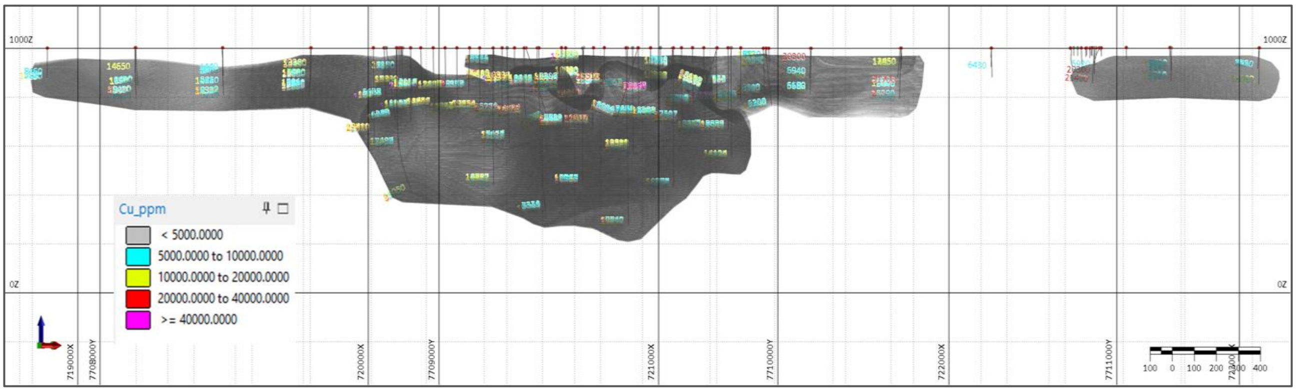


Figure 9-5 Mango – long section, facing northwest

Note: Drilling with copper assays and Inferred Resource volume (grey). Mineralisation is open at depth and not extensively tested on strike.

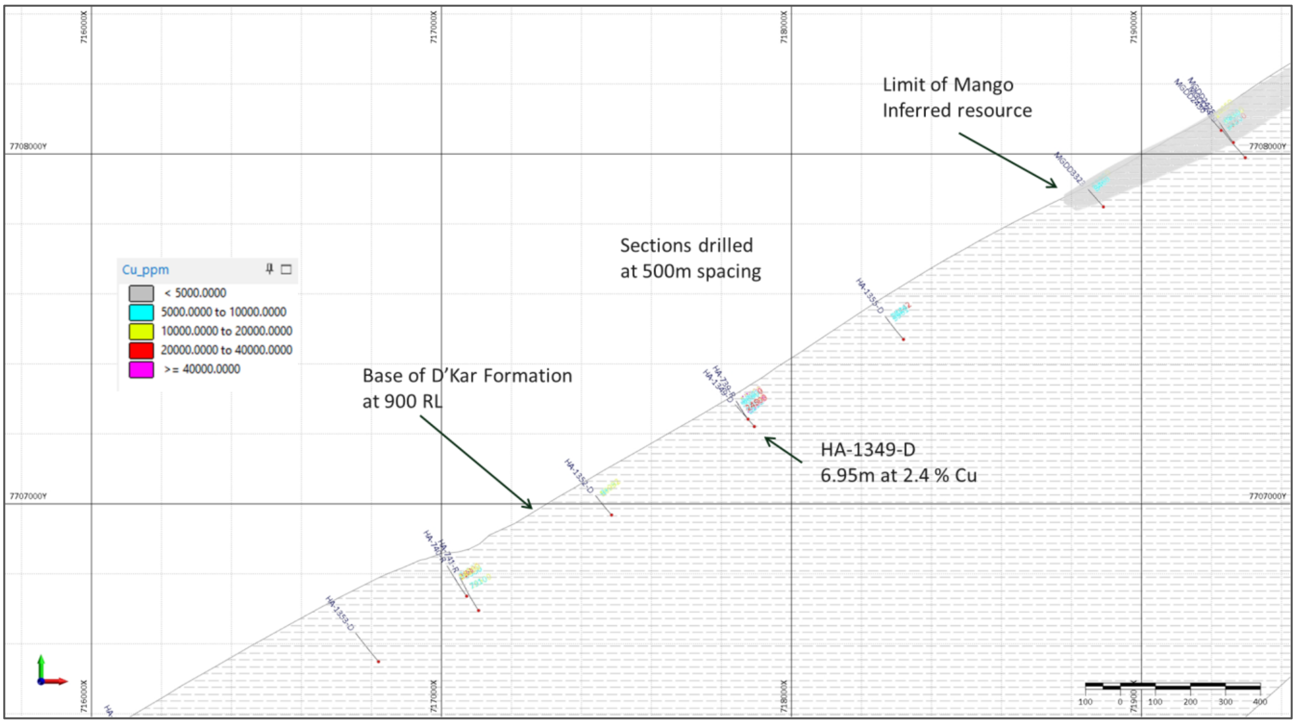


Figure 9-6 Drill plan for the area southwest of Mango

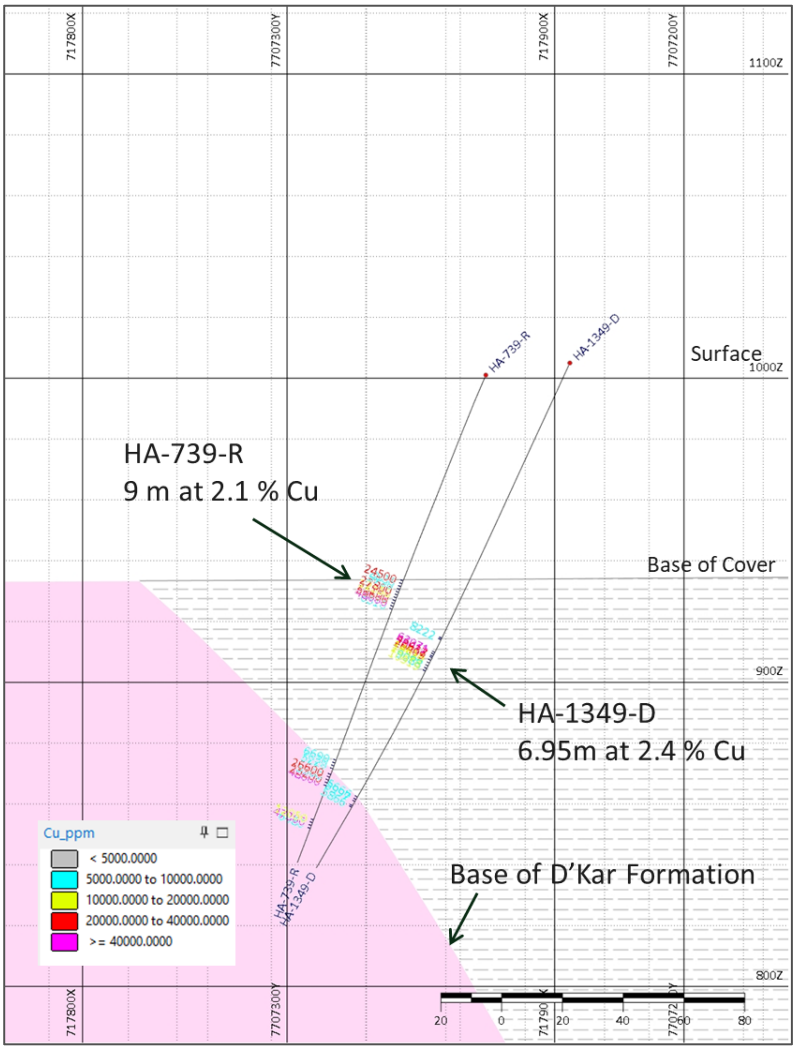


Figure 9-7 Cross section southwest of Mango Inferred Resource

9.4 ZETA NORTH EAST AND ZETA UNDERGROUND

The Zeta NE and Zeta UG deposits have significant resources with grades of 2.0% Cu and 1.8% Cu, respectively (Section 8). Drilling shows that mineralisation is open at depth and that the strike extent of mineralisation has not been fully tested by drilling (Figure 9-8). Exploration potential is therefore recognised beneath defined mineralisation and in the zone on strike.

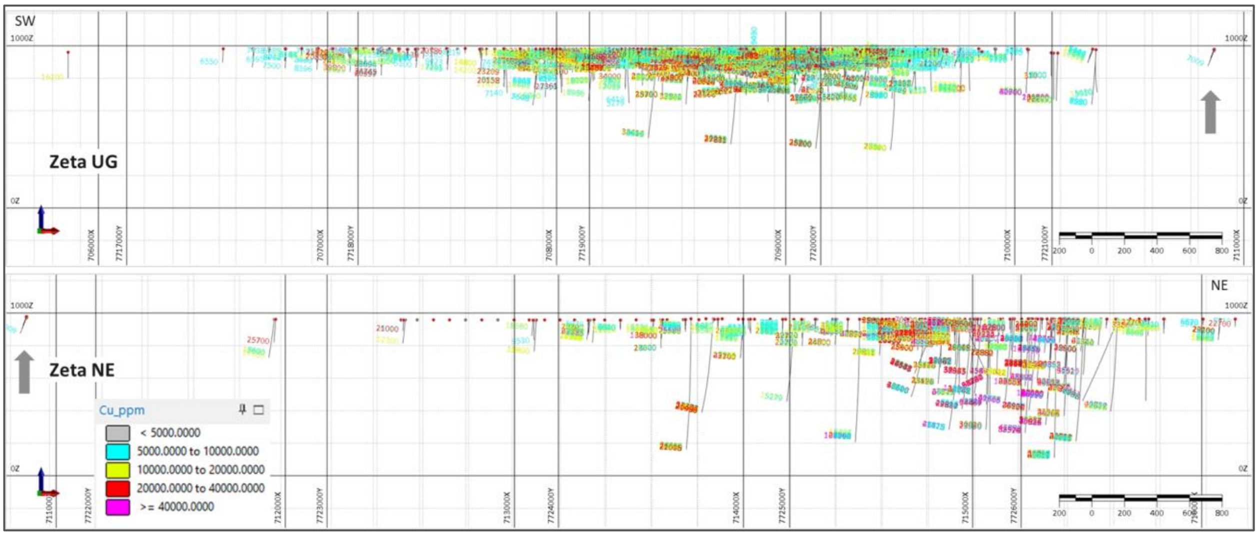


Figure 9-8 Zeta UG (top) and Zeta NE (base) long section – drilling with copper assay results greater than 0.5% Cu

Note that two parts of this section are the same scale and cover the entire strike length of Zeta; they join with a small overlap at the grey arrow.

9.5 OTHER PROSPECTS AND REGIONAL POTENTIAL

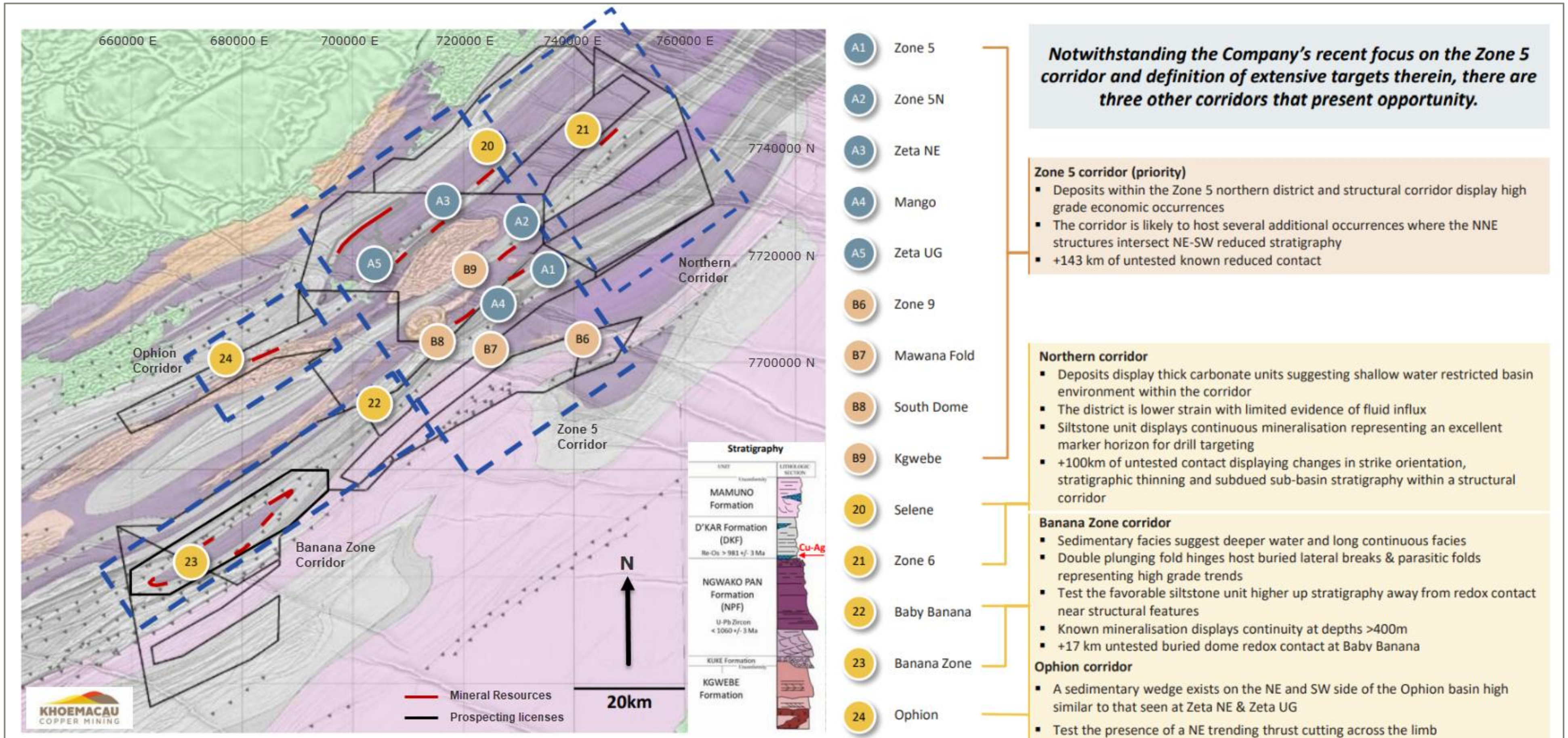
The regional potential of the project can be broadly divided in two parts based on the metallogenic model for mineralisation discussed in Section 6. The understanding of mineralisation built up by KCM for the project area and in published works globally supports the view that view that architecture of the sedimentary basin is important in localising mineralisation.

In the Project area, the inliers of Kgwebe Formation may reflect palaeo-topographic highs during basin development, these may in turn have played an important role in focusing mineralisation fluids into the reactive host rocks. They also may control facies variation within the host sequence and evidence of this is described by KCM and discussed in Section 6. It is observed that the better (in terms of grade and width) mineral deposits currently known occur on the margins of the main Kgwebe Formation inliers. The better deposits being Zone 5, Zone 5N, Zeta and Mango. This concept implies that the ground in around the inliers has superior exploration potential than the apparently distal prospects such as the Banana Zone prospects.

The understanding of basin architecture is a work in progress for KCM and this may develop into a useful targeting tool which might be applied to prioritising areas for future exploration. The current exploration methods, drill testing the target unit, using partial leach geochemistry and other direct exploration methods have produced good results so far.

Figure 9-9 summarises key exploration opportunities under investigation by KCM. Zone 9, Mawana Fold, South Dome and Kgwebe Central are considered priority targets by KCM as they exhibit the common characteristics for large high-grade deposits:

- An abundance of shallow water carbonates
- Transitional facies, on-lapping surfaces
- Basin structure orientation changes
- A surplus of trap sites.



Adapted from KCM CIM presentation, June 2023.

Figure 9-9 Summary of key exploration opportunities

Source: KCM, 2023

For all four of the areas, the first round of drilling revealed a geological setting conducive to wide high-grade mineralisation and, in most cases, ore grade intersections:

- Drilling at South Dome displays a breccia/stockwork style veining with stacked lenses of mineralisation. Abundant structures have increased permeability in this area allowing metal bearing fluids to precipitate copper at several redox traps. Chalcopyrite and bornite are the main copper sulphides present with minor chalcocite.
- Mineralisation within the central Kgwebe area is vein related, sporadic and non-continuous but has intersected high-grade copper sulphides over thick intervals averaging 7 m. Bornite mineralisation.
- At Mawana Fold, mineralisation is hosted within the laminated siltstone and lower marl units at the redox front situated 30 m above the NPF contact just above the massive limestone unit. Vein hosted chalcocite is also present within carbonate quartz veining at the top of the limestone.
- Mineralisation at Zone 9 is hosted within the bedded limestone suggesting a carbonate platform is close by. The redox front and mineralisation sits 15 m above the NPF contact. High grade mineralisation is predominately chalcocite rimmed with chalcopyrite and minor accompanying bornite dominates within accompanying chalcopyrite and chalcocite.

In the past, exploration has predominantly focused on the basal DKF redox boundary, but recently, emphasis is on understanding the stratigraphy and structure where mineralisation is now being discovered higher up the stratigraphic column not previously considered as targets. This is opening up exploration throughout the district and the KCB.

9.6 ERM OPINION

It is the opinion of ERM that the Project area has good potential for both the addition of additional Mineral Resources below those that are already defined and for the discovery of further mineralisation outside of the known resources. The best potential is at depth, down dip of known resources in the central part of the Project area around Zone 5, Zeta and Mango proximal to the Kgwebe inliers. Additional potential is recognised in the base of the D’Kar Formation across the Project area where it has not been fully tested by drilling.

10 HYDROLOGY AND HYDROGEOLOGY

10.1 HYDROLOGICAL AND HYDROGEOLOGICAL ASSESSMENTS

10.1.1 Site Investigations

Initial hydrogeological investigations were completed in the wider Khoemacau area in 2009 and focused on identification and characterisation of potential water supply sources using geophysical surveys, drilling, hydraulic testing, and collection of water quality samples.

10.1.1.1 Zone 5

Investigations predominantly focused on the Zone 5 mine area in 2014 and included a hydrocensus, the hydraulic testing of existing boreholes, and collection of water samples from existing boreholes for analysis. Additional work was completed at Zone 5 in 2018 and 2019 and included the drilling of 10 hydrogeological drillholes/bores, of which five were pump tested.

10.1.1.2 Haka Borefield

Preliminary investigations of the Haka borefield were completed in 2014 by drilling and test pumping of three exploration drillholes. Two were successful and were immediately equipped to provide a water supply for the exploration camp and activities.

Additional investigations were completed in 2019 as part of the borefield expansion program consisting of geophysical surveys, drilling (12 holes), and hydraulic testing (eight holes).

The borefield was developed during the Zone 5 development and has provided potable water to Zone 5 since Q1 2020.

10.1.1.3 Boseto Treatment Plant

Hydrogeological investigations were completed around the Boseto Treatment Plant and tailings storage facilities (TSFs) during 2021 and included drilling (10 holes) and the development of five drillholes into production bores.

Water samples were analysed, and these five holes now contribute to the reclamation of water from the TSF surrounds. Water is pumped into the return water dam for use in the processing plant.

10.1.2 Numerical Groundwater Modelling

A multi-layered, regional groundwater flow model was developed in 2011 to simulate groundwater abstraction for mine water supply and this has been updated (2013, 2016 and 2019) and corresponds to changes in water demands and additional information collected.

A numerical groundwater flow model for the Zone 5 mining area was developed in 2014 to simulate mine dewatering and help predictions of groundwater inflows and the impact of dewatering on the proposed mine. This model was updated in 2019 based on new hydrogeological information and an updated mining and development schedule. The model was further updated again using the latest groundwater levels and dewatering borehole abstraction rates.

10.1.3 Hydrological Assessments

A baseline hydrological characterisation, a river-flow model, flood-line delineation, and development of a Storm Water Management Plan was completed in 2014.

A hydrological assessment for the existing Boseto processing plant and adjacent waste rock dumps was completed in 2020 and included a climatic assessment, hydrological flow model and development of a Surface Water Management Plan (SWMP).

An additional hydrological assessment, including development of a conceptual SWMP for the proposed mining expansion areas (Zeta NE, Zone 5N and Mango) was finalised in 2022.

10.1.4 Water Balance

A dynamic Integrated Water Balance Simulation Model was developed in 2018 for the initial Zone 5 development and included all major water flows and total dissolved solids (TDS) concentrations to formulate a site water and salt balance. This was updated in 2020 to incorporate the existing mine operations and the Expansion Project, to include all major site flows, and the available mine development and operational logic required to optimise the site's water use.

10.2 HYDROLOGY

10.2.1 Surface Drainage

The Project lies within a gently undulating sand-covered plain (local relief <300 m) and the Kgwebe Hills lie in the centre of the Project area, separating the Boseto plant and the Zone 5 mine area.

There are no permanent surface water resources in the Project area and the closest defined watercourse is Lake Ngami (approximately 16 km from the Boseto processing plant) and is fed by the Kunyere and Nhabe rivers, which constitute an "overspill" drainage system from the southern margins of the Okavango Delta.

The Nhabe River is located approximately 25 km from the Boseto processing plant and generally flows for a limited period each year soon after the annual Okavango floodwaters reach Maun. The magnitude of the Nhabe River flow is dependent on the scale of the annual Okavango flood, and flow is relatively gentle and shallow, with much water lost to evaporation as well as recharge to groundwater.

Surface water drainage follows drainage lines that are defined by slight depressions in the surface topography and are likely to only flow under extreme rainfall events.

10.2.2 Precipitation

The Project area is in the northern section of the Central Kalahari Desert where the climate is classified as semi-arid and tropical, with highly variable and unreliable annual rainfall normally less than 500 mm.

Rainfall is concentrated in the summer months from October to April and typically falls in high intensity convectional showers that are often highly localised.

Reliable site-specific rainfall data is available from September 2019 and is of sufficient duration for use in deriving design rainfall criteria when used in conjunction with regional datasets.

10.2.3 Evaporation

A desert environment is defined as a region in which the potential evaporation rate is twice as great as the precipitation. There is currently no direct measurement of evaporation on site and alternative methods were required for determining site evaporation metrics. Estimates of potential evaporation were sourced from a global agroclimatic database (Table 10-1).

Table 10-1 Estimate of average monthly evaporation

Month	Evaporation (mm)
January	148
February	127
March	129
April	115
May	90
June	74
July	79
August	110
September	146
October	183
November	160
December	156
Total	**1,517**

Source: CSA Global, 2023b

10.3 HYDROGEOLOGY

10.3.1 Regional Geology

The geology of the Project area is described in detail in Section 6, and this section aims only to provide a summary of the geology relevant to developing the hydrogeological understanding of the Project area.

The Kgwebe volcanic complex outcrops at the Kgwebe Hills and is comprised of sub-arkose to arkose sediments interbedded with dacites and rhyolite lava flows.

The Ghanzi Group comprises sedimentary rocks that were deposited as a basin-fill sediments and contains four key formations:

- The Kuke Formation consists of about 500 m of basal conglomerate that is thickest along the boundary with the Kgwebe Formation and thins rapidly away from the contact.
- The NPF is approximately 2,000 m thick and comprises continental red-beds varying from coarse grits and interbedded sandstones and grits to medium-grained sandstones.
- The 1,500 m thick D'Kar Formation comprises grey-green siltstone, sub-arkose, arkose, sandstone, and claystone with subordinate limestone, marlstone, and volcaniclastic rocks.
- The 1–2 km thick overlying Mamuno Formation consists exclusively of purple to red sandstone and mudstone with minor intercalated limestone.

The Karoo deposits comprising a sequence of sedimentary and volcanic rocks occur in the north of the project area and unconformably overlie the Ghanzi Group deposits. The thickness, continuity and age of the original Karoo sediments is variable and possibly discontinuous due to faulting. From oldest to youngest, the main units are the Dwyka Group, Ecca Group, Beaufort Group, Mosolotsane Formation, Ntane Sandstone and the Stormberg Basalts.

Within the Project area, the Ecca Group sandstone and argillaceous sediments, the aeolian units of the Ntane Sandstone and sandstone units of the Mosolotsane Formation have been identified.

The Kalahari Group covers majority of the Project area and obscures most of the Ghanzi Group and Karoo Group deposits and ranges from 2 m to 60 m in thickness across the mine areas (average ~40 m) and are 20–80 m thick in the Haka area.

10.3.2 Mine Areas

Within the mining areas, the Kalahari Group comprises unconsolidated aeolian sands, intercalated calcrete, silcrete and river, or pan sediment of various types and ages (Figure 10-1). In the Haka borefield area, the Kalahari Group consists of alluvial and lacustrine deposits, assumed to have been deposited by the outflow rivers (Kunyere and Nhabe) of the Okavango system.

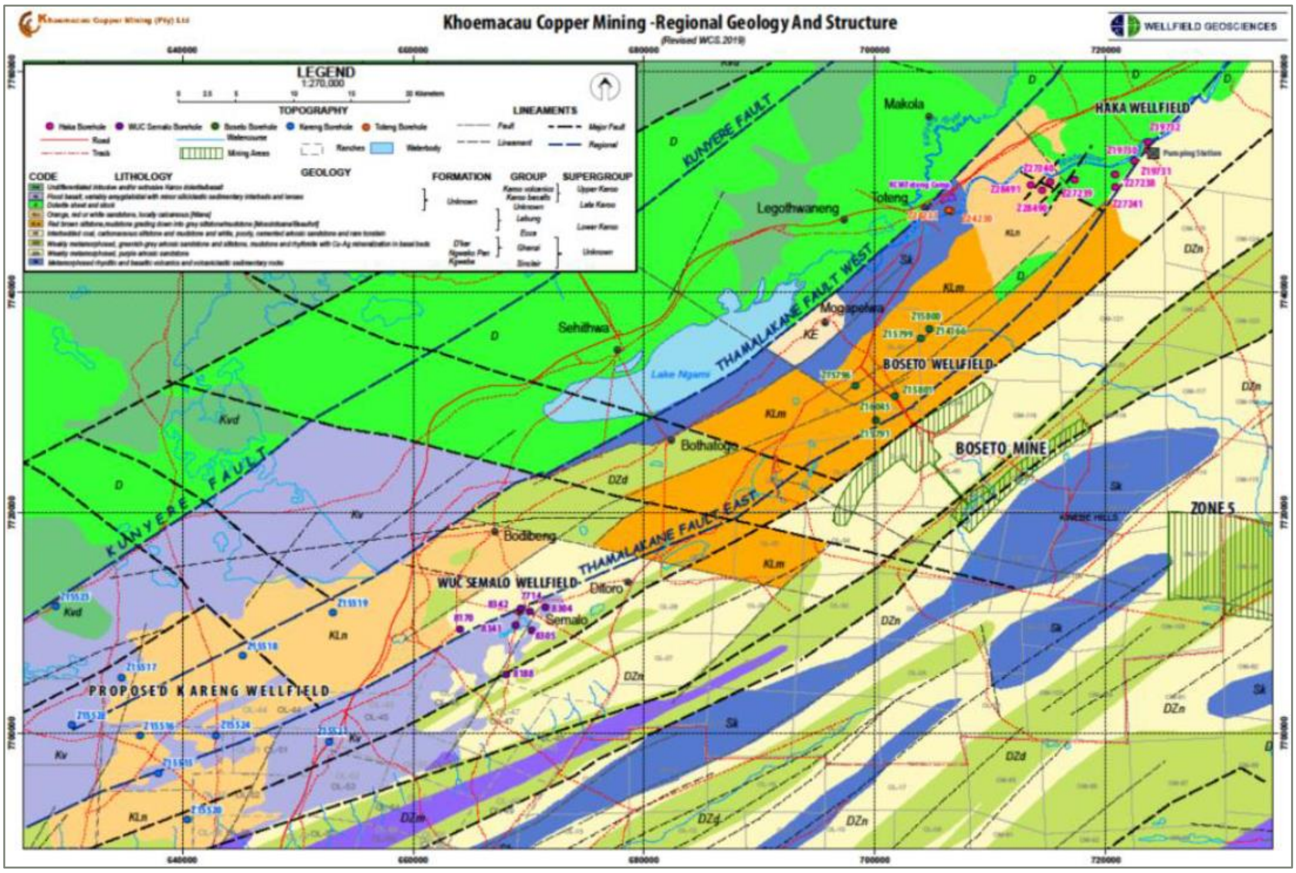


Figure 10-1 Regional geology emphasising the key hydrogeological units
Source: CSA Global, 2023b

Generally, the Project area is characterised by folds, faults and shear zones striking in a northeast-southwest direction. The pre-Kalahari formations are significantly downfaulted by the major northeast-southwest Thamalakane, Kunyere and associated faults to form the Toteng Graben to the northwest of the Kgwebe Hills.

10.3.2.1 Zone 5

In the Zone 5 region, the significant hydraulic structures are the north-northeast to south-southwest striking faults and are interpreted as normal faults related to the strike-slip fault that runs along the northern boundary of Zone 5.

Based on the geological information available, the deposits at Mango, Zeta NE, Zone 5N and Zone 5 are geologically and stratigraphically similar and share many structural similarities.

Peak metamorphic grades are greenschist facies indicating generally low temperature and pressure conditions during regional metamorphic events.

10.3.3 Hydrogeological Units

The main water-bearing units in the Project area are:

- Kalahari Group sediments
- Ecca and Mosolotsane sandstone units of the Karoo Supergroup
- Weathered and fractured D’Kar and NPF units of the Ghanzi Supergroup.

10.3.3.1 D’Kar and NPF units of the Ghanzi Supergroup

General

A weathered and fractured aquifer is found below the unsaturated Kalahari Group sediments and is found at depths of 60–130 mbs. Investigations at the proposed expansion areas (Mango, Zeta and Zone 5N) indicates that it is found to be less than 100 m.

The weathered aquifer is largely unsaturated in the general Project area, but a fractured and slightly weathered aquifer has been observed and where present is saturated at depth. This occurrence is regarded as the main shallow, water-bearing aquifer for the Ghanzi Group.

Zone 5 Area

Drilling data shows that the main aquifer in the Zone 5 mine area is the D’Kar Formation and water intersected by drilling in and around the mine area indicates that occurrences are typically structurally controlled as is typical for fractured rock aquifers.

Water occurrences range from approximately 98 m to >220 mbs and were found in all lithologies of the D’Kar and NPF.

The weathered and fractured D’Kar Formation and NPF are generally low yielding with discrete higher yielding fractures/fracture zones and airlift yields are variable and range from zero (dry) to 32 m^3/h. Generally, the NPF has lower yield than the D’Kar Formation.

The influence of structures and thickness of the formations influence drillhole yields in the area.

The saturated thickness of the aquifer for transmissivity tests ranged from 80 m to 518 m and no clear distinction in the aquifer parameters has been made for each lithology, although the NPF is generally lower yielding than the D’Kar Formation.

The transmissivity of most joints and faults in the Zone 5 area appears to be low and some groundwater inflow is possible if these zones are exposed in development or are within proximity to/intersect structural and geotechnical features that have increased secondary porosity. The structures that have the highest transmissivity are the north-northeast to south-southwest striking faults.

Intrusive dykes are considered to act as either aquitards and/or groundwater conduits in a hydrogeological setting and generally, the thicker the dyke, the greater the effect on surrounding lithologies.

The static water level depth across the whole Project area varies from 85 m to 108 m and the shallow groundwater levels to the west of Zone 5 near the Kgwebe Hills (26–40 mbs) indicates the presence of a possible recharge zone.

10.3.3.2 Karoo Supergroup

The Karoo Supergroup forms a stratified aquifer which can be moderately productive where more permeable sandstones are separated by lower permeability layers. A large proportion of groundwater storage and flow, particularly in Ecca Group sandstones, is via fractures in the aquifer layers. Semi-vertical fault zones and fractures form hydraulic connections between aquifer layers.

The highest potential aquifers are fractured sandstones with high transmissivity and storage capacity, particularly the Ecca and Mosolotsane sandstone groups.

10.3.3.3 Kalahari Group Sediments

The Kalahari Group sediments are unsaturated across much of the mine area and may become saturated near the Kgwebe Hills and in the river valleys where alluvium is often saturated from riverbed infiltration and flooding. Aeolian Kalahari sands can form a regional aquifer, such as in the Okavango Delta but low permeability beds can reduce local groundwater supply potential.

The Kalahari Group sediments (and underlying bedrock) form the main aquifer for the Haka borefield (40–100 m thick).

No water was encountered in the Kalahari Group sediments in the vicinity of Zone 5 and therefore these sediments have no significance in terms of mine dewatering in the Zone 5 area. It is considered that the Kalahari Group sediments are likely to be unsaturated in the proposed Expansion Project areas, and hence will also have no significance in terms of mine dewatering activities required in these areas.

10.3.4 Groundwater Recharge

10.3.4.1 General

Recharge to the Kalahari Group sediments is from direct rainfall infiltration and, in river valleys, by infiltration of river water, particularly during storm events. Groundwater flow in the Kalahari Group sediments in the Haka wellfield area is from the northeast towards the southwest along the Nhabe River/Toteng Graben fault system.

Recharge to the bedrock is considered to occur where the overlying Kalahari Group sediments are thin or absent. Recharge to the bedrock is also from direct rainfall infiltration and, in river valleys, by infiltration of river water. The Kgwebe Hills are considered an area of local recharge. Lake Ngami is also considered to form an area of recharge when lake levels are high, but conversely a potential discharge zone when the lake is dry (by evaporation).

10.3.4.2 Zone 5

The Zone 5 mining area receives an average rainfall of ~461 mm per annum and at these levels, groundwater recharge is expected to be very low and is corroborated by the salinity of the groundwater observed in the mining area.

Flow direction in the fractured bedrock is impacted by recharge zones such as the Kgwebe Hills as well as discrete structural controls.

10.3.4.3 Kgwebe Hills

The Kgwebe Hills form a localised regional groundwater segregation.

Regional groundwater flow in the fractured bedrock to the east of the Kgwebe Hills is in a north-northeast direction towards the deep Kalahari basin, although flow directions may be locally modified as a result of structural controls and local recharge zones.

Groundwater flow to the west of the hills is generally in a north-northwest direction towards Lake Ngami and the Toteng Graben.

10.3.5 Groundwater Quality

10.3.5.1 Total Dissolved Salts

The groundwater quality in the region is highly variable and ranges from relatively fresh quality near zones of rainfall recharge associated with river valleys and near-surface perched aquifer environments to significantly saline occurrences in the deeper aquifers.

Water samples collected within the Zone 5 mining area indicate the groundwater in the fractured bedrock is generally saline and stagnant with high sodium, chloride and/or sulphate values.

High TDS values were detected with values ranging from 3,500 mg/L to 12,150 mg/L, with the data suggesting that groundwater in the sandstone units generally has higher TDS values and groundwater in the calcareous arenaceous rock units has lower TDS values.

Drillholes intercepting structures and faults may also yield groundwater with higher TDS values because of the structures enabling groundwater mixing from different units and deeper sources.

10.3.5.2 Heavy Metals and Arsenic

All groundwater samples exceeded the national standards for Class III Wastewater as all samples indicated a significant elevation of sodium, chloride and sulphate ions, typical of ancient brine groundwater and most also indicated a naturally sourced high level of total arsenic up to 1.45 mg/L.

Four water samples indicated elevated total cadmium, chromium, copper, iron, lead, selenium, and manganese. This is thought to be due to the intense oxidation noted near each water occurrence and it is often indicative of a fracture transmitting oxygen-rich waters.

10.3.5.3 Zone 5

Isotope studies indicate that the groundwater in the Zone 5 area is typical of Northern Kalahari deep aquifers, with recharge from the Kgwebe Hills and through the Kalahari Group sediments.

The water quality results suggest that the groundwater in the project area is slightly corrosive according to the Langelier Saturation Index, but heavily corrosive to intolerable according to the Ryznar Stability Index.

The water quality for each of the groundwater supply areas is variable.

10.4 MINE INFLOWS

10.4.1 Zone 5 Modelling

A numerical groundwater flow model was developed in 2019 to predict groundwater inflows into the Zone 5 underground mine and was updated in 2021 using the latest available groundwater levels and actual dewatering borehole abstraction rates.

10.4.1.1 Dewatering Simulations

The mine dewatering simulations used actual monthly production schedules to assess past and current mine inflows and drawdowns to predict behaviour for proposed production schedules from 2022 onwards.

Three simulation cases were modelled:

1. Mine inflow volumes with no borehole dewatering measures.
2. Mine inflow volumes with the four existing abstraction bores.

3. The addition of additional dewatering bores over the period 2022 to 2027 (Figure 10-2).

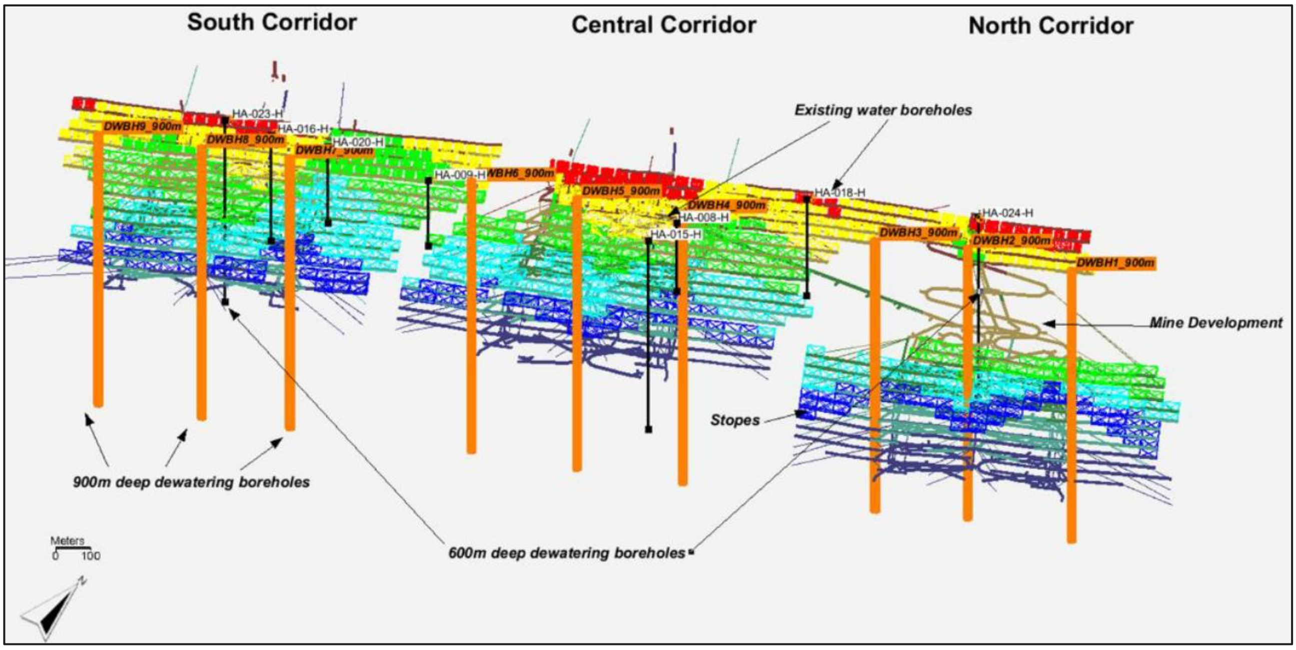


Figure 10-2 Zone 5 mine dewatering simulation
Source: CSA Global, 2023b

10.4.1.2 Groundwater Inflows and Dewatering Borehole Yields

Without any abstraction from dewatering boreholes, total underground mine inflows are predicted to increase from approximately 2,000 m^3 per day in 2022 to almost 4,500 m^3 per day in 2028.

Simulation suggests that the abstraction boreholes would be effective in reducing the underground mine inflows; however, groundwater inflows up to approximately 1,350 m^3 per day would still occur into the underground mine (approximately 450 m^3 day into each mine). The total dewatering borehole abstraction rate is approximately 650 m^3 per day (approximately 2 L/s per borehole).

As the Zone 5 mine deepens and widens, the shallow (600 m) boreholes become less effective.

Total abstraction from the dewatering boreholes is predicted to be approximately 8,000 m^3 per day once all new deep boreholes are installed by 2027. Current average total abstraction from the Zone 5 dewatering boreholes for the period January to September 2022 is approximately 410 m^3 per day.

10.4.1.3 Boxcut Conditions

Surface water inflows into the Zone 5 boxcuts comprises rainfall runoff from the boxcut footprints themselves. The boxcut excavations are generally above the groundwater level and minimal groundwater inflows are expected.

The resulting surface water inflow volumes for a boxcut at Zone 5 was estimated for the 1-hour, 1:100-year storm event (2,076 m^3) and the 2-hour, 1:100-year storm event (2,076 m^3).

10.4.2 Expansion Deposits

10.4.2.1 General

The deposits at Mango, Zeta NE, Zone 5N and Zone 5 are considered geologically similar from both a stratigraphic and structural perspective.

It is considered that the groundwater inflow volumes and rates into the proposed new Mango, Zeta NE and Zone 5N underground mines and abstraction rates for dewatering boreholes in these areas will be similar to those predicted for the Zone 5 mine based on the geological and mine plan similarities.

Work has been proposed to confirm groundwater inflows and mine dewatering requirements, hydrogeological field investigations and additional hydrogeological assessments for these specific new mine expansion areas.

10.4.2.2 Boxcuts

The boxcuts designs for each of the proposed new mine areas are based on the Zone 5 design. The Mango boxcut will be of similar dimensions and footprint as the Zone 5 Central boxcut, with Zone 5N and Zeta NE boxcuts of smaller footprint and dimensions.

10.5 DEWATERING SYSTEM AND STRATEGY

10.5.1 Zone 5

The Zone 5 dewatering system comprises a boxcut dewatering system, an underground dewatering system, and dewatering boreholes.

10.5.1.1 Boxcut Dewatering

The three boxcuts within the Zone 5 area are dewatered from a sump located at the base of each of the boxcuts using centrifugal sump pumps mounted on heavy duty drag skids. This dewatering system is sufficient to dewater a 1-hour 1:100-year rainfall event and prevent the decline from flooding.

10.5.1.2 Underground Mine Dewatering

The groundwater inflows into the underground mines at Zone 5 are dewatered using a system of submersible pumps located at the mine face and sump pumps located at intermediate mobile pump stations and permanent transfer stations. Water is then discharged to the mine dewatering dam after accepting water from the last permanent transfer pumpstation underground.

10.5.1.3 Dewatering Boreholes

There are currently eight abstraction boreholes located to the south of the three Zone 5 boxcuts forming the Zone 5 borefield. The current proposal is to install an additional five dewatering boreholes.

10.5.2 Expansion Deposits

The current proposal is to dewater the proposed new mines at Mango, Zeta NE and Zone 5N using a similar dewatering system and strategy to that installed at Zone 5 and this will be confirmed by the appropriate testwork as the project development is progressed.

10.6 SURFACE WATER MANAGEMENT

10.6.1 General

Surface water management focuses on maximising the diversion of rainfall runoff from catchments not impacted by the project development.

Where rainfall runoff originates from impacted catchment areas this contact rainfall runoff will be intercepted and managed in accordance with the quality of the water.

The key objectives for site surface water management include:

- Maximising the diversion of clean surface water from catchments not impacted by the project development
- Ensuring that all surface water and groundwater originating from impacted catchments is captured and treated accordingly with no uncontrolled releases
- Maximising the re-use of water
- Avoiding the impact of flooding on project infrastructure and operations
- Avoiding the disturbance of existing surface water drainage channels and features, where possible.

Surface water management infrastructure associated with the ongoing mining operation at Zone 5 and the associated mine site infrastructure is already in place. This includes stormwater drains to provide flood flow attenuation prior to discharge to the downstream environment.

The expansion of operations will necessitate the modification and expansion of the mine site surface water management system.

10.6.2 Zone 5

A SWMP has been developed for the Zone 5 mining area with a focus including the separation of clean and dirty water systems and preventing or minimising the risk of spillage of clean water into dirty water systems or dirty water into clean water systems.

10.6.3 Boseto Processing Plant

A key focus of the Boseto processing plant SWMP is to minimise contact water generation by intercepting and diverting non-contact rainfall runoff from undisturbed upstream catchments, such that this rainfall runoff does not become contact water.

A 24-hour, 1:100-year return event was used to design the surface water management infrastructure and the SWMP strategy for the processing plant and adjacent waste dump.

10.6.4 Expansion Deposits

A conceptual SWMP has been developed for the Zeta NE, Zone 5N and Mango mine areas with an objective to delineate appropriate catchments and the position for proposed infrastructure such as channels/berms and the environmental control dams, for the effective management of dirty storm water generated. This SWMP also aims to ensure that clean water generated upstream of the site is diverted around the sites into the natural environment.

10.7 WATER SUPPLY

There are many water supply source options available for the project, including water supply borefields, mine dewatering, scavenger wells and surface water management sources. The 2023 PFS (CSA Global, 2023) identified at least eighteen potential sources and comprised six borefields, nine mine dewatering systems, and three abandoned open pit mines (Figure 10-3). Water quality is varied and ranges from saline to fresh water.

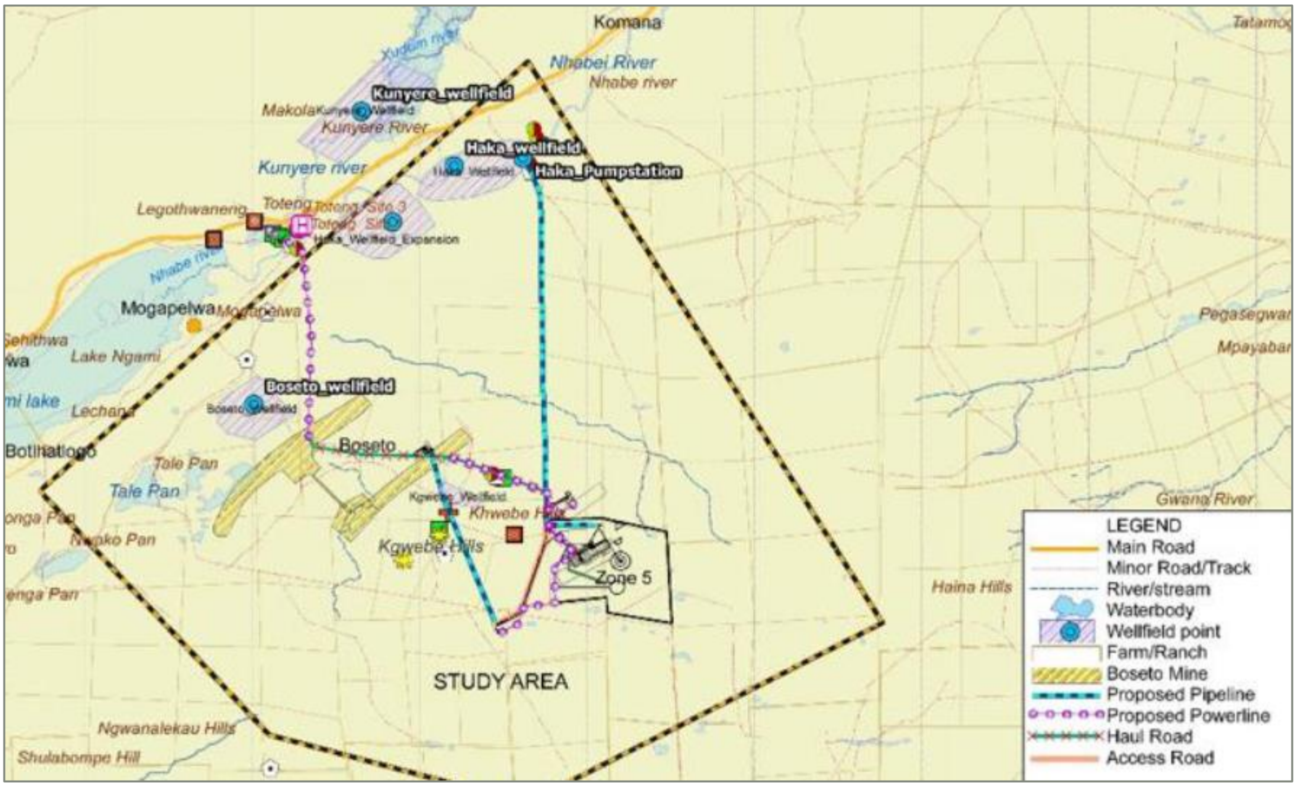


Figure 10-3 Borefield locations
Source: Modified CSA Global, 2023b

10.8 WATER BALANCE

A simulation of water use on site was developed using a dynamic water balance simulation model. The integrated simulation incorporates the current operations and the future expansion project mine and plant and was run for 20 years (January 2020 to December 2039).

The analysis represented all major flows, and the inherent variability of each according to the current operational logic, including all dirty water flows, rainfall runoff, evaporation, and seepage from the site, associated storm water dams and open pits, clean water flows to offices, change houses, workshops, camps etc. and related effluent flows. The simulation also included TDS concentrations to form a comprehensive site water and salt balance.

The modelling indicates that the raw water demand is met over the 20-year simulation period using current assumptions regarding rainfall, production forecasts, borefield yields and flow logic. The simulation results suggest that some of the borefields may need to be further developed to support and sustain the increased water demand of the Expansion Project. Figure 10-4 illustrates the water balance model.

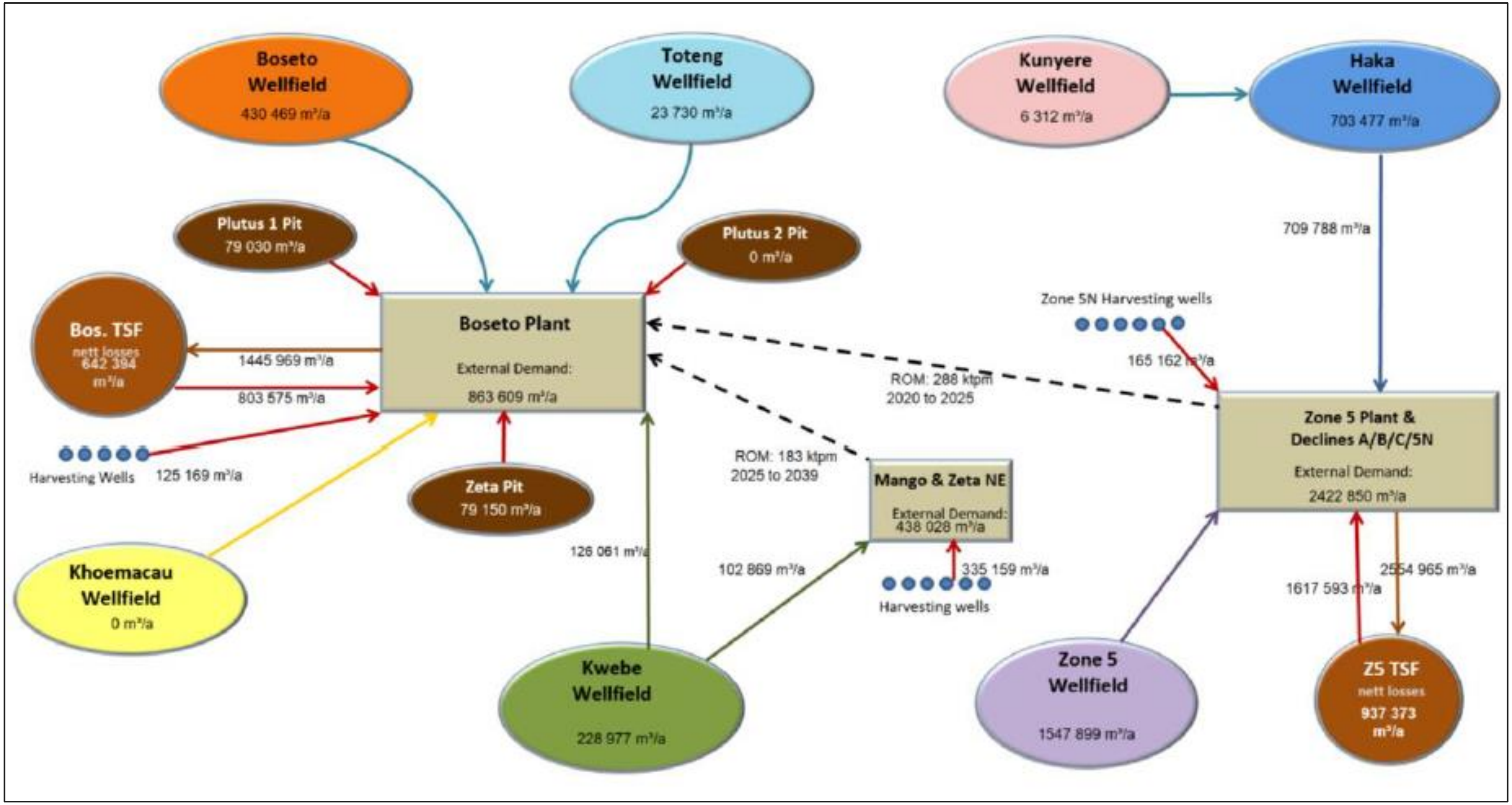


Figure 10-4 Water balance model (schematic)

Source: CSA Global 2023b

10.9 WATER MONITORING

Current water monitoring at the site includes rainfall, groundwater levels, and borehole abstraction volumes.

There is currently little ongoing groundwater quality or surface water monitoring conducted and as the project progresses and additional mining areas and water supply borefields are developed, the water monitoring program should be reviewed and amended to ensure that it adequately assesses the optimisation of water use strategy for the mine development stage, groundwater inflows into the mine workings, impact of mine dewatering and borehole abstraction on the surrounding groundwater environment (local groundwater levels and receptors), and groundwater quality trends.

10.10 ERM OPINION

ERM is of the opinion that adequate and reasonable investigative activities and desktop interpretive modelling work has been completed to best understand the hydrology and hydrogeological framework as it pertains to the proposed operations across the Khoemacau Project area. The current body of work suggests that there is enough identified water supply for an expanded operation to operate two processing plants and up to four separate mining operations at any one time.

Newly acquired data (with the exception of water quality) is captured and fed back into pre-operational assumptions to validate key aspects of the site water supply balance and the predictions of supply for future activities. ERM believes that this shortfall is currently being addressed and will be operational during the first half of 2024.

11 MINING AND ORE RESERVE ESTIMATES

11.1 GENERAL

11.1.1 First Production

The Khoemacau Copper Mine commenced commercial production with a maiden concentrate on 30 June 2021 from an initial project that developed the Zone 5 deposit and comprised the Zone 5 mine corridor, the refurbished 3.65 Mtpa Boseto processing plant (~28 km distant), and the necessary infrastructure required to support a standalone operation in a remote part of Botswana.

11.1.2 Expansion Opportunity

KCM immediately commenced analysis and evaluation into an expansion opportunity (c. 3.0 Mtpa to 4.0 Mtpa) via exploration and resource development necessary to define additional mineral resources at the Mango NE (Mango), Zeta NE and Zone 5N deposits that could potentially expand annual production at increased production rates (c. 8.0 Mtpa) and/or increase the initial LOM beyond the initial project plans.

The proposed expansion opportunity ultimately investigated the feasibility of increasing the production from the Zone 5 underground mine and constructing a new processing plant in the vicinity of the Zone 5 mine to process the increased mine production. The earlier mentioned Mango, Zeta NE, and Zone 5N deposits (Expansion Deposits) would then ultimately displace the Zone 5 mine ore currently processed at the Boseto plant.

It is within this context that a PFS was completed for an "Expansion Project" and "Life of Mine Study" that comprised three additional deposits (Zone 5N, Zeta NE and Mango), the volumetrically increased Zone 5 underground mine, in conjunction with a newly constructed processing plant in the vicinity of Zone 5 (CSA Global, 2023).

11.2 HISTORICAL STUDIES

A complete timeline for exploration and development of the Project is outlined in Section 5.1.

It was not until 2013 that that Project development activities gained traction with desktop and scoping study activities completed following the acquisition of Hana. Potential development gained further momentum once the acquisition of DCB was completed in July 2015, as this gave the enlarged business access to the recently mothballed Boseto processing plant and associated infrastructure that was developed during 2012 and 2013.

11.2.1 2015 Feasibility Study

A feasibility study was completed in November 2015 that demonstrated the viability of utilising the recently acquired Boseto facility to process Zone 5 ore by road hauling it 27.8 km for treatment.

The Boseto processing plant had been in operation for approximately 2.5 years and produced a copper-silver concentrate from three open pit mining areas prior to closure in February 2015.

At the same time, activity commenced around a further PFS that would involve the first investigations into a multi-mine plan that would consider an expanded processing facility at Boseto or the construction of a second processing facility at Zone 5.

11.2.2 2018 Feasibility Study and Front-End Engineering Design

11.2.2.1 Feasibility Study

A Feasibility Study was completed for the initial KCM project during 2018 and was based on mining 3.65 Mtpa from Zone 5 and processing this output through the Boseto processing plant 27.8 km distant.

An initial ore reserve for Zone 5 was estimated from this study and was subsequently updated in June 2020, June 2021 (not publicly released), and December 2022 based on the technical design assumptions proposed in the earlier study.

11.2.2.2 Front-End Engineering and Design

A front-end engineering and design (FEED) program was also completed for the initial KCM project during 2018 and used the same parameters resulting from the Feasibility Study.

11.2.3 2023 Prefeasibility Study

An Expansion Project and a LOM Study were initiated following the construction, commissioning, and operation of the initial KCM project and was based on:

- The development and mining of 3.65 Mtpa from three new mining areas (Mango, Zeta NE and Zone 5N) that will replace Zone 5 production from the Boseto processing plan
- An expansion of production from Zone 5 from 3.65 Mtpa to 4.50 Mtpa that would be processed through a new processing plant co-located in the immediate vicinity of the existing underground mine.

11.3 CURRENT MINING OPERATIONS – ZONE 5

11.3.1 Key Milestones

The detailed design and engineering of the Zone 5 mine was completed during the period 2017 to 2018, and surface construction works started in early 2019 and were completed in late 2021. The development of the mine commenced in February 2020 with initial ore production from ore development commencing in August 2020 and being stockpiled for later processing.

Ore stoping commenced in Q3 2021 and ramped up to capacity by the end of CY2022 and sustained ore production at the designed capacity through Q1 2023.

Ore stockpiles reached a peak of 377 kt in June 2021 ahead of process plant commissioning and first concentrate production. Stockpile processing resulted in the elevated copper production in Q3 2021, whereafter processing volumes were matched to that from the underground mine.

Design metallurgical performance was achieved in Q4 2021 and has operated at or around capacity since Q1 2023.

A stope design bulking strategy whereby stopes were mined at a lower cut-off grade threshold continued throughout 2023 to ensure that the processing plant capacity was fully utilised until the mine development rates exceeded annual production budget requirements. This has resulted in a lower head grade that originally envisioned and future head grades are expected to increase towards budget after 2023.

Total construction capital costs were US$412 million vs a 2019 pre-construction budget of US$398 million.

11.3.2 Mining

11.3.2.1 Mining Method and Mine Design

Method Selection

There were five mining methods considered for the Zone 5 that resulted in 48 primary variations in concept which considered crown pillars, stope orientation, contained metal, mine fill and production profiles. The exercise resulted in an inclined three corridor mining system (Figure 11-1), with corridor strikes ranging from 0.9 km to 1.1 km in length and where a bulk mechanised mining method was considered most appropriate and utilised up-hole longitudinal longhole open stoping and transitioning to paste fill with increasing depth.

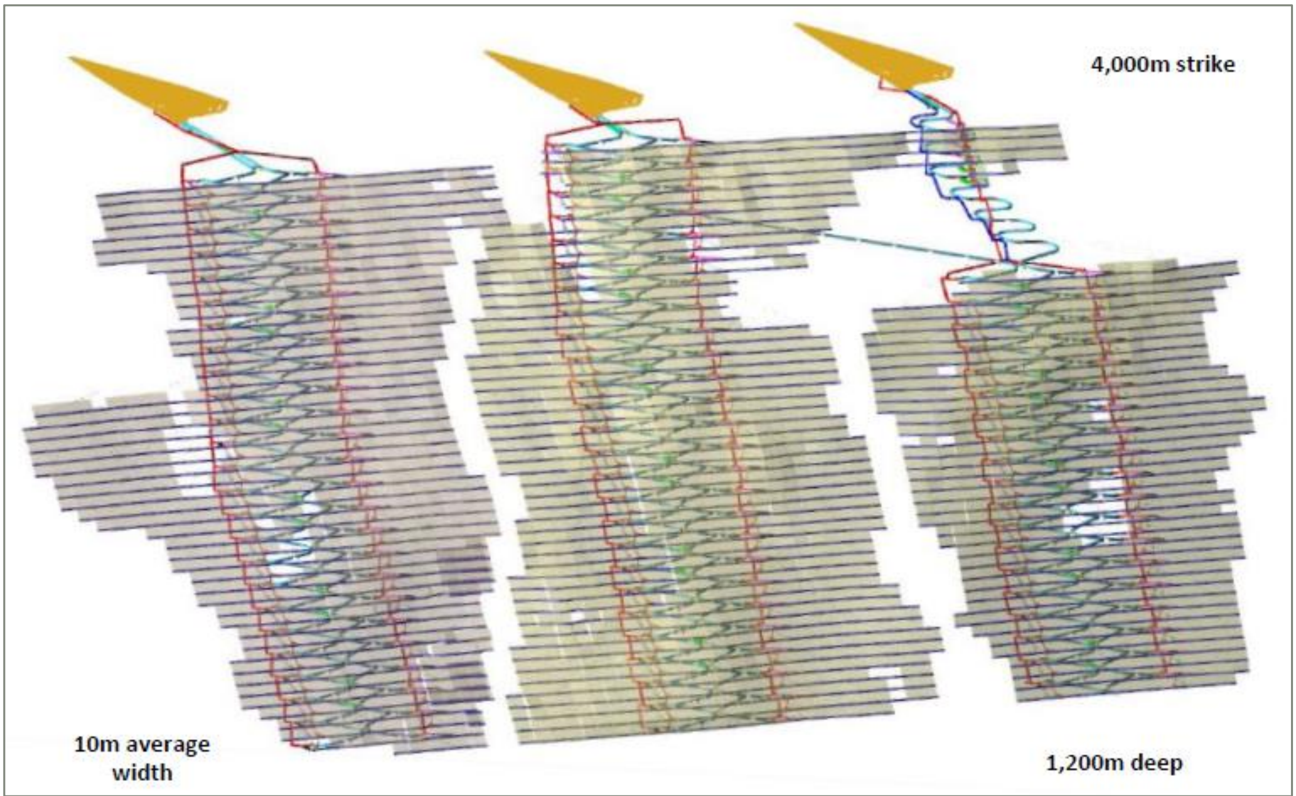


Figure 11-1 Isometric representation of the three-mine system – Zone 5
Source: KCM, 2023

Integrated Design

The long strike corridors are only made viable through utilising an integrated design methodology which offers high levels of re-use of the mine development through the differing mine life stages.

The integrated system demonstrated a distinct capital advantage and cost saving compared to a more classical design approach and utilised a twin decline strategy breaking off from each of three decline portals developed in fresh rock from engineered boxcuts (Figure 11-2). These declines provide the primary haulage routes and also serve the dual purpose of forming the primary ventilation network and secondary egress between declines.

Figure 11-2 Zone 5 boxcut showing mine access and services
Source: ERM, December 2023

Access Development

Portals have been excavated in fresh rock at the base of each of the boxcuts to give access to a decline system. These 6 m wide x 6 m high declines have been developed at 1:7 down in the footwall of the orebody to access the vertical extent of each of the three orebody segments.

All declines spiral down parallel to the deposits, with a nominal footwall standoff distance from the orebody of 50 m to ensure their long-term stability.

Decline systems have been developed as twin declines with two portals at the base of the boxcuts (except the northern boxcut) and each decline system has not been developed in parallel but rather as two separate spirals which come together at selected intervals to enable the sharing of common infrastructure.

Each decline of a pair has separate access points to the ore level drives located at the external corners of the declines midway between two sublevel elevations. From this point, two sublevels can be accessed – the upper and lower sublevels.

The two sublevels connect via an ore pass to the main level below and all ore produced on these sublevels is tipped to the level below for loading and hauling to the surface. Figure 11-3 shows the typical layout in Zone 5.

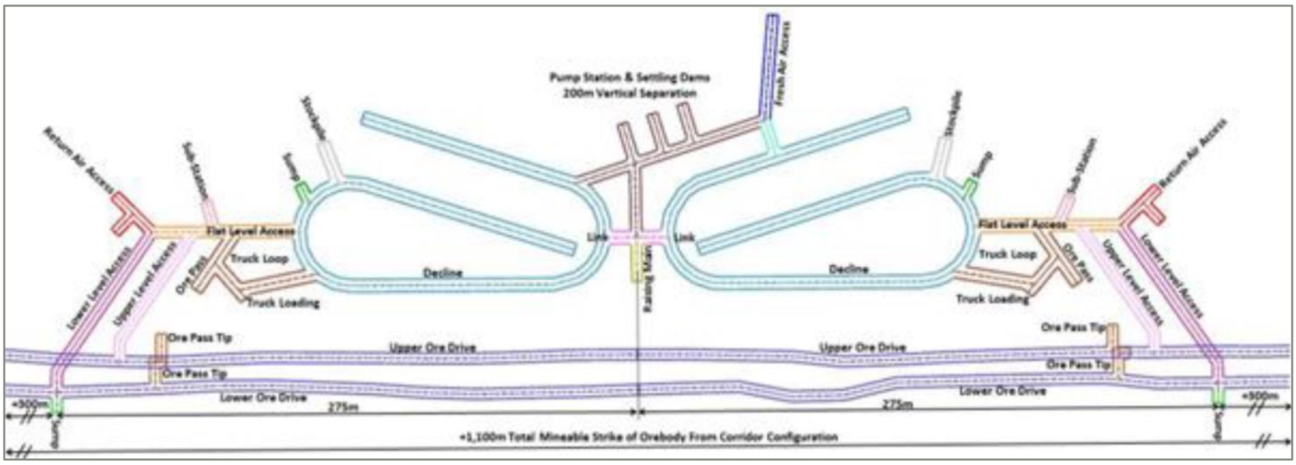


Figure 11-3 Zone 5 typical level layout
Source: CSA Global, June 2023b

Longhole Open Stoping (using up-holes)

Methodology

Longhole stoping is an optimal mining method for the Zone 5 orebody where effective mineralisation widths range from 3 m to >20 m. In this case, a "top-down" method has been adopted whereby vertical mining advance through the orebody is undertaken down dip and development ore drives are established along the strike of the orebody, and once the extremity of the orebody is reached, stoping retreats back along strike. This method provides the earliest cash flow from production given that stoping can commence as soon as initial ore levels are established as opposed to the "bottom-up" method where all capital development is established prior to production commencing.

Sequencing

The initial sequence adopted at Zone 5 employs open stopes with rib pillars for regional and local support. However, there is a geotechnical requirement to leave and abandon increasingly larger pillars (predominantly mineralised at ore grades) as depth increases for localised and regional stability. This situation reaches a transition point where cemented fill becomes advantageous as the additional cost associated with the fill is more than offset by the increased recovery of the orebody in conjunction with an increased factor of safety to the stoping activities. In this instance, Zone 5 planning and design has assumed that this inflection occurs at approximately 400 mbs.

Level Spacing

The level intervals for the three mine corridors have been designed at 25 m vertically to account for a maximum blast-hole length of approximately 30 m. The critical items for determining the level intervals were the length of blast holes in relation to resultant drillhole accuracy, the existing equipment capability for the development of up-hole slots, and explosive loading.

Declines

The duplicated access declines have been developed to maximise the strike extent that can be mined at any one time in each of the three corridors. However, the North Corridor at Zone 5 (Figure 11-4) starts with a single decline that will mine limited near-surface tonnages before a two-decline system will be developed beyond this point.

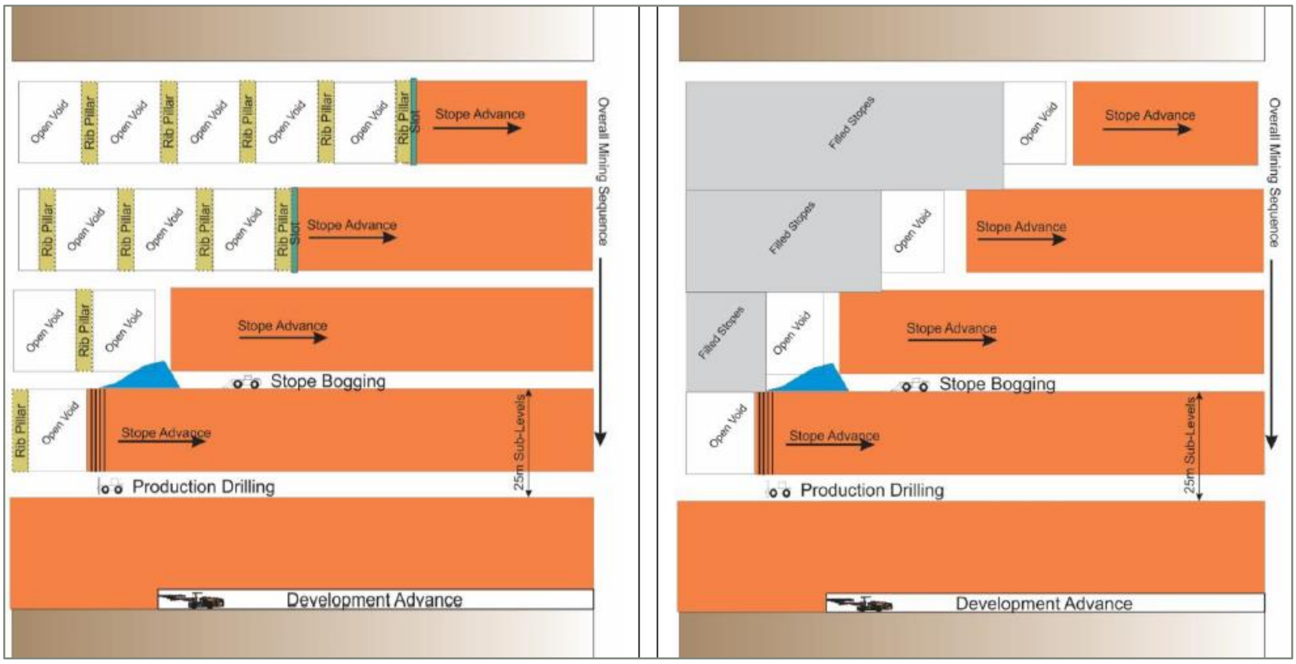


Figure 11-4 Generalised stoping sequence with and without stope fill
Source: KCM, 2023

Generalised Mining Sequence – Pre-Production

The specific geological attributes of the Zone 5 mineralisation dictate an unambiguous approach to stope production that involves seven sequential steps to complete the final design for a stope or stoping block prior to mining.

1. Mineral Resource Definition Drilling

The Mineral Resource definition is completed in advance of the capital development to define future Ore Reserves and collect information for the optimal placement of capital and operating development. This drilling is undertaken on a nominal 25 m x 25 m grid (Figure 11-5) from designated drill locations "off-ore" from capital infrastructure locations (return air raise accesses and rising main cuddy locations).

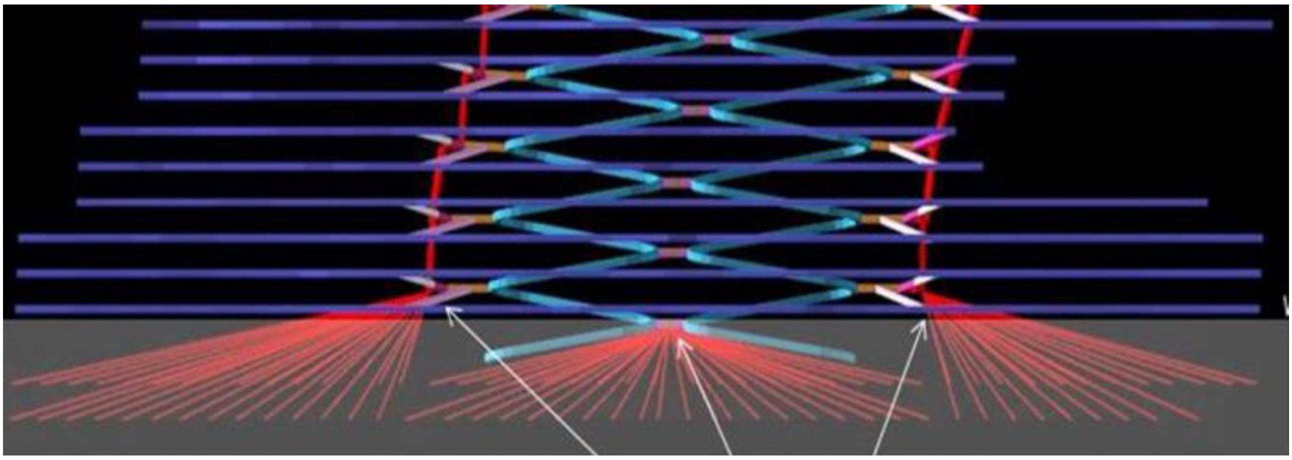


Figure 11-5 Indicative Mineral Resource definition drilling (arrows indicate possible rig locations)
Source: KCM, 2023

2. Mineral Resource Modelling

The Mineral Resource model is updated prior to the commencement of ore development and allows for optimal placement of the ore drive for stoping and enables the development of the ore drive under geological and survey control.

3. Ore Development

Extraction drives are developed along each mining level to the economic extremity of the deposit. Both the top and bottom sill development must be established prior to production activities commencing.

4. Stope Definition Drilling

The stope definition or grade control drilling (Figure 11-6) is completed along the drive length once the ore drives have been developed to the extents of each mining block. DD drilling is completed on 15 m spaced “rings” that are aligned perpendicular to the strike of the orebody and provides appropriate density of information for the development of a grade control model.

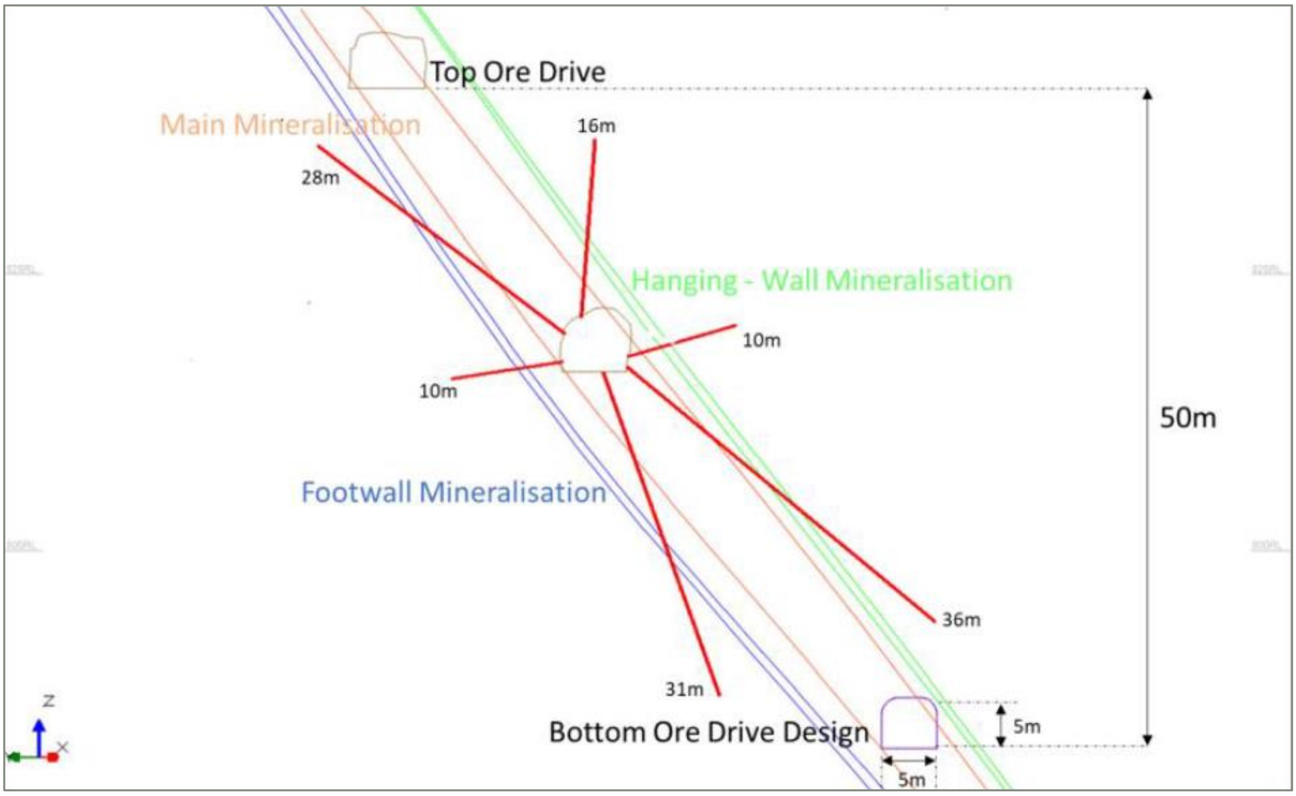


Figure 11-6 Indicative grade control drilling
Source: KCM, 2023

5. Grade Control Modelling

The grade control model provides confidence in the mineralised outlines and grade estimation and provides for accurate placement of the stopes on the developed horizon. Each stope then has a final tonnes and grade calculated for inclusion into the short-term production schedule (including deleterious elements).

Drill and blast designs would now be finalised along with any remaining production scheduling activities including, but not limited to, equipment and manpower allocations.

6. Stope Design

Stopes are regular in shape and are designed to simplistically remove the steeply dipping mineralisation while minimising underbreak and overbreak (Figure 11-7).

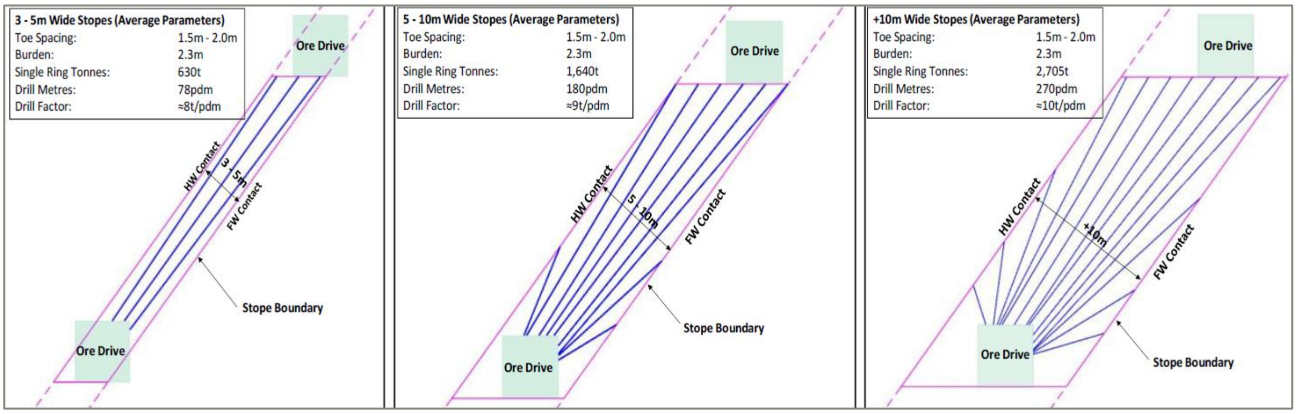


Figure 11-7 Stope cross-sections showing typical geometries and blast holes
Source: KCM, 2023

7. Drill and Blast Design

Ring burdens and hole spacings are calculated using parameters for emulsion or blended explosives.

Stopes will be charged with emulsified ammonium nitrate (emulsion) as it is relatively inert until sensitised immediately prior to loading in the blasthole, unlikely to be dissolved and desensitised by groundwater, is less likely to fall out of up-hole blastholes, and blast strengths can be altered to provide higher or lower energy blasts when mining conditions are variable.

Initiation of the charged holes will be through a combination of non-electric (nonel) or electronic detonators.

Additional Technical Considerations

Geotechnical

Data was collected through geotechnical interval logging and rock strength testing from DD drilling campaigns (2015 to 2021) and specific geotechnical drilling programs. All drill core has been geotechnically logged and was sampled for laboratory rock strength tests where appropriate.

Rock strength tests were conducted at an accredited testing service provider with appropriate supervision and quality assurance of the laboratory testing programs.

Hydrogeological

Hydrogeological investigations were completed in the Zone 5 mine area in 2014. The investigations included a hydrocensus, hydraulic testing of existing boreholes at the likely mine area and collection of water samples from boreholes for water quality analysis.

Additional hydrogeological investigations were completed in 2018 and 2019 and included the drilling of specific hydrogeological boreholes to complete pump tests in the proposed mine area (refer Section 10.4).

Hydrological

A hydrological assessment was completed for the proposed mine area in 2014 and included baseline hydrological characterisation, HEC-RAS modelling, flood-line delineation and the development of a Storm Water Management Plan (SWMP).

Hydrological assessments were completed in 2020 for the Boseto processing plant and adjacent waste rock dump. The assessment included a climatic assessment, hydrological flow modelling and development of a surface water management plan.

In 2022, an additional hydrological assessment was completed, including development of a conceptual Storm Water Management Plan for the proposed mining expansion areas (Zeta NE, Zone 5N and Mango).

Transition to Paste Fill

Initially, the longhole open stoping method employs stopes with rib pillars for regional and local support. However, as the depth of the mine increases there is an unequivocal need to leave larger pillars which negatively impacts the overall resource recovery. The primary driver for transitioning to paste fill is when the economic loss from ever degrading stope recoveries is greater than the additional activity cost and recoveries enabled through using paste fill.

Previous testwork and modelling suggests that approximately 400 mbs is the changeover point at which time, the use of an engineered fill medium (paste) will be required to be placed into the stope voids to improve orebody recoveries by leaving limited or no remnant mineralised pillars.

The transition to paste fill has been planned to occur at 445 mbs for the South and Central corridors and 475 mbs for the North Corridor and was ultimately determined from an economic, risk and structural perspective. A further consideration for the transition to paste fill is the placement of the sill pillars which occur every four levels in the open stoping system. These sill pillars create logical buffers for transition points to paste fill.

Stoping

Mining commences once a stope is designed, and the upper and lower-level development has been completed. A vertical slot raise is first established between the levels to provide a void for the expansion of blasted mineralisation to swell.

The slot raises are then expanded to cover the entire width of the stope and once established, rows of fanned blast-holes are drilled between levels from the lower to the upper level. Once a predetermined number of fanned drill rings have been drilled, the holes are loaded with explosives and blasted towards the void established by the slot development. Figure 11-8 illustrates a typical drill and blast sequence.

Once blasted, the broken material is removed from the ore drives using remote controlled load-haul-dump units.

The stope is prepared for paste fill once the final firing and mucking cycles are complete. This involves construction of the fill bulkhead on the lower drive, establishment of the fill reticulation to the stope, and the installation of sensors and monitoring devices for the batch placement.

Paste fill is batched up on surface and reticulated via boreholes and pipework to the desired stope. Paste fill is fed under gravity to the stope and poured in lifts to control pressure on the bulkheads before the paste has set. Pouring continues until the stope is deemed “tight filled”.

Paste in the filled stope is left to cure and improve in strength so that adjacent stopes can then be mined. The curing time is influenced by a combination of percent cement in the fill, stope width and type of fill exposure (sidewall or undercut).

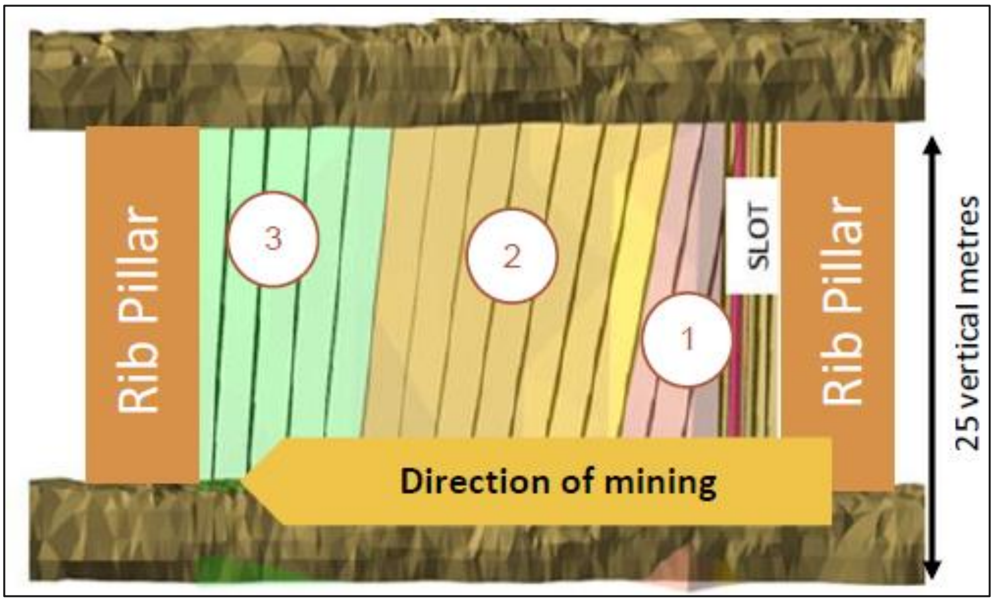


Figure 11-8 Long section showing typical drill and blast sequence
Source: KCM, 2023

11.3.2.2 Mine Services

Mine Ventilation

Ventilation activities are primarily driven by the need to dilute diesel exhaust gases in the mine.

Ventilation

A return and fresh airway ventilation system for each decline has been designed with a link to the surface via ventilation raises. The declines are used as intake airways, until the fresh airway is required for cooling purposes and the return air will be directed out through the raises. These raises are completed as longhole rises from within the boxcuts, and then via a series of longhole rises between levels.

Underground ventilation uses fans and flexible duct to ventilate ore drives and development headings.

Cooling

Air cooling will be required when mining reaches >550 m vertical depth (all corridors) especially during the peak of the summer months. The proposed air-cooling system consists of a central refrigeration plant located at the Central Corridor feeding bulk air coolers located on ledges in the boxcuts at the North, Central and South mines.

The refrigeration plant requires good quality feed water to make up for evaporation and blow-down water losses and the current design includes a reverse osmosis desalination plant to treat an identified and reliable makeup brackish water supply.

Without refrigeration the higher temperatures are mitigated by use of air-conditioned cabins and restricted personnel access during stope mucking and development mining.

Mine Dewatering

The standing groundwater level near Zone 5 is at an average depth of approximately 95 m and the groundwater levels to the northwest of Zone 5, near Kgwebi Hills are shallower (26–40 mbs) which is attributable to Kgwebi Hills being a recharge area. Within the Zone 5 area, flow is generally in a northeastern direction along major shears and stratigraphic contacts.

Groundwater flow is bounded in the north by the northeastern groundwater divide provided by the Kgwebi Hills, in the east by southeastern dykes and in the west by southeastern dykes. Underground mining occurs only in the lower D'Kar Formation which is conveniently below the static groundwater level.

A numerical groundwater flow model was developed in 2019 to predict groundwater inflows into the Zone 5 underground mines. This model was updated in 2021 using the latest available groundwater levels and the actual observed dewatering borehole abstraction rates. Actual monthly mine schedules were used to assess past and current mine inflows and drawdowns and this information was used to guide predictions of proposed annual mine schedules for 2022 onwards.

Simulations were modelled to assess mine inflows with no borehole dewatering measures taking place, likely inflow volumes using four existing abstraction boreholes, and the addition of new dewatering boreholes for the period 2022 to 2026. This has resulted in an informed operational dewatering strategy.

Surface water inflows into the boxcuts comprises rainfall runoff only from the boxcut footprints and minimal groundwater inflows are observed as the boxcut excavations are generally above the standing groundwater level.

Paste-Fill Plant

There is currently no paste-fill plant on site. Final paste plant positioning and reticulation pathways will be determined from detailed engineering completed prior to the expansion project. Preliminary work suggests that it could be located in the general area of the ROM pads.

The current design concept consists of three operating modules, allowing for independent and concurrent filling of each mining corridor with surface to underground boreholes located alongside each boxcut.

This system would involve a dry feed from tailings and/or Kalahari sands fed into two-stage mixers and moved into the placement piping utilising positive displacement piston pumps.

Supporting Infrastructure

Substantial project infrastructure relating to the Zone 5 mining operation is currently in place (see Section 13) and is shown in Figure 11-9.

Roads

The site is serviced by a good road network and overland ore haulage from Zone 5 to the Boseto processing plant uses 31 km of dedicated bituminised haul road with 140-tonne road train capacity.

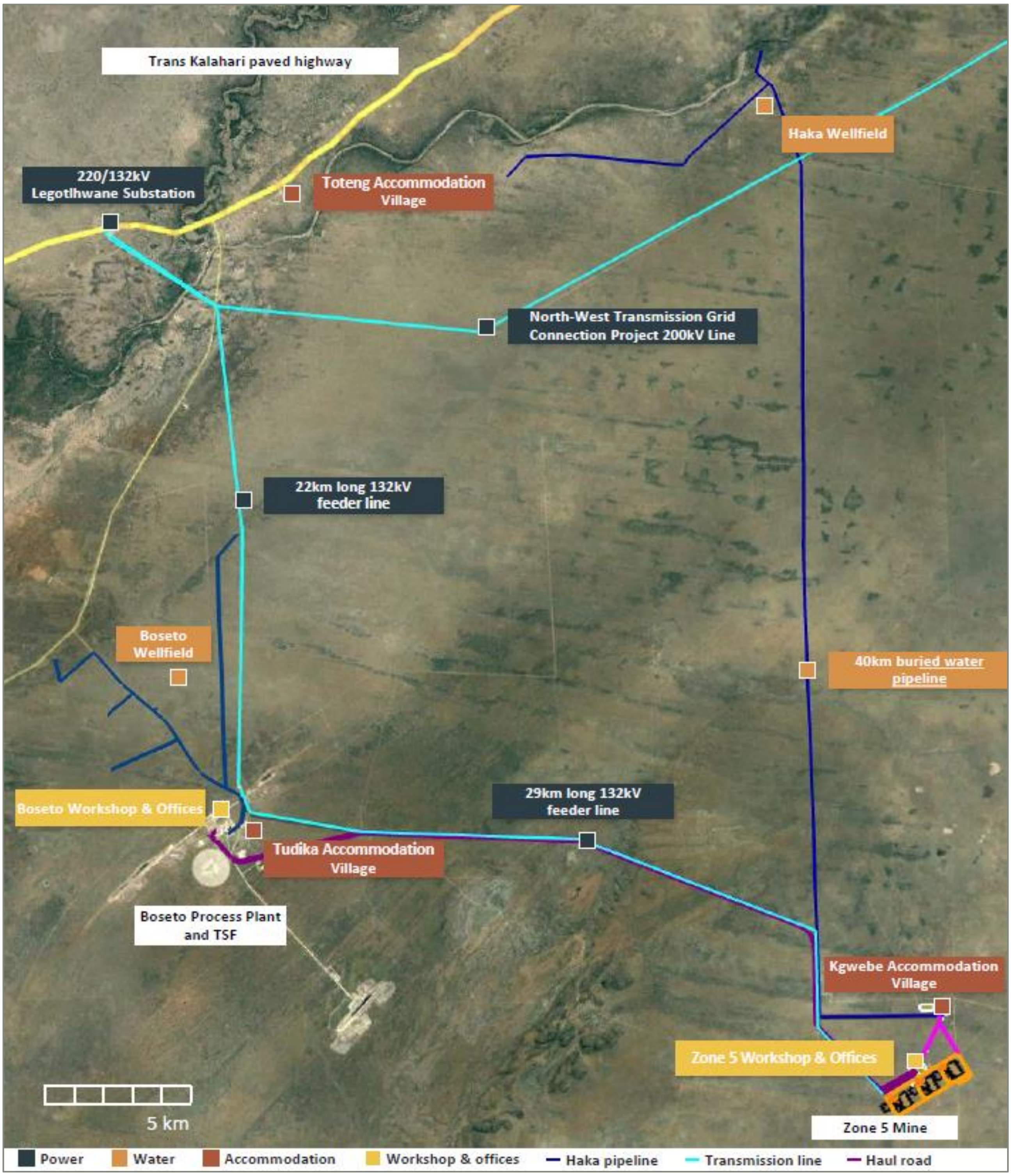


Figure 11-9 Current operations and key supporting infrastructure

Source: KCM, 2023

Power

Power (Figure 11-10) is sourced from the national grid with no reliance on diesel power generation. The grid connection went live on 20 April 2021 at the Zone 5 operation and has exceeded 99% availability since the permanent connection was completed. Several planned disruptions during December 2023 disrupted production activities for up to six hours.

Figure 11-10 Boxcut located substation above the portal
Source: ERM, 2023

The power network has been designed to meet the LOM requirements with substations and high-voltage cables sized accordingly. The mine utilises 2 MVA substations that have been sized with six switches to account for two distribution boards, two secondary fans for level development, decline fan and a miscellaneous feed, is suitable for permanent pump stations and other requirements.

The permanent high-voltage cable has been sized to 120 mm and was determined from the LOM power demands and is reticulated from surface-down boreholes to the return air accesses and subsequently reticulated to the substation.

Water

Water supply is currently sourced from the Haka and Boseto borefields and can be augmented via Zone 5 mine dewatering (Figure 11-11).

Figure 11-11 Mine water supply storage located directly above the portal
Source: ERM, 2023

Water movement in the region is more strongly associated with secondary porosity resulting from rock faulting and fracturing than primary porosity.

On a basin scale, permeability is greater along major faults, shears and stratigraphic contacts. Structural features such as faults, shear zones, fold axial planar cleavage have higher permeability than bedding planes within the strata. Zones where these features intercept and link can result in higher secondary porosity.

Accommodation

The site facilities are supported by three accommodation camps (approximately 1,400 beds) with kitchen, dining and recreational facilities and all camps are operated and maintained by a camp and catering contractor.

Communications

The mine has incorporated three communication systems for voice and data into the mine:

- Leaky feeder system
- Optic fibre backbone
- Telephones.

The leaker feeder system is very high frequency (VHF). The optic fibre backbone follows the same pathways as the high-voltage reticulation, with nodes placed at each substation to break out the fibre. Telephones are to be installed at places of refuge and are connected via the optic fibre.

Technical Services and Mine Production Support

The mining operation is supported by a Technical Services Department which comprises personnel in the technical areas of geology, mine planning, geotechnical engineering, survey, ventilation engineering and occupational health and safety.

11.3.2.3 Mining Plant and Equipment

Mobile Fleet and Fixed Plant

The selected mining method is a fully mechanised trackless longhole mining system. Table 11-1 outlines the equipment fleet currently in use by the mining contractor and directly by KCM.

Table 11-1 Equipment in use at Zone 5

Vehicle name	#	Description
Sandvik DD422i-60C	2	▪ Twin boom bore only, Semi-automated drilling, 20' Boom Feeds utilising 5.5m drill steels
Sandvik DD421-60C	5	▪ Twin boom bolt and bore, Split Feed Booms utilising 4.9m drill steels
Normet Charmec MC605D	5	▪ Development and production charge-up
Normet SF050D	3	▪ Shotcrete sprayer
Normet Ultimech LF600	3	▪ Transmixer
Sandvik Rhino 100HM	1	▪ Slot Hole Boring: 660mm, 750mm
Sandvik DU411 Aries	1	▪ Long service holes and slot drill capable with V30 drill head – 760mm
Sandvik DL421-15C	4	▪ Horseshoe production drill rig for 89-102mm up and downhole drilling
Sandvik DL431-8C	1	▪ Boom mounted production drill miscellaneous drilling – 64-89mm
Sandvik LH621i	13	▪ 21t Loader for development and production bogging/mucking. 8 units guidance capable
Sandvik TH663i	13	▪ 63t truck with modified trays for improved capacity
Volvo IT L120	8	▪ Underground mine services and surface maintenance activities
CAT Grader 12K	1	▪ Road maintenance
Normet LF700	1	▪ Road maintenance
Cat CS76 Roller	1(1)	▪ Road maintenance
220kW – twin 110kW Fan and Starter	12	▪ Decline secondary fans
180kW – twin 90kW Fan and Starter	30	▪ Level secondary fans
Hydro-Titan 3000 and Starter	10	▪ Construction stage water pumps
Forklift	1	▪ Stores usage

Source: KCM, 2023

Automation

Approximately 70% of the stope ore mucking is completed using remote loading that is facilitated using Sandvik's Automine automation platform and an operator control room on the surface. The Sandvik LH621 loader is particularly effective through Automine and its capacity is well suited to the mine plan and design. This is particularly relevant in longitudinal systems where high percentages of remote only loading is required.

The mine has been specifically designed to exploit the autonomous capabilities of the loaders and more specifically via the use of ore passes which vertically separate the unmanned activities from the manned activities.

Longhole drills are capable of single hole and multi-hole automation and are limited primarily by the rig position. This functionality allows for consistent, reliable performance across operators and the use of azimuth alignment tools reduces initial setup errors which have been identified by the mining industry as a significant cause of drill error and deviation.

11.3.2.4 Personnel Transport

All transportation of personnel around the mine is by using diesel-powered vehicles.

At the start of shift, operators access their mobile equipment units at surface in a designated parking area and drive to the underground working places. These units are delivered back to the parking area at end of shift.

Where shift change is at the face or for supervisory and technical support personnel travelling in the mine during the shift, transportation underground will be in a light vehicle equipped for the safe transport of personnel.

11.3.2.5 Haulage

Ore is hauled from underground to the surface ROM pad using the 63-tonne payload Sandvik TH663i (Figure 11-12). Where possible, ore is stockpiled according to metallurgical characteristics so that similar ores can be campaigned through the Boseto processing plant.

Figure 11-12 Underground loading
Source: KCM, 2023

Surface Ore Haulage

A 7 m wide, 31 km bitumen (Figure 11-13) truck-only haul road (no other vehicles) has been developed to safely haul the ore to the Boseto plant where it is able to be direct tipped into the crusher feed bin or is directed to a transfer pad should the bin be full or the plant shut down for maintenance.

To optimise costs and reduce the number of trucks on the road, trucks and trailers have been specified to haul 140 tonnes of ore per truck and at peak operation this will allow for 13 x 140-tonne trailer trucks in service with a cycle time of two hours to deliver the ore and return for the next load (Figure 11-14).

Figure 11-13 Ore haulage road-train on the dedicated Boseto Haul Road
Source: KCM, 2023

Figure 11-14 Side-tipping ore haulage at the Boseto Plant
Source: ERM, 2023

A two-trailer design was selected where each trailer has two 16 m^3 bins and this configuration provides for simultaneous loading by two front-end loaders should it be required.

Empty trucks are dispatched to the ROM pads where they are loaded by front-end loaders as per the shift blend plan and once fully loaded, they pass over a weighbridge where each truck is uniquely identified and automatically weighed.

The empty truck will re-weigh on the Zone 5 weighbridge on return to Zone 5 and will be re-loaded for a return journey or diverted to a workshop should maintenance or a maintenance check be required.

11.3.2.6 Workforce

Mine site employees were estimated to be approximately 1,550 people (2023 budget) and comprised full-time employees, fixed term contractors, and general contractor employees for the below mentioned groups (Table 11-2). Barminco (mining contractor) is by far the largest employer on site with approximately 46% of the total workforce, followed by Khoemacau site service employees (16.9%) and Khoemacau processing employees (16.5%).

Table 11-2 Total KCM employees and contractors (March 2023)

	Current Operations					
	Employees		Contractors		Total	
	People	%	People	%	People	%
Khoemacau mine site	**370**	**93.9%**	**1,155**	**99.9%**	**1,525**	**98.4%**
Site General Management and support	–	–	–	–	–	–
Mining	25	6.3%	686	59.3%	700	45.9%
Technical Services	43	10.9%	–	–	49	3.2%
Exploration	11	2.8%	–	–	16	1.0%
Centralised Services	67	17.0%	116	10.0%	181	11.9%
Processing	163	41.4%	90	7.8%	252	16.5%
SHEC	21	5.3%	–	–	21	1.4%
Environment and community	7	1.8%	6	0.5%	13	0.9%
Human Resources	11	2.8%	–	–	16	1.0%
Finance and Administration	22	5.6%	–	–	20	1.3%
Site Services (incl. security and camp)	–	–	257	22.2%	257	16.9%
Gaborone office	**9**	**2.3%**	**–**	**–**	**9**	**0.6%**
Executive[1]	5	1.3%	–	–	5	0.3%
Admin, services and support	4	1.0%	–	–	4	0.3%
Johannesburg, UK & other[2]	**15**	**3.8%**	**1**	**0.1%**	**16**	**1.0%**
Executive	2	0.5%	–	–	2	0.1%
Finance and IT	13	3.3%	1	0.1%	14	0.9%
Total Organisation	**394**	**100%**	**1,156**	**100%**	**1,550**	**100%**

Source: Modified KCM, 2023

KCM has had a large degree of success in filling the vast majority of positions with local Batswana personnel. Training and localisation plans are approved by the Department of Labour and are in accordance with a Human Resources Agreement that assists with the skills transfer for expatriate held positions.

Mining technical skills is an area where the recruitment of suitably qualified people is somewhat challenging and current efforts to remedy this involve external recruitment.

Contractors

There are currently several contracting companies undertaking specialist tasks on behalf of KCM and the employees make up approximately 75% of the total engaged workforce. The following outlines the individual contractors and the tasks undertaken by that group:

- AECI Mining Explosives – Explosives supply
- AH Knight – On-site analytical laboratories
- Barminco – Mine operations
- Fluor – Processing technical services
- Fraser Alexander – TSF operation
- Fresh Camp – Accommodation services
- G4S – Site security
- Mitchell Drilling – Exploration drilling
- Puma Energy – Site fuels
- Unitrans – Surface load and haul activities.

31 December 2023 Headcount

At the end of December 2023, a total of 1,643 personnel (permanent employees and contractors) were working on site. In addition, 25 fixed-term contractors and 27 graduates, interns and learner operators were also on site, resulting in a total headcount of 1,695 compared to 1,585 budgeted.

The increase was mainly due to additional Barminco employees and Barminco-related contractors.

11.3.3 Site Visit Observations

A site visit was undertaken by Terry Burns FAusIMM (Competent Person), Technical Consulting Director with ERM, from 13 December to 17 December 2023 (inclusive) where all aspects of the operation was observed including a lengthy underground visit to the operating areas of the Zone 5 mining operations, the surface remote loader operations centre, and the mine control room. A half day was also spent at the Boseto processing plant and discussions were also held with the key operational personnel who were on site during the visit.

The following briefly lists some key material observations with particular reference to informing this CPR and the impacts these observations may have to the project valuation.

11.3.3.1 General

The project appears to be a well-run modern operation staffed by appropriately skilled and trained mining industry professionals. The site is still clearly in "start-up mode" as the operation builds to, and maintains, 3.65 Mtpa of processing plant throughput.

The operation is currently mine constrained with the plant capable of 3.65 Mtpa and is in advance of the mine reaching a stable and sustainable production profile. The mine is designing stopes to a lower NSR cut-off to meet the plant's expectations until such time as capital development (ore and waste) is far enough ahead to provide for additional access to production levels on a sustainable basis.

The mining contractor is currently working to rapidly train the local workforce and is bolstering underground skills with expat employees. Equipment numbers and high equipment downtime especially with respect to remotely operated loaders and drill jumbos is adversely affecting mine production performance with no obvious improvement in adherence to schedules.

11.3.3.2 Development Overbreak

Capital development overbreak especially in the access declines is excessive and contributing to a deficit in vertical advance rates. The decline design profile of 6 m x 6 m is not being maintained and in places was observed to be up to 8 m wide. It appears that adequate perimeter blasting practices are not being maintained and the root cause to the lack of attention to detail was not obvious during the visit.

11.3.3.3 Stope Overbreak, Underbreak and Sill Development Design

Stope overbreak, underbreak and sill development design is currently problematic to maintaining scheduled head grades to the processing plant. Internal KCM monthly reports for 2023 track progress from completed stoping areas with cavity monitoring surveys at the completion of each stope.

In December 2023, the stope overbreak for completed stopes increased marginally to 22% month-on-month and is 275% above that budgeted (8%). Overbreak for November 2023 was 27%, which demonstrates that December's performance is a small improvement that must be maintained and advanced if budgeted head grades delivered to the plant are to improve into 2024.

Underbreak for completed stopes increased by 2% to 12% month-on-month for the December 2023 monthly report analysis and is 240% above that budgeted (5%).

Although geotechnical studies and assumptions are valid and reasonable, there is overwhelming practical evidence to suggest that the deferral of the use of paste backfill in the mining system has been somewhat detrimental to the success of the mine plan, this has been further compounded by the complex hangingwall geology of some stoping blocks. Appropriate mine design and the un-optimised location of extraction development in combination with un-optimised drill and blast designs on a stope-by-stope scale has further exacerbated stope hangingwall failures and perpetuated unacceptable footwall underbreak.

11.4 EXPANSION PROJECT

11.4.1 Introduction

An Expansion Project was initiated following the construction, commissioning, and operation of the Zone 5 mine that was based on the development and mining of 3.65 Mtpa from three new mining areas (Mango, Zeta NE and Zone 5N) that will replace Zone 5 production from the Boseto processing plant, and an expansion of production from Zone 5 from 3.65 Mtpa to 4.50 Mtpa that would be processed through a new processing plant co-located in the immediate vicinity of the existing underground mines (CSA Global, 2023b). The work completed is of a least that required for inclusion into a PFS.

11.4.2 Mineral Resources Considered

The Expansion Project has considered only the Measured and Indicated Mineral Resources comprising the current JORC 2012 Ore Reserve estimate, namely Zone 5, Zone 5N, Mango, and Zeta NE. Section 12.13 will consider the remaining deposits comprising the Inferred Mineral Resource estimates as the basis for a strategic LOM study to determine the technical work required, the likely capital and operating costs involved, and the timing required for strategic long-term development decisions.

The Ore Reserve only analysis is not a practical "real-world" approach given the large inventory production tail available to the schedule beyond the Measured and Indicated Resource. However, it serves as a confirmation exercise that such a short-term expansion development could at least pay back the invested capital should no further mining be completed outside of this inventory.

The positive cashflow generated by the discounted cash flow analysis based on the LOM schedule that includes only Measured and Indicated Mineral Resources as mineable quantities (Section 12.4.8) indicates that the project is worthy of consideration and the basis for:

- The statement of a JORC (2012) compliant Ore Reserve
- Consideration of a larger LOM development beyond the Ore Reserve.

(refer Sections 11.4.5.2 and 11.11).

The following table lists the Mineral Resource estimate used for each deposit and the date of each compilation. Full details of each estimate can be found in Section 8.

Table 11-3 Expansion Project (Measured and Indicated Resources as of 31 December 2023)

Deposit	Tonnes (Mt)	Copper (%)	Silver (g/t)
Zone 5	37	1.98	20
Zone 5N	4.4	2.64	44
Mango	11.4	1.93	23
Zeta NE	8.9	2.56	53
Total	**61.7**	**2.10**	**27**

Source: Section 8.3

11.4.3 Expansion Deposits

The current Zone 5 operation is approaching 3.65 Mtpa of ore production (2023 actual 3.44 Mtpa) and KCM has identified potential to expand the current mine production and commence additional mining at other deposits which lie within KCM's current mineral tenure.

The Expansion Project considers an expansion of current mining activities from 3.65 Mtpa to a planned 4.50 Mtpa at Zone 5, a plan at Zone 5N to produce approximately 1.0 Mtpa from underground, a plan at Mango to produce approximately 1.0 Mtpa from underground, and a further plan at Zeta NE to produce approximately 1.6 Mtpa from underground.

The overall expansion would have Mango, Zeta NE and Zone 5N produce a combined 3.65 Mtpa for feed to the existing Boseto processing plant and the construction of new 4.50 Mtpa processing plant at the Zone 5 site to process ore from the Zone 5 expansion.

11.4.3.1 Zone 5

The mine plan and schedules involve the simplistic expansion of current mining activities from 3.65 Mtpa to a planned 4.50 Mtpa by bringing forward production already considered, as mining advances in a wider part of the orebody suitable for higher productivity.

11.4.3.2 Zone 5N

The Zone 5N deposit is located toward the northeast of the mining tenure some 4.3 km north of the current Zone 5 operation and is located on the northern limb of the Zone 5 regional anticline.

The deposit has been drilled over a strike length of approximately 4.6 km and the mineralisation is interpreted to strike towards 235° and dip at approximately 65° to the northwest.

The mineralised zone has an average thickness of 5 m and is hosted in the hangingwall sequence within the marl and marly siltstone units over an estimated strike length of 1.6 km. The deposit has been drilled to a depth of 1,100 mbs and remains open along strike and at depth.

Copper mineralisation typically consists of massive bornite with accompanying chalcocite and minor chalcopyrite. Copper minerals are frequently mixed in a high-grade (>1% Cu) mineralised zone that is largely controlled by parasitic folding and associated with brittle faulting and localised shearing.

Sand and calcrete overburden in the area is approximately 25 m thick.

11.4.3.3 Mango

The Mango deposit is located 10 km southwest and along strike from the current Zone 5 operation and is located on the southeast limb of a regional anticline.

The deposit has defined mineralisation over a total strike length of 5 km and an interpreted dip of 65° to the southeast and where the central portion of the deposit has returned economic mineralisation over a strike length of some 1.5 km with an average thickness of 8m.

The deposit has been drilled to 700 mbs and remains open both along strike and at depth. Mineralisation is hosted in the lower D'Kar Formation in alternating interbedded sandstone and marlstone units.

Bornite and chalcopyrite are the main copper sulphide minerals present, and the deposit has a clear vertical and strong horizontal sulphide zonation. It is chalcopyrite dominant in the southwest and in the hangingwall grade domain while bornite is dominant in the northeast and in the footwall grade domain. Some sulphide mixing occurs in the central portion of the deposit.

Sand and calcrete overburden in the area is approximately 32 m thick.

11.4.3.4 Zeta NE

Zeta NE deposit is located approximately 16 km northwest of the current Zone 5 operation and on the northern limb of a broad regional anticline and approximately 6 km northeast and along strike of the Zeta deposit.

The deposit has been drilled over a total strike length of 5 km and the mineralisation is interpreted to dip at 80° toward the northwest.

The economic mineralisation in the northern portion of the deposit has a strike length of 1.9 km and an average thickness of 4 m and has been drilled to a total depth of 900 mbs, remaining open along strike and at depth.

Economic copper mineralisation typically consists of massive bornite with accompanying chalcocite and minor chalcopyrite. Copper minerals are frequently mixed in the high-grade (>1% Cu) mineralised zone.

Sand and calcrete overburden in the area is approximately 6 m thick.

11.4.4 Mining Inventory

Stoping areas and specific mining blocks are selected for inclusion into a mine plan based on profitability and by a process whereby the value of the ore in a mining block (based on tonnage and grade information in the Mineral Resource estimate block model) is determined and evaluated against a set of techno-economic mining criteria that corresponds to the selected mining method.

The profitability of each block in the geological block model is determined by the calculation of a NSR obtained by a formula that takes cognisance of all relevant parameters to estimate profitability if mined.

11.4.4.1 Net Smelter Return and Modifying Factors

Net Smelter Return

The NSR factor was used as the cut-off parameter for mine planning purposes because it considers value contributions from both copper and silver and takes cognisance of their respective recoveries, metal prices, and the impacts of deleterious elements. The following NSRs were selected for stope shape definition of the expansion deposits:

- Zone 5 – US$65/t (US$70/t for first two years of scheduled production after start)
- Zeta NE and Zone 5N – US$65/t
- Mango – US$55/t.

US$55/t NSR was used for the Mango deposit due to the relatively shallow depth of the mineral resource, the open stope mining method, and rigid pillars with no backfill support.

Modifying Factors

Table 11-4 summarises the key modifying factors.

- Level spacing: 25 m
- Stope length (including rib pillar): 50 m
- Minimum mining width 3 m (true width)
- Pillars between stopes: 10 m.

Table 11-4 Extraction, recovery and dilution metrics

Factor	Zone 5 Expansion	Zone 5N	Mango	Zeta NE
NSR cut-off	US$65/t.	US$65/t.	US$55/t.	US$65/t.
Extraction	Development – 100%. Stopes – 95%.	Development – 100%. Stopes – 95%.	Development – 100%. Stopes – 95%.	Development – 100%. Stopes – 95%.
Recovery (one-pillar loss)	Backfilled stopes – 100%. Open stopes – varies from 53% to 76% dependent on: • Depth below surface • Hydraulic radius • Stope width.	Backfilled stopes – 100%. Open stopes – 70%.	Open stopes – 75% to 82% dependent on depth below surface.	Backfilled stopes – 100%. Open stopes – 75% to 82% dependent on depth below surface.
Dilution	Overbreak allowance 0.5 m. Footwall and hangingwall internal to stope shape.	Overbreak allowance 0.5 m. Footwall and hangingwall internal to stope shape.	Overbreak allowance 0.5 m. Footwall and hangingwall internal to stope shape.	Overbreak allowance 0.5 m. Footwall and hangingwall internal to stope shape.

Source: CSA Global, 2023b

Mine Designs and Available Design Inventory

Mining layouts for each of the mining targets were generated by applying the open stoping mining method design criteria and the stope shapes returned by using all the relevant modifying factors. Mine layouts were developed and a summary of the development and production available to develop an Ore Reserve are shown in Table 11-5 below.

Table 11-5 Production and mining inventories (June 2023)

Category	Zone 5	Zone 5N	Mango	Zeta NE	Total
Ore Development (Mt)	3.6	0.8	1.0	1.6	7.1
Stope Mining (Mt)	25.2	2.3	5.3	6.7	39.5
Total Ore (Mt)	**28.8**	**3.1**	**6.3**	**8.3**	**46.6**
Grade (Cu %)	**2.03**	**2.29**	**1.73**	**1.78**	**1.96**
Measured Resource (Mt)	7.3	-	-	-	7.3
Grade (Cu %)	2.23	-	-	-	2.23
Indicated Resource (Mt)	21.2	3.0	6.2	8.1	38.5
Grade (Cu %)	1.92	2.31	1.75	1.81	1.9
Inferred Resource (Mt)	0.1	0.2	0.1	0.1	0.41
Grade (Cu %)	1.80	2.41	1.64	1.67	1.96
Unclassified (Mt)	0.2	-	0.1	0.1	0.4

Source: Modified CSA Global, 2023b

Inferred Mineral Resources and unclassified mineralisation are generally excluded but in some cases are unavoidable where they form part of a stope which is deemed economic using Measured and Indicated Mineral Resource mineralisation.

11.4.5 Mining Method and Development Designs

The planning for the expansion of Zone 5 and the development of new mines at the other three sites are based on the mining method, modifying factors and equipment selection that were applied to the original Zone 5 mine. The similarities in the geology and geometry of the additional deposits make this a set of reasonable assumptions.

The continued mining approach is based on a fully mechanised sublevel (longhole) open stoping method scheduled in a top-down retreat sequence. Cemented paste backfill will be used from approximately 400 mbs to ensure an acceptable orebody extraction metric. Above this elevation, a rigid pillar system will be left in place with the mined-out voids left unfilled.

All deposits will be accessed from surface by a decline system situated centrally to each deposit and commencing in fresh rock via an appropriate boxcut to handle the unconsolidated sands and calcrete that overlie the mine sequence.

Mining by longhole open stoping at Zone 5 has been successfully established with the mine layout, selected mining equipment and planned productivities all considered to be currently performing within design parameters. The Expansion Project has therefore used these designs given they have been shown to be appropriate and proven for these type/style of deposits.

11.4.5.1 Underground Access (Boxcuts)

The Zone 5 underground mine is accessed from the surface using three 52 m deep open boxcut excavations with wall angles and berm configurations for long-term stability of the excavation. All three boxcuts allow portal access to the footwall of the mineralisation and these existing boxcuts will continue to provide access to Zone 5 in an expanded production scenario.

Boxcuts will also be excavated for access to the Mango, Zeta NE and Zone 5N mines with Zeta NE planned to have two 25 m deep boxcuts, a single 39 m deep boxcut at Zone 5N, and another single 46 m deep boxcut at Mango.

11.4.5.2 Access Decline and Level Access Development

Portals will be excavated in fresh rock at the base of each of the boxcuts to give access to a decline system developed to access the vertical extent of each of the orebodies from a footwall position that ensures long-term stability of the infrastructure.

All 6 m x 6 m declines are designed to spiral down at 1:7 and parallel to the deposits at standoff distance 50 m to provide a central access point to each of the mining corridors.

As seen in Zone 5, all the planned decline systems would be developed as twin declines with two portals at the base of the boxcut. Developed as two separate spirals, each will come together at specific main level intervals to enable the sharing of common infrastructure. Each of the declines will have separate access points to the ore drives located midway between two sublevel elevations.

Upper and lower sublevels will be connected via an ore pass to the main level below for loading and hauling to the surface.

Zeta NE South will have a single portal at the bottom of the boxcut accessing a single decline for the entire vertical extent of the orebody as the tonnage profile of the deposit cannot justify a twin decline system.

The single decline corridors will require a 70° dedicated 1.5 m diameter raise system through the corridor to facilitate the installation of a second means of egress containing ladderways.

11.4.5.3 Orebody Development

Ore drives will be developed in each direction along the strike of the orebody to the strike limit of the mining block and serviced by a decline. When the ore drives on the sublevels above and below a stope block have been completed, the stope is ready for production mining.

11.4.5.4 Ventilation

The ventilation design strategy for Mango, Zeta NE and Zone 5N is adopted from the system successfully employed at the existing Zone 5 operation. A return and fresh airway ventilation system was designed with a link to the surface via ventilation raises. The declines will be used as intake airways (until the fresh airway is required for cooling purposes) and the return air will be directed through the raises.

Each of the declines will be ventilated by an independent forced ventilation system during early development when the only the declines are connected to surface. A second fan duct in each decline will be required after the first level position is reached and as distances from the decline portal increase, additional 110 kW fans will be used in series to increase ventilation pressure and maintain airflow.

When the mine enters production and ventilation volume requirements increase, the construction fans will be replaced with the primary ventilation fans on surface. The primary ventilation fan arrangement for Mango, Zeta NE (Central) and Zone 5N will consist of two fans in parallel (side-by-side) in the boxcut, with both fans connected to a common rising duct from the RAR shaft. The primary ventilation fan for Zeta NE (South) will be a single fan unit connected via a duct to the RAR shaft.

Ventilation quantities vary between each of the Expansion Project deposits and the main fans are sized to accommodate the anticipated duty ranges. The fan motors are fitted with variable frequency drives, which, together with inlet guide vanes, provide the means to modulate flow and optimise performance as required.

11.4.5.5 Stockpiles

Decline stockpiles have been designed to allow for a maximum loader tramming distance of 140 m and provide for a rapid turnaround time for decline and off-decline development headings. These stockpiles will also serve as passing bays and DD drilling platforms during the ongoing mine life.

11.4.5.6 Stope Optimisation

A stope optimisation exercise was completed at each of the four Expansion Deposits using the Mine Shape Optimiser (MSO) tool and the previously outlined NSR value was used as the value driver for stope definition at each deposit.

This output also includes the Inferred Resources of the early outlined geological models but only the Measured and Indicated Resources were reported and used for mine design purposes. This additional material forms the basis for the LOM Expansion Study (see Section 11.11).

The MSO stope geometry parameters were based on the following assumptions (Table 11-6).

Table 11-6 MSO stope geometry parameters

Item	Metric	Comments
Level spacing	25 m	
Stope length	50 m	Includes rib pillar
Minimum mining width	3 m	True width
Minimum width of waste pillar between stopes	10 m	Zone 5
	10 m	Mango
	5 m	Zeta
Hangingwall dilution skin	0.5 m	Built into stope shape
Footwall dilution skin	0.5 m	Built into stope shape

Source: ERM, 2024

Zone 5

The lateral extent of stope shapes generated for Zone 5 at the NSR cut-off of US$65/t is shown in Figure 11-15.

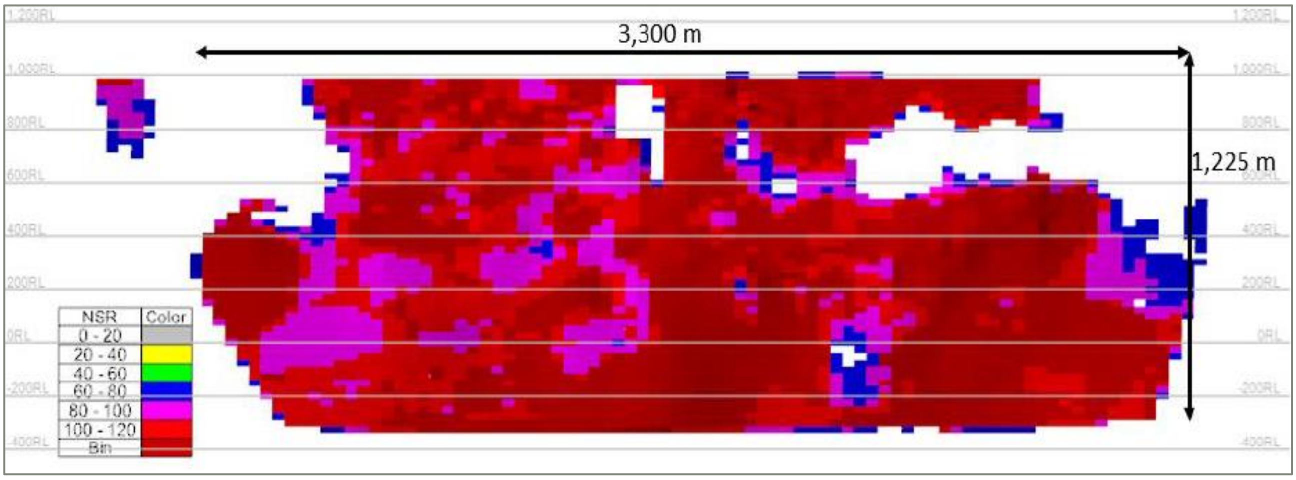


Figure 11-15 Long section – Zone 5 optimisation stope shapes

Source: CSA Global, 2023b

It was necessary to continue the partitioning of the deposit into three mining corridors, given the 3 km strike length. The identification of zones of lower grades in the orebody continued as the preferred separation approach but the ongoing definition between the south and central locations became more as to the maximum serviceable lateral extent of a twin decline arrangement.

Zone 5N

The lateral extent of stope shapes generated for Zone 5N at the NSR cut-off of US$65/t is shown in Figure 11-16.

The north and south corridors were considered insufficient in terms of tonnes and grade to justify underground mining using these assumptions, and only a central corridor was included in the mine plan.

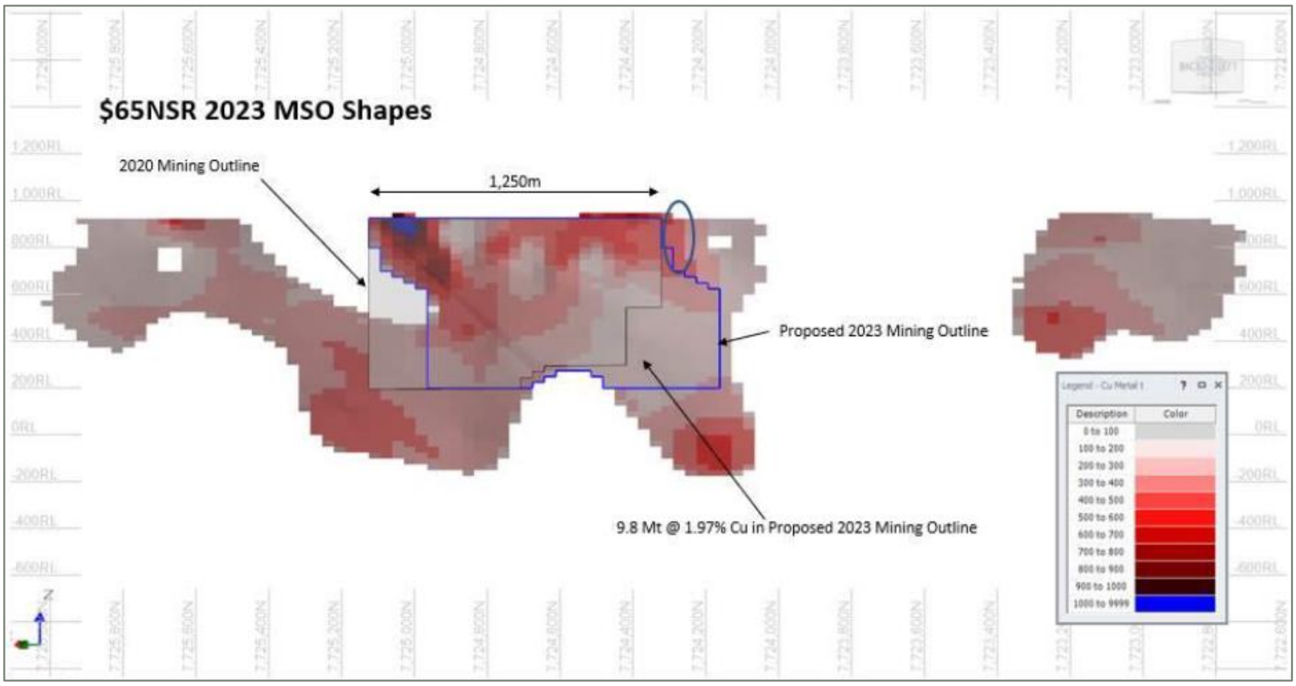


Figure 11-16 Long section – Zone 5N optimisation stope shapes

Source: CSA Global, 2023b

Mango

The lateral extent of stope shapes generated for Mango at the NSR cut-off of US$55/t is shown below.

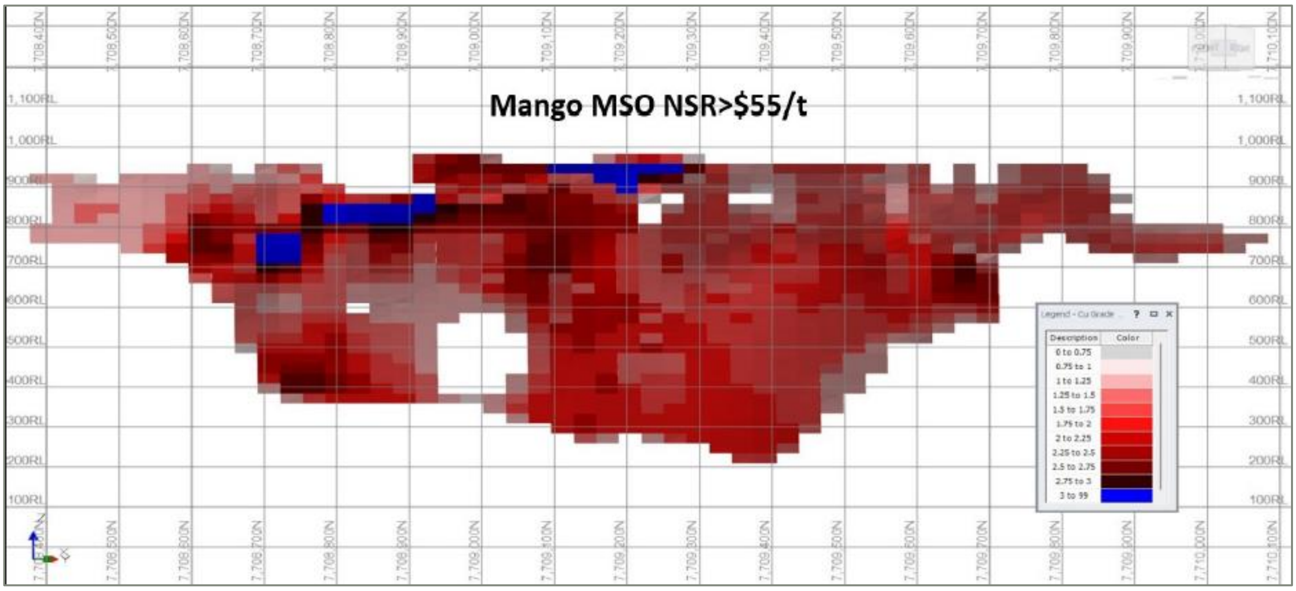


Figure 11-17 Long section – Mango optimisation stope shapes

Source: CSA Global, 2023b

Zeta NE

The lateral extent of stope shapes generated for Zeta NE at the NSR cut-off of US$65/t is shown below.

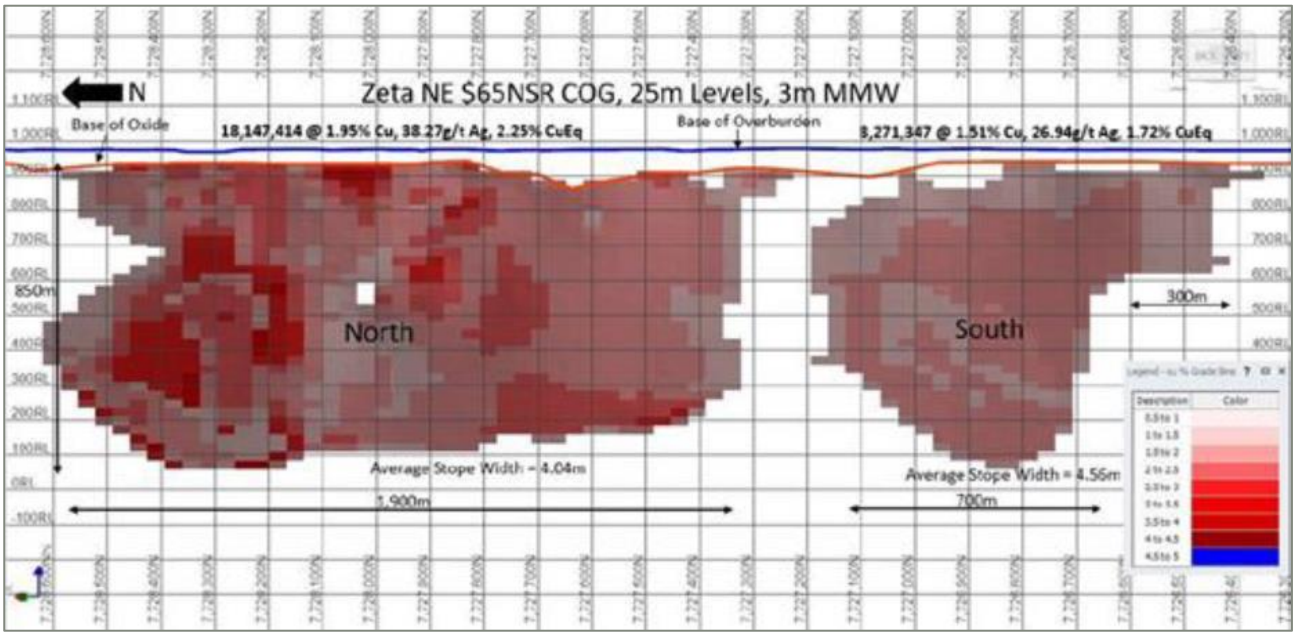


Figure 11-18 Long section – Zeta NE optimisation stope shapes

Source: CSA Global, 2023b

11.4.5.7 Geotechnical Considerations

The Expansion Project has used an additional 78 geotechnically logged drillholes in addition to those used for the Zone 5 project development. The data from these holes, together with additional data from geological resource holes was used to increase the level of confidence of the structural data and interpretation of the rock mass.

A total of 321 rock mass strength test results and benchmarked Zone 5 data were used to derive the strength parameters for each deposit as the similarities in rock types and ranges of values obtained from Zone 5 were deemed suitable to be combined with the data specifically obtained for Zone 5N, Zeta NE and Mango.

Maximum stope strike spans were determined to be 20–60 m for Zone 5N, 7–60 m for Zeta NE, and between 7 m and 60 m for Mango.

The sill pillar design was benchmarked from Zone 5 and the rib pillar dimensions were determined and varied based on the depth below surface and 8 m waste pillars are planned to be used at Zeta NE and Mango.

The crown pillar thicknesses were determined to be 15 m at Zone 5N, 18 m at Zeta NE and 50 m at Mango; these widths are within the fair quality material range.

11.4.5.8 Mine Designs

Mine designs were produced for the entire geological model covered by the LOM Study and were based on the stope optimisation shapes (see Section 11.11). Table 11-5 lists the mining physicals summary, including the resource category and ore tonnes produced.

Figure 11-19 to Figure 11-22 depict the vertical projections of the decline(s) and mining development designed for each deposit in conjunction with the stoping blocks planned.

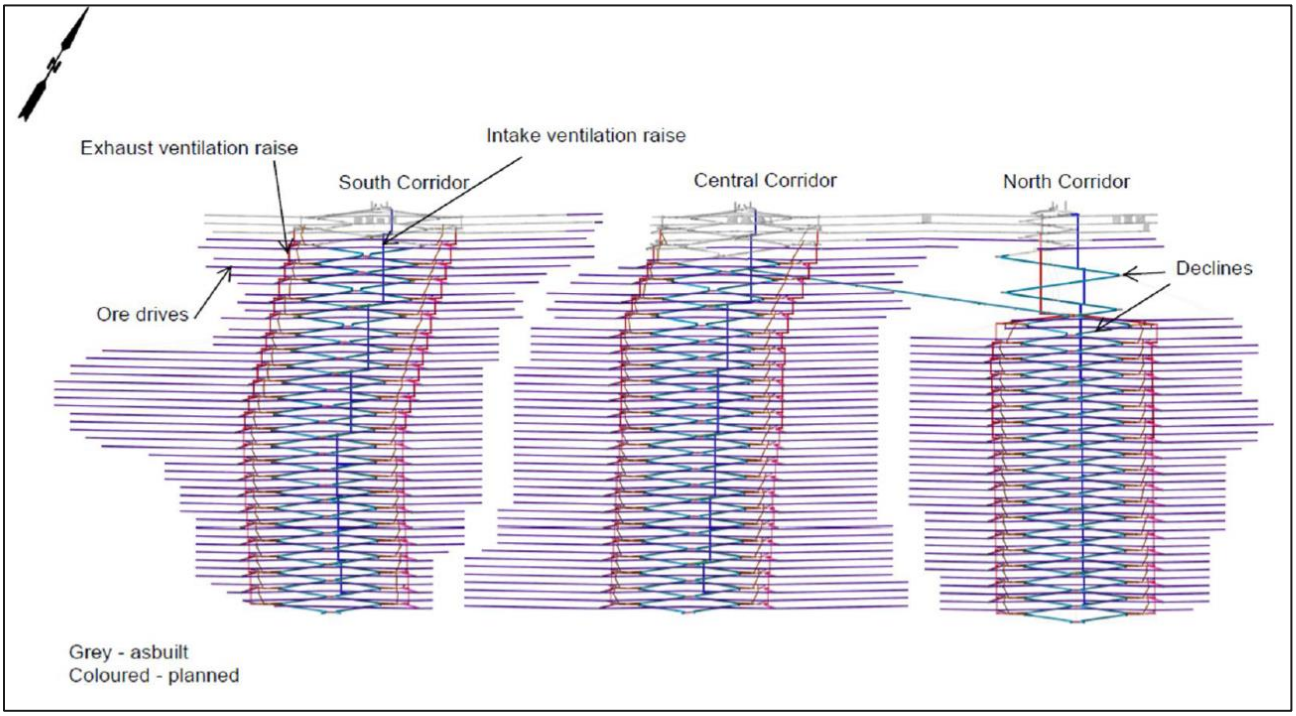


Figure 11-19 Long section of decline and development schematics – Zone 5

Source: CSA Global, 2023b

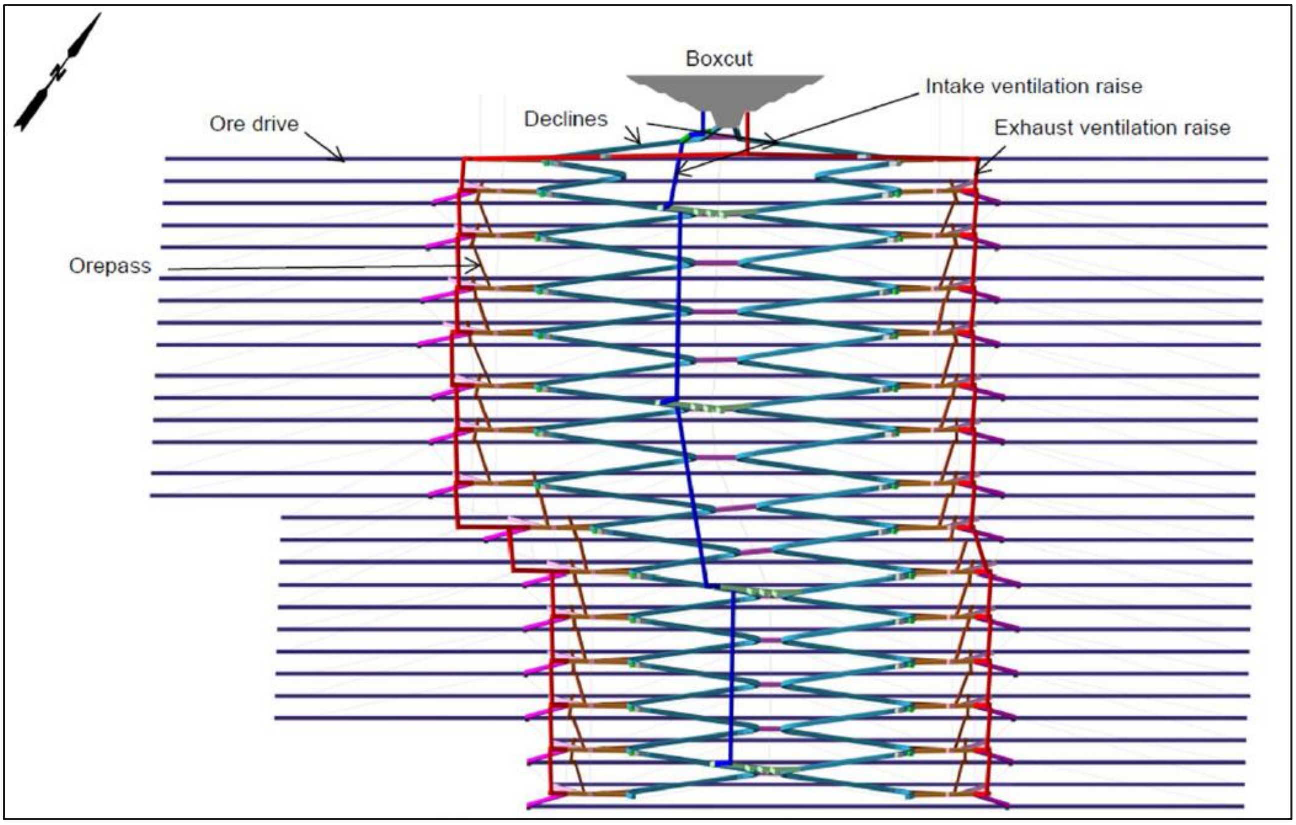


Figure 11-20 Long section of decline and development schematics – Zone 5N

Source: CSA Global, 2023b

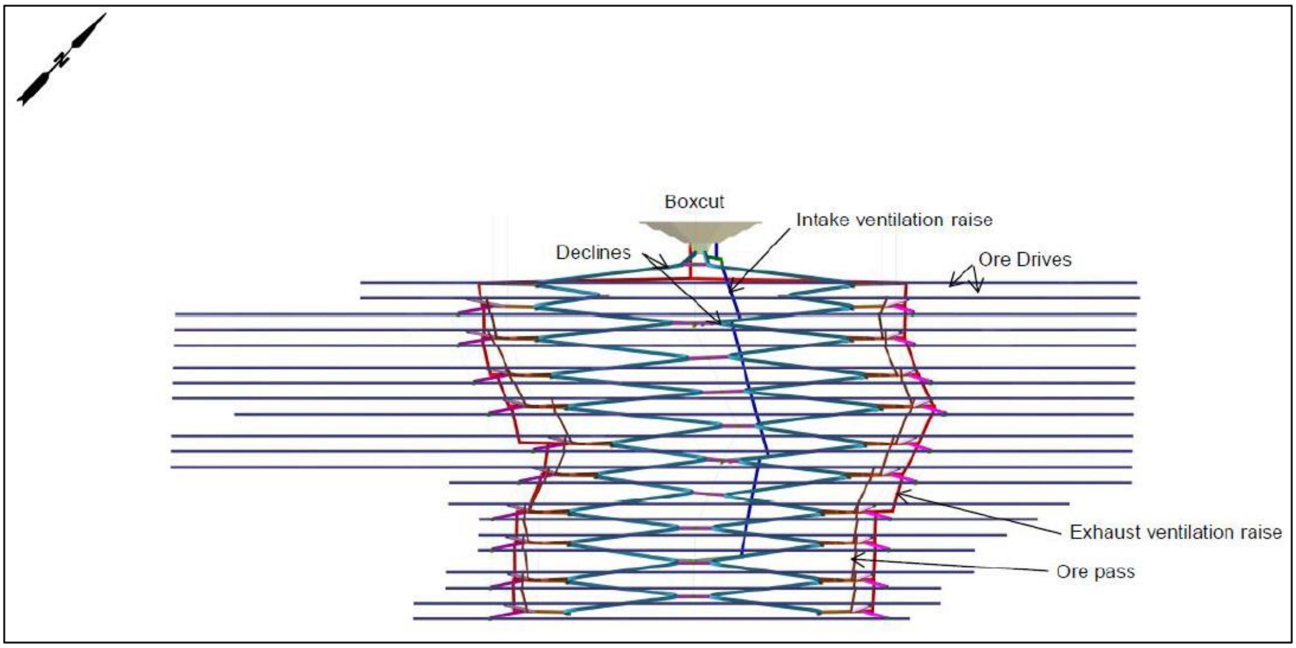


Figure 11-21 Long section of decline and development schematics – Mango
Source: CSA Global, 2023b

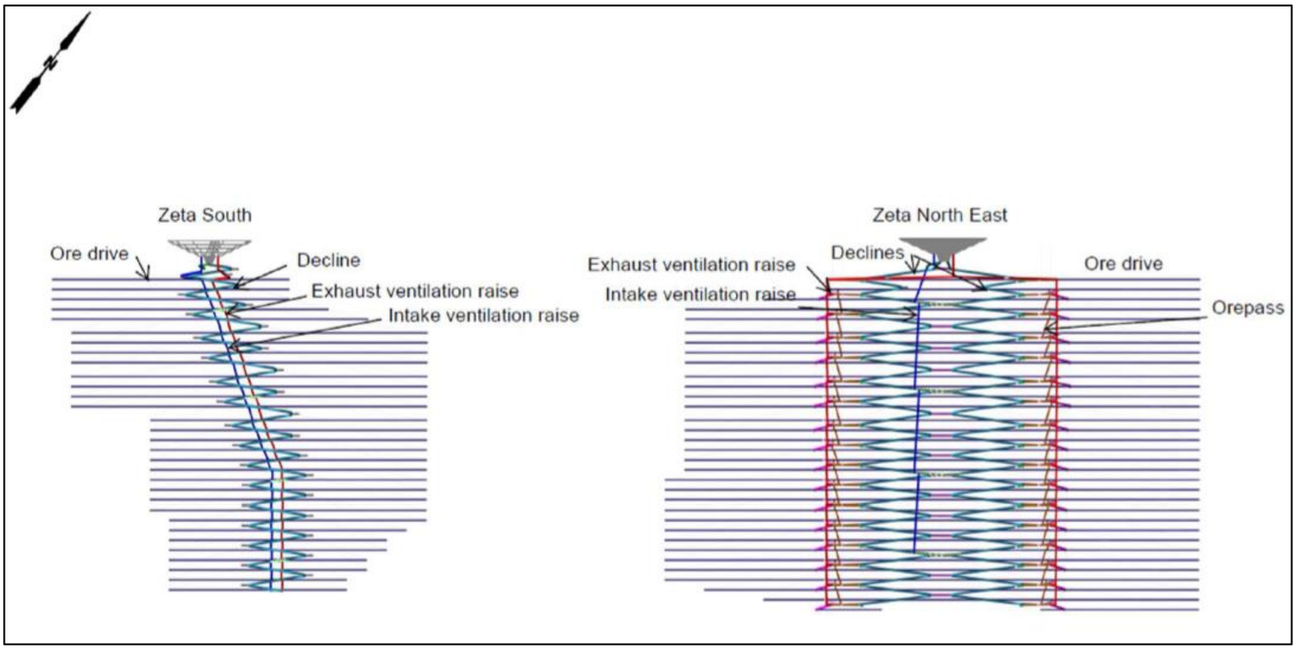


Figure 11-22 Long section of decline and development schematics – Zeta NE
Source: CSA Global, 2023b

11.4.5.9 Backfill

At Zone 5, long-term stability for the initial stoping in shallow areas is provided by a rigid in ore pillar system which is left unmined. As mining progresses deeper, a transition to mining with cemented paste-fill must occur to maintain a high percentage extraction of the deposit and maintain local and regional stability.

The engineering optimisation work has identified that the transition from open stoping to cemented paste-fill should occur when sustainable production had been reached at Zone 5 and this transition should occur between 400 mbs and 500 mbs.

The sill pillars are also a determining factor in selecting the transition point, as the lower sill pillar location creates a logical buffer point at which to transition from open stoping to stoping with fill.

The Expansion Project deposits at Zone 5N and Zeta NE are planned to be mined in a similar manner and will transition to mining with backfill at similar depths (approximately 420 mbs). The Mango deposit will not use backfill, and open stoping is planned (with rib pillars) for the entire deposit.

11.4.6 Mine Schedules

11.4.6.1 Assumptions

The mine designs resulting from the available design inventory were scheduled according to estimated mining productivities and advance rates that were drawn from benchmarking studies and actual reported rates from the current Zone 5 operations. Details for the schedules are described in Section 14 (Project Economics).

11.4.7 Mine Equipment

The selected mining method used for the Expansion Deposits is similar to that currently employed at the existing Zone 5 operation, and the equipment selected is not unlike that currently in use at KCM. Likely advantages in this approach include:

- Commonality of spares
- Flexibility in equipment deployment
- Flexibility in workforce deployment – trained on common equipment
- Simplified and targeted maintenance training
- Equipment "purchase power".

The efficiencies and productivities used in scheduling of the mining fleet will also be common to the LOM Study (Section 11.5) and have been derived from earlier study work and the planning rates actually used at the current operation.

11.4.8 Discounted Cash Flow Analysis

The mining, services and infrastructure designs were costed to an appropriate level of accuracy to support a PFS level of study. Operating and capital costs have been generated from first principals using zero based information such as actual costs from the Zone 5 operation, budget quotations, and modelled quantities and schedules relating to the mine production physicals.

The costs generated were tabulated according to the resultant development and mining schedules and a discounted cash flow analysis undertaken to determine the viability of the expanded operations, including development costs to access the new zones and the construction of a new plant (Table 11-7).

It is unavoidable that some of the Inferred and Unclassified material in the Mineral Resource models is included into the mining schedule and this is due to the spatial distribution of the mineralisation and the regularised shape of the planned stopes. However, this material has been excluded from the financial evaluation and the reporting of financial metrics.

The following approximation has been produced using an analysis completed as of 30 April 2023 during the PFS and has been adjusted for mine production and estimates of overbreak using KCM monthly reports for the remainder of CY2023.

Table 11-7 Expansion Project summary (Measured and Indicated, June 2023)

Activity	Units	Zone 5 (Expansion)	Zone 5N	Mango	Zeta NE
Tonnes mined and milled *	Mt	28.6	3.0	6.2	8.1
Copper grade	%	2.0	2.3	1.8	1.8
Silver grade	g/t	20	38	22	37
Copper produced (payable)	Kt	476	59	91	125
Silver produced (payable)	Moz	13.4	2.7	3.3	7.2
Copper price	US$/t	8,708	8,708	8,708	8,708
Silver price	US$/oz	22.42	22.05	22.05	22.05
Gross revenue	US$M	4,422	523	868	1,248
Net revenue (less TC/RC/Royalties)	US$M	3,925	506	756	1,110
Operating cost	US$M	2,142	204	388	549
Capital cost (including sustaining capital)	US$M	742	199	231	286
Free cashflow	US$M	1,041	103	137	275
Post-tax NPV	(US$)	768	45	47	116
Discount rate (%)	8%				

*Includes May 2023 to December 2023 (inclusive) production.
Source: Modified CSA Global, 2023b

11.4.9 Ore Reserve Estimate (as of 31 December 2023)

The results of economic modelling of this Expansion Project resulted in a positive financial outcome and KCM has determined it appropriate to be issued in support of a JORC (2012) compliant Ore Reserve estimate (ORE) for an expanded operation.

The official KCM Ore Reserve estimate for the project as of 31 December 2023 had not been publicly issued at the effective date of this report and the following Table 11-8 provides an approximation of the underlying Ore Reserve estimate that is likely to be reported. Any differences that may exist between the eventual 31 December 2023 ORE released by KCM and this estimate for the Zone 5 mine is not considered to be material to the ongoing Zone 5 mine plans or the financial performance of the overall project.

Table 11-8 Mine Expansion Project Ore Reserve estimate (31 December 2023)

Deposit	Category	Tonnes (Mt)	Copper (%)	Silver (g/t)
Zone 5*	Proven	5.9*	2.4*	22*
	Probable	21.2*	1.9*	19*
Zone 5N	Proven	-	-	-
	Probable	3.0	2.3	38
Mango	Proven	-	-	-
	Probable	6.2	1.8	22
Zeta NE	Proven	-	-	-
	Probable	8.1	1.8	37
Total	Proven	5.9	2.4	22
	Probable	38	1.9	25
Grand Total		**44**	**2.0**	**25**

*Estimate only using an audited CY2023 depletion of the June 2023 PFS tabulation *(CSA Global 2023b).*
Source: Modified CSA Global, 2023b

The reported ORE has been produced using an analysis completed at 30th April 2023 during the PFS and has been adjusted for mine production and estimates of overbreak using KCM monthly reports for the remainder of CY2023.

11.4.10 Expansion Project Mining Physicals – ERM View

The mining physical tables are described in Table 11-12 of Section 11.5.8 (Life of Mine Study Mining Physicals – ERM View). The Ore Reserve estimate outlined above has used only the Measured and Indicated component of that compilation to generate a Proved and Probable Ore Reserve estimate for the Expansion Deposits.

Figure 11-23 shows the Expansion Project production profile.

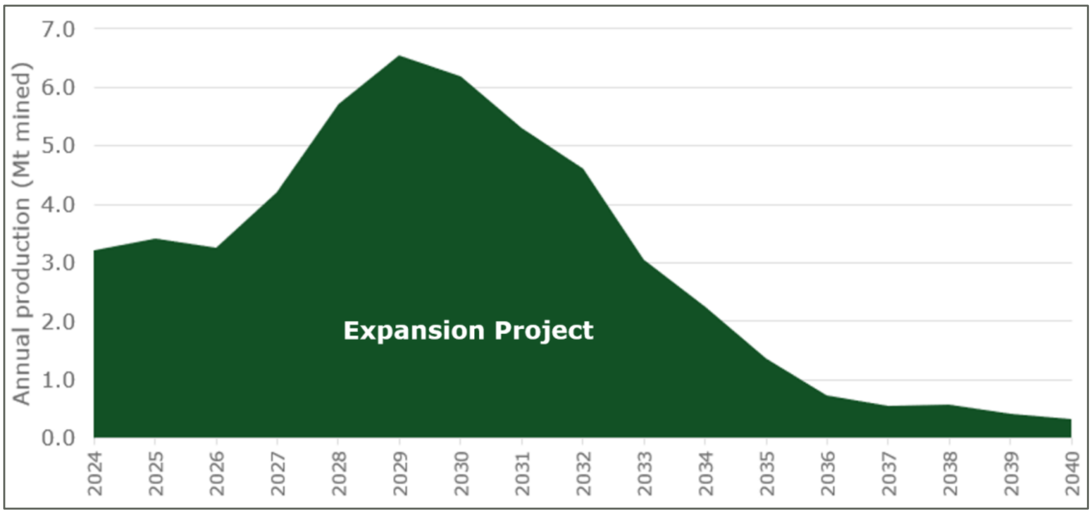


Figure 11-23 Expansion Project – production profile
Source: ERM, 2024

11.5 LIFE OF MINE STUDY

11.5.1 Introduction

The earlier described Expansion Project comprised an expansion of current mining activities from 3.65 Mtpa to a planned 4.50 Mtpa at Zone 5, a plan at Zone 5N to produce approximately 1.0 Mtpa from underground, a plan at Mango to produce approximately 1.0 Mtpa from underground, and a further plan at Zeta NE to produce approximately 1.6 Mtpa from underground. The additional deposits would displace the Zone 5 production currently processed at the Boseto plant and a new processing plant with associated infrastructure at Zone 5 to process the increased Zone 5 mine production.

The LOM Study (Figure 11-24) is a strategic analysis of future production opportunities that builds upon the Expansion Project and analyses a possible future production scenario that completes a mine plan and schedule using an inventory comprising all categories of confidence from the current Mineral Resource estimate (Measured, Indicated, and Inferred) to produce a full LOM opportunity.

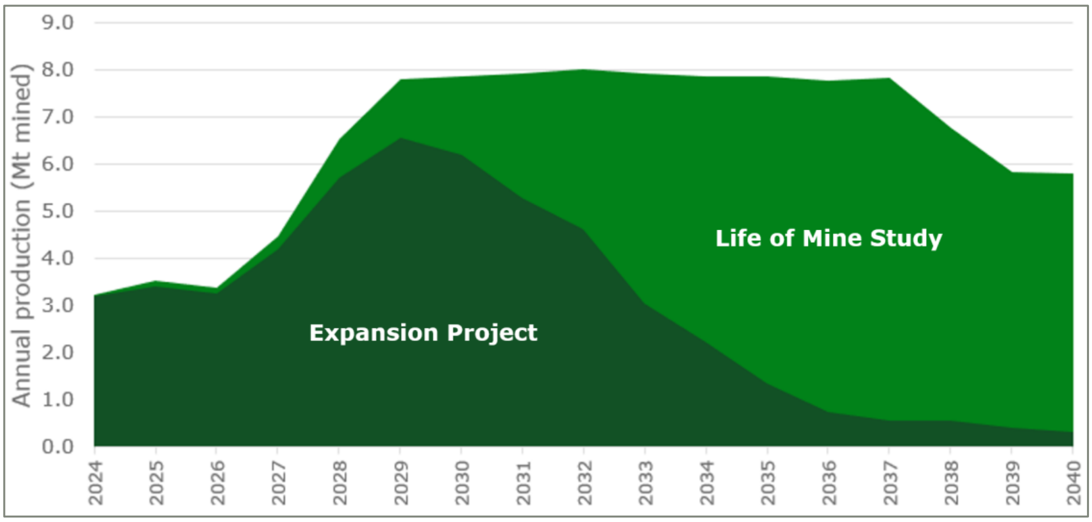


Figure 11-24 LOM Study – production profile

Source: ERM, 2024

This strategic option schedules out an additional 16 years of mine life to approximately 2040 and assumes the Expansion Project plant throughput assumptions remain intact.

11.5.2 Stope Optimisation

11.5.2.1 Life of Mine Deposits

The analysis to generate the stope shapes for the Expansion Project (including key assumptions) was also used for the LOM Study.

The MSO stope geometry parameters were based on the assumptions outlined earlier in Table 11-6 and Figure 11-15 to Figure 11-18. Not all the available inventory tonnes outlined in the optimisation work contained in Section 11.4.5.6 were able to be used in a sensible and coherent mine design and approximately 30% of those outlined in Table 11-9 were left out of the resultant schedule.

Zone 5

The tonnes and grade of stope shapes generated for Zone 5 at the NSR cut-off of US$65/t is shown below (Table 11-9).

It was necessary to continue the partitioning of the deposit into three mining corridors, given the 3 km strike length. The identification of zones of lower grades in the orebody continued as the favoured approach but the ongoing definition between the south and central locations became more as to the maximum serviceable lateral extent of a twin decline arrangement.

Zone 5N

The tonnes and grade of stope shapes generated for Zone 5N at the NSR cut-off of US$65/t is shown below (Table 11-9).

The north and south corridors were considered insufficient in terms of tonnes and grade to justify underground mining and only a central corridor was included in the mine plan.

Mango

The tonnes and grade of stope shapes generated for Mango at the NSR cut-off of US$55/t is shown below (Table 11-9).

Zeta NE

The tonnes and grade of stope shapes generated for Zeta NE at the NSR cut-off of US$65/t is shown below (Table 11-9).

Table 11-9 Optimisation results used in LOM Study mine planning and design

Zone	Tonnes	Copper (%)	Silver (g/t)	Gross NSR (US$/t)	Average stope width (m)
Zone 5 Expansion	96.5	2.0	21	119	8.1
Zone 5N	24.8	1.8	30	124	4.5
Mango	20.7	1.7	21	95	5.2
Zeta NE	27.5	1.7	35	106	4.8
Total	**169.4**	**1.9**	**25**	**115**	**6.7**

Source: Modified CSA Global, 2023b

11.5.2.2 Mine Designs

The mine designs were produced for the entire geological model covered by the LOM Study and based on the stope optimisation shapes generated (refer Section 11.4.5.8). The full mine designs were outlined earlier in Figures 11.17 – 11.20.

The following table and chart outline the key mining physicals and provide a breakdown of the Mineral Resource classification considered in the LOM Study.

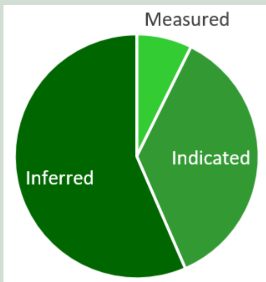
Table 11-10 Indicative mining physicals summary – by deposit

Item	Zone 5#	Zone 5N	Mango	Zeta NE	Total
Waste development (km)	110	27	22	45	**204**
Waste development (Mt)	8	2	2	4	**16**
Ore development (km)	128	37	28	63	**256**
Ore development (Mt)	7.5	2.2	1.6	3.7	**15.0**
Stope ore (Mt)	63.4	7.3	7.9	15.7	**94.3**
Total ore (Mt)#	**70.9**	**9.5**	**9.5**	**19.4**	**109.3**
Copper grade (%)	**2.0**	**2.0**	**1.7**	**1.7**	**1.9**

#Adjusted for 2023 production from Zone 5.
Source: Modified CSA Global, 2023b

Table 11-11 LOM copper metal by Mineral Resource category

Category	Copper metal (kt)	%
Measured Resources	119	5.6
Indicated Resources	783	36.7
Inferred Resources	1,231	57.7
Total	**2,133**	**100%**



Note: <2% of total ore tonnes was classed as unclassified and removed from tabulations.
Source: ERM, 2024

11.5.3 Production Profiles

The mine layouts generated by the Expansion Project have enabled the development of mining and stoping sequences to produce LOM schedules for each of the deposits included in the study. Measured, Indicated and Inferred mineral resources have been scheduled to match the capacity of the Boseto processing plant (3.6 Mtpa) and the planned Zone 5 processing plant (4.5 Mtpa). Figure 11-25 to Figure 11-28 show the deposit production profile by Mineral Resource category.

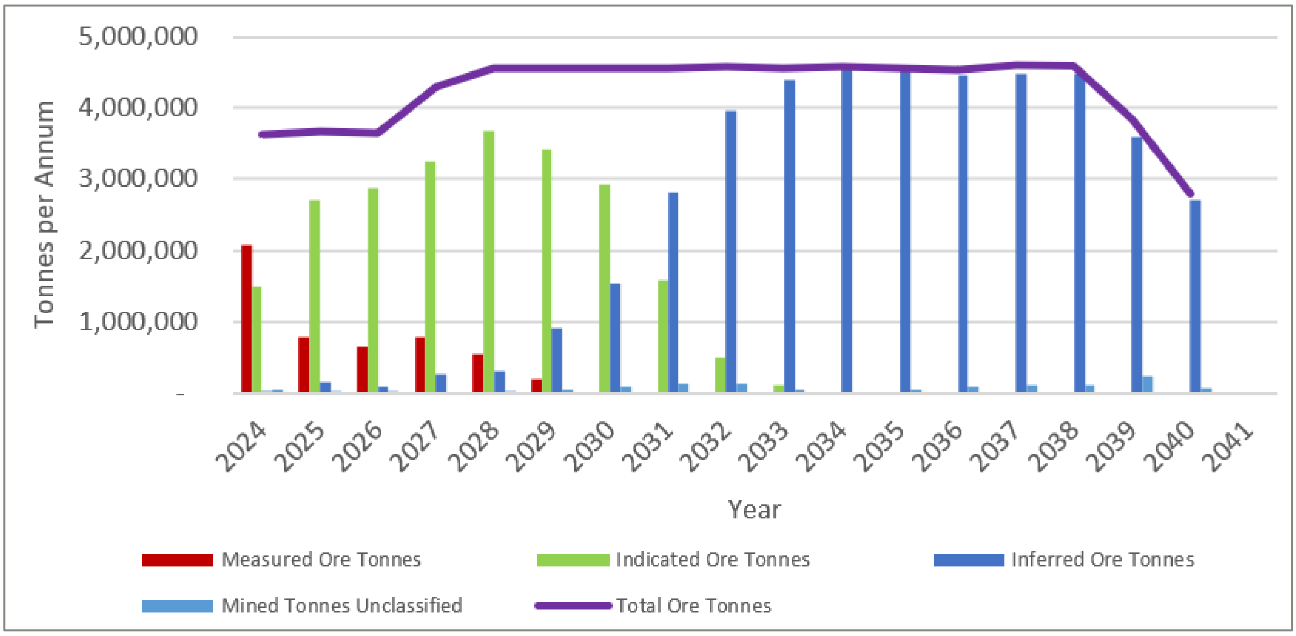


Figure 11-25 Zone 5 production profile by Mineral Resource category
Source: CSA Global, 2023b

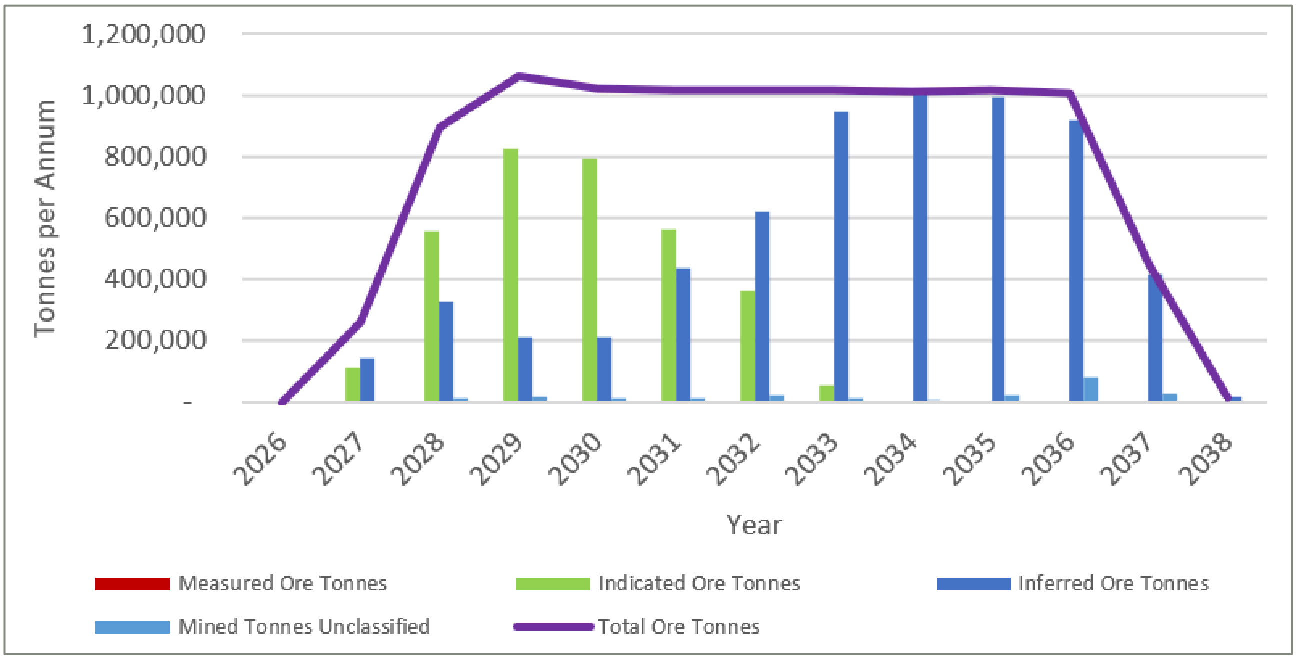


Figure 11-26 Zone 5N production profile by Mineral Resource category
Source: CSA Global, 2023b

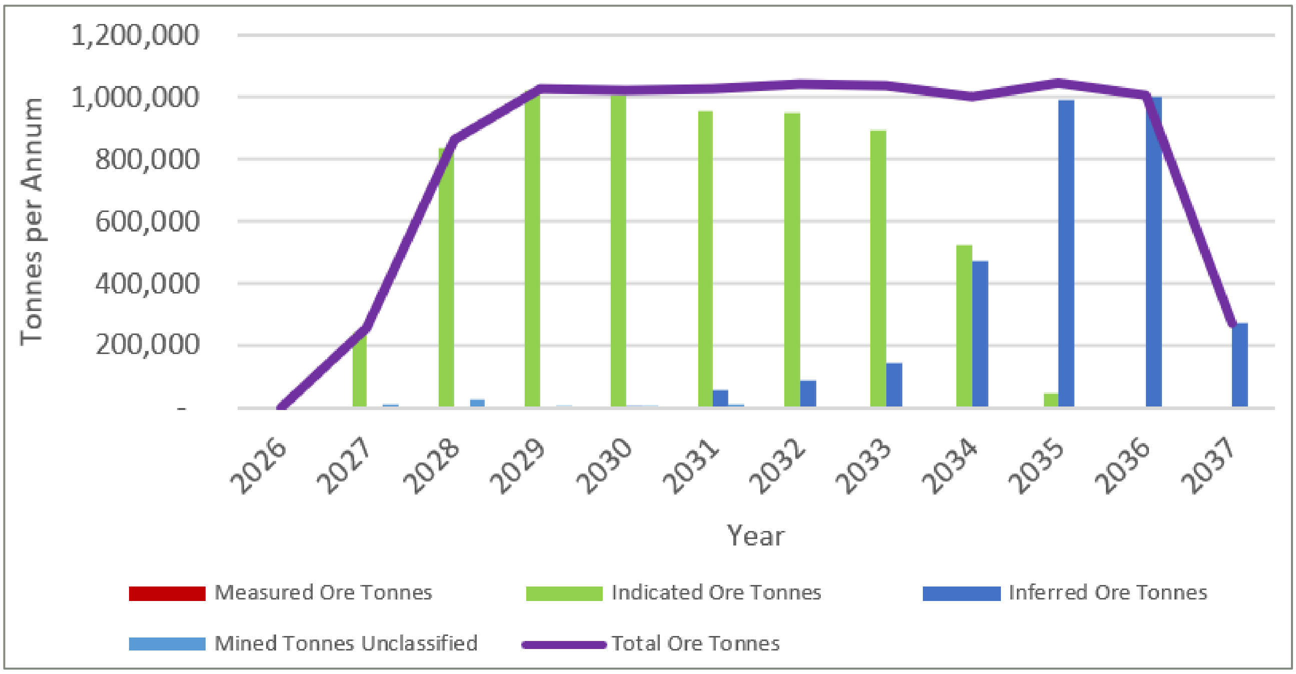


Figure 11-27 Mango production profile by Mineral Resource category

Source: CSA Global, 2023b

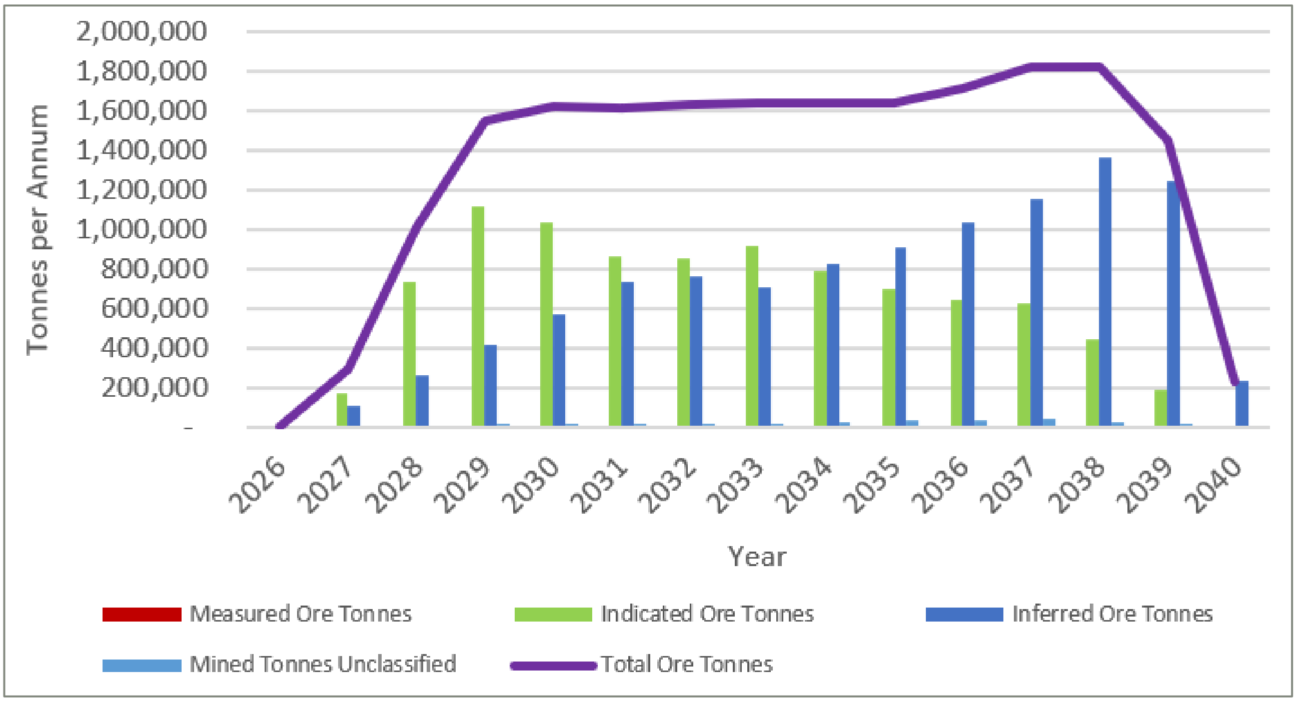


Figure 11-28 Zeta NE production profile by Mineral Resource category

Source: CSA Global, 2023b

11.5.4 Mine Equipment

The selected mining method is similar to that currently employed at the existing Zone 5 operation, and the equipment selected for the Expansion Project is not unlike that currently in use. Likely advantages include:

- Commonality of spares
- Flexibility in equipment deployment
- Flexibility in workforce deployment – trained on common equipment

- Simplified and targeted maintenance training
- Equipment "purchase power".

The efficiencies and productivities used in scheduling the mining fleet will also be common to the LOM Study and have been derived from the original Zone 5 Feasibility Study and current planning rates used at the current operations.

11.5.5 Backfill

The LOM Study deposits at Zone 5, Zone 5N and Zeta NE are planned to be mined in a similar manner to that assumed in the Expansion Project and will have transitioned to mining with backfill at approximately 420 mbs. The Mango deposit will not use backfill, and open stoping is planned (with rib pillars) for the entire deposit including the stoping assumed for this study.

Three paste-fill plants are required and the initial fill requirements at Zone 5 will be serviced by tailings cake backloaded from the Boseto processing plant until the additional Zone 5 processing plant is commissioned. After that, filtered tailings from the new plant will be processed within a wet paste-fill plant and then pumped to the Zone 5 and Zone 5N mines for reticulation underground.

11.5.6 Ventilation

The deposits planned and designed in the LOM Study will utilise the ventilation system and network as described in Section 11.4.5. Ventilation quantities vary between each of the deposits and the main fans are sized to accommodate the anticipated duty ranges. The fan motors are fitted with variable frequency drives, which, together with inlet guide vanes, provide the means to modulate flow and optimise performance as required.

11.5.7 Discounted Cash Flow Analysis

The mining, services and infrastructure design was costed to an appropriate level of accuracy to support a PFS level of study.

Operating and capital costs were generated from first principals using zero based information such as actual costs from the Zone 5 operation, budget quotations and modelled quantities and schedules relating to the mine production physicals.

The costs generated were tabulated according to the resultant development and mining schedules and a discounted cash flow analysis undertaken to determine the viability of the combined operations only.

11.5.8 Life Of Mine Study Mining Physicals – ERM View

Table 11-12 provides a modified production profile from that used in the LOM Study (CSA Global, 2023) where the copper grades obtained from mine planning and scheduling have been downgraded by 10% in 2024 (90% of scheduled grade) and 5% in 2025 (95% of scheduled grade) to simplistically account for excessive and unplanned waste/low-grade dilution (and occasional underbreak) currently being experienced by the mine (see Section 11.3.4.2).

The rationale for this adjustment is that it will take the better part of two years to modify and reinforce the rectification of the stope development design practice, blast-hole design practice implementation, and mining contractor acceptance. The timelines are exacerbated by the fact that many orebody sill drives have been developed and the stope backfill option is still some years away.

This approach is supported by the FY2023 mine production data where the head grade was some 14% below that originally budgeted for the year. December 2023 was a particularly bad month where the mine's head grade was over 20% below that budgeted and 13% below the quarterly re-forecast.

Table 11-12 LOM Study – production profile as of 31 December 2023

			Year																
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Mine			**Zone 5 Expansion**																
Measured	Production	Kt	2070	777	660	783	549	191											
	Copper	%	***1.55***	***2.56***	2.77	3.09	2.76	2.63											
	Silver	g/t	16	25	26	30	28	27											
Indicated	Production	Kt	1489	2717	2887	3255	3676	3415	2933	1589	493	116							
	Copper	%	***1.63***	***1.72***	1.86	1.91	1.94	2.02	1.94	2.02	1.77	1.36							
	Silver	g/t	17	17	18	20	20	20	21	19	18	14							
Inferred	Production	Kt	29	166	94	256	317	914	1535	2824	3955	4395	4561	4524	4451	4481	4489	3596	2718
	Copper	%	1.10	1.45	1.17	1.61	2.14	2.04	1.87	1.78	1.85	1.79	1.73	1.77	2.02	2.14	2.29	2.61	3.57
	Silver	g/t	11	19	12	15	20	20	19	17	19	21	22	22	23	24	25	26	34
Mine			**Zone 5N**																
Measured	Production	Kt																	
	Copper	%																	
	Silver	g/t																	
Indicated	Production	Kt				41	373	817	801	653	491	102							
	Copper	%				1.99	2.56	2.34	2.30	2.22	2.16	1.77							
	Silver	g/t				40	51	44	39	31	26	23							
Inferred	Production	Kt				63	330	221	205	353	502	890	1005	993	955	675	66		
	Copper	%				2.36	2.69	2.69	1.99	1.84	1.81	1.88	1.88	1.73	1.60	1.62	1.98		
	Silver	g/t				43	50	50	36	29	27	29	29	29	28	27	39		
Mine			**Mango**																
Measured	Production	Kt																	
	Copper	%																	
	Silver	g/t																	
Indicated	Production	Kt				75	500	1026	1021	992	958	888	788	240					
	Copper	%				1.59	1.75	1.87	1.78	1.67	1.70	1.74	1.71	1.65					
	Silver	g/t				18	21	26	24	20	21	22	21	21					
Inferred	Production	Kt								22	62	147	234	785	1012	780			
	Copper	%								1.13	1.34	1.28	1.44	1.66	1.59	1.66			
	Silver	g/t								13	18	16	17	21	19	19			
Mine			**Zeta NE**																
Measured	Production	Kt																	
	Copper	%																	
	Silver	g/t																	
Indicated	Production	Kt					571	976	1099	933	828	890	861	724	606	690	485	403	
	Copper	%					2.08	1.84	1.62	1.79	1.88	1.83	1.85	1.86	1.75	1.68	1.74	1.82	
	Silver	g/t					45	42	35	36	36	35	37	37	34	33	35	37	
Inferred	Production	Kt				33	214	357	481	672	790	716	757	880	998	1077	1313	1303	701
	Copper	%				0.95	1.08	1.26	1.41	1.47	1.55	1.61	1.65	1.68	1.64	1.65	1.64	1.67	1.60
	Silver	g/t				14	16	20	27	30	32	33	34	34	33	33	33	36	36

italics *= copper grade is factored at 90% of the 2024 plan and 95% of the 2025 plan*

Source: Modified CSA Global, 2023b

11.6 ERM OPINION

The Zone 5 mine is still in the early years of operation where theoretical designs and systems are tested with mining reality in day-to-day work practices. ERM is generally impressed by the progress to bring a complex integrated mine development into production and to address the unavoidable "teething problems" that can cause modifications to the design work that was completed prior to breaking ground in the mine.

ERM is also clearly of the opinion that there are no fatal flaws in the current mine planning and design that cannot be addressed with time, focus and appropriate rectification budgets. However, the current situation of unacceptable overbreak (and underbreak) in stopes and poor adherence to drive design profiles in permanent development has the potential to limit mining head grades to the processing plant and the ability to meet crucial annual vertical advance rates respectively. The copper grade of the ore production contained in the LOM schedule has been factored downward by 10% for 2024 and 5% for 2025 to reflect the implementation of a rectification strategy that may well take several years to improve stope wall failures and underbreak mechanisms.

Although geotechnical studies and assumptions are valid and reasonable, there is overwhelming practical evidence to suggest that the deferral of the use of paste backfill in the mining system has been somewhat detrimental to the success of the mine plan – this has been further compounded by the complex hangingwall geology of some stoping blocks. Appropriate mine design and the un-optimised location of extraction development in combination with un-optimised drill and blast designs on a stope-by-stope scale has further exacerbated stope hangingwall failures and perpetuated unacceptable footwall underbreak.

ERM has also assumed for the purposes of valuation modelling that contractor mining continues for the duration of the LOM plan. It is recognised that the shift to owner mining is a significant cost saving and project return enhancement but the timing of such a changeover is critical to the realisation of the intended savings. In our opinion, it is premature to be looking for a changeover to owner mining to occur in the short term without first fully stabilising the current operations and settling into a lengthy period of acceptable mining performance that includes a very large amount of local workforce education and training.

12 METALLURGY AND PROCESSING

12.1 BACKGROUND AND HISTORICAL WORK

Discovery Metals established the initial copper project at KCM but struggled with poor recoveries from near surface ore and was eventually put into liquidation. KCM has subsequently invested $91 million in the refurbishment, upgrade and expansion of the process plant to process the copper sulphide ores in the area.

The Zone 5 ores, along with those encountered on all other deposits in the Company's license area demonstrate good response to bulk sulphide flotation, hence the Boseto processing plant flowsheet is a conventional bulk sulphide concentrator comprising three-stage crushing, single stage ball milling followed by rougher and cleaner flotation circuits. They have a newly installed fine grinding high-intensity grinding (HIG) mill and Jameson flotation cells as cleaners and a new Larox pressure filter. The new plant to process Zone 5 ore will be a replicate of the Boseto processing plant.

Between 2013 and 2015, a series of metallurgical test programs were carried out by KCM to define the metallurgical characteristics of the Zone 5 deposit. Results from these programs were used to develop the process design criteria for the copper concentrator, which would beneficiate ore from the Zone 5 deposit at a rate of 10,000 tpd. At that time, this was expected to be a greenfield development of a new concentrator. In mid-2015, KCM completed the acquisition of DCB which provided access to the nearby mothballed Boseto processing plant. The process design criteria developed previously were then used to define the changes required to the Boseto processing plant to treat Zone 5 ores, the work was undertaken by Sedgman.

In 2017, a KCM project team completed the final execution engineering for this development (Phase 3), including Fluor to execute all aspect of processing. Fluor conducted confirmatory and optimisation testwork on Zone 5 ores and developed the process design criteria for Phase 3 work. This information along with prior testwork was used in the detailed design of the upgrades and refurbishment for the Boseto processing plant during 2018 and early 2019 by Fluor. The Boseto processing plant was upgraded from 3.0 Mtpa to 3.65 Mtpa or 10 ktpd to cater for the processing of Zone 5 ore at feed grade of up to 2.2% Cu, with target copper and silver recoveries of 88% and 84%, respectively. The Boseto processing plant was commissioned in June 2021 and ramped up to 100% of design capacity by the end of 2022, though nameplate was demonstrated within months of commissioning.

The copper recovery is lower than typically would be expected for a copper ore but is related to the variable mineralogy and liberation. There are ongoing recovery improvement programs in place and the new HIG mill will assist and is expected to improve recovery going forward.

12.2 CURRENT BOSETO PLANT

12.2.1 Overview

The Boseto processsing plant (Figure 12-1 and Figure 12-2) has been successfully treating Zone 5 ores since July 2021, achieving design throughput levels and metallurgical key performance indicators (KPIs), validating and de-risking the design for the proposed New Zone 5 process plant. Trade-off studies of various plant configurations, in particular comminution circuits, were undertaken, and concluded three-stage crushing and ball milling was optimal, and in line with that operating at Boseto.

Figure 12-1 Aerial view of the Boseto processing plant
Source: KCM presentation

Figure 12-2 Boseto processing plant (annotated)
Source: KCM presentation

12.2.2 Testwork for the Boseto Plant (Zone 5 ore)

Several metallurgical test programs were carried out by KCM from 2013 through 2018, which supported the developments introduced in those years. The metallurgical test programs at the time comprised mineralogical evaluation, flotation testwork, comminution, variability, settling and filtration tests. Additional metallurgical testwork was carried out to determine the ore flotation and milling response during the first three years of mine production.

In 2013 through 2015, metallurgical test programs were carried out by KCM under the supervision of Sedgman to define the metallurgical characteristics of drill core composites from the Zone 5 deposit. The scope of work included geochemical and mineralogical characterisation, plus work index testwork on composites of varying mineralogy and depth profiles to develop an initial flowsheet to beneficiate copper and silver contained in the Zone 5 ores.

In late 2017 through to the end of 2018, further testwork programs were undertaken under the supervision of Fluor, which had been engaged to execute final engineering and design for the execution of the Zone 5 and Boseto plant upgrade.

The entire body of metallurgical testwork was used to define the process design criteria and all aspects of the Boseto plant upgrade and refurbishment undertaken between 2019 and 2021.

12.2.2.1 Mineralogy

The metallurgy and processing at KCM are mineralogically driven. Various testwork programs demonstrated that copper and silver recoveries, and concentrate grades, varied with the mineralogy and ore type. This was attributed to the varying amounts of chalcocite, bornite and chalcopyrite in the ore types.

Cyanide-soluble copper varied between 8% and 88% of total copper in composites, indicative of secondary copper minerals such as bornite, chalcocite and covellite and weathering. Mineralogical analysis showed these minerals, along with chalcopyrite, varied individually from none to all the copper content across the variability composites. Mineralogical work suggested composites varied widely in the content of different copper sulphide species, primarily chalcopyrite, while several showed varying amounts of bornite and chalcocite group minerals. Trace amounts of covellite and tetrahedrite were detected. Minor galena, sphalerite, molybdenite, arsenopyrite and silver was also detected. The main gangue minerals identified were silicate minerals, primarily quartz, feldspars, muscovite and chlorite.

Zone 5 composite copper deportment data from mineralogical analysis showed about 27% of the copper as chalcopyrite, about 59% present as bornite, 12% as chalcocite group minerals, with small amounts present as covellite, arsenic-bearing tennantite/enargite and antimony-bearing tetrahedrite.

The average grade of the copper sulphide minerals was about 53% copper, which would be the likely maximum theoretical grade for a final concentrate. It is fair to state that mineralogy drives the process recovery and final concentrate grade for the ore processed. KCM now has a much better understanding of the mineralogy in the ore zones than previously was the case.

12.2.2.2 Zone 5 Testwork

Various comminution testwork programs have been conducted by KCM on Zone 5 ores from 2013 through to the end of 2018. Key comminution parameters for Zone 5 composites were determined which include: Crushing Work index (CWi); Bond Ball Mill Work index (BBWi); Bond Rod Mill Work index; JK Drop Weight SAG (semi-autogenous grinding) evaluation; and abrasion indices.

The results indicated the following:

- Ore is moderately hard with an average crushing work index of 10.78 kWh/t, which is lower than the design value of 12.93 kWh/t.
- The CWi values for Zone 5 samples ranged from 7.7 kWh/t to 14.3 kWh/t, which places it in the medium category.
- Samples with a high quartz content (38–44%) were associated with high CWi and BBWi values.
- The average BBWi of Zone 5 samples is 14.4 kWh/t, which is closer to the design BBWi value of 14.5 kWh/t and is considered medium to hard.
- Zone 5 ore is slightly abrasive, as indicated by the Bond Abrasion index (Ai) range of 0.04 to 0.12 with an average of 0.07.
- The specific grinding energy for concentrate regrind was determined to be 7.8 kWh/t which is moderately hard.
- The BBWi (ore hardness) corresponds with aluminosilicates in the ore.

This work and results feed directly into the expansion of Boseto and the design of the new concentrator. Because energy is a major cost with comminution these are positive results.

On acquisition of the BPP by KCM in 2015, a series of works to support expansion of the plant from 3.0 Mtpa to 3.65 Mtpa, and to modify the flowsheet for the optimal processing of sulphide ore types, particularly from Zone 5 was commissioned. Testwork was carried out by SGS in 2015 and 2016 on six samples of varying mineralogy and depth. The testwork confirmed the flowsheet developed in 2014 and established a recovery algorithm for geological modelling.

Additional testwork for Zone 5 ores was undertaken by Fluor in 2018, including mineralogical analysis and metallurgical response of Zone 5 ore types. Work was principally undertaken to provide design parameters for equipment sizing for the expansion from 3.0 Mtpa to 3.65 Mtpa and to develop a recovery algorithm by ore type to be used in the block model. For this 2018 work, three samples each of bornite (BY), chalcopyrite (CY) and chalcocite (CC) were prepared as three blended domain composites, and six blended composites BN + CC, BN + CPY and CC + CPY, and subjected to characterisation, including:

- Chemical analysis of the major and minor elements
- Mineralogical analysis to determine the copper deportment in sulphide minerals, grain distribution, mineral association, and copper and silver liberation
- Mineralogical composition of the comminution samples to correlate the results.

Comminution characteristics:

- Specific gravity
- Bond Abrasion index (Ai)
- Crusher Work index (CWi)
- Bond Work index (BWi).

Detailed flotation testwork included:

- Rougher rate – Effect of grind on rougher rate flotation
- Reagent optimisation using Danafloat™ dithiophosphate (co-collectors)
- Cleaner and re-cleaner rate tests
- Effect of high-intensity conditioning on copper and silver recovery.

Open and locked cycle cleaner flotation tests were performed to evaluate regrind size, cleaner flotation retention time, pH and reagent addition levels. Results indicated that a nominal regrind size of 20 µm is required to achieve maximum copper concentrate grade. Also that that there is gangue entrainment which diluted the concentrate thus lowering copper concentrate grade. Batch cleaner tests were completed on each of the variability composites.

12.2.2.3 Zone 5 Testwork Results

For Zone 5 variability composites, recovery of copper to the final concentrates ranged from 77% to 92% with final concentrate grades ranging from 20% to 55% Cu. Silver recoveries for Zone 5 variability composites ranged between 77% and 97%, and silver concentrate grade varied between 126 g/t and 549 g/t. The copper concentrate grades were influenced by the copper sulphide mineralogy, non-sulphide gangue and the relative concentrations of lead-to-copper (Pb:Cu) and zinc-to-copper (Zn:Cu).

The metallurgical test results indicated that the copper recovery of Zone 5 ore is influenced by both copper sulphide and gangue mineralogy. The recovery equations developed for copper sulphide and gangue mineralogy showed good correlations with high regression coefficients of at least 95%. The test results indicated that Zone 5 ore requires higher rougher and cleaner mass pulls to achieve copper recoveries above 88%. This is to allow the recovery of the coarse binary particles in the rougher circuit, which contributes to the higher recovery at lower concentrate grade. Zone 5 samples exhibited fast rougher flotation kinetics, with the copper final rougher recoveries ranging from 85% to 95% at 12 minutes interval.

The lower recovery samples are associated with high quartz contents, which make them competent and difficult to mill and liberate the copper sulphide minerals. It was also observed that the copper sulphide minerals associated with high quartz content are usually fine grained, with slower flotation kinetics and therefore lower recovery potential. These fine copper sulphides are usually locked in a silicate phase.

Zone 5 deposit exhibits a wide range of mineralogy, which is reflected in the kinetic profiles. Recovery is dependent on the mineral type and liberation as shown below.

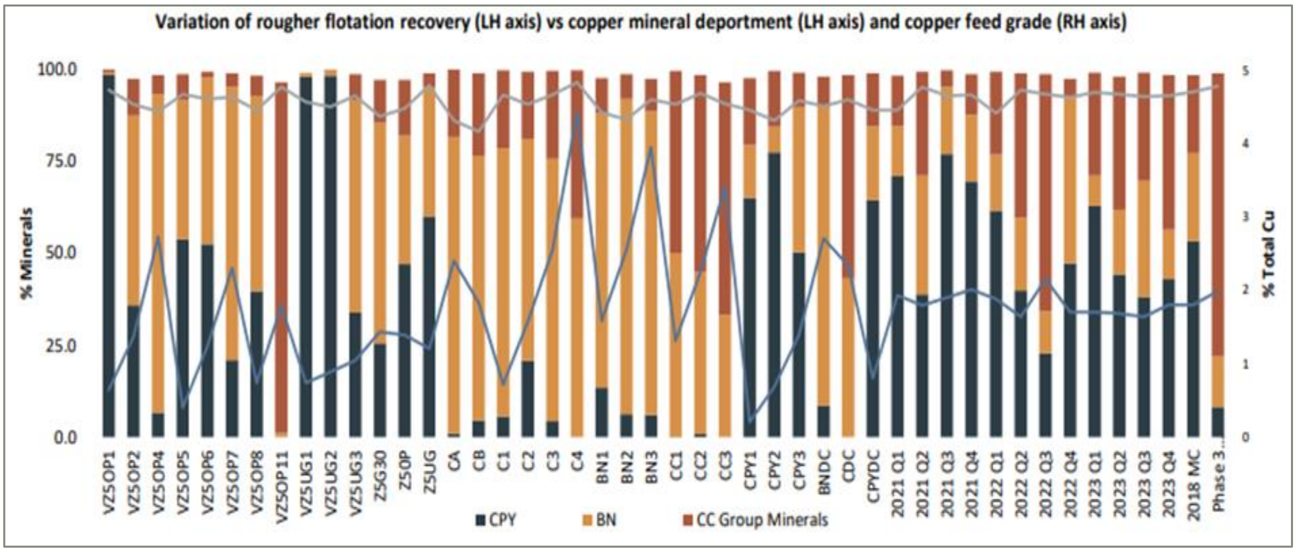


Figure 12-3 Zone 5 rougher flotation results

Source: KCM, 2023

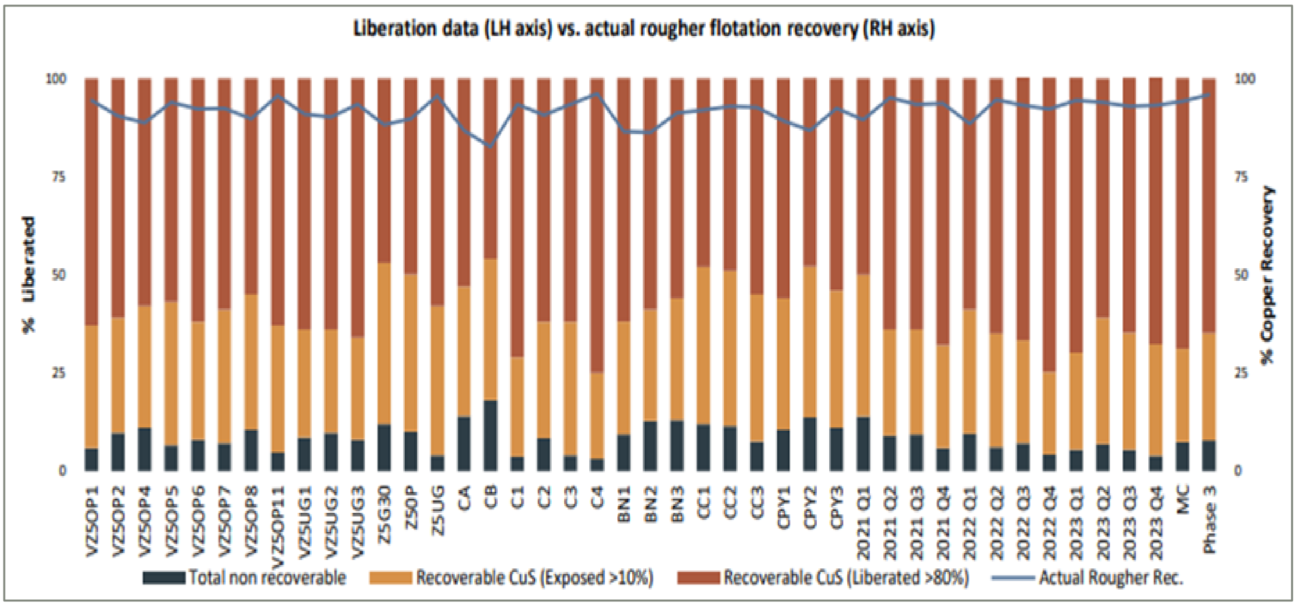


Figure 12-4 Recovery vs mineralogy and liberation

Source: KCM, 2023

The conclusion from this work is that a better metallurgical outcome could result from campaigning ore processing based on domains rather than blending. This experience has been noted at other copper projects. The chalcopyrite is hard and slow floating whereas the chalcocite is soft and fast floating. At other projects when processing high chalcocite ore, the regrind mill is switched off and used mainly for the harder chalcopyrite ore.

12.2.2.4 Copper Recovery Optimisation

Testwork indicated a benefit in increasing the flotation time and reagent dosage for the bornite dominant ore types as observed in the kinetic profiles. High levels of quartz and fine grain distribution of bornite domain samples had lower recoveries and slower flotation kinetics. The bornite (BN) domain composite benefited from the use of Danafloat™ (co-collector) which enhances the flotation kinetics of tarnished minerals.

The effect of grind results showed that the rougher recoveries were virtually the same at grind sizes of P80 passing 75 µm to 130 µm. However, the sulphur recovery and rougher concentrate grades were enhanced with finer grind due to the liberation of the sulphides. Most of the copper sulphides are liberated between 20 µm and 40 µm. This is the size fraction with the highest recovery contribution for the composites, followed by the 10–20 µm and 40–80 µm size fractions. Recovery contribution drops at the 80 µm fractions, which is typical for flotation processes. Thus, the regrind target P80 of 20 µm matches the liberation of the copper sulphides.

The dithiophosphate co-collector (FloMin™) showed increased selectivity and produced higher rougher concentrate grade albeit at a lower recovery of 80%. The co-collector could be beneficial for the cleaner circuit to improve concentrate grades and cleaner efficiency. High-intensity conditioning tests on the blended bornite locked-cycle tailings using shear reactors and a Danafloat™ collector improved the overall copper recovery by 5% at a copper concentrate grading of 20% after rougher flotation, regrinding and cleaner flotation. This provides an opportunity to enhance the kinetics and improve the copper recovery. The open cleaner and re-cleaner rate circuit recoveries for the composites showed that the recoveries can be optimised by exploiting the grade recovery relationship. The two-concentrate flowsheet, where the rougher concentrate is cleaned upfront to recover the fast-floating fractions and the cleaner tailings are reground to recover the coarse particles, had higher cleaner efficiency.

The locked-cycle test recoveries for the composites were in line with the feed and the concentrate grades achieved. The 2018 results had higher recoveries and cleaner efficiencies than the 2017 results due to the higher concentrate mass pulls. However, there was a corresponding decrease in concentrate grade. Recommendations from the 2018 work included targeting higher rougher concentrate mass pulls and upgrades to the capacity of the regrind mill, cleaner circuits, concentrate handling as well as sumps and pumps in the area.

The mineralogy of the blends to be processed was defined to optimise the flowsheet by mitigating BBWi variation and the impact of bornite-dominant ores on recovery. Finer crushing was implemented to alleviate the load on the milling circuit, with provisions for increased residence time for the rougher flotation and reduction in throughput to improve liberation. The use of high-intensity conditioning, and Danafloat™ and FloMin™ reagents was also to be evaluated on the plant to further improve recoveries and concentrate grades. This has been implemented through Jameson cells in the cleaner circuit.

12.2.2.5 Zone 5 Geometallurgy

Copper and silver recoveries were correlated to the dominant mineralogy as determined by the copper-sulphur molar ratio as shown in Figure 12-5. The resulting equations were incorporated into the Zone 5 Mineral Resource model, allowing short internal prediction of copper and silver recoveries.

Copper recovery formulae

Cu:S Ratio		Dominant	2019	2020
From	To	Mineral		August
0.01	0.75	Chalcopyrite	86.1 + (1.24 * Cu%)	86.12 + (0.56 * Cu%)
0.75	1.5	Bornite	81.6+ (1.24 * Cu%)	86.42 + (0.56 * Cu%)
1.5	99	Chalcocite	92.9 + (1.24 * Cu%)	88.85 + (0.56 * Cu%)

Silver recovery estimates

Cu:S Ratio		Dominant	2019	2020
From	To	Mineral		August
0.01	0.75	Chalcopyrite	84.4	83.3
0.75	1.5	Bornite	78.3	83.1
1.5	99	Chalcocite	97.5	87.1

Figure 12-5 Recovery vs mineralogy and liberation

Source: KCM, 2023

The copper recovery equations are based on 46 experimental data points and exhibit a high correlation coefficient of 0.97 and a standard error of 3.3%. The silver recovery formulae shown in the table below and are based on 34 data points with a silver feed grade greater than 10 g/t Ag, which is closer to the feed grades in the block model. The silver recovery equations show a high correlation coefficient of 0.96, despite the high standard error of 5.1% due to the lower assay precision at lower feed grades.

The recovery and BBWi correlations have been validated in May 2022 with plant data and the recovery algorithm has been updated to include gangue mineralogy using AI. The recovery and BBWi correlations are used to predict recoveries and optimising mill feed blends.

Of note is that lowest copper recovery correlates with chalcopyrite and the highest recovery correlates with the chalcocite ores.

12.2.2.6 Processing Rate

The design throughput of the upgraded plant is 3.65 Mtpa with copper and silver recovery rates of approximately 88% and 84% respectively. The targeted copper concentrate grade is 40% Cu with a silver grade of 400 g/t. The chalcocite and bornite provide the higher-grade concentrate.

The Boseto processing plant was acquired by KCM as part of the acquisition of DCB in 2015. KCM has invested US$91 million in the refurbishment, upgrade and expansion of the process plant, fit for treating sulphide ores from the Zone 5 underground mine. The utilisation of the brownfield Boseto process plant for developing current operations led to a capital saving of approximately US$200 million vs a new facility, more than offsetting of the overland haulage costs of approximately ~US$2.4/t hauled. The design of the upgrades to the Boseto process plant to treat Boseto ores was based on multiple metallurgical and mineralogical testwork programs undertaken from 2013 through to 2020. The process plant rapidly achieved all design parameters during operations over the last 18 months. Optimisation work and advanced automation is ongoing.

12.2.3 Boseto Flowsheet

Metallurgical processing involves conventional bulk sulphide treatment and recovery including brand name equipment which comes with Vendor support including:

- Three-stage crushing – Metso Outotec (MO) jaw crusher followed by cone crushers.
- Single-stage ball milling – MO 7.5 MW drive, 6.4 m x 9.6 m shell.
- MO flash flotation, followed by MO conventional rougher flotation cells of 150 m^3, and Scavenger 1 and Scavenger 2 which are 20 m^3 and 10 m^3 respectively.
- Cleaner flotation with Jameson cells - concentrate regrind using 1.1 MW STM MO HIG mill.
- MO Larox vertical P+F filter press – semi-automatic bagging plant.
- Reverse osmosis water treatment plant.

Figure 12-6 illustrates the plant process flowsheet.

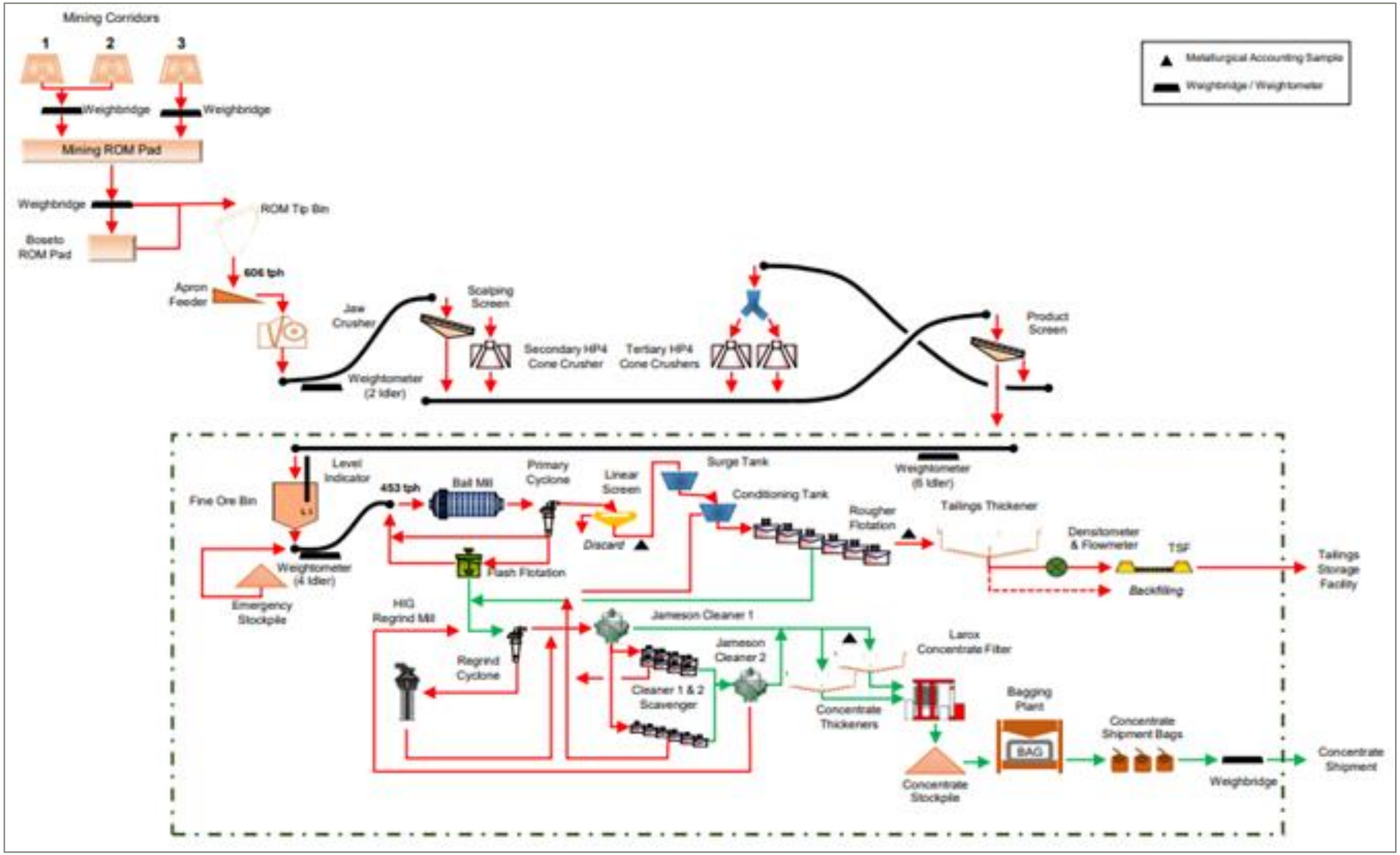


Figure 12-6 Boseto plant process flowsheet

Source: KCM presentation

12.2.4 Crushing

Crushing at the Boseto plant occurs at a 606 tph capacity via:

- C160 Metso Jaw Crusher; 1 x Metso HP4 for secondary; and 2 x Metso HP4 for tertiary crushing
- Scalping (4.5 m x 2.4 m) and product (3.0 m x 7.6 m) screens.

Optimisation of crushing and screening efficiency has been achieved by improving fines removal. New aperture panels were installed on the product screen and are under evaluation. To improve the crusher dust extraction system, new dust suppression sprayers have been installed on the ROM bin. The fine ore bin dust suppression system was relocated and installed at the secondary/ tertiary crushers. Final commissioning was implemented in Q2 2023. Modifications of the crusher lubrication room are planned to improve cooling.

The project is on track and the expected completion date is during 2024. Dust management will incorporate construction of bunding at the crusher product screen area to capture fine ROM. Figure 12-7 shows the crushing performance on a monthly basis.

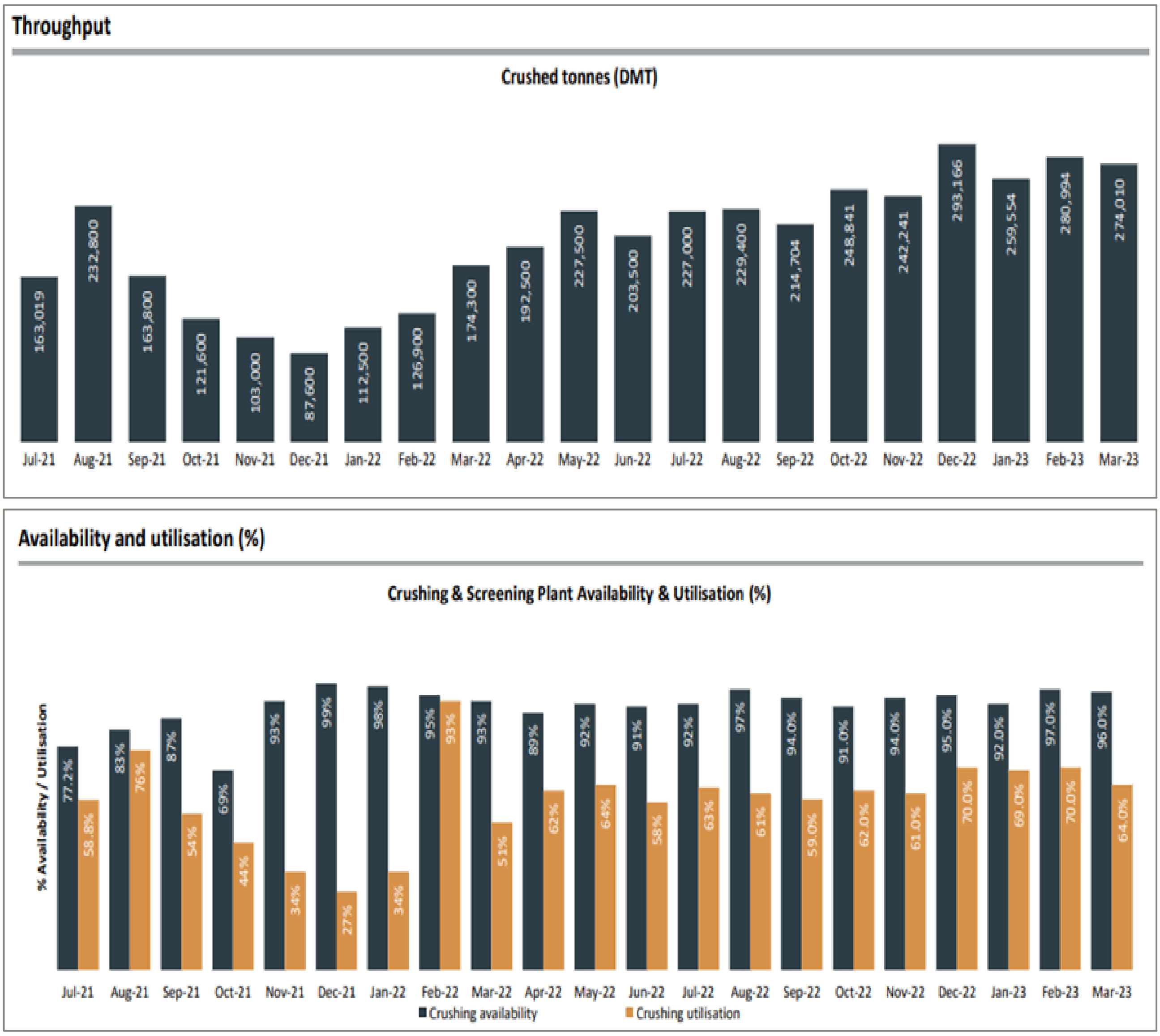


Figure 12-7 Crushing plant performance (by month)
Source: KCM, 2023

Magnets and metal detectors are installed prior to the secondary and tertiary crushers to detect tramp metal. Tramp metal in the ore continues to pose a risk to the crushing circuit. Tramp metal spotting is employed to address the challenges with additional magnetic separation capacity installed during 2023. The mining team is investigating the use of a magnet-mounted excavator to assist with the removal of tramp metal. Tramp metal from underground is an ongoing problem.

The availability of the crushing plant has been above target since commissioning with an average availability of 92%. The utilisation of the crushing plant was below target during ramp-up primarily due to ore supply constraints. The utilisation has subsequently improved from Q4 2022 and is on par with design (68.7%). The March 2023 utilisation was impacted by tramp metal, operational stoppages, and slow feeding challenges. The utilisation is forecast to gradually increase as factors impacting utilisation, i.e. mainly, tramp metal stoppages, feed chute blockages and low ROM bin feed rates are minimised.

Crusher circuit refurbishment included:

- ROM tip and installation of dust suppression sprays
- C160 Jaw Crusher, 3 HP4 Tertiary crushers
- Conveyor drives
- Dust extraction system
- Crusher lubrication system
- Silo concrete works.

12.2.5 Screening

The crushing product size distribution has averaged 80% passing 15 mm since the plant start-up which is in line with design. Finer than design ROM product size distribution is contributing to the overall good circuit performance and final product quality.

12.2.6 Grinding

The ore feed to the ball mill is P80 13.3 mm. The mill has a 453 tph design capacity with 7.5 MW ball mill (Metso) with a diameter of 6.4 m and 9.6 m length. Flash Flotation Circuit- Metso's Skim Air 500 – Primary Multotec cyclone clusters comprising 470 mm diameter cyclones with six in operation and two on standby.

The correlation of Bond Mill Work Index (BBWi) with the Alteration Index is being assessed in conjunction with the geological team, in order to determine the optimal mill feed composition. Power draw optimisation is ongoing with vendor inputs to improve mill product size distribution. Cyclone overflow consistently produced desired densities and grind. Deportment to the fine fractions was observed in (-38 µm) in the final tailings stream due to preferential milling of the softer high-density sulphides. A unit cell (flash flotation cell) will be introduced into the circuit to reduce the production of ultra-fines (sliming) in the flotation feed to improve overall flotation circuit performance. Mill star was commissioned in Q4 2022 and is being optimised.

Improved HIG mill reliability and performance to improve cleaner efficiency when treating finely disseminated ore types from the Central Corridor was implemented. A trade-off study was conducted on the use of the HIG mill and will be completed during 2024. The connected analytics service by MO for online health and performance monitoring was introduced in Q1 2023.

The average mill availability was >90% since the beginning of commissioning, with the exception of November 2022 where availability was affected by mill pinion bearing failure. The mill utilisation in H2 was affected unavailability of the mill bearing, motor-controlled centre (MCC) breakdowns and reverse osmosis plant breakdowns. The daily mill throughput exceeded the design capacity of 453 tph on many occasions without impacting the downstream processing negatively. The throughput variability has decreased during Q1 2023 indicating good overall control. Figure 12-8 shows the mill performance on a monthly basis.

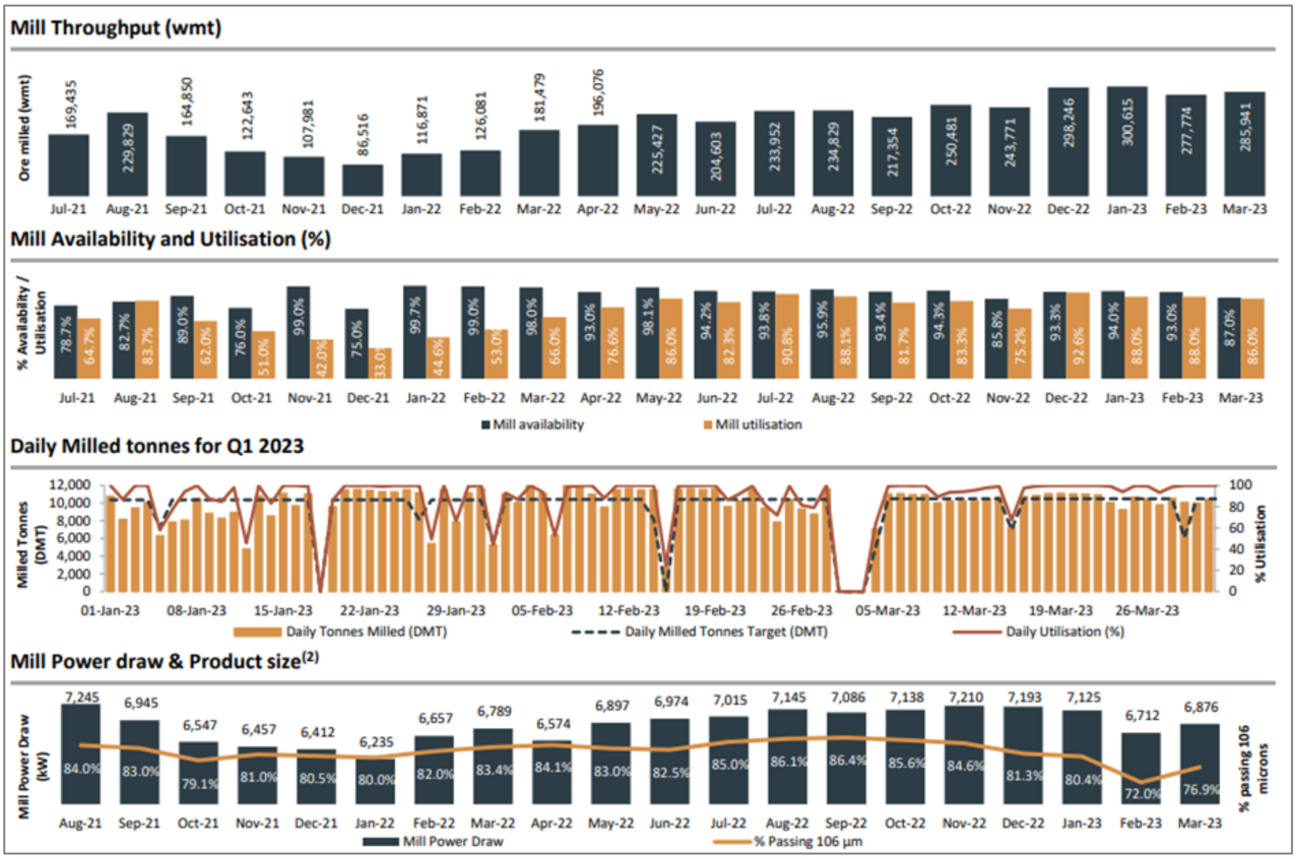


Figure 12-8 Mill performance (by month)

Source: KCM, 2023

The mill is currently being operated at an optimum power draw ranging between 7,100 kW and 7,400 kW. The mill is able to achieve target product sizes with the average grind size of 82% passing 106 µm. The measured BBWi ranged from 14.2 to 16.0 kWh/t(1) (average of 15.3 kWh/t) vs design of 14.5 kWh/t indicating the hardness is higher than design. However, milled tonnes and final product are within design. The primary cyclone overflow is P80 106 µm.

The mill utilisation <90% is below typical industry standards and KCM is conducting ongoing improvement to address this. Mill circuit improvements included:

- Mill motor changes
- Mill drive system and oil cooling system
- Flash flotation, surge and conditioner tanks
- New cluster cyclones
- Tramp metal management.

12.2.7 Cyclones

Primary Multotec cyclone clusters comprising 470 mm diameter cyclones with six in operation and two on standby in the cluster.

12.2.8 Flotation

The original Discovery oxide circuit has been decommissioned. The Flotation Circuit comprises roughers, cleaners and scavengers as follows:

- Metso Rougher cells 6 x 150 m^3, 8 x 20 m^3 and 6 x 10 m^3 Scavenger cleaner cells.
- Cleaning circuit comprises of Jameson Cells 1 and Jameson 2 3432/10 (Cleaner 1 and Cleaner 2) with design capacities of 483 m^3/h and 137 m^3/h, respectively. However, J2 has the same installed capacity as J1 – Metso HIG mill for concentrate regrind with throughput of 97 dry metric tonnes per hour, an installed power of 1,100 kW and a net volume of 6.8 m^3.
- Regrind Multotec cyclone clusters consists of 250 mm diameter cyclones with six operating and two on standby.

The current HIG mill circuit is being evaluated and will be optimised to selectively regrind the coarse Jameson 1 middlings fraction to prevent the overgrinding of liberated sulphide minerals. Sampling campaigns are being conducted to evaluate the mill performance for different ore types. Assay-by size copper and silver data will be evaluated with the focus on Central Corridor ore. The study will be completed in 2024. The Jameson cell feed density control system was completed. Recovery grade curves for the different ore types will be compiled to assist in fine tuning of the circuit. The upgrading of the flotation circuit pumps is ongoing. The mass balance will be updated with the HIG mill in operation to investigate the impact on the recirculating loads in the flotation circuit.

A frother plant trial is being planned for 2024 once operation has stabilised. FloatStar which improves flotation control and stability will be commissioned once the HIG mill circuit has stabilised. Blue Cube online analyser calibration of different ore types is ongoing to improve the calibration accuracy and reliability. The required accuracy, however, has not been achieved, and a decision will made during 2024. The rougher and scavenger cell air control valves were replaced with ball valves to improve air addition control. Rougher and scavenger cell level and air control positioners were upgraded to improve plant stability and control. Scavenger tails will be rerouted to the surge tank to improve stability and improve circuit retention time to improve ultrafine recovery. Introduction of a control system to optimise the volumetric split to the two scavenger banks was completed in Q3 2023.

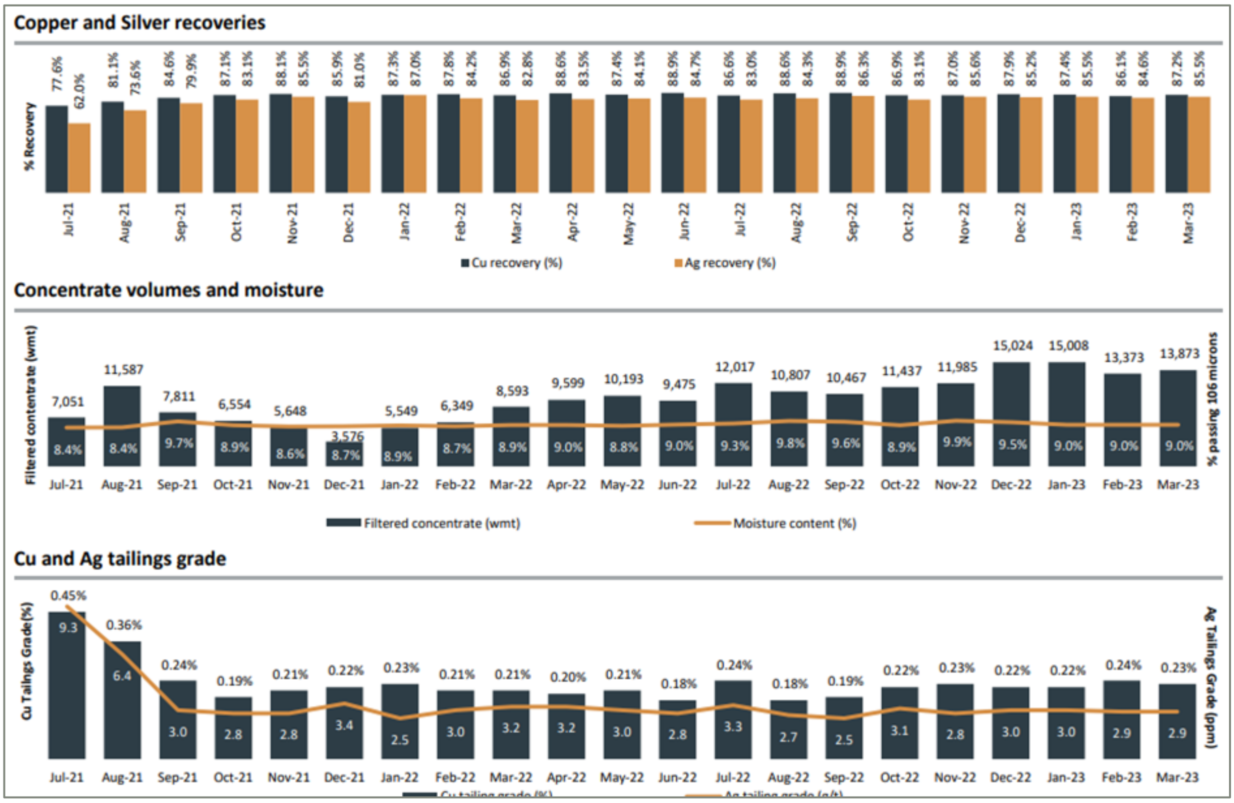


Figure 12-9 Flotation performance (by month)

Source: KCM, 2023

The 2022 average copper and silver recoveries were 87.7% and 84.5% respectively. The good recoveries are due to favourable mineralogy and process improvements. The average copper and silver feed grades and Cu:S were lower than budget due to limited blending capacity until Q2 2022. Despite the low feed grades, the plant has consistently achieved target copper and silver recoveries. The concentrate production has ramped up with mill throughput with 13,873 wet metric tonnes of concentrate being produced in March 2023. The average monthly moisture content of filtered concentrate has been within target (<10%).

The copper tailings grade has consistently been within target since plant start-up, apart from August 2021 during C4 commissioning. The grade of the silver tailings has been similarly within the target since September 2021. The good performance is due to favourable copper and silver mineralogy which is in line with the testwork results.

The significant ore dilution underground has an adverse effect on recovery leading to inefficient crushing and grinding of waste in the ore, however, this problem is being addressed by KCM.

Copper flotation improvements included:

- Additional rougher and scavenger flotation cells
- 2 x 120 m^3 concentrate storage tank
- Tailings thickener
- Regrind HIG mill installed
- Linear screens ahead of flotation to remove trash
- Jameson cells installed as cleaners.

Figure 12-9 shows the flotation performance on a monthly basis.

12.2.8.1 Flash Flotation

The Flash flotation cell circuit optimisation will continue in 2024, and further performance evaluation will be carried out for different ore types. Flash flotation has the potential to increase copper recovery and reduce slimes losses. ERM considers this as a good innovation for the project.

12.2.8.2 Impurities

The study of impurity deportment in feed and concentrate is in progress with the focus on arsenic as well as elements impacting ore hardness i.e. alteration index (Ai). The Jameson cell feed density control was implemented, and froth washing is ongoing with original equipment manufacturer (OEM) inputs. The thickener overflow pump upgrades to improve froth washing and impurity removal were completed. The refurbishment of the 6 m mothballed concentrate thickener is in progress and planned for 2024–2025.

12.2.9 Concentrate

12.2.9.1 Arsenic-in-Concentrate

Ores containing elevated levels of arsenic have been campaigned through the Boseto processing plant from time to time since start-up. Over the last 12 months, some 4,427 dry metric tonnes of concentrate with elevated arsenic levels (typically between 4,800 ppm and 5,500 ppm As) have been produced and sold, with an incremental penalty of $26 per dry metric tonne. Given these low volumes, this elevated arsenic would normally be blended out, but constrained ore supply during ramp-up limited the scope for this.

These elevated levels of arsenic were anticipated in the first two to three years of mining of Zone 5. This is related to isolated pods of arsenic in the shallow levels of the Zone 5 orebody, related to certain structures. LOM modelling of the Zone 5 orebody indicates these are less prevalent through the LOM, and blending is expected to avoid future such elevated levels in concentrate. Figure 12-10 shows the arsenic-in-concentrate values.

Arsenic is a penalty element from smelters and above 5,000 ppm the concentrate may be rejected by some smelters. Blending to date has sufficed to keep the arsenic in concentrate within specifications. There are two aspects to be considered, one being understanding the block model in regards of future arsenic levels and secondly options to remove arsenic from the concentrate on site. The second option incurs capex and increased opex and may not be necessary with ore feed blending.

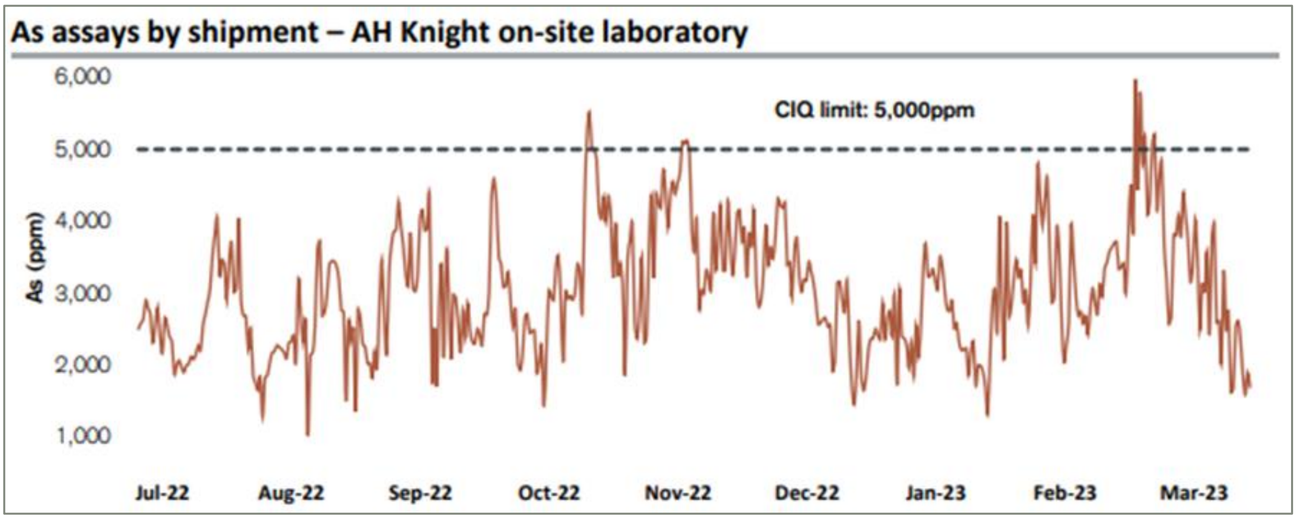


Figure 12-10 Arsenic-in-concentrate (by month)
Source: KCM, 2023

12.2.9.2 Thickening/Water Reclamation

The concentrate handling consists of 8 m and 10 m diameter concentrate thickeners with a capacity of 13 tph and 20 tph, respectively. Concentrate Filter is vertical press filter from MO Larox Filter PF 60-96/120 with design and maximum capacities of 40 tph and 50 tph dry solids, respectively. There is a semi-automatic bagging plant from Puda with a design and maximum capacity of 40 tph (20 bags per hour) and 55 tph, respectively.

The OEMs have been engaged to optimise the thickeners and filtration units. Some of the outstanding works are listed below:

- The Roytec thickener overflow clarity is below target. The main actions to improve performance (weir design, dilution pump) have been identified and the OEM has been engaged.
- The Larox filter feed pump optimisation is currently underway with debris management system workshopped with stake holders in Q2 2023. The filter feed pump performance will be evaluated once the baskets' effectiveness is satisfactory.
- Potable flow meters were installed to monitor and optimise potable water consumption. The connected analytics service by MO for online health and performance monitoring of the Larox filter was introduced in Q1 2023.

12.2.9.3 Concentrate Shipment

The current operations produce approximately 13,000–15,000 dry metric tonnes per month of copper/silver containing concentrate, with a moisture level between 8.5% and 10%, and copper and silver grades between 35% and 40% Cu and 350–400 g/t Ag. The concentrate is low in deleterious elements, apart from arsenic which is being managed.

12.2.10 Processing Infrastructure

12.2.10.1 Process Control

A state-of-the art SCADA control system (Figure 12-11) is used in the plant. Expert control systems such as MillStar to be optimised and Floatstar are to be brought online. Blue Cube onstream analyser was installed. SCADA and PI historian upgrades are in process.

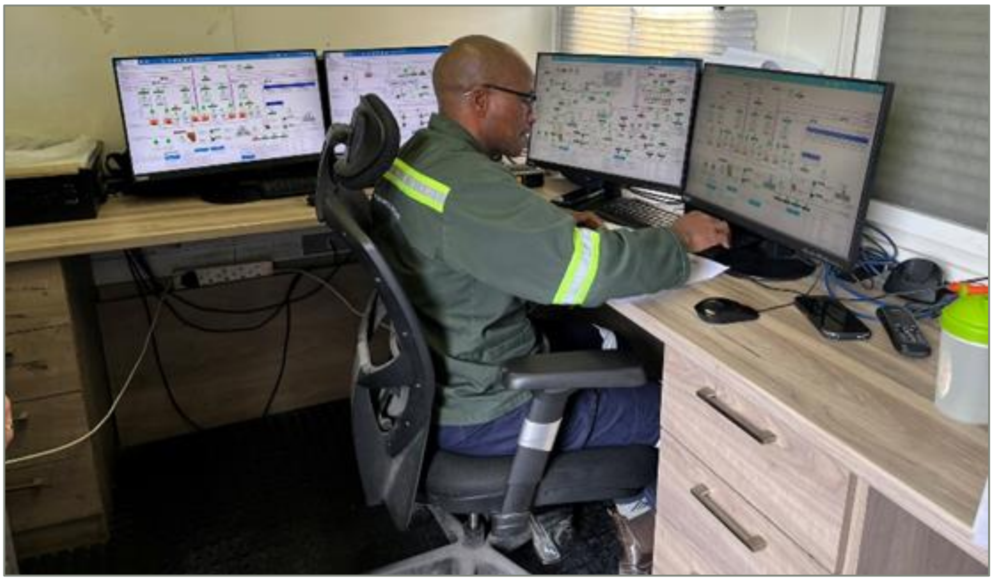


Figure 12-11 Process control room
Source: KCM, 2023

12.2.10.2 Power

Electricity generation is dominated by coal-fired power plants, and supported by two emergency diesel power plants, with installed capacity of 700 MW and 160 MW, respectively. Over 99% uptime supply to site, which is excellent and unusual in Africa. Figure 12-12 shows the power infrastructure in the area.

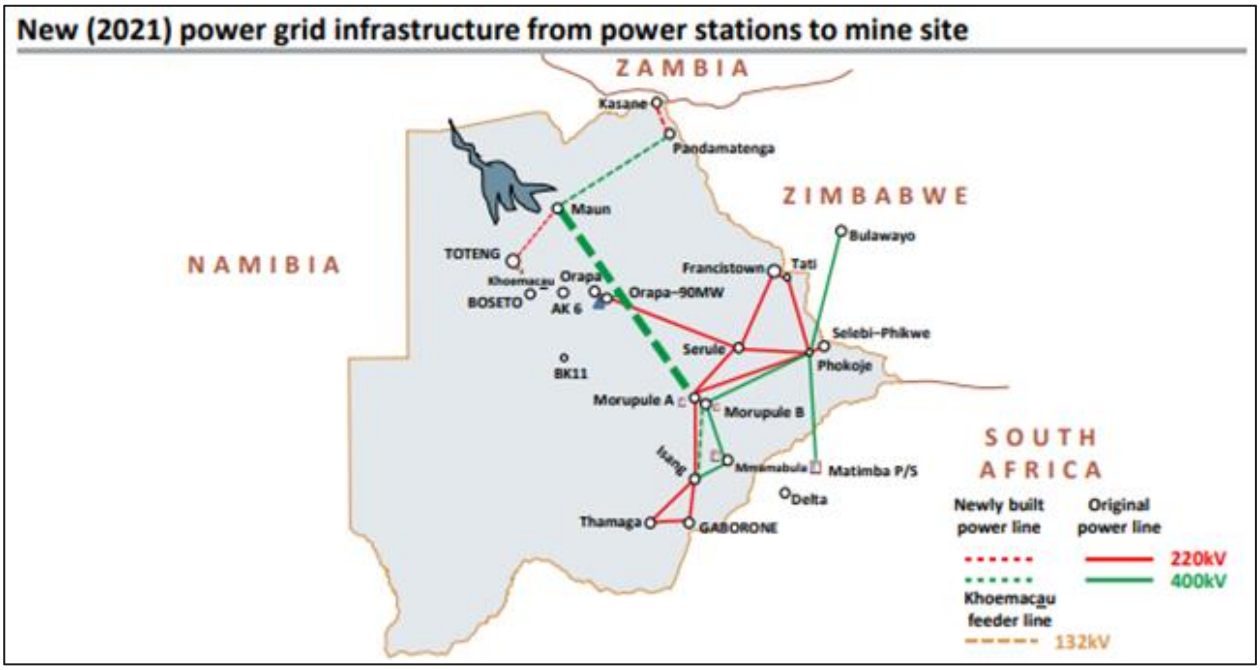


Figure 12-12 Power grid infrastructure
Source: KCM, 2023

Power for the KCM operation is supplied from the national grid which is operated by the Botswana Power Corporation (BPC). The North-West Transmission Grid Connection Project is a US$345 million Government regional development investment, that was completed in 2020. A 22 km long 132 kV feeder line from the 220/132 kV Legotlhwane substation supplies the 132 kV Boseto substation. The Boseto substation reticulates 11 kV to the processing plant and Boseto wellfield.

A 29 km long 132 kV feeder line from the Boseto substation supplies the 132 kV Zone 5 Substation. The Zone 5 substation reticulates 11 kV to the three boxcuts, and a ring main that provides power to the village, administration and workshop areas. All 132 kV infrastructure is operated and maintained by BPC. The main 132 kV supply is equipped with ACSR Wolf conductor that has the capacity to transmit 125 MVA. No expansion to bulk power supply is envisaged for the Expansion, as the current 132 kV infrastructure is adequate, however new transmission lines and substations are to be built at each of the new declines as well as at the new Zone 5 processing plant. Existing diesel generation capacity (connected to the 11 kV substation) on site is being used as backup power. Zone 5 has an installed emergency backup of 5.04 MW. Boseto has an installed emergency backup of 0.63 MW.

Figure 12-13 shows the power usage from 2021 to 2022.

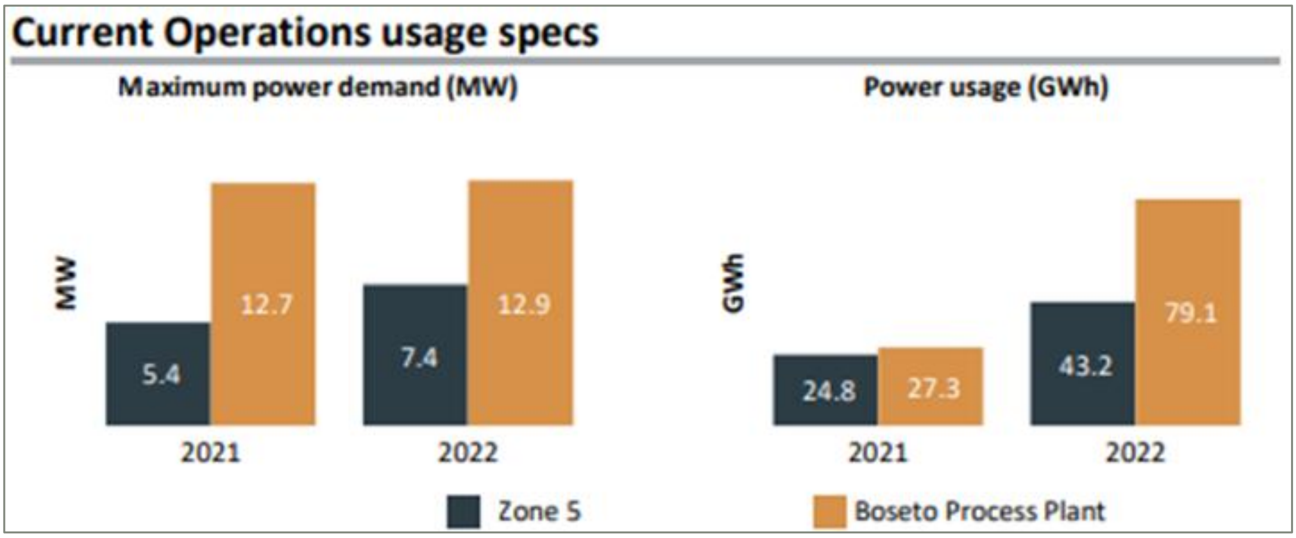


Figure 12-13 Power usage, 2021 to 2022
Source: KCM, 2023

The BPC has initiated projects to generate electricity through solar photovoltaic (PV) technologies. These projects include two 50 MW solar plants and 12 grid-connected small-scale solar plants located in 12 different villages with a combined capacity of 35 MW. The combined 100 MW solar plants are expected to be online in 2024–2025.

The heavy reliance on carbon footprint power will be an issue going forward, however, the planned solar farm will see a transition. In its latest Nationally Determined Contribution submission in November 2016, Botswana estimated that it would need about US$18.4 billion to achieve the set target of 15% greenhouse gas emission reduction by 2030.

12.2.10.3 Water

The plant is supplied by raw water from six boreholes at the Boseto wellfields with a yield of 553 m^3/h which is higher than the design requirement of 453 m^3/h. The raw water is stored in a 12,000 m^3 dam for processing and in the 283 m^3 raw water tank feeding the RO plant. Potable water for gland seal, human consumption, cake washing, mill inlet seal and cooling is supplied by the RO plant with a capacity of 50 m^3/h.

Raw water consumption of 0.5 m^3/t of ore was achieved during Q1 2023 against a target of 1.0 m^3/t. The improved raw water consumption is due to improved water recovery from the harvesting boreholes. Water flow meters were installed in Q4 2022 in the plant as well as the TSF return lines to improve the water balance assessment.

The raw water consumption per tonne (Figure 12-14) averaged 0.64 for 2022, which is within the budget of 1 m^3/t. The consumption has stayed within the budget due to increased water recovery and reclamation from the harvesting boreholes at TSF. Additional flow meters have been installed and were commissioned in December 2022 in the plant as well as at the TSF return lines to improve the water balance assessment.

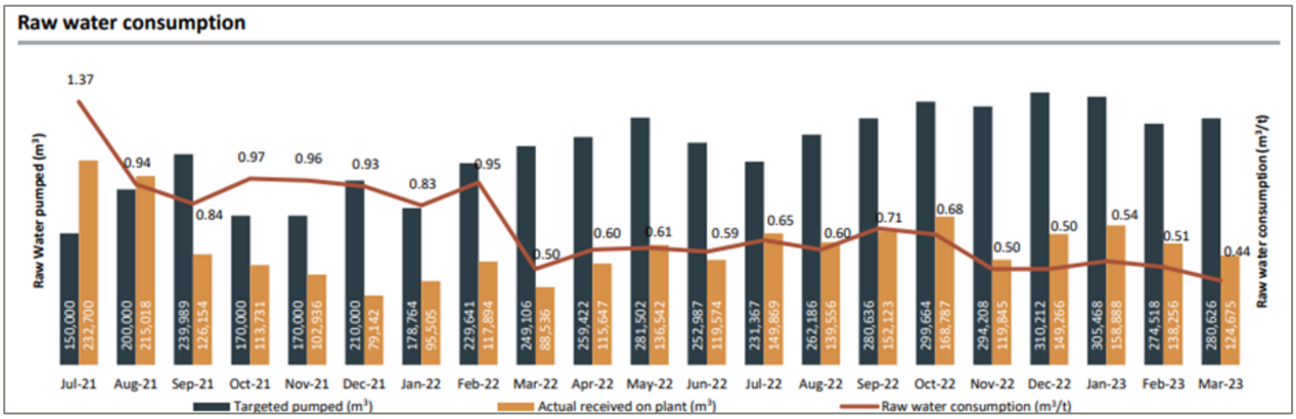


Figure 12-14 Raw water consumption (by month)
Source: KCM, 2023

The commissioning of the raw water clarifier to meet RO plant feed water specifications and reducing operating costs was completed in July 2022, with performance testing conducted in August. The decrease in RO plant polishing filter consumption indicates good performance of the clarifier. Sampling of the incoming raw water feed on-site and external analysis for TDS confirmed good performance. Borehole telemetry upgrade was completed in September 2022 with the purchase of new equipment (relay radios) with full visibility on SCADA in progress to ensure optimum monitoring of borehole extraction to within the regulatory requirements.

Water refurbishment projects included:

- New process water pumps
- New lining for process water dam
- New raw water clarifier to assist RO plant
- New RO plant.

The water supply and water balance has been studied in detail and suggests that water will not be an issue for processing. This assumes no significant drawdown based on the resting bores.

12.2.10.4 Reagent Area

The reagent area includes storage, mixing and distribution of reagents throughout the processing plant. Reagents include collectors, frother, sulphidiser, flocculant and grinding media.

1.1.1 Tailings Handling

The tailing area consists of a 23.5 m diameter MO thickener with a capacity of 434 dry tonnes per hour. There are two tailings trains which consist of high-density polyethylene (HDPE) 315 mm and HDPE 400 mm for transportation of tailings slurry to the TSF located 1.3 km from the plant. Spigot deposition method is used for the operation which is contracted to Fraser Alexander, and Knight Piésold is the engineering consultancy managing the tailings dam.

12.2.10.5 Tailings Streams

DCB, under the ownership of DML, commenced mining operations in August 2012, with tailings generated from the Boseto processing plant being deposited on a ring dyke impounded facility (TSF), located southwest of the Boseto processing plant. The tailings were deposited mainly via spigots and per the odd occasion utilising open ending behind the starter wall. The TSF consisted of three segments separated by causeways. In February 2015, when mining ceased, the Boseto processing plant, TSF and the associated infrastructure were placed on care and maintenance, and in July 2015 DCB was acquired by KCM.

12.2.10.6 Tailings Storage Facility

The ore produced from the Zone 5 orebody is being processed by the newly upgraded Boseto processing plant and the plant tailings are deposited onto the upgraded TSF located adjacent to Boseto (Figure 12-15).

Tailings have been deposited since July 2021. The upgraded and recommissioned TSF now has an annual deposition capacity of 3.65 Mtpa, however, this will only be required until 2025 when backfilling of the Zone 5 underground mine will consume some 57% of tailings produced from the Boseto processing plant. The TSF is designed to contain the balance of the tailings produced for the remaining envisaged 24-year LOM. The TSF is designed using spigotting to deposit tailings and perform raises using the upstream day wall construction method. The final TSF model uses 6 m wide benches at 5 m vertical intervals. These benches are required for several reasons:

- Erosion control
- Provide access to the TSF
- Flatten the slope, and therefore increase the stability
- Provide the opportunity for concurrent rehabilitation.

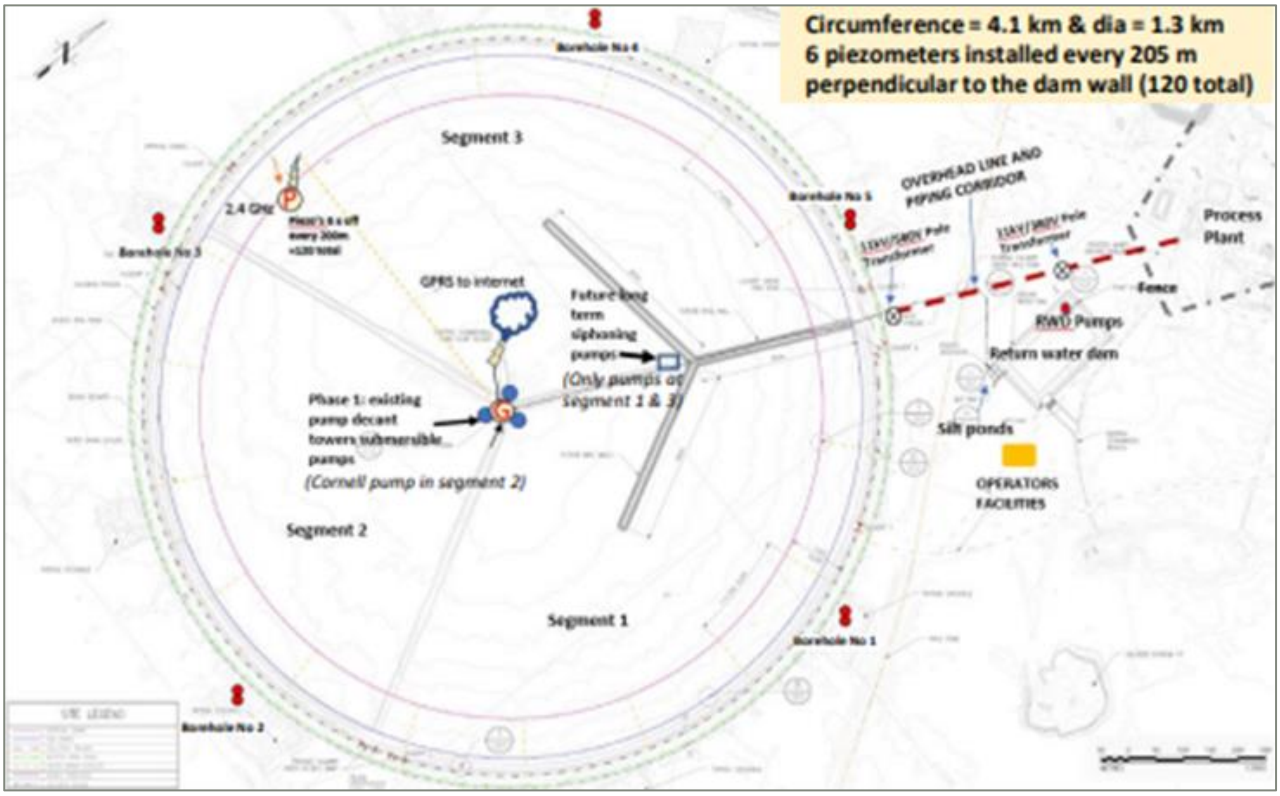


Figure 12-15 Tailings dam plan view

Source: KCM, 2023

The undrained scenarios dictate the necessity of the chimney drain. Therefore, the design is compliant with both AATS and South African Standards regarding slope stability as long as the installed chimney drain is maintained and functional until the LOM closure phase.

12.2.10.7 Tailings Characterisation

The water recovery from July 2021 to date averaged 39%, including the harvesting borehole water returned to the processing plant. The aim is to get the recovery rates to >70% once operations stabilise and the TSF reaches stable deposition rates and the pool management on top of the facility is under control. It should be noted that the harvesting holes positioned around the TSF have reached the ±1,000 m^3 volume, reducing reliance on the Company's other wellfields (lower drawdown rates).

Spigotting was selected due to the coarse product size distribution classification indicating 69% by mass passing at 75 µm which yields enough underflow material to build the outer day wall. The day wall is designed to be built in an upstream (stepped-in) configuration. Proper management of the tailings discharge material, like any other tailings facility, is key to the effectiveness of the discharge, dewatering and building of the day wall with solids. Ongoing trials will be conducted throughout the operation of the TSF and can be modified safely to mitigate any potential detrimental consequence.

The solution chosen follows best global practice which deploys the application of a decant pumping system where dewatering is done from the tails pool on top of the TSF (similar to practices applied by mines in Canada and the USA). The chosen solution also eradicates the possible failure risk of buried outlet pipes. The selected dewatering system is expected to ultimately reduce exit, and rehabilitation costs of the facility as well.

Minimum inspection frequencies based on CCS rating for containment facilities, tailings and water retaining dams. This applies to all dams, dikes and embankments with height >2.5 m or volume >25,000 m^3. Currently, Frazer Alexander, the appointed Tailings Dam Operator, manages the TSF on a full-time basis and provides KCM with daily, weekly and monthly updates. A monthly TORAS (Technical Operational Risk Assessment System) report gets updated and shared prior to the monthly meetings. Daily performance is logged, and findings are communicated to KCM's metallurgical team and Knight Piésold (EoR) is copied in and intervenes as required by the AATS/GISTM standards.

The original DCB tailings deposited from 2012 to 2015 are described as non-acid forming, with low levels of process reagents, and tailings in general, were classified as benign. The groundwater is considered saline in the KCM region as per several Hydrogeological Studies with TDS values unsuitable for stock watering, irrigation, or wildlife. The pH of the tailings was determined to be 8.5 (DE Cooper & Associates, 2010). Zone 5 material both within the orebody and the generated tailings was determined to be low risk for potential acid generating status (Water Surveys Botswana (Pty) Ltd, 2014). A Paterson and Cooke Technical Note (Paterson and Cooke Consulting Engineers (Pty) Ltd, 2018) stated: *"There are no immediate geochemical or mineralogical concerns for the backfill. No acid generating minerals are present."*

The proposed tailings facility for Zone 5 is shown below in Figure 12-16.

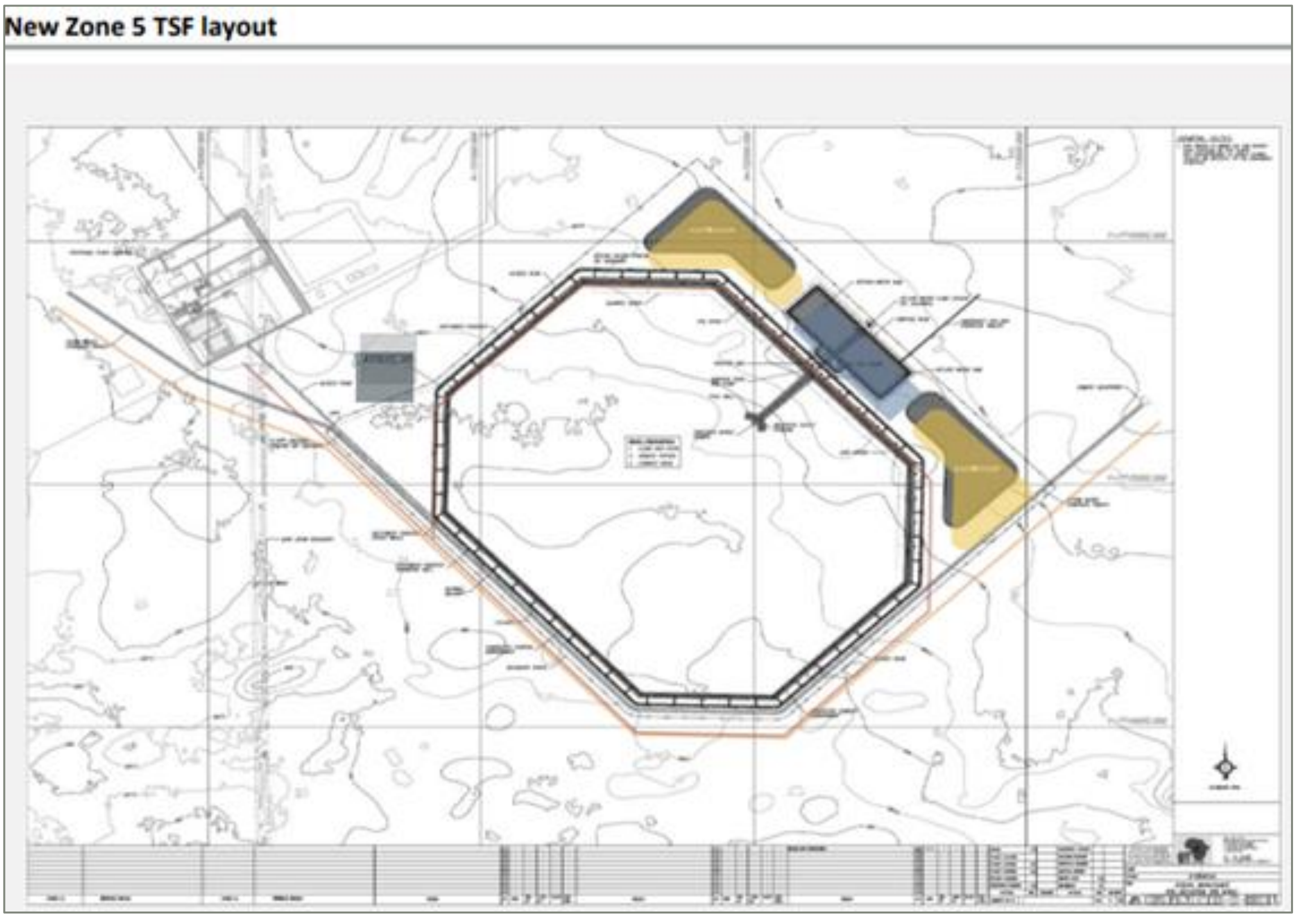


Figure 12-16 Plan view of new TSF
Source: KCM, 2023

12.2.10.8 Tailings for Backfill

Tailings for backfill is supplied at the tailings thickener in each plant respectively. Tailings from Boseto is further filtered and stockpiled for transport to Zeta NE, and optionally Zone 5N ,via backhaul on the haul trucks. Haul trucks will be loaded by front-end loader at the Boseto tailings stockpile and hauled to the backfill plants at Zeta NE and Zone 5N where the tailings cake will be re-pulped, mixed with binder and reticulated to fill stopes underground. Backfill plants are rated for nominally 600,000 tpa of fill per module, where tailings thickened to 70% solids is mixed with binder and reticulated to the underground workings where required.

Initially, the Zone 5 fill requirements will also be serviced by tailings cake hauled from Boseto until the Zone 5 processing plant is commissioned. After commissioning of the new Zone 5 processing plant, filtered tailings from that plant will be conveyed at Zone 5 and, optionally hauled to Zone 5N where again it will be re-pulped, mixed with binder and reticulated underground.

The impact of backfill contamination in the ore feed, on plant flotation, has not been assessed. This could be negative with higher than desired pH depressing some copper minerals. There are mitigation strategies that can be used.

12.2.11 Recent Plant Performance

The process plant performance has been impressive indicating continuous improvement each quarter over the last two years (Figure 12-17).

The process plant has consistently achieved concentrate grades above the saleable copper concentrate grade of >30% Cu (Figure 12-17). The silver grades are within the specification.

The average concentrate grade is lower than design (35%) mainly due to; lower than design feed grade and Cu:S ratio (less bornite- and chalcocite-dominant ore types in feed); and the low availability of the HIG mill due to drive and transformer failures.

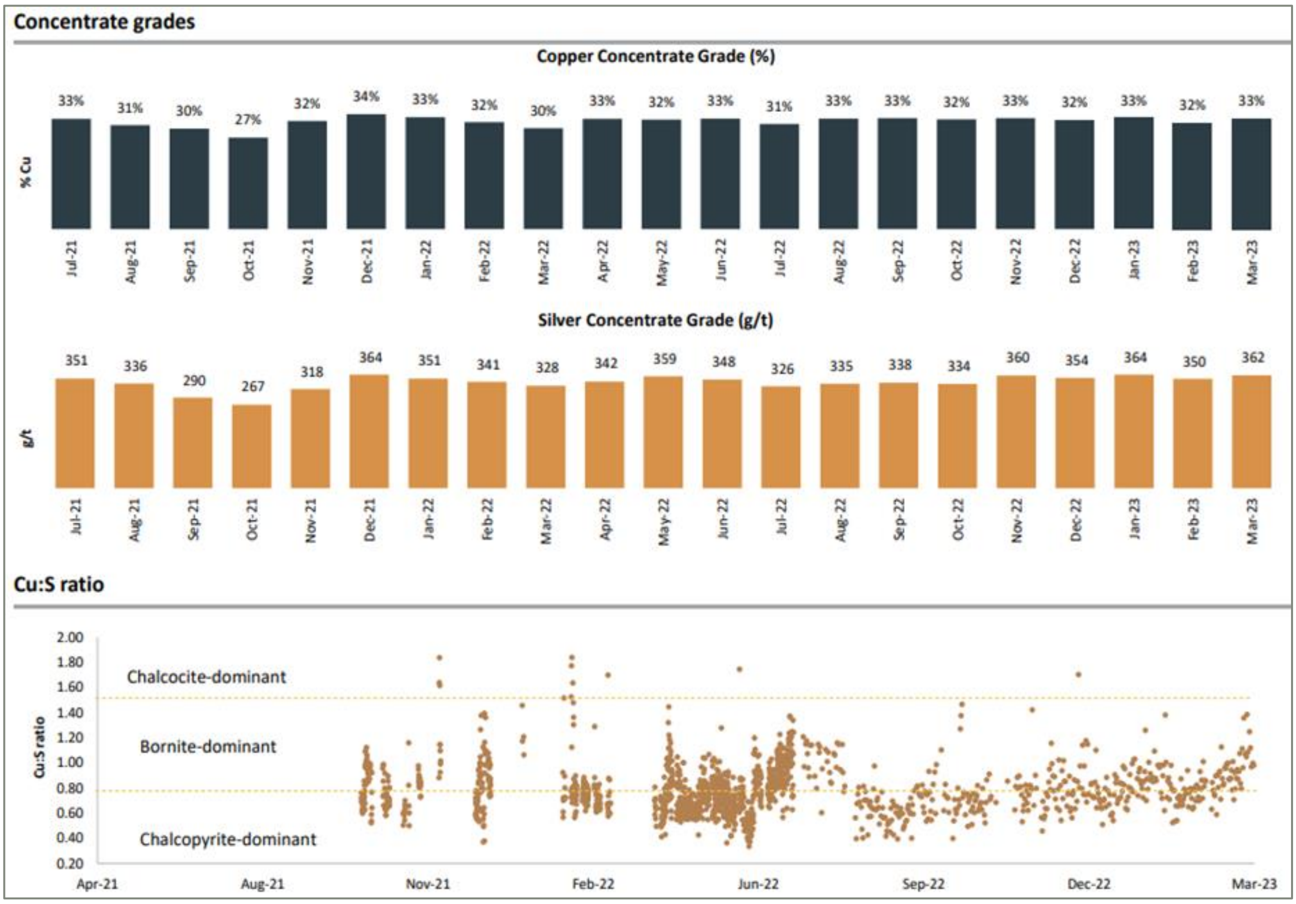


Figure 12-17 Concentrate copper and silver grade (by month)

Source: KCM, 2023

Continuous improvement in the feed ore quality and the startup of the HIG mill will improve the final concentrate grades. ERM consider this should improve over time.

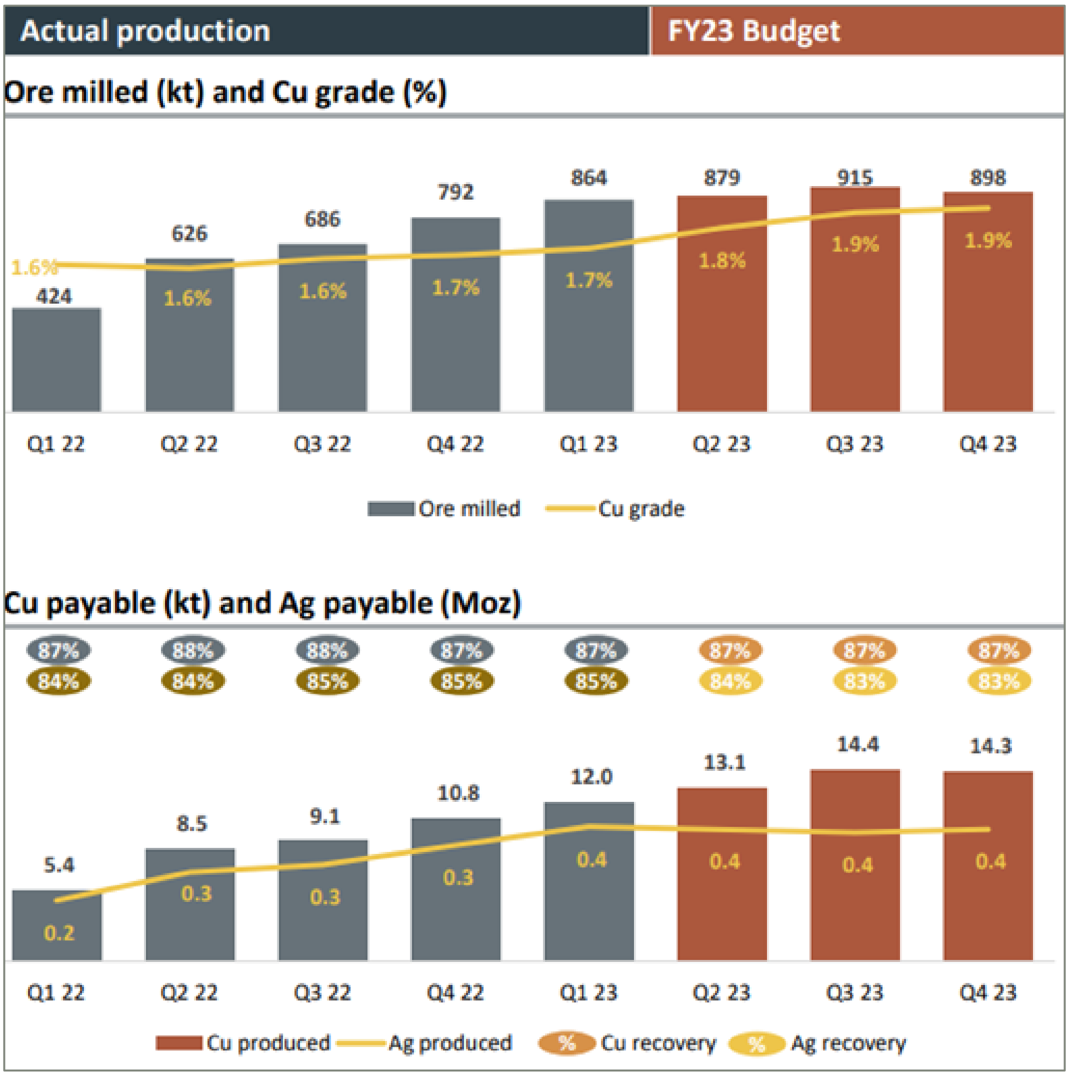


Figure 12-18 Boseto plant production (by quarter)
Source: KCM, 2023

Copper head grade profile reflects the spatial positioning and bulking strategy during ramp-up of stoping from Q3 2021 and progressive optimisation of stope and drill-and-blast designs and execution and increased understanding of local performance of the orebody during stoping.

12.3 NEW PLANT

12.3.1 Overview – the Expansion Case Strategy

The new plant will treat ore from Zone 5 ore and run at 4.5 Mtpa. The current Boseto plant will process 3.6 Mtpa of Zone 5N, Mango and Zeta NE. The new plant is a clone of the Boseto plant. For the new plant, a ramp up of two years could be expected even though the ore has a track record of processing at Boseto. Recent PFS copper recoveries ranged from 83% to 92%, which is in line with the historical recoveries of 84% to 88% at Boseto.

With the existing Boseto plant, these new ores (Zone 5, Mango and Zeta North) will take time to optimise so there will be a ramp up and metallurgical learning curve here as well. The testwork on these ores is at PFS level and by no means extensive. How these ores behave being blended and fed through the Boseto plant is unknown. The PFS testwork results provide a range of recoveries and concentrate grades. The results confirmed a recovery of 87.8% at 50% copper grade. Slower flotation kinetics were observed. The mineral resource modelling of the planned ore feeds confirms that they are all sulphidic ore containing chalcocite, bornite and chalcopyrite and any cyanide soluble copper (oxide) will be minor.

12.3.2 Testwork

Specific Zone 5 testwork was carried out by SGS in 2015 and 2016 on six samples of varying mineralogy and depth from Zone 5. The testwork confirmed the flowsheet developed.

Further detailed testwork was undertaken by Fluor in 2018 including mineralogical work. Copper recovery varied from 77% to 92% for the NE Fold blocks and 83% to 97% copper recovery for the other samples tested. Concentrate grade was very dependent on the cyanide soluble copper in the ore (chalcocite and bornite). Results of these tests were used to size the regrind mill and flotation cells for the PFS design and determine reagent additions.

Further testwork on Zone 5 was undertaken in 2018 and 2020, including grade/recovery optimisation work and reagent optimisation including XP200 as frother, potassium amyl xanthate (PAX) as collector and sulphidisation with NaSH and sodium silicate as a dispersant.

12.3.3 New Plant Process Design

The process design for the proposed New Zone 5 process plant (Figure 12-19 and Figure 12-20) was developed by Fluor in 2021 and 2022 based on the process design undertaken for the Boseto plant modifications during the Phase 3 Engineering (Zone 5) in 2017 and 2018, which incorporated the entire body of Zone 5 metallurgical and mineralogical testwork. High-pressure grinding rolls (HPGR) and SAG options were considered but a copy of the Boseto plant was preferred based on commonality of equipment and experience with this circuit.

The Bosteo processing plant has been successfully treating Zone 5 ores since July 2021, achieving design throughput levels and metallurgical KPIs, validating and de-risking the design for the proposed New Zone 5 process plant. Trade-off studies of various plant configurations, in particular comminution circuits, were undertaken, and concluded three-stage crushing and ball milling was optimal, and in line with that operating at Boseto. The balance of the process comprises conventional bulk sulphide rougher and cleaner flotation and concentrate recovery and filtering. MO equipment was selected for the majority of the process plant consistent with that used at Boseto.

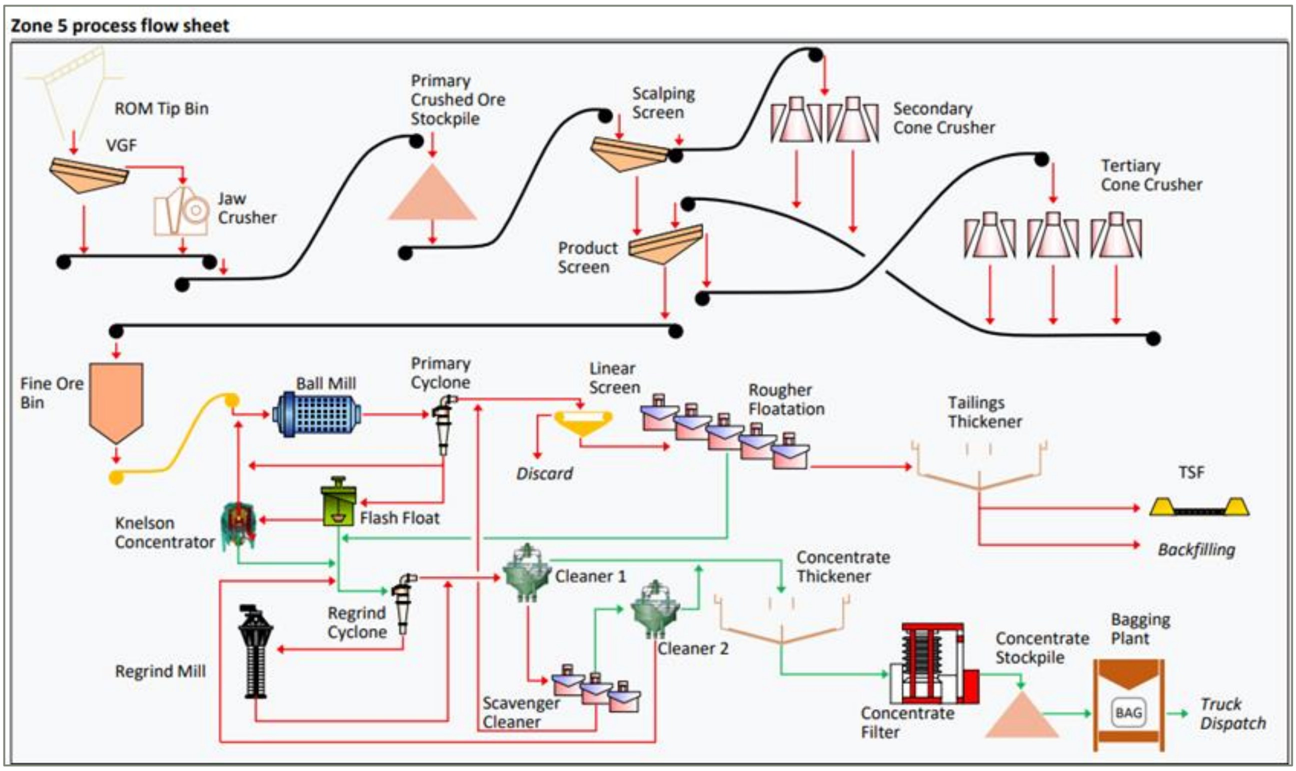


Figure 12-19 Zone 5 process flowsheet

Source: CSA Global, 2023b

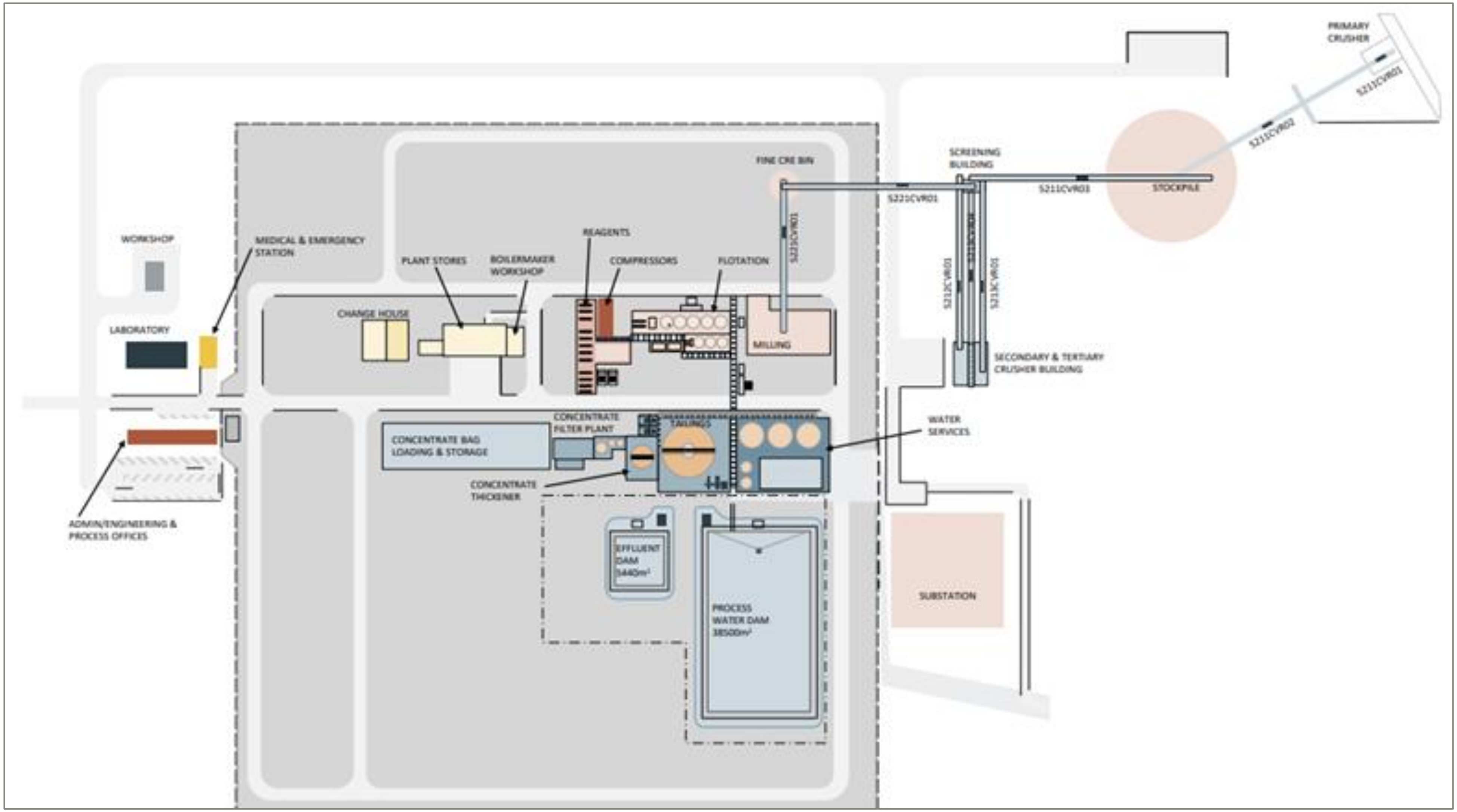


Figure 12-20 Zone 5 process flowsheet
Source: CSA Global, 2023b

12.3.4 Run-of-Mine

The trucks will tip directly into the 1,150 tonne ore bin with a top size of 700 mm. The ore from the ROM bin will be fed onto a vibrating feeder grizzly with the −150 mm ore at 170 tph going to the coarse ore stockpile whilst the +150 mm ore will go to a C150 jaw crusher at 642 tph which will produce a product passing 300 mm. The coarse ore stockpile has a live capacity of 9,000 tonnes.

12.3.5 Crushing and Screening

Ore is reclaimed at 767 tph and conveyed to a scalping screen with the oversize +38 mm fed to one of two HP500 cone crushers producing a −38 mm product. Scalping screen underflow at -38 mm and 171 tph is discharged to the 3.6 m x 7.6 m double deck crusher product screen, where it is combined with secondary and tertiary crusher discharge. Total product screen feed is 1,690 tph. Product screen overflow at +14.9 mm and 923 tph is conveyed to the tertiary crusher feed bin. The tertiary crusher feed bin feeds one of three 355 kW HP500 cone crushers for reduction to d80 14.6 mm. Combined crusher underflow at 1,331 tph is returned to the product screen. Product screen underflow at d80 13.2 mm and 767 tph is conveyed to the 7,000-tonne fine ore feed bin. This is a conventional fine crushing circuit design.

12.3.6 Grinding

Fine ore is reclaimed from the bin via vibrating feeder and conveyed to the primary mill feed trunnion at 558 tph where it is combined with cyclone underflow, gravity concentrator tails, and process water. Total combined mill feed is 2,090 tph at 55% solids. Fine ore is ground in the 12,000 kW 12 m Ø × 7 m EGL (effective grinding length) primary ball mill. The primary mill discharges to the cyclone feed sump where it is pumped to the primary cyclone cluster for classification to d80 106 µm. Cyclone overflow at 558 tph and 35% solids flows by gravity to the trash screen where it is cleaned and discharged to the flotation feed surge tank. Cyclone underflow at 1,532 tph is discharged to the mill feed for regrinding. This is a conventional ball mill grinding circuit close circuited by cyclones.

12.3.7 Rougher Flotation

Cyclone overflow at 558 tph is fed to the conditioning tank where it is combined with sulphidiser and collector and tails from the cleaner scavenger circuit. Frother is added directly to the rougher float cells. Conditioner tank product is combined with cleaner tails for total rougher flotation feed of 650 tph. Rougher flotation is via five 315 kW OK300 flotation cells. Rougher concentrate at 121 tph and 20% solids is gravitated to the concentrate sump where it is pumped to the regrind circuit. Rougher tailings at 529 tph and 29% solids is pumped to the tailings thickener. The design is based on the Boseto plant and utilises brand name equipment.

12.3.8 Regrind

Rougher concentrate is pumped to the regrind circuit feed sump where it is combined with re-cleaner tails. Combined concentrate at 147 tph is pumped to the regrind cyclone for classification to k80 -20 µm. Cyclone underflow at 117 tph reports to the 1,600 kW regrind HIG mill®. Regrind mill underflow reports to the regrind product sump where it is combined with regrind cyclone overflow. Regrind circuit product at 147 tph is pumped to the cleaner flotation circuit. Whilst there have been issues with the HIG mill in the Boseto plant, these lessons learned will be incorporated into the new plant design.

12.3.9 Cleaner Flotation

Regrind product at 147 tph is pumped to the 100 m^3 Cleaner 1 Jameson cell for cleaning. Cleaner 1 concentrate at 24 tph reports to the concentrate thickener feed sump. Cleaner 1 tails at 123 tph reports to the re-cleaner feed sump. Re-cleaner flotation is by a bank of three 132 kW OK130 float cells. Re-cleaner tails at 92 tph is pumped to rougher flotation feed for re-treatment. Re-cleaner concentrate at 31 tph reports to Cleaner 2 flotation feed. Cleaner 2 flotation is via the 100 m^3 Jameson cell. Cleaner 2 concentrate at 5.14 tph reports to the concentrate thickener feed sump where it is combined with Cleaner 1 concentrates for total feed of 29.3 tph at 25% solids and 35.6% copper to the concentrate thickener. Cleaner 2 tails at 26.2 tph is pumped to the regrind circuit feed sump.

The Jameson cells are a good innovation ensuring a high-grade final concentrate grade is achieved.

12.3.10 Concentrate Handling

Concentrate thickening is via 13 m Ø conventional rake thickener where it is thickened to 55% solids. Thickener underflow at 29.3 tph is pumped to the 185 kW PF 108 Larox® pressure filter where it is filtered to 10% moisture. Thickener overflow is pumped to the process water dam for re-use. Filtered concentrate is discharged to the concentrate shed where it is bagged and loaded onto Superlink trailers for shipping to port. Filtrate is returned to the concentrate thickener feed. The pressure filters will ensure that a low cake moisture in concentrate is achieved.

12.3.11 Tailings Handling

Khoemacau has an established TSF, located near the Boseto processing plant, which was upgraded in 2020–2021 in accordance with a design completed by Knight Piésold that complies with the latest international standards to accommodate 33 Mt tailings for the LOM of the current operations – noting that the plant will produce 68 Mt of tailings over the LOM, with 35 Mt of these tailings used for backfill material at Zone 5 and the remaining 33 Mt of tailings impounded in the TSF.

For the Expansion, this existing TSF will impound tailings produced at the Boseto processing plant from the Mango, Zeta NE and Zone 5N mines, however, an extension of the TSF will be required as the tailings used for the backfill for Zone 5 will be supplied by the new Zone 5 processing plant and, while still required, the Expansion Deposits will have less demand on tailings for their backfill requirements.

A design for a size increase to the Boseto TSF was completed by Aurecon to Feasibility level in 2015 and this has been adopted in the PFS for the Expansion Project. In addition, a new TSF near the location of the new Zone 5 processing plant is planned for the Expansion. The design of the facility is that produced by Geotails for the 2015 Feasibility Study, with a total storage capacity of 75 Mt. The combined volume available at the existing Boseto TSF and the proposed Zone 5 TSF is considered suitable to accommodate the volume of tailings to be produced from the Zone 5 processing plant over the LOM of the Expansion, considering the additional volume of tailings now reporting to backfill in the later stages of the project.

12.3.12 Plant Services

12.3.12.1 Water

The increased raw water requirements required for the new Zone 5 processing plant and the underground operations at Zone 5 (the expansion from 3.65 Mtpa to 4.5 Mtpa) and the Mango, Zeta NE and Zone 5N underground operations will come from the dewatering at each of the undergrounds and be supplemented, if required, from the existing Boseto wellfield. The existing Haka wellfield will be extended to supply additional potable water for the increased demand in human consumption and certain process applications (such as the filtrate washing at the new Zone 5 processing plant and the underground air-cooling systems) at Zone 5, the new Mango, Zeta NE and Zone 5N mines, new Zone 5 processing plant, and extended mine accommodation camp. A geophysical survey together a drilling program is planned for the Feasibility Study to confirm the optimal location of the additional boreholes.

The new Kgwebe wellfield will be developed to supplement the potable supply of water to the new Zeta NE and Mango mines and to the existing Boseto processing plant. A geophysical survey together with a drilling program is planned for the Feasibility Study to confirm the borehole locations and quantity. Other water sources available include collecting precipitation water and scavenger boreholes at the Boseto and Zone 5 TSFs.

12.3.12.2 Power

Grid power has been connected to both the Boseto and Zone 5 sites via the North-West Transmission Grid Connection Project, a BWP 4.6 billion investment by the Government of Botswana operated and maintained by the BPC. The two sites are connected via the Legotlhwane 220/132 kV substation just outside Toteng, and a 50 km long 132 kV transmission line with two 25 MVA 132/11 kV substations at Boseto and Zone 5, respectively. The existing 132 kV system will be expanded to cater for the new loads. An additional 132 kV feeder bay will be constructed at the Boseto substation to supply the Zeta NE substation.

Two new 132 kV feeder bays will be constructed at the 132 kV BPC Zone 5 substation to supply the Zone 5N and Mango substations. The main 132 kV supply to Boseto is equipped with ACSR Wolf conductor that has the capacity to transmit 125 MVA. The calculated combined maximum demand of the operation, which includes current installed infrastructure plus the Expansion Project, is 90.3 MW. This equates to 106.2 MVA at a power factor of 0.85 lagging, which is within the capacity of the main supply.

Figure 12-21 shows the anticipated power demand.

Anticipated maximum power demand

	Unit	Current Operations	Expansion
Boseto Process Plant	*MW*	13	13
Zone 5	*MW*	28	28
Mango	*MW*		8
Zeta NE Central	*MW*		10
Zeta NE South	*MW*		7
Zone 5N	*MW*		9
Zone 5 Expansion Plant	*MW*		15
Total	***MW***	**41**	**90**

Figure 12-21 Anticipated power demand
Source: CSA Global, 2023b

12.3.12.3 Zone 5 Plant Schedule

The expansion schedule (Figure 12-22) appears to be realistic and achievable, however, the timeframe to complete commissioning looks to be ambitious, based on typical industry practice.

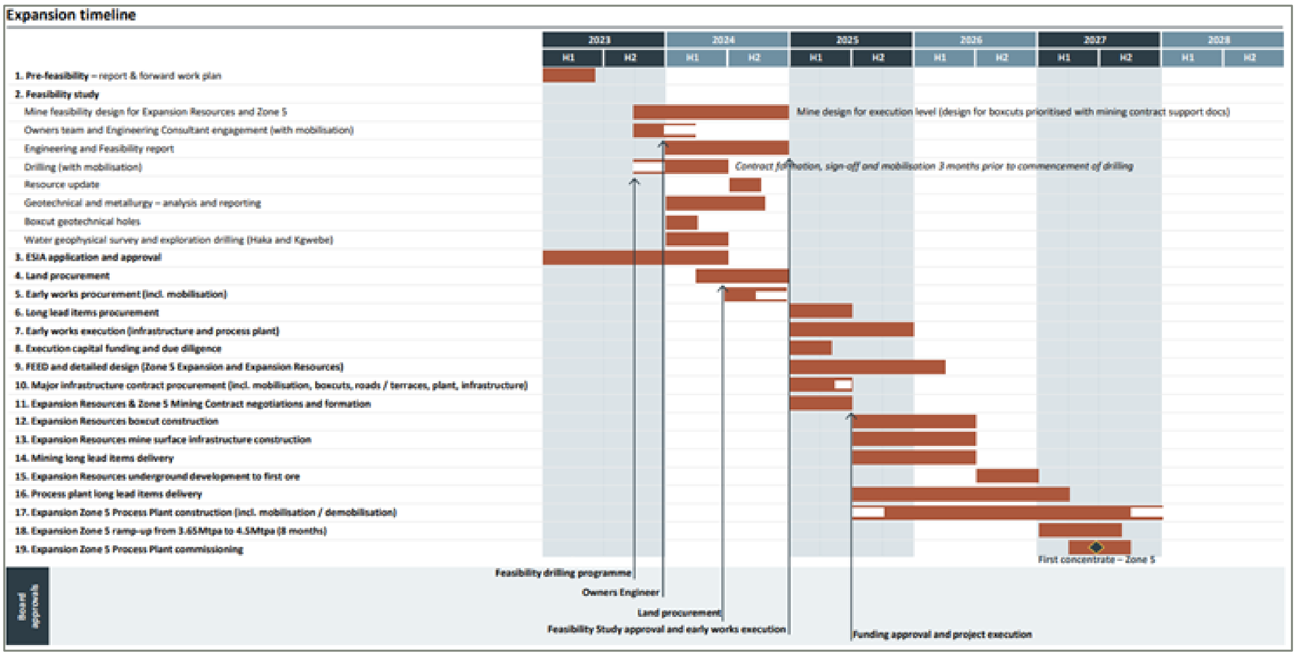


Figure 12-22 Zone 5 Expansion Project schedule

Source: KCM, 2023

12.3.13 Metallurgical Testwork Programs

Initial work on the metallurgical response samples from the same zones to the existing flowsheet at Boseto was completed in 2020 and reported in 2021.

Overall, mineralogical characterisation and metallurgical testing of Expansion Zone materials from Mango, Zeta NE and Zone 5N show the feed is similar to the existing feed from Zone 5 and will process well established in the existing Boseto plant.

The copper recovery and grade are driven by the mineralogy. Based on the testwork undertaken, 88% copper recovery and 40% copper grade was met. Based on the master composite results, 87.8% copper recovery was achieved at 50% concentrate grade.

12.3.14 Flowsheet Development

The flowsheet development was managed by Fluor and is based on the processing history of Zone 5 ore through the Boseto processing plant. The new plant is a larger plant and has captured all the lessons learned in the Boseto plant.

12.3.15 Expansion Opportunities

The new plant will have some contingency factored into the design and future de-bottlenecking studies and plant optimisation will allow for throughput above design to be achieved. There will be opportunities that can be realised easily and be very cost effective in developing.

There is very good infrastructure in the way of power, water and services already available.

12.3.16 On-Site Assay Laboratory

Figure 12-23 and Figure 12-24 show a comparison of laboratory performance to umpire or third party feed and tails assays.

		Average Head Grade			Average Tails Grade		
		SS	AHK	Variance (%)	SS	AHK	Variance (%)
January	%Cu	1.75	1.74	0.3%	0.23	0.23	0.0%
	Ag ppm	18.1	19.8	4.5%	2.5	2.9	7.2%
February	%Cu	1.70	1.65	1.5%	0.24	0.23	2.1%
	Ag ppm	17.2	17.9	2.1%	2.8	3.0	3.8%
March	%Cu	1.74	1.67	2.1%	0.26	0.25	2.0%
	Ag ppm	18.6	18.3	0.8%	3.2	3.2	0.0%
April	%Cu	1.73	1.70	0.9%	0.20	0.20	0.4%
	Ag ppm	17.0	17.2	0.4%	2.6	2.8	3.7%
May	%Cu	1.82	1.83	0.2%	0.23	0.23	0.0%
	Ag ppm	18.9	18.8	0.2%	3.0	3.1	1.5%
June	%Cu	1.53	1.51	0.7%	0.20	0.20	0.16%
	Ag ppm	15.7	15.9	0.8%	2.7	2.2	9.5%

- Interlaboratory comparisons conducted on shift composite samples for feed and tailings.
- Low variances indicate good agreement between the two labs on Copper and Silver assays

Figure 12-23 Interlaboratory check assays

Source: KCM, 2023

The laboratory is outsourced to Alfred H Knight. Training, skills and human capacity development is ongoing. Standby capacity (two of each of major instruments) is developed to minimise downtime. A Laboratory Information Management System (LIMS) is in place with the focus on production and QAQC reports. External laboratories assays and auditing are utilised as part of the QAQC program. A >99% QAQC compliance on grade control samples is observed. Discrepancies between Alfred H Knight and external laboratories are within acceptable limits and standards. Capacity is at a maximum and ERM is of the opinion that new infrastructure will be required for any expansion.

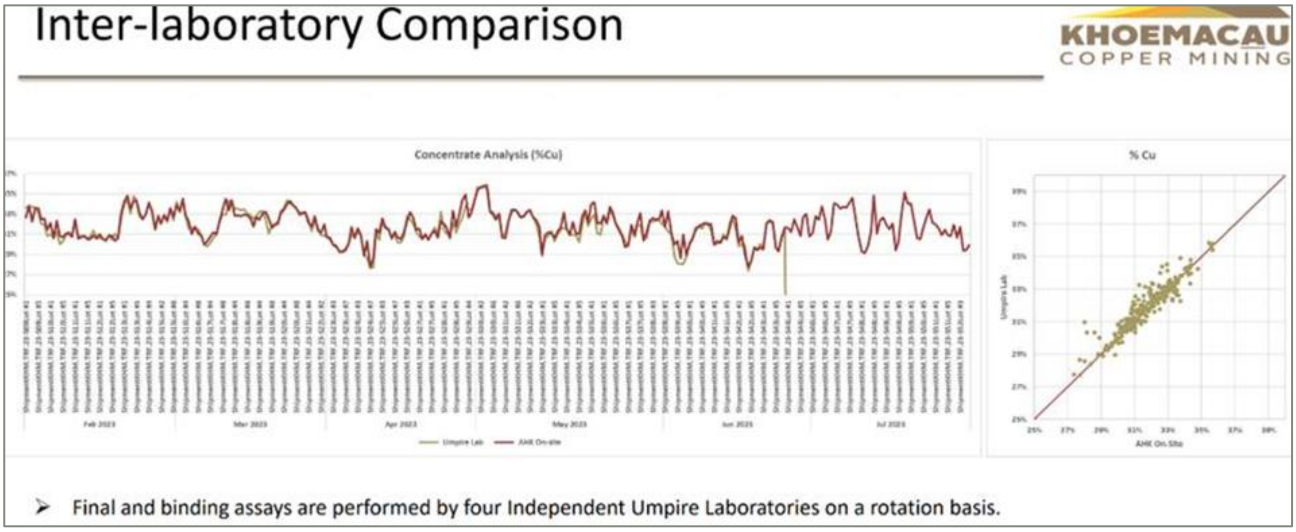


Figure 12-24 Interlaboratory check assays

Source: KCM 2023

12.3.17 Plant Sampling

Poppet samplers were installed for process control as follows:

- Two-in-one (rotary crosscut sampler and vezin slurry sampler) for metallurgical samples which are taken at the feed, concentrate and tailings
- A Blue Cube online analyser for continuous monitoring.

12.3.18 Metallurgical Laboratory

Redundant storage containers were modified to serve as a metallurgical laboratory. The laboratory was furnished with new equipment to improve the plant optimisation and as a result testwork capability improved.

12.3.19 Reconciliation Mine to Mill

Reconciliation indicates the following:

- For copper metal, there is 4% mill over-call on copper metal compared to CMS Shapes; 3.9% over-call on mill compared to Mine Call; and a 21.5% over-call on copper metal of Reserve compared to Mill Feed which is due to overbreak and failed stopes.
- For tonnage, there is a 9% over-call on Mill Feed compared to CMS; a 9% over-call on Mill Feed compared to Mine Call; and a 35% over-call on tonnage of Reserve compared to Mill Feed.
- For copper grade, there is a 4% under-call on Mill Feed compared to CMS; a 4% under-call on Mill Feed compared to Mine Call; and a 10% under-call on copper grade of Reserve compared to Mill Feed.
- For silver metal, there is an 18% over-call on silver metal in Mill Feed compared to CMS; a 17% over-call on Mill Feed compared to Mine Call; and a 24% over-call on silver metal of Reserve compared to Mill Feed.
- For silver grade, Mill Feed has an 8% over-call compared to CMS; an 8% over-call compared to Mine Call; and a 9% under-call on silver grade of Reserve compared to Mill Feed.

13 NON-PROCESS INFRASTRUCTURE AND LOGISTICS

13.1 GENERAL

The KCM operation is located within a sparsely populated region of northwest Botswana in the Kalahari Desert. The Project area is made up of 4,040 km^2 of mineral concessions and mining licences located within the Ngamiland and Ghanzi districts.

The licence area is approximately 70 km southwest of the town of Maun and 50 km south of the village of Toteng.

13.2 SITE LAYOUT

Figure 13-1 depicts a diagrammatic representation of the current operations and the key supporting infrastructure.

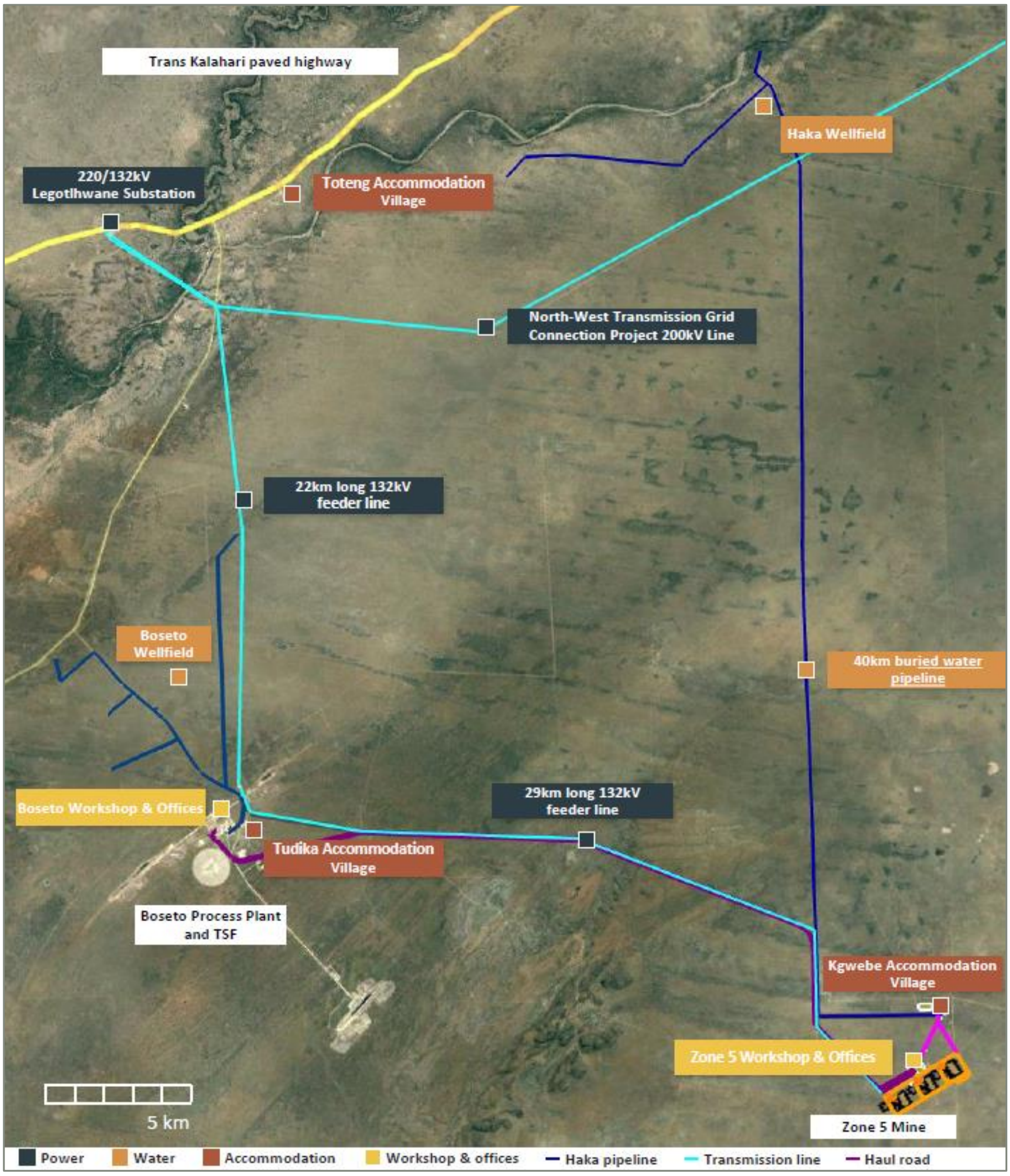


Figure 13-1 Current operations and key supporting infrastructure

Source: KCM, 2023

13.3 POWER

13.3.1 Introduction

Botswana has a reliable grid power supply which is very different to several neighbouring countries where power reductions or blackouts remain a common issue.

The mine site was connected to the grid through infrastructure constructed by KCM (Figure 13-2) and where ownership has been transferred to the Botswana Power Corporation (BPC) who are now responsible for operation and maintenance of the lines.

Figure 13-2 Newly constructed site infrastructure
Source: KCM, 2023

A long-term power purchase agreement is in place with BPC and less than 1% outage has been experienced since connection to National Grid in the first half of 2021.

13.3.2 Generation

Electricity generation is dominated by coal-fired power plants, and supported by two emergency diesel power plants, with installed capacity of 700 MW and 160 MW, respectively. These emergency plants are the country's contingency plan in the event of power supply deficits.

BPC is responsible for the country's electricity generation, transmission and distribution, has made progress towards improving the security of supply of electricity, through strategic projects aimed at increasing production of electricity from internal sources to meet the growing peak demand and thus reduce the reliance on power imports.

To that end, Morupule A refurbishment was completed in 2020, Morupule B remediation works are expected to be completed by 2025, whereafter the plant will reach optimal performance.

13.3.3 Recent Upgrades

Botswana National Grid was extended to the northwest of the country in 2021, bringing commercial grid power to the region (Figure 13-3). This new infrastructure included a 50 km 132 kV transmission line with two 25 MVA 132/11 kV substations at Zone 5 and Boseto.

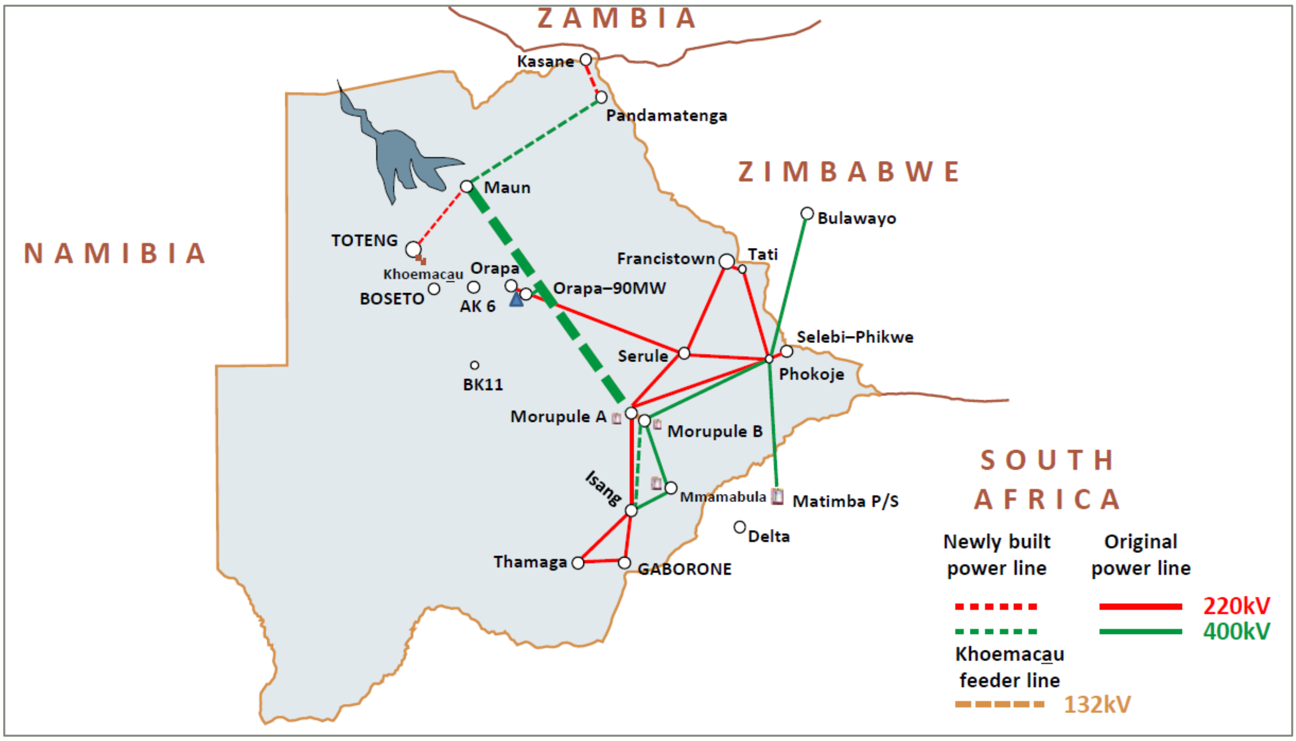


Figure 13-3 Power grid infrastructure
Source: KCM, 2023

13.3.4 Renewables

BPC has initiated projects to generate electricity through solar PV technologies. These projects include two 50 MW solar plants and 12 grid-connected small-scale solar plants located in 12 different villages with a combined capacity of 35 MW. The combined 100 MW solar plants are expected to be online in 2024–2025 (Figure 13-4).

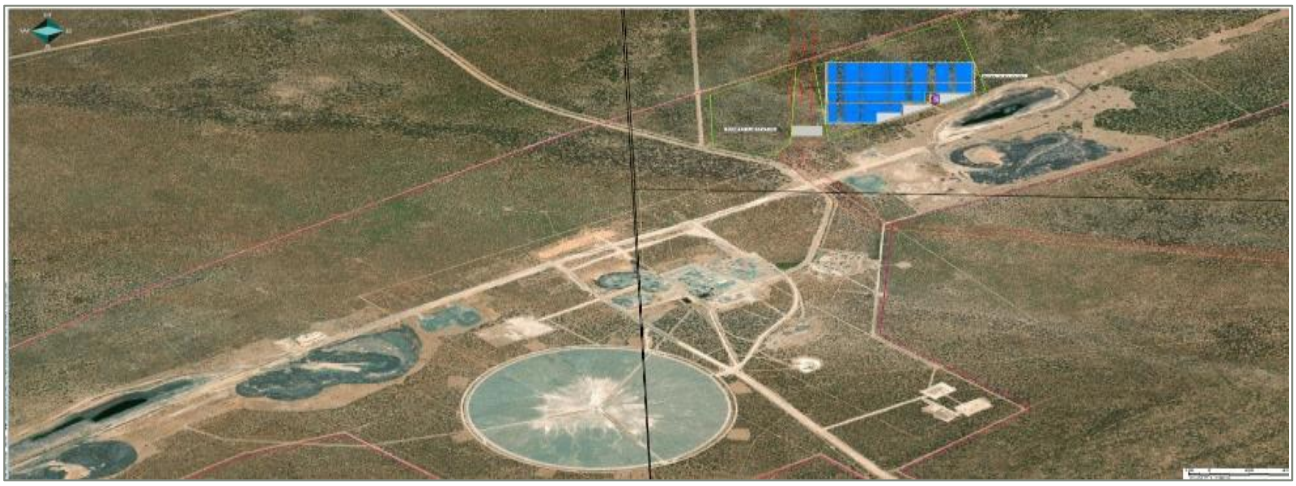


Figure 13-4 Planned solar farm adjacent to the Boseto processing plant
Source: KCM, 2023

KCM also has future plans to lower operating costs through the development of solar farms located in the vicinity of key infrastructure.

13.3.5 Grid Performance

The grid connection went live on 15 February and 20 April 2021 for Boseto and Zone 5, respectively.

BPC completed the North-West Transmission Grid Connection Project (NWTGC) in 2021, delivering large scale commercial power to the northwest of the country (including Khoemacau) through dedicated transmission infrastructure. Three days were lost during commissioning of the upgrades related to the implementation of the NWTGC.

13.3.6 Expansions

13.3.6.1 Current Situation

Grid power supply comes from the newly constructed 220 kV substation at Legotlhwane and two new 132/11 kV substations were constructed, one at Boseto and one at Zone 5 to receive power via the NWTGC. These two sites are connected via the Legotlhwane 220/132 kV substation just outside Toteng, and a 50 km long 132 kV transmission line.

13.3.6.2 Expansion Options

Current operations at Zone 5 have an estimated peak demand of 42 MW (28 MW mining/14 MW processing). The lines are sized to accommodate an expansion of operations where a much higher peak demand is currently estimated at 85 MW (56 MW mining/29 MW processing).

The rated capacity of the system is 90 MW, with the current installed capacity at 38 MW.

The existing 132 kV system can be expanded to cater for the new loads where an additional 132 kV feeder bay can be constructed at the Boseto substation to supply the Zeta NE substation. Two new 132 kV feeder bays can also be constructed at the 132 kV BPC Zone 5 substation to supply the Zone 5N and Mango substations.

13.4 WATER

13.4.1 General

The hydrology and hydrogeology of the sites is described in detail in Section 10.

Water for the current operations is provided by the Boseto and Haka borefields and dewatering activities at the Zone 5 mines. These current sources are well understood and have been by extensive drilling programs, flowrate tested to determine the yields and subsequently modelled to establish production or dewatering boreholes which have been equipped for water production.

Additional water is also recovered from the scavenger boreholes surrounding the Boseto TSF. Figure 13-5 shows the water sources.

Figure 13-5 Water sources and current operations
Source: KCM, 2023

13.4.2 Current Supply

Water is sourced from the abovementioned borefields with nominal yields of 10 ML/d and 2 ML/d respectively, and both are currently operating at below licensed yield capacity due to the availability of alternate supplies from the TSF return water at Boseto and the mine dewatering activities at Zone 5.

The Boseto water supply is pumped through HDPE pipelines from six boreholes of varying quality for TDS that are blended to control the salinity load for RO treatment feedstock.

The Haka water supply comprises four boreholes that are connected to a surge tank via HDPE pipelines. Two boreholes are currently online to supply the surge tank before being pumped via 40 km of buried pipelines to the Zone 5 operations. Blending of sources has the effect of spreading borehole pumping loads. Current operations currently utilise less than 20% of the available permitted capacity.

Telemetry is installed in the production borehole supply at Haka and Boseto and a motor-control system installed at Zone 5.

Programs are in place to improve water recovery in the process plant and to optimise recovery of water from the TSF.

13.4.3 Water Balance

The site water balance is also comprehensively covered in Section 10.

Water abstraction design is based on a balance that aims to provide the Boseto Plant with 10 ML/d and the underground mines with 2 ML/d. To achieve this, the requisite water conservation modelling has been built into the water system design such that the draw from each of these borefields is well within the authorised limits. Settling dam facilities and dewatering/scavenging water boreholes are used for supplying part of the mine and plant service water and in doing so, has a reduction in makeup water demand from production borefields.

Boseto borefield provides the primary source of new water to the Boseto plant and infrastructure complex, net of return water from the TSF and the TSF scavenger boreholes. The Boseto wellfield water is hyper saline, which is suitable for process water, however, an RO plant treats a portion of this water to produce clean product for human consumption and for use as concentrate wash water.

Zone 5 underground mining operations source water for drilling and dust suppression from the mine water dams which are fed from both underground pumping systems and the dewatering boreholes. The mine workshop and mine offices/accommodation complexes source their water needs from the higher quality water of the Haka wellfield with a conventional filtering and chemical water treatment system producing water for human consumption.

13.4.4 Water Supply Expansion

The increased raw water requirements required for the new Zone 5 processing plant and the underground expansion of operations at Zone 5 from 3.65 Mtpa to 4.5 Mtpa and the new Mango, Zeta NE and Zone 5N underground operations will come from the dewatering at each of the mines and be supplemented, if required, from the existing Boseto borefield.

The existing Haka borefield will be extended to supply additional potable water for the increased demand in human consumption and specific applications where good water quality is essential. Applications include water for concentrate filtrate washing at the new Zone 5 processing plant and the water required for underground air-cooling systems at the expanded Zone 5 and the new mine at Mango, Zeta NE and Zone 5N mines, the new Zone 5 processing plant, and extended camp accommodation.

Geophysical surveys in conjunction with drilling programs are planned to confirm the optimal location of any additional boreholes. The Kgwebe borefield is planned to be developed to supplement the potable supply to the new Zeta NE and Mango mines and to the existing Boseto process plant.

13.4.5 Sewage and Wastewater Treatment

Environmentally friendly sewage systems and infrastructure have been built on all mine residential sites to enable the disposal of effluent in line with regulatory thresholds and industry standards.

There are currently four sewage treatment plants currently in operation across the sites: four 65 m^3/d and one 90m^3/d at Toteng and Boseto respectively, and two 100m^3/d units at Zone 5 where the second plant was commissioned in December 2022. The plant is designed to treat all sewage from Kgwebe village, the administration offices and change-house, the workshop area and other satellite residential areas.

Treated effluent from the sewage plant is used for watering wild animals, dust suppression and watering of green areas.

13.5 SURFACE INFRASTRUCTURE

13.5.1 Roads

Currently, the operations are accessed from a main arterial A3 road from Toteng village via the Old Ghanzi Road. The A3 is a bitumen surfaced road and the Old Ghanzi Road is of gravel construction techniques.

A dedicated bitumen surfaced haul road for ore transportation from the current mine to the processing plant has been developed with a second bitumen surfaced service road running largely parallel with the dedicated haul road for the safe transportation of personnel and other materials (Figure 13-6).

Figure 13-6 Dedicated haul road and associated light vehicle roadway
Source: KCM, 2023

New access and haul roads will be built with the same geometric configuration and pavement structure as the original roads. The materials of construction will similarly be obtained from waste dumps and borrow pits currently available on site.

The access roads will have a finished road width of 5 m and the haul road widths will be 7 m, in fitting with the current road network.

13.5.2 Workshops

The current site (Figure 13-7 and Figure 13-8) has a newly constructed structural steel cladded heavy mining equipment workshop that has nine maintenance bays, a small office complex, and warehousing for spares storage. The bays are serviced with a 40-tonne and 10-tonne overhead crane and provides four service pits for mining fleet maintenance.

The compound also supports a structural steel cladded boilermaker workshop with 10-tonne overhead crane, a tyre repair workshop, and a washdown bay for the mining equipment.

Mechanical, electrical and light vehicle workshops have been constructed from shipping containers and covered with roof structures for protection from the elements.

A compressed air system services all buildings and an oily water separation system has been installed to treats all oily water from workshops and washbays.

Figure 13-7 HME workshop and associated infrastructure at Zone 5
Source: KCM, 2023

A second workshop and maintenance facility and storage yard has been developed for the ore haulage contractor at Zone 5.

Figure 13-8 Ore haulage workshop and yard (Zone 5)
Source: KCM, 2023

13.5.3 Offices

The office complex known as the administration area at Zone 5 comprises brick and mortar buildings with pitch roofs, prefabricated installations and container buildings (Figure 13-9 to Figure 13-12).

The brick buildings include the mining offices, male/female and visitors change-house with fully equipped laundry, medical clinic with observation rooms, dispensary and mines rescue centre.

Figure 13-9 Zone 5 mining and administration building
Source: ERM, 2023

Figure 13-10 Zone 5 change-house and prefabricated training complex
Source: ERM, 2023

Figure 13-11 Zone 5 medical clinic and emergency service training rooms
Source: ERM, 2023

The prefabricated buildings include the IT offices, three muster rooms, control and automation room, and the mining contractor offices. Modified shipping containers house the lamp rooms and firefighting storage and coordination centre.

Potable water is distributed throughout the area from an elevated potable water tank located at the nearby Kgwebe village and the sewer system is connected to the main sewage treatment plant servicing the camp and office complex.

Figure 13-12 Aerial view of the Zone 5 office complex
Source: KCM, 2023

13.6 SUPPLY AND LOGISTICS

13.6.1 Stores and Warehousing

There is considerable warehousing and storage facilities across the operations at all sites (Figure 13-13). The earlier aerial photographs of the different aspects of the Zone 5 infrastructure show this infrastructure.

Figure 13-13 Miscellaneous storage – Boseto processing plant
Source: ERM, 2023

13.6.2 Fuel Storage

13.6.2.1 Boseto Processing Plant

The Boseto site has a fuel farm of 12 x 83,000-litre diesel tanks (approximately 1 ML), a light vehicle fuel delivery area with 23,00 litres of storage that is fed from the main facility, and a 23,000-litre tank at the standby power plant (also fed from the main facility).

13.6.2.2 Zone 5

The Zone 5 fuel farm (Figure 13-14 and Figure 13-15) consists of eight 74,000-litre self-bunded tanks (approximately 0.6 ML), a 63,000-litre service tank at the mining contractor facility that is fed from the Zone 5 fuel facility, a 63,000-litre service tank at the haulage contractors facility also fed from the Zone 5 fuel facility, and a 63,000-litre light vehicle dispensary also fed from the main fuel farm. A standalone 63,000-litre tank is located at the Zone 5 standby power plant.

Figure 13-14 Fuel farm – Boseto processing plant
Source: KCM, 2023

Figure 13-15 Fuel farm – Zone 5
Source: KCM, 2023

The site is isolated but the dry climate in Botswana, and the reliable road connection for freight from Walvis Bay in Namibia means that fuel outages due to wet weather is highly unlikely.

13.6.2.3 Licensing

A Botswana Energy Regulatory Authority audit was conducted in 2022 to licence all fuel storage facilities.

13.6.3 Explosives Magazine

AECI Mining Explosives (AECI) was engaged to design and construct an emulsion explosives magazine and storage facility and following completion, operate and maintain the installation. AECI supply development and production emulsion pumping units, supply and maintain emulsion transfer tanks, and supply and store electronic detonators at the facility (Figure 13-16).

Figure 13-16 AECI explosives storage facility and detonator magazine
Source: ERM, 2023

13.6.4 Logistics

13.6.4.1 Inbound Freight and Supplies

Excellent road infrastructure has ensured a steady and consistent flow of goods in and out of Botswana. The inbound cargo moves primarily from South Africa via road transport that is well established between South Africa and the mine site. The ports of Durban (South Africa) and Walvis Bay (Namibia) service two well-established road transport corridors (Figure 13-17).

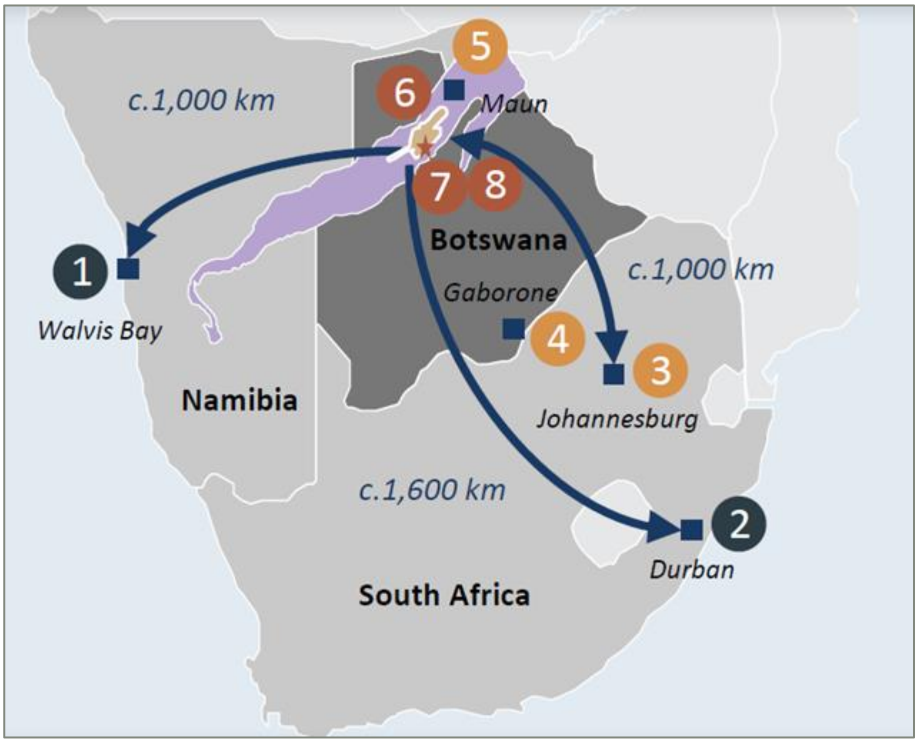


Figure 13-17 Supply chain logistics
Source: KCM, 2023

Walvis Bay is typically used for the transportation of bulk and break-bulk cargos of various commodities and the Durban port is mainly used for automotive logistics.

Border clearance is an efficient process where pre-clearance is mainly completed by logistics providers. International goods and equipment is mainly cleared through Durban.

13.6.4.2 Concentrate Shipments

Concentrate produced from the Boseto processing plant filter is loaded to 2-tonne Bulka Bags utilising an automatic weighing and loading plant (Figure 13-18).

Figure 13-18 Two-tonne Bulka Bags ready for transport
Source: ERM, 2023

Bags are loaded to 34-tonne trucks or utilise backload freight space on service tankers for export to the seaborne market via either the Walvis Bay or Durban ports (Figure 13-19).

Figure 13-19 Truck loading of concentrates
Source: KCM, 2023

There is potential to introduce bulk shipping of concentrates to improve efficiency, remove the cost of Bulka Bags, and provide a more secure option for a product that is generally higher in grade than other copper concentrates in the market.

The current off-take agreement has the buyer responsible for all logistics and realisation of the concentrate once the concentrate is loaded to the trucks at Khoemacau.

13.6.4.3 Air Travel

The KCM site enjoys excellent air access via Gaborone and Johannesburg for heavy goods and services or the Tambo International Airport (Johannesburg) which also provides international air access. The Maun International Airport provides direct and easy access to the mine site.

13.7 ACCOMMODATION

13.7.1 Current

Khoemacau has three accommodation villages that house the operational team with a total bed capacity of 1,452 persons. Toteng village located in the town of Toteng, the Tudika village located at the Boseto processing plant and the Kgwebe village is located at Zone 5 mining operation. The standard is considered higher than typical African mine sites.

The Toteng and Tudika camps were acquired as part of the DCB acquisition in 2015. The Tudika camp was upgraded during the re-commencement of operations and the Kgwebe village is a new village constructed during the Zone 5 development.

The Toteng accommodation units are a mixture of brick two- and three-bedroom houses and single-room units augmented by some additional prefabricated construction. Tudika village has prefabricated units constructed from insulated panels while the Kgwebe village units are made of polycore prefabricated panels constructed on a concrete floor slab.

All three villages have fully equipped kitchens, dining, and recreational facilities. The operations and maintenance of the three villages is contracted to a specialist services contractor.

13.7.2 Expansion Project

It is proposed as part of the Expansion Project that the existing accommodation will be extended to accommodate approximately 1,300 additional persons and developed next to the Kgwebe village, approximately 845 new beds (Figure 13-20 and Figure 13-21). Plans include the bus transportation of personnel to each of the new operations.

Figure 13-20 Kgwebe village – Zone 5 operations
Source: KCM, 2023

Not all personnel would be accommodated at the same time, and approximately two-thirds of the personnel are required in camp at the same time as a result of the working rosters.

Figure 13-21 Tudika village – Boseto processing plant
Source: KCM, 2023

13.8 COMMUNICATIONS AND IT SERVICES

13.8.1 Communications

Cellular phone towers have been installed at Kgwebe and Zone 5 (Figure 13-22), and an optic fibre cable was installed in conjunction with the power grid infrastructure.

The are emergency power backup systems for communication infrastructure at Zone 5 and Boseto and the Kgwebe camp tower has a solar power backup system installed.

Figure 13-22 Cellular phone and radio communications tower
Source: KCM, 2023

13.8.2 IT Services

A modern networked computing system is installed across the current site operations that can be extended as part of the future Expansion Project.

13.9 SECURITY

Security at the operations is managed through a system of guarded access gates with the main security control gate located on Boseto Drive just ahead of the Boseto processing plant. Zone 5 has a security gate which is located at the entrance to the Kgwebe village and this post services the camp and the main the administration area.

The Mining Lease is fenced off and regular patrols/inspections along the fence are undertaken to ensure that the fence remains intact.

A planned preventative maintenance system is used on site and daily inspections are undertaken. This includes condition monitoring and oil analysis. Good relationships are maintained with all OEMs.

14 PROJECT ECONOMICS

14.1 INTRODUCTION

14.1.1 Current Operations

The detailed design and engineering of the Zone 5 mine was completed during the period 2017 to 2018, and surface construction works started in early 2019 and were completed in late 2021. The development of the mine commenced in February 2020 with initial ore production from ore development commencing in August 2020 and being stockpiled for later processing.

The Khoemacau copper mine commenced commercial production with a maiden concentrate on 30 June 2021 from the Zone 5 deposit and comprised the Zone 5 mine corridor, the refurbished 3.65 Mtpa Boseto processing plant, and the necessary infrastructure required to support a standalone operation.

Ore stoping commenced in Q3 2021 and ramped up to capacity by the end of CY2022, and sustained ore production at the designed capacity through Q1 2023.

Design metallurgical performance was achieved in Q4 2021 and has operated at or around capacity since Q1 2023.

Total construction capital costs were US$412 million vs a 2019 pre-construction budget of US$398 million and are considered sunk costs for the purposes of this chapter.

14.1.2 Expansion Project

An Expansion Project was initiated following the construction, commissioning and operation of the Zone 5 mine that was based on the development and mining of 3.65 Mtpa from three new mining areas (Mango, Zeta NE and Zone 5N) that will replace Zone 5 production from the Boseto processing plant, and an expansion of production from Zone 5 from 3.65 Mtpa to 4.50 Mtpa that would be processed through a new processing plant co-located in the immediate vicinity of the existing underground mines. The work completed is of a least that required for inclusion into a PFS.

14.1.3 Life of Mine Study

The LOM Study was completed in conjunction with the Expansion Project and is a strategic analysis of future production opportunities that builds upon the Expansion Project and analyses a possible future production scenario that completes a mine plan and schedule using an inventory comprising all categories of confidence from the current Mineral Resource estimate (Measured, Indicated, and Inferred) to produce a full LOM opportunity.

This strategic option schedules out an additional 16 years of mine life to approximately 2040, and assumes the Expansion Project plant throughput assumptions remain intact.

14.2 CAPITAL COSTS

14.2.1 Definitions

14.2.1.1 Project Capital Cost

Project capital cost is defined as:

- The cost of the additional 4.5 Mtpa processing plant at Zone 5

- The cost related to all surface infrastructure, facilities and services required at each of the Expansion Project sites, including common infrastructure related to the entire project expansion
- The cost of primary underground mine access development (i.e. declines, level access, and 20 m of ore access declines) prior to the point at which first ore is produced from that area
- General and administration (G&A) costs of any mine services prior to the point at which commercial production commences at each new mine.

14.2.1.2 Sustaining Capital cost

Sustaining capital is defined as:

- The cost of primary underground mine access development (i.e. declines, level access, and 20 m of ore access declines) prior to the point at which first ore is produced from that area
- Mine backfill
- Primary ventilation
- A portion of the overall G&A costs and mine services costs as it relates to the sustaining mine development
- DD drilling costs prior to ore being produced from that area
- The cost of replacement for equipment and infrastructure previously in place
- Progressive closure costs
- Tailings storage system expansions.

14.2.1.3 Estimating Methodology

Capital cost estimates for both the Expansion Project and the LOM Study were current at June 2023 and under that basis remain largely current as at the date of this report and are sufficient for use given the lengthy time periods involved in the LOM Study.

The capital cost estimate has been determined through the application of actual mine costs, budget quotations, database costs and estimated costs to bills of quantities, material take-offs and estimate quantities.

No provisions were made for the escalation of any cost elements and the estimates are presented in real money terms, free of escalation or inflation.

14.2.1.4 Exchange Rates

Table 14-1 shows the exchange rates used in the Expansion Project and LOM Study.

Table 14-1 LOM Study exchange rates

Currency	Attributable %	PFS exchange rate (per US$)	Current exchange rate (per US$)*	US$ Buying power differential
Australian Dollar	1%	1.45	1.54	-5.8%
Botswanan Pula	67%	12.75	13.71	-7.0%
South African Rand	7%	17.20	19.05	-9.7%
United States Dollar	23%	-	-	-
Euro	1%	0.95	0.93	+2.2%

*As at 6 February 2024.

Source: ERM, 2024

All currencies with the exception of the Euro have depreciated against the US Dollar (US$), making items costed in the study more expensive. It should be noted that while the Botswanan

Pula (BWP) makes up 67% of the project expenditure, MMG is a USD denominated company therefore depreciation is not considered to be an issue.

The following four-year chart of the BWP (Figure 14-1) shows that the currency has been consistently depreciating against the US$ since 28 May 2021.

Figure 14-1 US$ to BWP exchange rates (2019 to 2024)
Source: Google Finance

14.2.2 Project Capital and Sustaining Capital Cost Estimates

The following tables outline the project and sustaining capital estimates for each new mine and how that pertains to the LOM schedule from 2024 to 2040 inclusive.

Table 14-2 Project capital costs estimated by mine area

Item	Zone 5 + Expansion	Zone 5N	Mango	Zeta NE	Total
Processing Plant	250.3	-	-	-	**250.3**
Surface Infrastructure	-	78.7	87.7	87.5	**253.9**
Mining	48.9	42.0	38.9	50.5	**180.3**
Total (US$)	**299.2**	**120.7**	**126.6**	**138.0**	**684.5**

Source: Modified CSA Global, 2023b

Table 14-3 Sustaining capital costs estimated by mine area

Item	Zone 5 + Expansion	Zone 5N	Mango	Zeta NE	Total
Mining	794.6	165.9	144.8	267.0	**1,372.3**
Other	98.2	11.6	10.5	19.7	**140.0**
Closure	24.2	7.5	7.5	7.5	**46.7**
Total (US$)	**917.0**	**185.0**	**162.8**	**294.2**	**1,559.0**

Source: Modified CSA Global, 2023b

Table 14-4 Total project and sustaining capital estimated by year (US$)

		Year																
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Mine		**Zone 5 Expansion**																
Project Capital	US$M	32.1	244.1	22.9														
Sustaining Capital	US$M	135.4	113.1	48.7	44.4	41.7	65.8	68.2	57.5	47.1	52.3	58.9	59.9	45.1	38.6	14.1	26.2	
Mine		**Zone 5N**																
Project Capital	US$M	18.7	83.0	19.0														
Sustaining Capital	US$M			27.8	16.6	17.0	22.3	23.3	26.5	17.6	11.9	10.1	4.0	7.9				
Mine		**Mango**																
Project Capital	US$M	22.8	83.8	20.0														
Sustaining Capital	US$M			25.8	27.5	20.7	9.9	18.0	27.0	22.1	3.0	0.9	0.3	7.6				
Mine		**Zeta NE**																
Project Capital	US$M	21.2	80.1	36.8														
Sustaining Capital	US$M			26.5	27.6	26.3	21.5	31.1	35.6	34.1	18.9	19.5	24.0	17.5	3.4	8.1		
Total		**230.2**	**604.1**	**227.5**	**116.1**	**105.7**	**119.5**	**140.6**	**146.6**	**120.9**	**86.1**	**89.4**	**88.2**	**78.1**	**42.0**	**22.2**	**26.2**	

Source: Modified CSA Global, 2023b

14.2.2.1 Mining

General

Project and sustaining capital costs have been determined from first principles and, given the accuracy of this estimate, no contingency has been applied.

Physical quantities related to the mine plan were derived by 3D mine planning software and an expert database used to determine:

- Quantities of consumables for drilling and blasting and general consumables from the estimated physical activity
- Mechanised equipment and labour requirements to achieve the mine plan including fleet size and supporting maintenance.

Electrical power consumption, compressed air and water requirements were derived from first principles based on the mine physicals.

Table 14-5 Mining project and sustaining capital estimates by year (US$)

		Year																
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Mine		**Zone 5 Expansion**																
Project Capital	US$M		48.9															
Sustaining Capital	US$M	131.9	72.3	43.6	40.4	37.8	61.9	64.3	53.6	43.2	48.4	55.0	56.0	41.2	34.7	10.2		
Mine		**Zone 5N**																
Project Capital	US$M		42.0															
Sustaining Capital	US$M			27.6	15.5	16.1	21.5	22.4	24.4	15.3	11.0	9.1	2.9					
Mine		**Mango**																
Project Capital	US$M		38.9															
Sustaining Capital	US$M			25.6	26.9	19.7	8.9	17.0	24.6	19.9	2.1	0.1						
Mine		**Zeta NE**																
Project Capital	US$M		50.5															
Sustaining Capital	US$M			26.3	26.8	25.0	20.3	29.9	32.9	31.5	17.6	18.1	22.3	14.8	1.7			
Total		**131.9**	**252.6**	**123.1**	**109.6**	**98.6**	**112.6**	**133.6**	**135.5**	**109.9**	**79.1**	**82.3**	**81.2**	**56.0**	**36.4**	**10.2**		

Source: Modified CSA Global, 2023b

Expenditure

Key large expenditure projects include the establishment of boxcuts at each of the newly scheduled mines (Zone 5N, Mango and Zeta NE) and the rapid development of access declines, level access and other primary infrastructure in use over the LOM.

At Zone 5, the current access boxcuts remain in service and the establishment of a paste backfill plant in the key capital project in conjunction with additional capital mine infrastructure to support an expanded operation.

The vast majority of the sustaining capital expenditure relates to decline and sublevel access development and the continuation of the backfill reticulation system at each mine.

14.2.2.2 Processing

ERM would expect sustaining capital at both plants to be in line with 4% of the capital cost on an annual basis.

14.2.2.3 General Infrastructure

General

The basis of estimate for the surface infrastructure costs were derived from the actual construction of the original Zone 5 project. These were used to derive an estimate from similar contracts of work and actual purchase orders where possible.

The estimate’s base price was in 2019 terms (commencement of Zone 5 works) and were escalated into 2023 dollars through the use of escalation indices. This was particularly applicable to items such as earthworks, civils, buildings, electrical and mechanical installation and supply, steel, and piping.

Expenditure

Surface infrastructure costs relate to the establishment of three additional standalone mining operations distant from each other and includes buildings (administration, workshops etc.), power and water, and other necessary infrastructure like communications.

14.2.2.4 Exploration

The current exploration budget is BWP 13.7 million per annum. This level of expenditure is adequate to maintain exploration commitments on the tenements. This will cover 4,000 m of diamond drilling and other planned activities per annum and will allow continued testing of regional targets.

If applied to the Exploration Targets at Plutus and Zeta, the budget would allow these to be tested over about three to four years to depths of about 600 m with a total of 12,000 m to 14,000 m of drilling at 200 m spacing.

14.2.2.5 Other

“Other” capital costs include sustaining capital provisions and was determined from estimates contained in the 2023 KCM LOM budget and includes sustaining capital allowances for centralised services, environmental and community, finance and administration, human resources, and safety and health.

14.2.2.6 Closure

Closure scope and costs were determined by external consultants in December 2022 (report issued May 2023).

14.3 OPERATING COSTS

14.3.1 Definitions

Operating cost is defined as:

- The cost of stoping and access development
- An ascribed percentage of the mine G&A and mine services costs which is apportioned by the tonnage of the stoping and access development activities out of the total mine production
- Diamond drilling costs from ore delineation activities associated with stope design
- The cost of stope backfill
- The cost of truck haulage to deliver mine production to the processing plants
- Processing plant costs including power
- The cost of G&A costs that include but are not limited to, centralised services, environmental and community, finance and administration, human resources, and safety and health.

The operating cost estimate has been determined through the application of mine costs, budget quotations, and database costs and is based on costs and information from 2023.

No provisions have been allowed for escalation of any costs. The estimate is presented in real money terms, free of escalation or inflation.

14.3.2 Life of Mine Study Unit Operating Cost Summary

Table 14-6 outlines the unit operating cost estimates (OPEX only) resulting from the Expansion Project and LOM Study benchmarked against the full year costs for CY2023 at the current operations at the Zone 5 mine and the Boseto processing plant.

Table 14-6 LOM Study operating cost estimates

Activity	Zone 5 Expansion	Zone 5N	Mango	Zeta NE	Current Zone 5 costs CY2023
Mining	29.10	37.10	26.70	30.60	**33.50**
Ore haulage	0.50	1.80	3.10	0.80	**3.92**
Processing	8.60	8.80	8.80	8.80	**9.12**
Centralised services	1.40	0.90	0.90	0.90	**2.06**
Site G&A	1.90	0.50	0.50	0.50	
Corporate G&A allocation	0.90	0.60	0.60	0.60	**#**
Unit cost (US$/t ore milled)	**42.40**	**49.70**	**40.60**	**42.30**	**-**

#Corporate G&A allocation unknown.

Source: Modified CSA Global, 2023b

14.3.3 FY2023 Cost Analysis

The following sections provide some brief commentary as to the full-year KCM 2023 operating costs, and the implications for the 2024–2040 cost estimates where available and applicable.

14.3.3.1 Mining

CY2023 mine operating costs for the current Zone 5 operations were approximately in line with the full-year budget estimates but short of targeted progress and adherence to schedule and 15% higher than those estimated for the Zone 5 expansion in the LOM Study and appear affected by mine start-up inefficiencies in a remote part of southern Africa (equipment maintenance and availability, personnel availability and skills).

Having said that, there is also undoubtedly a component of general cost inflation involved especially given the increases in global diesel fuel prices and more specifically the depreciating buying power of the BWP.

14.3.3.2 Ore Haulage

Full-year transparency in the haulage costs is lacking in the current monthly reporting but the December 2023 costs of $2.42/t of ore milled appears more in line with expectations but is above the CY2023 forecast. Higher diesel prices and the fixed cost implications of lower hauled tonnes appear to have resulted in higher costs.

14.3.3.3 Processing

ERM would expect the process operating costs to be 10% higher than those indicated. For Boseto the introduction of Zone 5N, Zeta NE and Mango will incurr a new learning curve and it will take time to bed the plant in with these ores. For the new plant, the same applies due to ramp-up and optimising the new plant.

14.3.4 Operating Cost Estimation FY2024–FY2040

14.3.4.1 Mining

Methodology

Mine operating costs have been largely determined from first principles and modified when compared to the actual cost performance of CY2023 should some assumptions have changed. Physical quantities related to the mine plan were derived by 3D mine planning software and an expert database used to determine:

- Quantities of consumables for drilling and blasting and general consumables from the estimated physical activity
- Mechanised equipment and labour requirements to achieve the mine plan, including fleet size and supporting maintenance.

Electrical power consumption, compressed air and water requirements were derived from first principles based on the mine physicals and modified in context of the CY2023 operating costs as shown in Table 14-6.

FY2024–FY2040 Estimates

The current contractor performance and an economic backdrop of increasing diesel fuel prices in conjunction with a depreciating BWP suggests that the operating cost estimates resulting from the LOM Study be increased according to the following table (Table 14-7). These assumptions take cognisance of new mine start-up inefficiencies and recent cost increases (especially diesel fuel prices) and are incorporated into the estimates before settling into an efficient long-term cost assumption reflecting a long-term stable operation.

14.3.4.2 Ore Haulage

Methodology

The ore haulage costs were originally estimated using the April 2023 year-to-date costs for hauling ore from the Zone 5 mine to the Boseto processing plant at approximately US$0.1/t.km. This rate was applied to ore haulage costs for the Mango, Zeta NE and Zone 5N project areas taking account of the of the individual distances to the from these mines to the Boseto plant.

Provision has been made for the Zone 5 Expansion ores to be hauled Boseto before the expansion plant is commissioned at the Zone 5 mine.

FY2024–FY2040 Estimates

It is recommended that the unit operating cost metric for ore haulage be increased by at least 5%, given the earlier commentary on increasing diesel fuel prices and exchange rate changes.

14.3.4.3 Processing

Going forward the processing of Zone 5 ore through the new plant will incur a ramp-up of two years, even though the plant is a carbon copy of Boseto and the ore has a history of processing. ERM has increased the process operating cost by 10% to reflect this in the early years of operation.

With the existing Boseto plant, the future processing of the new ores (Zone 5N, Mango, Zeta NE) will need to be blended and so there will be a ramp-up and optimisation of the plant. There is no historical processing to rely on and metallurgical testing has only been done to PFS level. These ores are in the Inferred category and there is no other mitigation other than what has been done. There is an inherent risk with this strategy. Similarly, ERM has increased the processing operating cost by 10% to reflect this significant change.

Table 14-7 Operating cost estimates, FY2024–FY2040

Activity	2024	2025	2026	2027–2040
Zone 5 Expansion				
Mining	32.00	30.56	30.56	29.10
Ore haulage	0.55	0.53	0.53	0.50
Processing	9.46	9.03	9.03	8.60
Zone 5N				
Mining	40.81	38.96	38.96	37.10
Ore haulage	1.98	1.89	1.89	1.80
Processing	9.68	9.24	9.24	8.80
Mango				
Mining	29.37	28.04	28.04	26.70
Ore haulage	3.41	3.26	3.26	3.10
Processing	9.68	9.24	9.24	8.80
Zeta NE				
Mining	33.67	32.13	32.13	30.60
Ore haulage	0.88	0.84	0.84	0.80
Processing	9.68	9.24	9.24	8.80

Source: ERM, 2024

14.3.4.4 Centralised Services

The centralised services costs have been estimated using estimates of US$5.7 million per annum for the Zone 5 expansion. US$0.90/t milled was applied to each of the mines in the study based on the individual characteristics of each operation.

14.3.4.5 Site G&A

The site G&A costs have been estimated using estimates of US$7.9 million for the Zone 5 expansion. US$0.47/t milled was applied to each of the mines in the study based on the individual characteristics of each operation.

14.3.4.6 Corporate G&A Allocation

The corporate G&A allocation has been estimated using estimates of US$3.7 million for the Zone 5 expansion. US$0.62/t milled was applied to each of the mines in the study based on the individual characteristics of each operation.

14.4 TAXATION

Tax is administrated in Botswana under the *Income Tax Act (1995)*. Several possible changes are currently being considered and are undergoing industry review and comment as part of a consultative process.

Tax levied on all income deemed as generated in Botswana and the Corporate Tax rate is 22%. However, mining profits are taxed on a sliding scale, and cannot be lower than the 22% flat rate.

There is provision for an immediate 100% write-off of all capital expenditure and provision for unlimited carry forward losses.

14.5 ROYALTIES

The royalty regime is administered under the *Mines and Minerals Act (2010)* where royalties are paid on the gross market value at 5% for precious metals, and 3% for all other minerals or mineral products (including copper).

14.6 ERM OPINION

ERM is of the opinion that the identified physicals and the basis for the estimates is reasonable. However, ERM is also of the opinion that it would be prudent to review the capital and operating cost estimates in line with the 7% depreciation of the BWP against the US$, given that the 2023 studies estimated that 67% of capital expenditure would be spent in BWP.

Increases in global fuel prices, adverse mining contractor performance and recent project reporting has led ERM to upwardly revise the mining and ore haulage operating cost estimates for the period 2024–2026 inclusive. Estimates have been inflated by 10% over and above the Expansion Project and LOM Study estimates for 2024, 5% for 2025 and 2026, before returning to the long-term average as outlined in the studies for the remaining LOM. ERM is of the opinion that this reflects a realistic estimate of the near-term outlook for global fuels and the time required to ameliorate the current situation concerning contractor performance, mining equipment availability, and local workforce upskilling.

ERM considers the exploration budget is appropriate for the stage of development of the Project. It is adequate to maintain all the exploration commitments and continue testing regional targets.

The operating costs reflect the new plant with Zone 5 ore being processed and a ramp-up and further optimisation over time leading to a reduction in plant process operating costs. The same logic applies to the Zone 5N, Zeta NE and Mango ores being processed through the existing Boseto plant.

15 ENVIRONMENT AND SOCIAL

This section of the report reviews the environmental and social management aspects of the Project.

The Project generally demonstrates robust risk management and impact monitoring systems and approaches under the control of an experienced team of environmental and social practitioners. The Company and their contractors have the commitment and organisational capacity to adequately and proactively identify, mitigate, and manage potential adverse environmental and social impacts that may arise during different phases of the Project.

15.1 ENVIRONMENTAL MANAGEMENT PROGRAM

The Project adopts an integrated environmental management program that incorporates management frameworks, systems, and procedures to identify, avoid and/or mitigate, and manage potential adverse environmental impacts.

The Project's Environmental Management Plan (EMP) frames the Project's environmental stewardship ambitions. The EMP addresses the following:

- Planning, including a statement of principles and responsibilities
- Execution, including a framework to protect sensitive receivers
- Verification through a program of monitoring and inspection actions
- Mitigation, involving the implementation of corrective actions as appropriate.

The Project has developed an "ESG Management Operating System" (MOS) which encompasses dimensions of mine operations related to Health and Safety (H&S) matters and other key Environmental, Social and Governance (ESG) considerations. The MOS framework has been devised to satisfy applicable domestic regulations and key international standards such as the International Finance Corporation (IFC) Performance Standards. A gap assessment between existing practices and desired ESG outcomes as per international good practice was conducted in August 2023, outlining limitations of existing practices and identifying areas for improvement. Through development and effective implementation of the EMP and the complementary MOS a direction for continuous improvement has been established.

15.1.1 Environmental Management Team Capacity

The Project employs a dedicated Environment and Community (E&C) Management Team. The E&C Manager leads the team and oversees a mandate and staff focused on three aspects: hydrogeology, environment, and community.

The E&C Manager has a good understanding of the overarching environmental management program and is responsible for implementing applicable policies and procedures. The E&C Team also has a strong understanding of environmental legal requirements and the expertise and experience required to manage environmental issues.

15.1.2 Environmental Management System

Although the Project is not certified against the ISO 14001 Environmental Management System (EMS) standard, the operated MOS is well aligned with international good practice and provides a foundation for further improvement and the potential for future certification.

The Company is aware that the EMS is a dynamic program and that modifications may be required to meet changing conditions throughout the Project lifecycle. Key environmental aspects such as energy efficiency, water conservation, and waste management are presented in a process map under the MOS, along with performance targets.

The management procedures in place are effective and are supported by compliance monitoring and ongoing evaluation. Weekly and monthly monitoring data and reports are available for review, along with the tracking of performance targets.

Systems are also in place for incident investigation, including stakeholder engagement and with corrective action plans to be devised as necessary. A review of a selection of environmental incident reports has not identified any significant concerns and demonstrates that appropriate and timely remediation actions have been taken.

15.1.3 Status of Permitting Activities

The status of the mining licences and other environmental permits for the Project has been reviewed by legal advisors and compliance has been confirmed. Permitting related to the Expansion Project is expected to be incorporated into the existing mining licences.

The Project has a track record of obtaining approvals for each Project phase as required by the Department of Environmental Affairs, presenting the necessary authorisations for mine construction and further expansion.

The Project closely monitors all the required licenses, permits, approvals, and authorisations. It documents *inter alia* the relevant authority, the item description, validity and expiry/renewal dates, statutory conditions, and responsible departments.

15.1.4 Environmental Management System and Compliance

The document review demonstrates compliance with applicable environmental regulations. The MOS has been developed with reference to international good practice, with an Environmental Strategy and Management Plan. Environmental performance is routinely monitored. Systems have been developed to manage potential issues of regulatory non-compliance and implement the necessary remedial measures.

15.1.4.1 Baseline Studies

The document review indicates that the Project has conducted baseline studies on various aspects including *inter alia* air quality, biodiversity, and community impacts. Accordingly, a substantial volume of environmental and social baseline data has been accumulated. From a legal and regulatory compliance perspective, the collection of baseline data for impact assessment purposes has been fulfilled given the completed status of permitting approvals.

15.1.4.2 Air Quality Management and Greenhouse Gas Emissions

Air quality management refers to control of particulate and gaseous emissions. Principal sources of potential air quality impact include fugitive dust emissions from blasting, exposed surfaces such as haul roads, material stockpiles, waste dumps, and infrastructure. There are also emissions from fuel combustion used for vehicles, plant, and equipment.

Mitigation measures are deemed to be effective. Air quality results from twelve monitoring stations established for the initial 2018 survey are within acceptable limits. Fugitive dust control measures include water spraying and the adoption of traffic speed limits on haul roads. Gaseous emissions and smoke from plant and equipment are managed through ongoing maintenance.

Air quality and impacts upon workers are also monitored as part of the Occupational Health and Safety (OHS) incident tracking. No stakeholder grievances associated with air quality have been observed in reviewed documentation.

Emissions control and contributing to climate change have been prioritised under the MOS framework. This includes the intention to conduct baseline quantification and disclosure of greenhouse gas (GHG) emissions and the establishment of carbon reduction targets in line with established international reporting protocols.

The Project plans to integrate solar energy into its energy mix to reduce the greenhouse gas (GHG) footprint of its operations, as well as to include the implementation of energy and cost efficiency measures to reduce direct Scope 1 GHG emissions.

Scope 2 GHG emission factors are driven by the grid supply in Botswana which is predominantly coal fired. The Project is planning to reduce its Scope 2 emissions by incorporating solar power systems on site with the expectation to reduce overall emission intensity and opex. The proposed solar PV plants have progressed beyond prefeasibility technical study and implementation plans are under review.

15.1.4.3 Noise and Vibration Management

Good practices measures have been adopted to prevent and/or control excessive noise from activities such as blasting, crushing, and grinding. The use of hearing protective equipment at the Project sites is mandatory. Project zones where monitoring has identified highest noise levels have been demarcated.

Monitoring and evaluation of vibration does not present any significant concerns, and there have been no stakeholder grievances raised that are associated with Project noise or vibration matters. The Project is located more than 30 km from the nearest local villages, which effectively eliminates the potential for noise and vibration disturbance.

15.1.4.4 Soils Management

The Project has adopted a documented Soil Stripping Management Plan dedicated to the responsible management of topsoil. The plan details soil stripping and stockpiling management practices to minimise soil degradation and maximise the availability of suitable soils in the rehabilitation of disturbed areas.

The plan recognises that existing soils are a valuable environmental commodity and will maximise their reuse during site rehabilitation. Soil types and volumes have been evaluated to determine the availability of suitable material for rehabilitation and to inform stripping and stockpiling strategies. This plan falls under the responsibility of the E&C Manager.

15.1.4.5 Biodiversity Management and Ongoing Studies

The Project area falls within the southern limits of the Okavango Delta System designated as a wetland site of international importance under the (Ramsar) Convention on Wetlands, 1971.

Accordingly, biodiversity, natural resources management, and pollution control represents a core pillar of the Project's MOS framework. A dedicated Biodiversity Management Standard has been prepared that sets minimum standards for the management of biodiversity. Various studies have been undertaken that enhance the understanding of biodiversity and ecological values within and adjacent to the Project area.

Biodiversity monitoring has recorded a cumulative total of 26 species of wildlife of high conservation value protected under Botswana's *Wildlife Conservation and National Parks Act, 1992*. As per International Union for [the] Conservation of Nature (IUCN) categorisation, many of these species are of global conservation importance and their presence necessitates effective biodiversity monitoring and management responses.

To align with industry good practices, a Critical Habitat Assessment, Priority Ecosystem Services Assessment, and Biodiversity Action Plan are to be completed for the Project.

15.1.4.6 Water Resources Management

The Project has adopted a Water Management Standard which considers all aspects of operations including potable water, groundwater, and effluent discharge management. Water scarcity has been identified as both a potential environmental/ecological and social issue of concern and appears to be well understood. Local communities are informed of water abstraction plans and the results of groundwater testing.

The Company has conducted a comprehensive assessment of existing and planned operational water resource use optimisation and water conservation through re-use and recycling (Water Hunters, 2021). The Project has also adopted a Stormwater Management Plan.

Monitoring is undertaken to determine potential groundwater contamination caused by seepage from the tailings, waste rock and ore storage facilities. As per Section 12.3.11 of this report, the tailings facility has been designed and is monitored in compliance with required standards. The risk of contamination by tailings seepage is low.

Other potential groundwater impacts could be associated with spills and discharges of toxic solutions such as petroleum products and chemicals used in the processing facility. An external advisor has been engaged (Wellfield Consulting, 2020) to review the groundwater monitoring strategy. As part of the Project's environmental performance tracking, groundwater abstraction and dewatering are regularly monitored for compliance. Continuous monitoring of borehole water quality is also conducted.

There are no underground storage tanks located within the Project boundary. Minor lubricant or fuel oil spillages that have occurred in the past have been effectively handled in a timely manner. Water resources management and monitoring is adequate and does not represent a material risk.

Mine expansion will necessitate the modification and expansion of the Project's water management system. Water monitoring locations may need to be revised to reflect the increase in Project area and the increase in water abstraction, storage, and management structures. The Expansion Project environmental and social impact assessment (ESIA) work will generate more data to assess groundwater quality impacts.

15.1.4.7 Waste Rock Management

The Company has a dedicated Waste Rock and Ore Stockpile Management Standard which sets minimum requirements for the planning, design, management and performance monitoring of ore stockpiles and waste rock disposal facilities. Risk assessment and risk-based design is at the core of the standard.

Waste rock is broken up and transported by truck to waste rock dumps. A waste rock disposal facility has been designed and monitored to ensure discharge containment. The same disposal facility will be used for various applications in the Project area including construction fill.

Geochemical studies have indicated a low potential risk of waste rock acid generation, although continuous assessment shall be undertaken throughout the mine life as a precautionary good practice. Additional geochemical characterisation will be undertaken for the Expansion Project ESIA study to determine risks from the additional resources and deeper sulphide mineralisation zones.

15.1.4.8 Tailings Management

Tailings management is a priority topic under the Company's MOS framework. A dedicated TSF Emergency Response Management Plan has been prepared to guide and minimise adverse environmental impacts. Compliance monitoring conducted during 2022 recorded no seepage along the TSF starter walls and no other major environmental or safety concerns have been identified. A site specific TSF seismic hazard assessment has been recommended.

As with the waste rock, geochemical testwork on tailings samples has suggested that acid generation is unlikely to be a significant issue of concern. A study by Aurecon (2015) concluded that pollution control liners were not required beneath the TSF, although foundation compression was recommended to reduce seepage for water conservation.

The overall monitoring of the tailing facility infrastructure appears adequate.

15.1.4.9 Waste Management

There exist a dedicated Hazardous Materials Management Standard and a Waste Management Plan for the handling of hazardous and non-hazardous wastes. Key aspects of these documents are the handling, storage and transport of wastes in a safe manner. These requirements are under the responsibility of the E&C Team.

The management of waste is handled by specialised contractors with a long-term Project agreement. All non-mine wastes are collected and taken to an off-site landfill facility. The Project has a permit to construct a site-based incinerator and landfill with an HDPE-lined ash dump. Should waste production significantly increase and off-site landfill capacity need a strategic solution, the Project may need to focus on waste avoidance, reduction, and recycling options.

Sewerage infrastructure has been developed at all Project residential areas to comply with statutory effluent treatment and discharge requirements. There are four sewage treatment plans currently in operation. There have been some records of localised sewage leaks that have been quickly addressed and resulted in strategic plans being made for mechanical and technology upgrades. A new bioreactor wastewater treatment plant is planned with the treated water to be used for irrigation or other re-use. A new sewage system to supplement the existing system has been provisioned for in capex estimates.

15.1.4.10 Environmental Monitoring Program

The Project has effective risk assessment and monitoring systems in place. All major facets of the environment are routinely monitored, and environmental incidents and necessary remediation actions are recorded.

ESG data and progress made on key ESG aspects are reported to the Board each quarter. The Project MOS framework presents a strategic direction and clear objectives. Monitoring programs satisfy existing regulatory requirements. As referred above, some aspects of monitoring shall be enhanced to align with international good practices.

15.2 SOCIAL MANAGEMENT

The nearest communities are located approximately 30 km from the Project perimeter. The community attitude towards the Project is generally positive due to employment and shared economic benefits.

There remain certain community concerns that are not unique to the Project, including the responsible management of and access to water resources, limited employability of some locals given lack of education and/or skills, potential social tension and public health risks from inward migration, and general increase in competition for access to facilities, services, and local resources.

This section elaborates on the programs that the Project implements to build trust and social mobility opportunities among Project affected communities.

15.2.1 Community Development Team Capacity

The Company appears to have the commitment and capabilities to support its social goals. The dedicated E&C Management Team currently comprises two experienced Community Officers who form the primary engagement link between the Company and Project affected communities.

The Community Officers are responsible for the implementation and monitoring of standards and procedures covering stakeholder relationships, community investment and development, and local procurement and employment.

Site management interviews, direct observations and documented resolved complaints demonstrate that community relations are proactively managed.

15.2.2 Social/Community Management System

The Project's Social Management System comprises different elements, including *inter alia* Community Investment and Development, Cultural Resource Management, Local Procurement and Employment, and Stakeholder Engagement.

The Corporate Social Investment (CSI) strategy lists the sort of voluntary activities that the Project undertakes to improve the economic, social, and environmental living conditions of local communities, and to minimise any negative effects of the Project. There is also a district engagement strategy that details initiatives that promote community engagement. Engagement forums are regularly held to communicate on Project development and community initiatives. Observations during the site visit and from management interviews demonstrate that the Company is proactively working to generate opportunities for partnership with local communities.

To manage community issues, the Project operates what appears to be an effective grievance mechanism through which community members (and others) can raise and document their concerns and suggestions. Grievances raised appear to be responded to promptly and constructively. The Project also supports educational opportunities and local economic (small business) development in the region.

15.2.3 Important Components of the Social Management Program

The site visit and document review support the observation that the Project actively engages with community members including farmers, schools and universities, district leaders, government representatives and others through various programs. Through its CSI strategy, the Project advocates a sustainable development model that is focused on creating shared value by aligning its business goals and competencies with the development priorities of local community stakeholders.

Components of the social management programs include:

- Identifying procurement opportunities for the provision of goods and services from within local communities
- Promoting and as practicable prioritising employment opportunities for the local communities
- Fundraising and collaboration with schools to improve the examination pass rates within the communities
- Creating partnerships to leverage opportunities for sustainable community development
- Project internship opportunities for university students
- Holding cultural and educational events for the communities.

15.2.3.1 Community Liaison

Operational stakeholder engagement is comprehensive and well-recorded and reported. The two Community Officers are the primary engagement link between the Company and the communities. A monthly operations report provides details on any community grievances raised.

To liaise effectively, build trust and promote social acceptance among the communities, the Project has conducted a scoping study to assess the various needs and expectations of the communities surrounding the mine. This study incorporates economic, environmental, and social issues that are of concern to the Project-affected communities. The Project uses its CSI strategy and the funding of targeted community initiatives to mitigate any adverse impact, provide solutions to concerns raised by the communities, and generally work to promote social acceptance of the Project.

15.2.3.2 Resettlement Actions

The planned ESIA for the Expansion Project will investigate any land use changes should current farmland potentially need to be acquired for some aspect of mine expansion. While potential land acquisition may result in resettlement, farmland is generally occupied by livestock and not permanently or temporarily inhabited by community settlers.

The number of farms, people and/or households potentially affected by the Expansion Project is currently unknown and shall be determined during the social impact assessment component of the planned ESIA alongside other aspects associated with land acquisition such as potential changes in water demand and access.

Most historical Project related resettlement activity involved vacant land and farmland, and not occupied areas. The Expansion Project ESIA shall adhere to international good practices as per the requirements of IFC Performance Standard 5: Land Acquisition and Involuntary Resettlement. The few communities around the operations, including relevant government authorities, have been consulted on Project expansion plans.

15.2.3.3 Grievance Mechanism

As referred in Section 15.2.2, operational stakeholder engagement appears to be comprehensive and is well recorded and reported. Grievances appear to be well managed by the Company.

All community incidents, grievances and suggestions are recorded and monitored monthly. A log keeps track of the grievances, remedial actions, any follow up actions, and the status of completion. The objective of the Company is to close grievances within 30 days of registration.

A Liaison Group engages with the communities to make sure they are aware of the grievance mechanism and its functioning. An audit of a sample of grievances suggests that the process is working effectively.

15.2.3.4 Educational Program

Training programs are run by the mine and its service contractor to upskill the workforce to international standards. Training is recorded and evaluated each month and the progression demonstrates an improvement in local productivity that is in line with an international mining workforce. Once local trained employees are evaluated to be competent, they are provided the opportunity to build confidence in performing the role and then evaluated against international standards. The Project closely monitors progress to support delivery of its longer-term employment objectives.

As part of its community engagement, the Project also provides educational opportunities for schools to visit the mine and offers university students internships.

15.2.3.5 Economic Development

The Project is in a predominantly rural area where agriculture is the main source of economic activity for the community. Cattle ranching is also an important economic activity in the vicinity of the mine. The population is characterised by low income, high unemployment, low academic qualifications, and generally poor social development infrastructure.

The Company supports community economic development in various ways. The CSI strategy supports direct investments in initiatives that contribute to specific and quantifiable environmental and social impacts as elaborated in Section 15.3.

The Company also aims to promote working opportunities among local communities and closely monitors the ratio of local employees. Other positive impacts include:

- There has been a significant overall increase in the community employment rate
- A majority of Project positions filled by Botswanan nationals
- District and national level economic benefits from increased economic activity, royalties, and exports
- Promotion of local suppliers and supplies in the provision of goods and services
- Collaboration with and support to district schools to understand and mitigate high rates of dropouts
- Create educational program and internship opportunities for local and domestic students.

With regards to labour relations, the Project operates under a collective bargaining agreement and recognises the Botswana Mine Workers Union as the workforce agent. As of June 2023, some 47% of permanent employees were unionised, mainly skilled labourers. A memorandum of agreement has been entered into that stipulates matters relating to the management of relations between the Company and the Botswana Mine Workers Union, and procedural details to negotiate employment conditions. Wage negotiations occurred in early 2023.

15.2.3.6 Illegal Mining

Illegal mining is not an issue of concern as the low-grade copper mineralisation does not allow for precious metals exploitation by artisans without a way to access below to the sand cover, and a concentrating plant.

15.3 SOCIAL COMMUNITY FUND

The Project has developed a CSI strategy to avoid or minimise potential social conflict and compensate the mining communities for their sacrifice, as well as building trust, supporting social cohesion, and social mobility opportunities. The Project uses the CSI framework to select the initiatives it supports and to measure their impacts.

The community development projects are proposed for review by the communities, and range from cattle and small stock marketing, horticulture, to furniture and equipment or computer room subsidies for primary schools. As of June 2023, the CSI strategy was supporting 18 community development projects (either completed or ongoing) with over US$500,000 of total funding.

15.4 SECURITY OPERATIONS

15.4.1 Security Management Team Capacity

Security operations are outsourced to a third-party provider which looks after the Company's assets. Contractual obligations are clearly stated in the agreement, including minimum requirements regarding the educational background and level of training of the security team.

15.4.2 Security Management and Human Rights

Although there is no reference to the Voluntary Principles on Security and Human Rights ("the Voluntary Principles") in the contractual agreement between the mine and the security provider, given that there is no artisanal mining activity and since the community is generally welcoming of the Project, the potential for human rights risks related to mine security is considered low.

15.4.3 Human Rights Management

As discussed above, the Project does not present high risks of human rights violations due to:

- The stable legal and regulatory regime
- Robust community engagement activities
- Commitment to follow international good practice standards and procedures.

15.5 OCCUPATIONAL HEALTH AND SAFETY PROGRAM

The OHS procedures for Project operations include the implementation of environmental, H&S, and community liaison policies. There are two well equipped clinics onsite staffed with qualified personnel. H&S performance indicators and general health conditions of workers are collated and used to guide necessary improvements. Safety incidents are reported in a dedicated logbook.

The Total Recordable Injury Frequency Rate for the prior last three full years ending 2022 averaged 0.35 and the Lost Time Injury Frequency Rate was 0.15 for the half year through June 2023. Two mining contractor fatalities were reported in May 2022 and remedial actions were adopted following investigation.

All indications are that safety practices are well designed and monitored. The Project devotes resources (trainings, emergency response, pandemic management) to workforce safety and health. A culture of safety among employees is also promoted through a monthly H&S Champion Award.

15.6 ARCHAEOLOGICAL AND CULTURAL RESOURCES

An archaeological impact assessment was completed in 2008 to investigate potential Project impacts on heritage assets. The assessment determined that the Project site is situated in an area where sites of archaeological, historical, and cultural significance may be present, specifically in the vicinity of the Kgwebe Hills which have been avoided during development.

Archaeological survey did not reveal any significant archaeological material within the immediate Project area, but permitting conditions require that heritage monitoring be undertaken throughout Project development phases.

15.7 CLOSURE AND RECLAMATION PLANS

The Project has an Environmental Rehabilitation Management Standard that presents the requirements for rehabilitation, landscaping, and other allied works to be undertaken to satisfy the ecological and sustainability ambition of the Project.

The Standard applies to all mine facilities and installations, and includes the reinstatement of land productivity, the rehabilitation of self-sustaining ecosystems as is practicable, and the establishment of actions to allow for a suitable post-mining land use.

Closure risk assessment and closure plans are under development with stakeholder inputs that addresses environmental and social aspects and account for financial provisions for site closure and reclamation. The Plan shall include elaboration on the specific measures undertaken to ensure that closure planning reflects industry good practice.

15.8 SUMMARY OF POTENTIAL ENVIRONMENTAL AND SOCIAL ISSUES

Potential environmental and social issues include the ongoing need for effective management of *inter alia* waste, water, and wastewater, the continued successful efforts to develop community trust and harmony, targeted actions to ensure no residual adverse impacts upon ecological sensitive receivers, and additional consideration of mine closure planning. These issues can be effectively managed with the implementation and evolution of existing management plans.

The Company is compliant with applicable laws and regulations. Monitoring of environmental and social performance has been undertaken for air quality, noise and vibration, surface water and groundwater, and has included the establishment of a community grievance mechanism. Environmental and social performance tracking is conducted frequently, and no major recurring concerns have arisen.

The Project's E&C Team capacity, management systems, and monitoring programs are generally robust and satisfy current regulatory requirements. Additional studies and plans are required to manage biodiversity considerations in the Project area to international good practice standards. Activities and financial estimates for mine closure also require further consideration to align with international good practice.

16 RISK AND OPPORTUNITY ASSESSMENT

16.1 RISKS

Mining is a relatively high-risk business when compared to other industrial and commercial operations. Each mine has unique characteristics and responses during mining and processing, which can never be wholly predicted. ERM's review of KCM indicates mine risk profiles typical of large-scale mines at similar levels of resource, mine planning and development in Botswana and elsewhere. Until further studies provide greater certainty, ERM notes that it has identified risks with the Project as outlined in Table 16-2.

ERM has followed Guidance Note 7 issued by the Stock Exchange of Hong Kong Limited as a guide in the identification and classification of risks and opportunities.

Risks are ranked as High, Medium or Low, and are determined by assessing the perceived consequence of a risk and its likelihood of occurring using the definitions below:

- Consequence of risk:
  - Major: the factor poses an immediate danger of a failure, which if uncorrected, will have a material effect (>15% to 20%) on the mine cash flow and performance and could potentially lead to mine failure.
  - Moderate: the factor, if uncorrected, could have a significant effect (10% to 15% or 20%) on the mine cash flow and performance unless mitigated by some corrective action.
  - Minor: the factor, if uncorrected, will have little or no effect (<10%) on mine cash flow and performance.
- Likelihood of risk occurring (within a seven-year timeframe):
  - Likely: will probably occur
  - Possible: may occur.
  - Unlikely: unlikely to occur.

The consequence of a risk and its likelihood of occurring are then combined into an overall risk assessment as shown in Table 16-1 to determine the overall risk ranking.

Table 16-1 Risk assessment ranking

Likelihood	Consequence		
	Minor	Moderate	Major
Likely	Medium	High	High
Possible	Low	Medium	High
Unlikely	Low	Low	Medium

ERM notes that in most instances it is likely that through the successful implementation of controls identified through detailed review of the operation, existing documentation and additional technical studies, many of the normally encountered Mine risks may be mitigated or at least significantly reduced. Table 16-2 summarises ERM's scoring of the various risks and opportunities identified under various categories. Note that the scoring in the Risk Ranking column captures Risk Current > Risk after Mitigation, where zero (0) means no residual risk.

Table 16-2 Risk assessment results

Risk ranking[1]	Risk description and suggested further review	Potential mitigation/realisation	Area of impact
Geology and data verification			
M > L	Data integrity and security.	Ensure integrity and security of data by continuing backup regime and extending to off-site backups. Ensure adequate cyber security is in place.	Resource classification.
M > L	Incomplete sulphur assay coverage in database for early-stage assaying in some parts of the Project area. Modelled sulphur grade is used in current recovery calculations, so incomplete coverage may lead to inaccurate ore mineral assignments in block models. Coverage is good at recently modelled areas.	Ensure future sulphur assay coverage across mineralisation.	Mine planning and processing.
L > L	Incomplete arsenic assay coverage in database for early-stage assaying in some parts of the Project area. High arsenic is considered deleterious through the mill and in the concentrate but is not always associated with copper and silver.	Coverage of arsenic assays is good at Zone 5, but some other deposits have little to no data recorded. Monitor distribution of arsenic at Zone 5 and assess need to re-assay stored historical material, particularly where mineralised intervals through the where the mineralised zone was associated with CAR and carbonaceous-rich alternating sequence.	Processing.
Mineral Resource estimation			
M > M	Failure to maintain Inferred tonnage at Zone 5 on conversion to Indicated classification – close spaced drilling indicates a degree of "pinch and swell" to the orebody related to parasitic folds. The wide spaced drilling in the Inferred area makes it difficult to determine the extent of any thickening of the mineralisation related to these structures.	Continue with on-ore and off-ore drilling programs; build a model of observed location of parasitic folding versus orebody thickness to monitor any spatial pattern that close spaced drilling identifies.	Mineral Resource and Ore Reserve tabulation; mine planning.
M > M	Failure to maintain Inferred tonnage at Zone 5 on conversion to Indicated classification – close spaced drilling indicates a degree of internal waste to the orebody, the extent of which is difficult to determine in areas of wide spaced drilling (Inferred).	Continue with on-ore and off-ore drilling programs; build a model of observed location of internal waste versus orebody thickness to monitor any spatial pattern that close spaced drilling identifies.	Mineral Resource and Ore Reserve tabulation; mine planning.
M > M	Failure to identify significant additional Indicated Mineral Resources away from the Zone 5 and Expansion Project areas – geophysical surveys have mapped the prospective stratigraphy well and the full length of the horizon has not been drilled. There is a known link between localisation of higher grades and basement highs such as the Kwebe Formation. Identification of other basement highs may be crucial to discovery of additional high-grade mineralisation.	Review exploration to date with aim of understanding reason for currently known palaeo-basement highs and apply knowledge to exploration.	Mineral Resource and Ore Reserve tabulation.

Risk ranking[1]	Risk description and suggested further review	Potential mitigation/realisation	Area of impact
M > M	Failure to convert Inferred Resources to Indicated Resources at regional target areas – broad low-medium grade continuity has been determined at most deposits. Additional drilling would need to result in continuous high-grade zones at mineable thicknesses.	Review plunge characteristics of well drilled deposits and apply knowledge to regional targets when planning drilling.	Mineral Resource and Ore Reserve tabulation.
L > L	Representivity of bulk density sampling – current method using small pieces of core for determination is not ideal.	Move to measurements based on the full sample length to build a more robust dataset.	Confidence in tonnage component of Mineral Resources and Ore Reserves.
Exploration potential			
L>L	Failure to bring Exploration Targets at Zeta and Plutus into MRE.	Apply current geological model to planning further drilling.	Resource pipeline.
L>L	Failure to define new mineralised prospects.	Continued application of geological understanding and exploration methods to targeting.	Resource pipeline.
Hydrology and hydrogeology			
L > L	Current and future water supplies (volume).	Current practice is appropriate and timely in terms of understanding current and future water supply requirements.	Site planned operating practice and performance.
L > L	Current and future water supplies (quality). Recognition of whole-of-operation usage is required to ensure that potable water is used efficiently and that capital investment plans reflect the need for ongoing development of water treatment (RO) installations through the LOM.	Current practice is appropriate and timely in terms of understanding current and future water quality requirements. Adequate RO plant construction capital appears matched to current production assumptions.	Site planned operating practice and performance.
L > L	Mine dewatering and hydrogeological assumptions.	Ensure that current practices and new mine development plans include adequate, appropriate, and timely dewatering infrastructure.	Site planned operating practice and performance.
Mining and Ore Reserve Estimates			
M > M	Failure to train and retain key mining skills both in the local workforce and in key expatriate technical roles.	Ensure that the programs and mechanisms are in place to make KCM an employer of choice. Incentivise mining contractor to maintain focus.	Mining performance to design, budgets and schedules.
H > L	Mining contractor performance to design, budgets and schedules. Current equipment availability and numbers are insufficient to achieve design performance.	Appropriately monitor key metrics and ensure that focus is maintained on equipment maintenance and units employed on site.	Mining performance to design, budgets and schedules.
M > M	Transition from mining contractor to owner mining.	Transition can only occur when the mine is operating at a steady state with good adherence to budgets and schedules. Requires a multi-skilled and flexible local employment pool.	Mining performance to design, budgets and schedules.
H > M	Excessive and unplanned stope overbreak.	Requires strict adherence to development location and mining hangingwall – timely resource definition drilling and interpretation. Appropriate drill-and-blast practices used for identified weak hangingwalls.	Mining performance to design, budgets and schedules.

Risk ranking[1]	Risk description and suggested further review	Potential mitigation/realisation	Area of impact
H > L	Excessive and unplanned development overbreak in capital development (especially main declines and associated development).	Main decline profiles are excessive and well over design dimensions. The increase in mucking time to remove the additional tonnes impacts scheduled vertical rate of advance and can in the long-term compromise ground stability from inappropriate support mechanisms.	Mining performance to design, budgets and schedules. Ground stability.
H > L	Backfill assumptions – geotechnical rationale/requirements vs capital expenditure deferral.	The decision to exclude backfill until >420 mbs and use only rib pillars for support requires review in context of current excessive overbreak and grade dilution issues.	Mining performance to design, budgets and schedules. Possible revision of capital expenditure timing.
M > L	Ventilation cooling system installation.	Chilled water-cooling augmentation at each operation must be timely to ensure that time is not lost firstly in the summer months and secondly, to increasing VRT.	Mining performance to design, budgets and schedules.
Metallurgy			
M > L	Higher than expected dilution, increasing costs and introducing uncertainty in ore characteristics and increasing costs.	Improve mining practice.	Ore flow and cost forecasting.
L > L	Future ore variability – limited testwork completed on deeper Zone 5 ore.	Conduct testing on deep drilled ore samples.	Ore flow and cost forecasting.
L > L	Variable ore types due to limited testwork on newer ore zones in Development Project.	Conduct testing on new ore sources.	Ore flow and cost forecasting.
L > L	Negative impact of arsenic due to limited knowledge on arsenic distribution.	Conduct and include arsenic assays in block model.	Ore flow and cost forecasting.
M > L	Paste fill dilution leading to high pH depressing copper minerals in flotation.	Conduct testwork on effects of paste fill and pH adjustment with acid.	Ore flow and cost forecasting.
L > L	Current Zone 5 grade variability due to lack of spatially representative testwork.	Undertake variability testwork on Zone 5 production before development.	Ore processing behaviour through the new plant (to be established).
M > L	Uncertain ramp up timing and availability of new plant with Zone 5 ore.	Monitor and review forecasts/ assumption as ramp up proceeds.	Plant availability and behaviour (new plant).
M > L	Uncertain interaction of new ore sources (Zone 5N, Mango, Zeta NE) through Boseto plant.	Monitor and review forecasts/ assumption as ramp up proceeds.	Plant availability and behaviour (Boseto plant).
L > L	Wall failure leading to leakage.	Ongoing monitoring.	Tailings.
Processing			
M > L	Boseto plant – low mill utilisation (<90% which is below industry standards).	Conduct a root cause analysis and communication with OEM to rectify problem.	Plant utilisation.
L > L	Boseto plant – less than expected recovery.	Address recovery problem though continuous improvement project.	Plant recovery.
M > L	Uncertain concentrate grade with depth – grade variability due to chalcocite vs chalcopyrite.	Monitor and update models.	Recovered grades.

Risk ranking[1]	Risk description and suggested further review	Potential mitigation/realisation	Area of impact
M > L	Uncertain plant throughput (Boseto and new plant) due to increasing ore hardness with depth.	Conduct testing on deep drilled ore samples.	Plant throughput.
M >L	Roytec concentrate thickener issues.	Refurbish the thickener.	Water balance.
L >L	Water shortage or quality issues.	RO and water recovery initiatives.	Water supply.
M > L	Process delays/damages/costs due to impact of tram metal.	Change mining practices.	Process availability/ cost.
M > L	Uncertainty in blending strategy – campaign vs blending approach – blending might not be optimum.	Build up ore stockpiles on ROM pad – revisit blending strategy.	Ore quality.
M > L	Low availability of HIG mill.	Request support from OEM to rectify.	Mill availability.
Non-process infrastructure and logistics			
L > L	Power grid supply and performance.	Ensure that power supply options including upgrades remain aligned to changing mine plans and requirements.	Total project performance to design, budgets and schedules.
L > L	Logistics infrastructure – roads, ports and delivery schedules.	Ensure that logistic plans include alternative options should the existing supply routes and locations be disrupted.	Total project performance to design, budgets and schedules.
M > L	Accommodation – camp expansion requires ~850 beds.	Ensure that the camp construction and establishment plans are aligned to the overall project capital development schedule(s).	Total project performance to design, budgets and schedules.
L > L	Fuel and general high use reagent storage.	Ensure that planned increases in storage capacity is in alignment with the development schedule.	Total project performance to design, budgets and schedules.
Project economics			
M > L	Uncertainty in increasing capital expenditure due to global cost escalation.	Monitor costs and secure major equipment early.	Financial performance.
M > L	Exchange rate fluctuations especially US$/BWP and proportion of capital spend.	Sensitivity analysis to understand impact on capital works programs.	Financial performance.
M > M	Inflationary impact on key consumables including diesel fuel pricing.	Consider the implementation of mechanisms to provide some price certainty.	Financial performance.
Environment and social			
M > L	Risk of significant incidents of ambient pollution or adverse environmental impact due to deficiencies in issue identification and/or management.	Adopt a certified environmental (or integrated) management system and ensure that adequate environmental and social impact monitoring and personnel capabilities are maintained.	Environmental management.
M > L	Risk of adverse impacts on wildlife species of global conservation significance that inhabit the Project area. Further biodiversity baseline study and action planning to be completed to align with international good practice.	Implementation of biodiversity management and monitoring activities.	Environmental management/ community relations.

Risk ranking[1]	Risk description and suggested further review	Potential mitigation/realisation	Area of impact
M > L	Risk of significant deterioration in social relations affecting communities, workforce, local procurement, and social license to operate.	Maintain ongoing and critical review of the appropriateness and effectiveness of community outreach and investment activities and adopt adaptive management, as practicable.	Community relations.
M > L	Risk of inadequate scoping and costing for mine closure planning could lead to environmental and social impacts and liabilities. Further study required to complete closure risk assessment and plans to align with international good practice.	Complete comprehensive technical and financial assessment of mine closure.	Mine closure.
General			
M > L	Losing key staff.	Implement measures to retain key staff in tight market.	Human resources.
L > L	Sovereign risk.	Monitor and retain good relations with local and national government.	Sovereign risk.
M > L	Pending renewal of prospecting licences. Loss of licences would halt exploration. Two of the three Expansion Project deposits lie outside the current mining leases.	Maintain relationship with appropriate government bodies and ensure commitments for tenement renewal are met.	Exploration, Mineral Resource upgrade, Expansion Project.

[1] Current Risk Score > Risk Score after Mitigation, Zero mean no residual risk.

16.2 OPPORTUNITIES

Similarly, perceived opportunities could be "Realised" by implementing suitable enabling mechanisms. Table 16-3 summarises several opportunities identified that KCM could benefit from if acted upon.

Table 16-3 Opportunities

Opportunity description and suggested further review	Potential realisation	Area of impact
Expansion of Mineral Resources along strike and down dip.	Focus exploration in key areas identified by KCM. Utilise in-house MMG expertise in similar deposit styles.	Mineral Resource delineation.
Mineral Resource updates with application of updated metal pricing and alternative reporting criteria may increase reported Mineral Resources.	Review reporting criteria across the Project area, update Mineral Resource models where necessary and re-report using revised criteria.	Mineral Resource delineation.
Discovery/development of additional Mineral Resources around known deposits.	Benefit from the collective knowledge of the KCM team and confirm priority areas.	Mineral Resource delineation.
Discovery of new mineral deposits.	Systematic exploration of unexplored parts of the target stratigraphic position using refined targeting methods derived from an improved understanding of mineralisation.	Mineral Resource – pipeline. Potential for substantial extension of mine life or expansion of production capacity.
Changes to domaining strategy may improve silver grade reconciliation at Zone 5. (Silver is currently domained separately to copper. This may not be appropriate for some parts of the deposit.)	Review domaining approach; changes may result in locally increased block NSR values and improved reconciliation.	Reconciliation, Mineral Resource, Ore Reserve, mine planning.
Changes to domaining strategy may improve copper grade reconciliation at Zone 5. (The high-grade copper domain threshold of 1%	Review domain thresholds across the Project area and update block models. Use of a slightly lower high-grade domain threshold will reduce the risk of	Reconciliation, Mineral Resource, Ore Reserve, mine planning.

Opportunity description and suggested further review	Potential realisation	Area of impact
copper is at the approximate reporting cut-off value of 65 NSR).	over-estimation of grades and potentially increase reported Mineral Resource tonnages.	
Opportunity to improve performance.	Develop a Process Improvement Plan.	Process plant optimisation.
Opportunity to transport concentrate in bulk.	Perform logistics study on port loading facilities, bagging costs and shipping costs.	Logistics.
Processing opex could be reduced.	Implement process improvement plan.	Opex – process performance.
Opportunity to reduce opex and carbon footprint through solar power and battery storage.	Undertake Feasibility Study.	Opex reduction and sustainability.
Solar power installation.	("Project Economics" refers)	Opex reduction and sustainability.
Consider a commitment to make corporate disclosures on Project biodiversity aspects as per the TNFD recommendations. There are several global mining peers that have made such a commitment, but none from China/ Hong Kong.	Present a good international practice case study with reputation enhancement benefits on a topic of fast-growing interest to the global investment community.	Environmental management.

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18 ABBREVIATIONS AND UNITS OF MEASUREMENT

Abbreviation	Description
°	degrees
°C	degrees Celsius
µm	micron(s)
3D	three dimensional
AAC	Anglo American Corporation
AAPC	Anglo American Prospecting Services
AAS	atomic absorption spectrometry
AC	aircore
ACN	Australian Company Number
Ag	silver
Ai	Bond Abrasion index
AIG	Australian Institute of Geoscientists
AJA	Akheel Jinabhai & Associates
As	arsenic
ASCu	acid soluble copper
Au	gold
AUD	Australian Dollar (currency)
AusIMM	Australasian Institute of Mining and Metallurgy
BBWi	Bond Ball Mill Work index
Bn	bornite
BPC	Botswana Power Corporation
BQ	diamond drill core - diameter 36.5 mm
BWi	Bond Work index
BWP	Botswana Pula (currency)
c.	circa
Cc	chalcocite
CMS	cavity monitoring system
CP	Competent Person
CPR	Competent Persons Report
Cpy	chalcopyrite
CRM	certified reference material
CRIRSCO	Committee for Mineral Reserves International Reporting Standards
CRM	certified reference material
CSA Global	CSA Global (Uk) Limited
Cu	copper
CuAS	acid soluble copper
CuCON	copper concentrate
CuEq	copper equivalent
Cupric	Cupric Canyon Capital LP
CWi	Crushing Work index
CV	coefficient of variation
CY	calendar year
DCB	Discovery Copper Botswana
DD	diamond (drilling)
DDH	diamond core (drilling)
DEA	Department of Environmental Affairs
DGPS	digital global positioning system

Abbreviation	Description
DKF	D'Kar Formation
DML	Discovery Metals (Botswana) Limited
DTM	digital terrain model
EGL	effective grinding length
EMP	Environmental Management Plan
EMS	Environmental Management System
ERM	ERM Australia Consultants Pty Ltd
ESG	Environmental, Social and Governance
ESIA	environmental and social impact assessment
EUR	Euro (currency)
F	fluorine
FAIG	Fellow Australasian Institute of Geoscientists
FAusIMM	Fellow Australasian Institute of Mining and Metallurgy
Fe	iron
FEED	front-end engineering and design
FX	Foreign Exchange
G&A	general and administration
g/t	grams per tonne
GHG	greenhouse gas
GISTM	Global Industry Standard on Tailings Management
GNRI	Global Natural Resource Investments
GPS	global positioning system
H2SO4	Sulfuric Acid (IUPAC)
Hana	Hana Mining Ltd
HEC	Hydrologic Engineering Center
HDPE	high-density polyethylene
HIG	high-intensity grinding
HKEx	Hong Kong Exchange
HME	heavy machine equipment
HPGR	high-pressure grinding rolls
HQ	diamond drill core - diameter 63.5 mm
ICP	inductively coupled plasma
ICP-AES	inductively coupled plasma-atomic emission spectrometry
ICP-OES	inductively coupled plasma-optical emission spectrometry
ID	inverse distance
ID2	inverse distance squared
ID3	inverse distance cubed
IFC	International Finance Corporation
ISO	International Organization for Standardization
IT	information technology
ITAR	Independent Technical Assessment Report
ITSR	Independent Technical Specialist Report
IUCN	International Union for [the] Conservation of Nature
JORC	Joint Ore Reserves Committee (Australia)
JV	Joint venture
KCB	Kalahari Copperbelt
KCM	Khoemacau Copper Mining
KGC	Kalahari Gold and Copper
km	kilometres

Abbreviation	Description
km^2	square kilometres
koz	kilo (thousand) ounces
KPI	key performance indicator
KOH	potassium hydroxide
koz	kilo (thousand) ounces
kt	kilo (thousand) tonnes
ktpa	kilo (thousand) tonnes per annum
ktpd	kilo (thousand) tonnes per day
kv	kilovolts
kW	kilowatts
kWh	kilowatt hours
kWh/t	kilowatt hours per tonne
L/s	litres per second
lb	pound(s)
LiDAR	light detection and ranging (survey)
LIMS	Laboratories Information Management System
LOM	life of mine
LST	limestone
m	metres
m^3	cubic metre(s)
m^3/d	cubic metres per day
m^3/h	cubic metres per hour
Ma	million years ago
MAIG	Member Australasian Institute of Geoscientists
mbs	metres below surface
MCIM	Member Canadian Institute of Mining
MCC	motor-controlled centre
mE	metres East
mg/L	milligrams per litre
MGSA	Member Geological Society Australia
ML	megalitres
ML/d	megalitres per day
mm	millimetres
MMA	Mines and Minerals Act
MMG	MMG Limited (or “the Company”)
mN	metres North
MO	Metso Outotec
Mo	molybdenum
MOS	Management Operating System
Moz	million ounces
MR	Mineral Resource
MRE	Mineral Resource Estimate
mRL	metres Relative Level (level above sea level or elevation)
MSME	Member Society for Mining, Metallurgy & Exploration
MSO	Mine Shape Optimiser
MSST	Marker sandstone unit
Mt	million tonnes
Mtpa	million tonnes per annum
MVA	megavolts ampere

Abbreviation	Description
MW	megawatts
NaSH	sodium hydrosulfide
ND	New Discovery
NE	north east
NE Fold	North East Fold
NI-43-101	National Instrument 43-101 Standards of Disclosure for Mineral Projects (Canada)
NLM	North Limb Mid
NLN	North Limb North
NLS	North Limb South
NN	nearest neighbour
NNW	north north west
NPF	Ngwako Pan Formation
NPV	net present value
NQ	diamond drill core - diameter 47.6 mm
NSR	net smelter return
NW	north west
NWTGC	North-West Transmission Grid Connection Project
OEM	original equipment manufacturer
OES	optical emission spectrometry
OHS	Occupational Health and Safety
OK	ordinary kriging
oz	ounce(s)
PAX	potassium amyl xanthate
Pb	lead
PDF	Portable Document Format
PFS	Prefeasibility Study
ppm	parts per million
PQ	diamond drill core - diameter 85 mm
PV	photovoltaic
Q1	First quarter of year
Q2	Second quarter of year
Q3	Third quarter of year
Q4	Fourth quarter of year
QAQC	quality assurance and quality control
RAB	rotary air blast
RAS	River Analysis System
RC	reverse circulation or refining charge
RCF	Resource Capital Funds
RL	Relative Level
RMR	Rock Mass Rating
ROM	run of mine
RPEEE	reasonable prospects for eventual economic extraction
RQD	rock designation quality
S	sulphur
SAG	semi-autogenous grinding
SCADA	supervisory control and data acquisition
SD	standard deviation
SE	south east
SEG	Society of Economic Geologists

Abbreviation	Description
SLD	South Limb Definition
SLM	South Limb Mid
SLN	South Limb North
SLS	South Limb South
SPA	Share Purchase Agreement
SQL	Structured Query Language
SW	south west
SWMP	Surface Water Management Plan
t	tonne(s)
t/m^3	tonnes per cubic metre
TC	Treatment Charge
TDS	total dissolved solids
TORAS	Technical Operational Risk Assessment System
tpd	tonnes per day
tph	tonnes per hour
TS	Total Station (Survey Tool)
TSF	tailings storage facility
TSS	total suspended solids
UG	underground
US$ or USD	United States dollar(s) (currency)
UTM	Universal Transverse Mercator
VALMIN	The Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral Assets
VHF	very high frequency
VRT	variant refrigerant temperature
WGS 84	World Geodetic System 1984
WNW	west north west
XRF	x-ray fluorescence
Z34S	Zone 34S
ZAR	South African Rand (currency)
Zeta NE	Zeta North East
Zeta UG	Zeta Underground
Zn	zinc
Zone 5N	Zone 5 North

ERM

APPENDIX A TEAM EXPERIENCE AND QUALIFICATIONS

APPENDIX B JORC CODE (2012), TABLE 1

A total of 15 models (19 areas) comprises the total reported Mineral Resources for the Project. The variety of reporting dates, authors and cut-off grades is a function of changing Project owners and exploration priorities across the Project area over time. For Section 1 and 2 of this Table 1, details are split by the Project owner and then by the area concerned. Details in Section 3 of the Table 1 are split by Project owner and model area. Note that for most of the model areas there is a mix of historical Project owners, so the contributing dataset may have been collected using slightly different methodologies.

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. "reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay"). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	**Khoemacau Copper Mining** **Current (Zone 5 pre-mining, Zone 5 off-ore drilling, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** Sampling – diamond (DD) core: • Core sample intervals are marked after geotechnical logging, geological logging and bulk density measurements are completed. Intervals to be sampled are determined by the geologist based on lithology, alteration and mineralisation. Samples do not cross lithological boundaries. • Core sampling begins 10 m before and ends 10 m after mineralisation and into the Ngwako Pan Formation (NPF). Sampling is continuous and lengths vary from 0.3 m to 1.0 m. Sample intervals are marked directly on the core. The core cutter marks a line along the long axis of the core, placing tick marks at 30 cm intervals along one side of the line. This ensures that the same side of the core is sampled down the drillhole. A diamond rock saw is used to cut along the line. Fresh water is continuously pumped to the saw to prevent sample contamination and overheating of the saw blade. The cut core is returned to the box and the geologist then prepares the half-core sample, placing it into a sample bag for shipment to the assay laboratory for processing. The other half-core is retained in the core box and kept on site as a record. Sampling – reverse circulation (RC) chips: • Sampling for RC drilling is over regular downhole 1 m intervals. RC chips and powder are collected from the cyclone and placed in large bulk bags that contain approximately 30 kg of sample. The samples are weighed at the drill site before any splitting or sieving takes place. Weights are used to determine the RC sample recovery. • As with DD drill core, RC sampling begins above visible mineralisation and ends 10 m after the D'Kar and NPF contact. All collected samples are sent through a riffle splitter that divides the

Criteria	JORC Code explanation	Commentary
		sample to one-quarter of its size, with three-quarters of the material being returned to the bulk bag, while the original quarter is split a second time. Of this second split, half is returned to its bulk bag, while one quarter (1/16th of the original sample) is placed in a replica bag and kept as a permanent record of the sample. The other quarter (1/16th of the original sample), weighing approximately 1.5–1.8 kg, is placed into a sample bag for possible laboratory assaying. • The remaining bulk sample is used for sieving and logging purposes with representative chips being placed into chip trays. Each sample selected for assaying is analysed using an Olympus Delta DS 6000 Series handheld x-ray fluorescence (XRF) instrument to aid in the final selection of samples to be sent for analytical testing. Sampling – DD core (on-ore drilling – not used in Mineral Resource modelling): • As for current, except: ○ Sampling was conducted up to 5 m before and after the mineralised zone to provide actual dilution grades for mining ○ Full core was sampled. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Sampling – DD core: • As for current, except: ○ Samples within these intervals are continuous and vary from 0.4 m to 4.0 m in length (although they average 1 m per sample). ○ A blank, or a standard was inserted into the sample stream at the appropriate intervals (one quality control sample every 10th sample). An empty sample bag along with a sample number was sent to the laboratory for duplicate samples. Sampling – RC chips: • As for current, except: ○ For the sections that will be sampled, the bulk bags are weighed and placed in the proper order. A 50/50 riffle splitter divides the sample in half, with each half going into their own tray. One half then goes back into the bulk bag, while the other half is split one more time into two trays. One tray is placed in a replica bag (kept as a permanent record of the sample), while the half is returned to its bulk bag. The geologist then takes three scoops of material and places them into a sample bag. Samples each weigh roughly 1.0–1.5 kg. ○ Duplicate samples were prepared at the field site using the sample technique described above, while blanks and standards are labelled in an empty bag and stapled to the previous sample. Once these samples are prepared, they are brought to the core processing site at which time the appropriate standard and blank samples are filled.

Criteria	JORC Code explanation	Commentary
		○ Samples are never left at the drill site unattended overnight. The replica sample bags are stored at the core processing site. **Discovery Metals Ltd** **Ophion** As for current, except: • A minimum sample length of 0.5 m was in use and sampling started 3.0 m before the mineralised zone. **Selene** As for current, except: • A minimum sample length of 0.1 m was in use and sampling started 3.0 m before the mineralised zone. **Plutus and Zeta Underground** As for current, except: • RC samples (1 m length) were reduced to 3 kg at the drill rig using a cone splitter.
Drilling techniques	Drill type (e.g. core, reverse circulation, open hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face sampling bit or other type, whether core is oriented and if so, by what method, etc.).	**Khoemacau Copper Mining** **Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** A combination of up to DD drilling and RC drilling informs the reported Mineral Resources and have been used for regional exploration. Aircore, rotary air blast and percussion drilling have also been used as explorations tools. RC drillhole diameters ranged from 4" to 5.5" depending on the Project owner and the depth of the drillhole. DD drilling core sizes range from PQ near surface to HQ, NQ and BQ at depth depending on the capabilities of the drill rig and the depth of the drillhole. All off-ore drilling at Zone 5 is NQ diameter. From 2015, all drill core (except on-ore drilling) at Zone 5 was orientated with a Reflex Act III tool to collect structural information for geotechnical and structural studies. Coverage of core orientation at other deposits is variable. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Drilling comprises RC and fully cored DD drillholes. DD drillholes are either HQ, NQ or BQ in size with RC holes either 130 mm or 140 mm in diameter, with either 152.4 mm or 165 mm diameter drilled for casing.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
Discovery Metals Ltd
Ophion, Selene
Drilling comprises RC, fully cored DD drillholes with RC pre-collars and DD core “tails” in the mineralised zone. DD drillholes are either HQ or NQ in size with RC holes 5.5” in diameter.
DD core recovery is generally very good, so triple-tube drilling was not considered necessary.
Zeta Underground and Plutus
Majority of the drilling was by DD coring, with only a small number of RC holes (four of 570 at Zeta, 52 of 487 at Plutus).
</td></tr>
<tr><td>Drill sample recovery</td><td>
Method of recording and assessing core and chip sample recoveries and results assessed.
Measures taken to maximise sample recovery and ensure representative nature of the samples.
Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.
</td><td>
No obvious relationship was found between sample recovery and grade.
Core recovery improves with depth, and this is related to the depth of sand cover and oxidation.
<table>
<tr><td colspan="4">Core recovery for MR areas >=100m downhole only</td></tr>
<tr><th rowspan="2">Area</th><th rowspan="2">Count</th><th colspan="2">Mean</th></tr>
<tr><th>Recovery (%)</th><th>Run Length (m)</th></tr>
<tr><td>Zone 5</td><td>88,304</td><td>98</td><td>1.1</td></tr>
<tr><td>Zone 5 North</td><td>10,627</td><td>97</td><td>1.5</td></tr>
<tr><td>Zeta NE</td><td>7,553</td><td>95</td><td>1.7</td></tr>
<tr><td>Mango NE</td><td>4,356</td><td>98</td><td>2.0</td></tr>
<tr><td>North East Fold</td><td>1,733</td><td>98</td><td>2.2</td></tr>
<tr><td>New Discovery</td><td>1,822</td><td>98</td><td>2.8</td></tr>
<tr><td>South Limb Definition</td><td>207</td><td>95</td><td>2.5</td></tr>
<tr><td>Banana other</td><td>882</td><td>97</td><td>2.2</td></tr>
<tr><td>Zeta</td><td>4,308</td><td>89</td><td>1.4</td></tr>
<tr><td>Plutus</td><td>2,437</td><td>97</td><td>2.4</td></tr>
<tr><td>Ophion</td><td>155</td><td>96</td><td>1.9</td></tr>
<tr><td>Selene</td><td>362</td><td>98</td><td>2.1</td></tr>
<tr><td>Total</td><td>122,746</td><td>97</td><td>1.3</td></tr>
</table>
The brittle nature of chrysocolla means that RC or percussion drilling through the oxide and transition zone sampling may result in low bias of copper grades due to sample loss to the fine fraction.
Khoemacau Copper Mining
Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)
</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		Geotechnical core logging, including recording core recovery, has been in effect since Hana implemented it in early 2008. DD core recovery is calculated for individual drill runs and generally very good so triple tube drilling is not considered necessary. Hole depths are validated by measuring the "stick up", that is, the length of steel rods in the hole. Work is done systematically down the hole, measuring drill run length and core loss, and recording the information on the log sheet. Under current protocols, the driller documents and reports any core losses to the responsible geologist. If a core loss greater than 10% of the drill run is within the mineralised zone is recorded, drilling is stopped and reported to the Senior Geologist and Exploration Manager. The geologist investigates to determine if the excessive core loss if caused by geological factors (in fault gouges, cavities etc.) or poor drilling practices and the hole will be redrilled. RC drilling recoveries are monitored using the relationship between expected sample weight per meter and actual ample weight. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Geotechnical core logging, including recording core recovery, has been in effect since Hana implemented it in early 2008. **Discovery Metals Ltd** **Plutus, Zeta Underground, Ophion, Selene** No discernible relationship exists between core recovery and either sample length or copper grade. Overall recovery is good. Holes were re-drilled in transition and fresh rock if core recovery was lower than 30% for a drill run. Low recovery values were often associated with low core retrieval in drill runs in poor ground conditions. No systematic recording of RC sample recovery has been undertaken. Sample recovery observed at the rig was generally adequate.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	**Khoemacau Copper Mining** **Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** All core and RC holes were logged lithologically using standardised codes for rock type, grain size, colour and alteration. In addition, weathering, alteration intensity, mineralisation, veining and jointing/faulting was also captured. Core photos were taken after logging was completed.

Criteria	JORC Code explanation	Commentary
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	Geotechnical core logging was implemented in early 2008. At that time, it included total core recovery, rock quality designation (RQD), hardness and joint infill data. In 2015, the geotechnical logging protocols were revised to include orientated core to gain structural data on faults, joints, foliations, and bedding. All drill core at the three Expansion Deposits have been geotechnically logged with orientated core. Specific geotechnical drillholes were also drilled in areas of interest within the orebodies and in areas such as the boxcuts for access to Zone 5. The geotechnical drill programs were complimentary to the infill resource drilling programs. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Strict logging codes were adhered to during the core logging process and field geologists followed Hana's standard operating procedure for core handling, logging and geotechnical processes. Jointing was only recorded for core drill holes. The metre interval (from and to) was recorded, and the data below was described within the core logs: • Major rock unit (colour, grain size, texture), subunit, weathering, alteration (style and intensity), mineralisation (type of mineralisation, origin of mineralisation, estimation of % sulphides/oxides), veining (type, style, origin, intensity), structure (joints, faults), water. **Discovery Metals Ltd** **Ophion, Selene** The logging procedure documentation used by DML included general logging principles plus specific DD core logging and RC chip logging principles in line with industry standards at the time. Logging was written onto paper forms and entered in spreadsheets. Limited geotechnical data (RQD) was logged within DD holes. **Plutus and Zeta Underground** As for Ophion and Selene, except: • All drillholes were geologically logged. Logging was focused on identification of underlying stratigraphic units. Specific logging of mineralisation was not undertaken.
Subsampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	**Khoemacau Copper Mining** **Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** For diamond core, samples vary between 0.3m to 1.0m in length. Core was sawn in half using a wet rock saw. Half of the core was taken as sample to the assay laboratory and the other half left in the core tray as a permanent record.

Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all subsampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	Dried RC chips from 1m sample lengths were divided through a multiple stacked splitter to create a 1.5-1.8kg sub-sample (approximately one sixteenth of the original sample) for the assay laboratory. All samples were sealed in wooden crates and shipped to the assay laboratory. Intervals to be sampled were determined by the geologist and adhered to the standard operating procedures. All laboratories are independent of the Project and internationally recognised with ISO 9001 certification. Certified Reference Materials (CRMs) were rotated into the sample stream to represent a low, average and high copper concentration. Blanks were inserted to help identify contamination problems and duplicates help determine precision and nugget effect. The core boxes containing the remaining half of the core and RC chips bags containing the remaining drill chips were stacked in the processing yard. The exploration camp is fenced and gated and is restricted to unauthorised personnel. Core samples, RC chips and pulps are stored within the gated camp. Core and RC samples were weighed, dried, and crushed by the laboratory before being pulverised to greater than 85% passing 75 µm. Sample size is industry standard for the type of mineralisation and analysis being used. **Zone 5 on-ore drilling** Samples vary between 0.3m to 1.0m in length. Although not used in grade interpolation for the Mineral Resource Estimate, all drill core for the on-ore samples was fully sampled and sent to the lab for assaying. The on-site laboratory was used to assay the on-ore samples. The on-site laboratory is not certified with ISO 9001. At the laboratory, core samples were prepared for assaying by weighing, drying, crushing, and then pulverised to greater than 85% passing 75 µm. The sample size used is considered to be standard protocol for the style of mineralisation and the analytical techniques being used. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Core samples were cut in half by a core-cutter with one half placed in a sample bag and the other retained at site. Samples were determined based on the geological logging.

Criteria	JORC Code explanation	Commentary
		RC chips were placed in a sample bag by a field geologist after the chips were logged. The geologist determined the intervals for sampling from the geologic log. Sampling began 2 m above the first appearance of significant mineralisation and was continuous until 2 m past the last mineralisation. All samples were 1 m long. Samples were shipped to ALS, based in Johannesburg, South Africa and Scientific Services (SciServ), located in Cape Town, South Africa. Both laboratories were independent of Hana. Core samples, sent to ALS prior to August 2011, were weighed, dried, and then crushed through a Boyd crusher to -2 mm before being pulverised in a ring and puck swing mill to 80% less than 75 µm. Samples sent to SciServ (core and RC samples) are weighed, dried, and crushed to greater than 70% passing 2 mm, before being pulverised to greater than 85% passing 75 µm (Tyler 200 mesh). The sample size used is considered reasonable for the style of mineralisation and the analytical techniques being used. **Discovery Metals Ltd** **Ophion, Selene** Core was cut in half and sampled over 1.0 m intervals and split at lithological boundaries. Minimum sampling size was 0.1 m. RC sampling was conducted at 1 m intervals within mineralisation. The procedures state that samples were cyclone split to a size of 2.5 kg. When dry sampling was not possible RC drilling was abandoned in favour of DD drilling. **Plutus and Zeta Underground** DD drill core was sawn longitudinally and half-core samples submitted for analysis. All subsequent sample preparation was undertaken at commercial laboratory facilities in Johannesburg and Perth using industry standard crushing and pulverising equipment and protocols. RC grade control drill samples were initially split at the rig using a cone splitter. Samples were prepared and analysed at the on-site laboratory. Samples were crushed to 2 mm, split to 800 g using riffle splitter, pulverised to 90% passing 75 µm. Field duplicate samples were collected at a ratio of 1:20. Laboratory duplicates were collected at the ratio of 1:25. Laboratory duplicates show a typically high level of precision with a coefficient of variation (CV) for copper of 4% for samples greater than 10 times the level of detection. The precision of field duplicates was only moderately good for a base metal deposit (22% CV for copper).

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr>
<td>Quality of assay data and laboratory tests</td>
<td>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.

For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.

Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</td>
<td>
Summary of assay laboratories and methodology
<table>
<tr><th>Company</th><th>Years</th><th>Laboratory</th><th>Methodology</th></tr>
<tr><td>US Steel</td><td>1970-1980</td><td>Unknown</td><td>X-Ray Fluorescence (XRF) for all assays</td></tr>
<tr><td>AAC</td><td>1989-1994</td><td>Unknown</td><td>Atomic Absorption Spectrometry (AAS) for all assays</td></tr>
<tr><td>Delta Gold</td><td>1996-2000</td><td>Unknown</td><td>Atomic Absorption Spectrometry (AAS) for all assays</td></tr>
<tr><td>DML</td><td>2006-2013</td><td>SGS, Genalysis or ALS, Johannesburg or Perth</td><td>Aqua Regia or 3-acid digest* with inductively coupled plasma optical emission spectrometry (ICP-OES) finish (up to 33 elements including Cu, Ag, Pb, Zn)</td></tr>
<tr><td>Hana</td><td>2007-2013</td><td>ALS Johannesburg or Scientific Services Ltd, Cape Town</td><td>Cu, Ag, Pb, Zn - acid digest with AAS finish
Mo by XRF
ASCu - 5% H2SO4 cold leach with AAS finish</td></tr>
<tr><td rowspan="5">KCM</td><td>2013-present</td><td>Scientific Services Ltd, Cape Town</td><td>Aqua Regia or 4-acid digest with inductively coupled plasma optical emission spectrometry (ICP-AES) finish (33 elements including Cu, Ag, Pb, Zn)
Cu>10,000ppm reassayed with AAS finish</td></tr>
<tr><td>2014-</td><td>Scientific Services Ltd, Cape Town</td><td>Cu>1,000ppm analysed for acid soluble Cu (ASCu); 1 hour 5% H2SO4 cold leach with AAS finish</td></tr>
<tr><td>2017-</td><td>Scientific Services Ltd, Cape Town</td><td>All mineralised samples assayed for S and Fe to aid mineralogical classification of Cu species</td></tr>
<tr><td>Zone 5 Exploration and off-ore drilling</td><td>ALS Johannesburg or Alfred H Knight Laboratories (AHK) Zambia</td><td>Aqua Regia or 4-acid digest with inductively coupled plasma optical emission spectrometry (ICP-AES) finish (33 elements including Cu, Ag, Pb, Zn);
Cu>10,000ppm reassayed with ICP-AES finish
ASCu by H2SO4 leach with AAS finish
Fluorine (F) by KOH fusion and ion chromatography</td></tr>
<tr><td>Zone 5 on-ore drilling</td><td>On site AHK Boseto</td><td>4 acid digest with multi-element read by ICP-OES. The on-site laboratory is not certified in accordance with ISO 9001</td></tr>
</table>

Khoemacau Copper Mining

Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)

Industry standard quality assurance and quality control (QAQC) procedures were followed for all samples analysed. Procedures included the proper documentation and implementation of sampling, use of standards, blanks and duplicates to independently check laboratory analysis and maintain a proper chain-of-custody for samples.
</td>
</tr>
</table>

Criteria	JORC Code explanation	Commentary
		On average; CRM's, to monitor accuracy, were inserted into the sample stream at a rate of one of every 30 samples. Field duplicates, to monitor precision, were inserted into the sample stream at a rate of one of every 30 samples. Blanks, to monitor contamination and sample mix-ups, were inserted into the sample stream at a rate of one of every 30 samples. This occurred at the project site. In addition, the laboratory followed their own internal QAQC protocols during the sample preparation. 10% of all sample pulps dispatched for assay to the primary laboratory were sent to a secondary laboratory, Genalysis and ALS Chemex in Johannesburg, South Africa for check assaying. Samples were selected based on composited mineralised intervals. Quality control samples were monitored as results were received and results were accepted or rejected based on criteria from industry standards. There are no outstanding issues regarding quality control data. The quality control program is suitable for inclusion in resource estimations. In 2022 an issue was identified in the blank sample analysis for Zone 5 off-ore drilling, with 12% of 422 submitted samples failing to meet the 0.001% Cu upper threshold criteria. Investigations indicated that this is likely due to issues with the background Cu levels in the blank material, as the failures were across multiple laboratories. A new blank material is to be sourced for future work. Umpire laboratory check analyses indicate an historical negative bias in silver assays through SciServ between 2008 and 2015. The magnitude of the bias has been estimated at 5–15% by KCM which results in a conservative silver grade estimate in the area of the affected drillholes. Given silver contributes <10% of the deposit value this issue is not considered material by the Competent Person. No significant issues have been noted in the QAQC data. The procedures in place have ensured adequately precise, accurate, representative, and reliable results, and the corresponding assay data is suitable for use in Mineral Resource estimation. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Hana followed QAQC procedures commonly used in industry, including the proper documentation and implementation of sampling procedures, use of standards, blanks and duplicates to independently check laboratory analysis and to have a proper chain-of-custody for samples. Copper standards were inserted into the sample stream to test the accuracy of the laboratory and comprise one of every 30 samples. Blanks were inserted into the sample stream every 30th sample to test for contamination of laboratory equipment. Duplicates form the sample crushing stage of sample preparation were inserted into the sample stream every 30th sample to test reproducibility by analysing the same sample twice. Both ALS and SciServ also have their own internal QAQC protocols. ALS completed the following QAQC protocols during the sample preparation:

Criteria	JORC Code explanation	Commentary
		• One blank is added to the analytical procedure every 50 samples • Two standards are inserted at random intervals to the analytical procedure (every 50 samples) • One duplicate is analysed at the end of the batch (about every 12 samples) • Pulps are re-assayed 1 every 40 samples. SciServ completes the following QAQC protocols during the sample preparation: • Control samples and a blank are added to the analytical procedure about every 60 samples. These control samples are either "Hana" controls (HN-04 and HN-05) or CRM (998-6 - Geostats or NCS DC 700018 - China). • Assay repeats of total Cu by aqua regia digestion at the rate of 1 in 20 samples. • For highly mineralised intersections, this is increased to about 1 in 10 samples. • Where acceptable, the mean of the two values were used. If the result was over range, a repeat analysis is done. • Repeats for high silver value are done by a "Ag-specific" technique to ensure that all of the silver remains in solution. These samples are read by aqua regia digestion. No significant issues have been noted in the QAQC data. **Discovery Metals Ltd** **Ophion, Selene** Review of QAQC procedures for DML projects suggests that procedures are adequate for data to be used in Mineral Resources. The DML procedure for QAQC field standards, blanks and duplicates was to submit one sample of each type in every 25 samples. Laboratory QC data (internal sample preparation duplicates, grind size passing check, sample preparation blanks, quartz flush analyses, standard analyses, sample weight checks, batch re-assay occurrences) was not obtained or analysed. Blanks were submitted as pulps rather than coarse samples. **Plutus and Zeta Underground** DML inserted commercial CRMs and blanks at a ratio of 1:20. No significant QAQC issues were noted, though analytical precision (duplicates) were performing poorly for the RC samples in the open pit areas. The remaining Mineral Resource dataset is dominated by DD drilling.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	**Khoemacau Copper Mining** **Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** Significant intersections were reviewed by senior KCM personnel as well as independent qualified consulting geologists. Several assay certificates were compared to the database, with no discrepancies found. No twinned holes have been drilled at the three Expansion Deposits or at Zone 5. During RC and diamond core logging, data is recorded using project-specific geological codes implemented in May 2010. The geological codes are entered into the acQuire Database by the on-site database manager or project field geologists. All geologists have been trained to use the acQuire software. Manually entered data, such as sampling intervals and geological descriptions, was conducted by data entry clerks and geologists. After input, the geologist responsible for each hole compared the data in the database to the original paper logs. The on-site database manager then reviews the database to ensure that no errors occurred during data entry. Automatic validation processes were run through acQuire to capture any further errors. Finally, additional checks were performed in Vancouver, British Columbia by KCM's Quality Control Consultant. The acQuire database is stored on the site network server. Daily partial backups and weekly full backups of the database are stored on the site network server. All handwritten drillhole logs, assay sample certificates and survey data sheets are stored on-site in locked filing cabinets. These cabinets can only be accessed with permission from the on-site database manager. Each drillhole has its own folder that includes all documents pertaining to that hole. No adjustments were made to the assay data. **Hana Mining Ltd** **Banana Zone (other), Zone 6** A total of 11 pre-Hana drillholes were twinned by Hana in order to test the accuracy of assay results for these historical holes as QAQC protocols may not have been used at the time of the historical drilling. In 2008, Hana commissioned Micon International Co Limited (Micon) to compare six holes (four RC and two core holes) twinned by Hana with the historical holes to determine if historical data can be used in resource calculations. The copper and silver concentrations had similar signatures, but the original RC holes had higher concentrations of these metals. Without QAQC data available for these historical drillholes, the historical data is not used for resource estimation.

Criteria	JORC Code explanation	Commentary
		Hard copies are stored in filing cabinets which can only be accessed with permission from the on-site database manager. All paper files were scanned into digital format, converted to PDF and stored off-site. All data was entered into Sable, stored in the server database. This database was located on the site network server. Daily partial backups and weekly full backups of the database take place and are stored on the site network server. No adjustments were made to the assay data. **Discovery Metals Ltd** **Ophion, Selene** Senior geologists validated anomalous database records against logging and assay submission as part of a database migration. Data storage and validation protocols were not in place due to the change to a new system. No twinned holes have been used within the project. **Plutus and Zeta Underground** The analytical grades are consistent with the tenor of mineralisation observed which is confirmed by subsequent phases of drilling and production. A number of DD and RC holes are close enough to be considered twinned holes pairs. No systematic variation in grade and or intercept length is apparent.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	**Khoemacau Copper Mining** **Current (Zone 5, Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition)** All collar surveys to date are in Universal Transverse Mercator (UTM) coordinates, using World Geodetic System 1984 (WGS84) projection, Zone 34S with geoidal heights. Drill site locations are surveyed using a handheld global positioning system (GPS) that is accurate to within 5m. Up to 2020, and independent surveyor, Drysdale and Associates consulting located in Botswana would survey the collar location and back-sight positions using a digital GPS. Since November 2020, the Zone 5 Mine Chief Surveyor surveys the collars using a digital GPS once the boreholes have been completed. Since April 2013, all drilling programs have used the REFLEX non-magnetic Gyro multi-tool for downhole surveys. The REFLEX Gyro tool proved to be the most advanced surveying package suitable for both magnetic and non-magnetic environments. It provided good results for RC and DD core holes with the use of “anti-roll” equipment, which stabilised the tool during surveying.

Criteria	JORC Code explanation	Commentary
		The quality of the topographic data is considered accurate for the purpose of Mineral Resource estimation. **Zone 5 on-ore and off-ore drilling** The collars for the on-ore and off-ore drillholes were picked up underground by qualified, surveyors using a TS 16 (Total Station) that has an error limit of ±0.010 mm and degrees in one second (000:00:01). All surveys are in the UTM coordinates (WGS84 – projection) Zone 34 South. Downhole surveys were conducted using a Gyro multi-tool from the bottom of the hole upwards, at intervals of 10 m. The topographic data used in the resource is considered adequate for use. A Leica 1200 GPS was used for surface collar positions with a tolerance of ±0.010 mm. All the instruments are calibrated annually. **Hana Mining Ltd** **Banana Zone – Remainder, Zone 6** Hana contracted BBC Surveying (Pty) Ltd (BBC), a topographical and surveying consultant located in Botswana, to locate and survey Hana's drillhole collars. A Trimble 5800 Dual Frequency GPS surveying system was used for the survey. The survey was carried out using the Gauss Transverse Mercator Projection system on the Botswana datum with central Lo 23, which used 2° belts on the odd numbers of longitude in degrees. These values were converted using Trimble software to the UTM WGS84 system used by Hana. The downhole surveys were conducted by either the geologist or technician using the Reflex EZ-Trac multi-shot tool; the tool is shared amongst the drill rigs. As of April 2011, Hana switched to using the DeviFlex Gyro multi-tool. The survey is conducted from the bottom of the hole upwards after completion of the drilling with readings taken at 4–12 m intervals. The raw data is captured and uploaded to a computer using the appropriate tool software. Since using the DeviFlex multi-tool, all azimuth data is correct. The project area has not been subjected to a detailed topographic survey. The topographic maps in use are derived from the digital terrain models (DTM) created by NRG Geophysics in conjunction with the high-resolution geophysical survey. In the area over Banana Zone, the DTM has been modified to mesh with the drillhole collar coordinates. **Discovery Metals Ltd** **Ophion, Selene** Drillhole collar positions were surveyed using OmniLogger differential GPS from OmniSTAR's Global Positioning System products. The differential GPS has a stated accuracy of ±50 cm.

Criteria	JORC Code explanation	Commentary
		A Reflex Ez-TracTM instrument was used to record downhole survey measurements. Spatial coordinates for the Boseto prospects were supplied in WGS84, Zone 34 Southern Hemisphere (WGS84_34S). A variation in the order of tens of metres between survey relative levels (RL) and that of surface topography is noted. DML has adjusted hole collar positions to surface topography for Mineral Resource modelling due to the very flat terrain. **Plutus and Zeta Underground** Drilling completed by DML was located using differential GPS. Downhole surveys were dominantly collected using electronic single-shot instruments. DD holes were mostly surveyed at regular intervals downhole. RC holes generally only had an in-rod dip survey near collar, but as holes are short and at a high angle to structure, this is considered adequate. Topographic survey data was obtained from light detection and ranging (LiDAR) survey and has an accuracy of ±0.6 m. Post commencement of mining, surface pickups were made using differential GPS. The grid system used is WGS84, Zone 34K.
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	**Khoemacau Copper Mining** **Zone 5** The exploration program was drilled on 100 m spaced centres along strike and approximately 50 m down dip. The spacing decreased to 75 m along and 25–40 m down to tighten the pattern in areas where there was a significant change in either grade or thickness of the orebody, and to upgrade the Mineral Resource to Measured and Indicated Mineral Resource categories. The off-ore drilling program was drilled from the return air access, the raising main chambers and underground stockpiles. The drilling targeted development levels for best placement of the ore drive. The data spacing was 30 m along the strike of the orebody. The on-ore drilling program was drilled from within the ore drives, in rings of two to four drillholes. The rings are spaced 15–20 m apart, depending on the location of the stopes and pillars. The spacing of the off-ore and on-ore drillholes are adequate to establish geological and grade continuity. **Mango NE, Zone 5N, Zeta NE** Infill drilling was generally spaced 100 m along strike and 100 m down dip, but decreased to 75 m or 50 m along strike and 50 m down dip if local changes in grade variability and/or thicknesses were seen.

Criteria	JORC Code explanation	Commentary
		Correlograms were completed on copper and silver composites to determine orientation and spatial continuity of the composited mineralisation. Correlograms generally show ranges for both along strike and down dip directions of approximately 150 m to 400 m. This indicates that drillhole spacing and sample distribution are sufficient for grade continuity and appropriate for Mineral Resource estimation. **Banana Zone – New Discovery** Stratigraphic and mineralisation continuity is well defined. Drillholes are on 100 m spaced sections in the Indicated portion and 200 m spaced sections in the Inferred material. **Banana Zone – NE Fold** Stratigraphic and mineralisation continuity is well defined. Drillholes are on 50 m spaced sections in Measured, 100 m spacing for the Indicated portion and 200 m spaced sections in the Inferred material. **Banana Zone – South Limb Definition** Stratigraphic and mineralisation continuity is well defined. Drillholes are on 100 m spaced sections in the Indicated portion and 400 m spaced sections in the Inferred material at depth. **Hana Mining Ltd** **Banana Zone (other)** Resource-testing RC drilling occurred on approximately 200 m spaced sections, with the number of holes per section alternating between one and two at 60 m vertical centres. Mineralised areas have been infill drilled down to approximately 100 m spaced sections at 40 m centres. **Zone 6** Drillholes are on 100–200 m spaced sections; many section lines have only a single drillhole. **Discovery Metals Ltd** **Ophion, Selene** Data spacing at 400 m along strike is currently at the limits of geological continuity. An infill drilling program is required to improve confidence in Mineral Resource estimation and make it possible to optimise drill spacing for project development objectives.

Criteria	JORC Code explanation	Commentary
		Plutus and Zeta Underground Intercept spacing at Plutus is variable. The broadest regular spacing is some 600 m along strike by 60 m vertical, which is progressively infilled to 100 m x 30 m with some areas to 50 m x 30 m. Grade control drilling intercepts are spaced at 25 m along strike by approximately 10 m vertical. Intercept spacing at Zeta is variable. The broadest regular spacing is some 200 m along strike by 60 m vertical, which is progressively infilled to 100 m x 30 m with some areas to 50 m x 30 m. Grade control drilling intercepts are spaced at 25 m along strike by approximately 10 m vertical. Geological continuity is very high. This is seen in a very consistent planar geometry of mineralisation over tens of kilometres and is confirmed by exposure from open pit. Continuity of grades within the mineralised horizons is typically lower, which can be seen as fluctuations around a fairly consistent average grade.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	In general, the drilling orientation is at a high angle to the geological structures controlling mineralisation result in limited sampling bias. Drill intervals are typically a little-longer than the true thickness of the mineralised zones. Typically, drillholes are oriented perpendicular to the expected orientation of mineralisation. Most drillholes are oriented either northwest or southeast depending on which fold limb they are located on. **Khoemacau Copper Mining** **Zone 5** The resource holes were designed to drill towards 322° to orientate perpendicular to the orebody strike of 060°. Dip of the holes was generally 60°. Deeper drillholes (>800 m) had a steeper dip of 80° to allow for greater deviation down the hole. Due to the location of the off-ore drilling, it is not possible for the drillholes to have a consistent orientation in relation to the orebody. All the holes that are relatively perpendicular to the orebody were reviewed and the potential bias they may have introduced determined to be negligible. Drill intervals are close to true thickness of the mineralised zones. The orientation of the sampling removes any bias from the sampling. **Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition** The dip of the mineralisation varies greatly between near flat (fold hinges) to near vertical but averages 55° to 60°. Majority of drillholes at Zone 5N were oriented at an azimuth of 142° and 60° (to the horizontal), Zeta NE drillholes were drilled at an orientation of 140° and 60° for azimuth and dip respectively whilst Mango NE were oriented at an azimuth of approximately 320° and a dip of 65°.

Criteria	JORC Code explanation	Commentary
		Eight geotechnical holes have been drilled at a different orientation to test for biases in geotechnical data collection and collect samples for stress measurements. No other biases are expected from the drilling orientation. **Hana Mining Ltd** **Banana Zone (other), Zone 6** Most drillholes were oriented at an azimuth of 144° or 324° (180° difference), and a dip of 60°. The drillholes are oriented perpendicular to the expected orientation of mineralisation. Drill intervals are typically a little-longer than the true thickness of the mineralised zones. **Discovery Metals Ltd** **Ophion, Selene, Plutus and Zeta Underground** In general, the drilling orientation is at a high angle to the geological structures controlling mineralisation result in limited sampling bias. The vast majority of drilling crosses the mineralisation at a moderate to high angle (>45°) and provides excellent definition of the margins of mineralisation.
Sample security	The measures taken to ensure sample security.	**Khoemacau Copper Mining** **Zone 5, Mango NE, Zone 5N, Zeta NE New Discovery, NE Fold, South Limb Definition** The preparation, cutting, sampling and transportation were supervised by the onsite geologists. All samples were securely sealed and bagged. Transport of the sealed sample crates was by a professional courier company for delivery to the laboratory in South Africa and Zambia. Protocols are in place and there have been no breaches of security that would compromise the samples. The core facility has adequate security. All analytical records are kept on SharePoint to ensure chain-of-custody between the mine and laboratories. The Competent Person believes the camp and core processing facility is secure. **Hana Mining Ltd** **Banana Zone – Remainder, Zone 6** Geologists were responsible for sample collection and preparing shipments. The open sample preparation area was part of the remote fenced exploration camp; however, the camp itself was restricted to unauthorised personnel. All core boxes were dead-stacked adjacent to the core logging facility. RC chip trays were stored on shelves and in bins within the logging structure. The replica sample bags of RC chips were stored on shelves, on a sheltered concrete floor next to the logging tables.

Criteria	JORC Code explanation	Commentary
		Samples that had been prepared for shipment were sealed into wooden crates, which were delivered by Hana personnel to a trucking company that delivered the samples to the laboratory. There had never been a report that the crates or the sample bags had been tampered with. **Discovery Metals Ltd** **Plutus, Zeta Underground, Ophion and Selene** Sample security was managed with dispatch dates noted for each sample by the core technician, this was checked and confirmed at the laboratory on receipt of samples and discrepancies corrected via telephone link up with laboratory and project geologist. Sample security is not considered a major issue given the nature of the mineralisation.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Grant Geological Services reviewed Hana's database and database management practices and conducted statistical analyses of the data between 2011 and 2013 in order to comply with guidelines set out by NI 43-101. A site visit to review on-site procedures and protocols was conducted in July 2011. A thorough independent audit of the Hana database was carried out in 2012. Data validity checks confirmed that the paper logs were correctly entered and that there were no significant errors. Ridge Geoscience has reviewed Khoemacau's database and database management practices continuously since March 2013. This includes conducting two site visits to review on-site procedures and protocols, performing ongoing review of Khoemacau's quality control procedures and analyses, and checks of the assay database against assay certificates. A technical audit was completed by the Mine Technical Services team in March 2020, with no significant issues raised. Several independent and site procedural audits have been conducted since the Zone 5 Resource classification in 2019. The Competent Person reviewed raw data from several drillholes during a site visit in December 2023. No issues were identified. Additional audits have been completed by Model Earth (Pty) Ltd, RPM Global USA Inc., Reyna Brown Geological Services, QG, CS-2, and Snowden. The Competent Person reviewed raw data from several drillholes during a site visit in December 2023. No issues were identified. All data is considered accurate for the purposes of Mineral Resource estimation.

Criteria	JORC Code explanation	Commentary
		Discovery Metals Ltd **Plutus and Zeta Underground** Previous inspections of RC sampling conducted by CS-2 Pty Ltd and Snowden identified a bias towards Cu results from DD to RC drilling. This bias is attributed to the loss of cupriferous fines during the sampling process. It was recommended that the sampling equipment and protocols be reviewed and improved. This recommendation remains in place.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	Cupric Canyon Capital LP's subsidiary, Cuprous Capital Ltd, purchased Hana Mining Limited, which in turn owned Hana Ghanzi Copper Pty Ltd, in February 2013 and renamed the company to Khoemacau Copper Mining (Pty) Ltd (Khoemacau). In July 2015, Khoemacau acquired Discovery Copper Botswana (Pty) Ltd (DCB) which held four prospecting licences and the Boseto Project. The Boseto Project had been operational for 2.5 years and comprised three open cuts and a processing plant producing copper-silver concentrate. During 2019, Resource Capital Fund VII LP acquired a 11.9% equity share in Cuprous Capital Ltd. Khoemacau is owned by private company Hana Mining Ltd which is in turn owned by Cuprous Capital Ltd, which in turn is owned by Cupric Canyon Capital LP and Resource Capital Fund VII LP. The Botswana Government retains a royalty of 3% on base metals net smelter return (NSR) and 5% on precious metals NSR. The government declined the right to take up a 15% working interest in the mine upon issue of both Khoemacau and Boseto mining licences. The prospecting licence area covers 4,040 km^2 and consists of 10 prospecting licence blocks (four DCB Boseto operation licences PL098/2005 to PL101/2005, and six Khoemacau licences PL001/2006 to PL005/2006 and PL095/2019). Nine of the licences expire on 31 December 2024 and one expires on 30 September 2024. Two mining leases have been granted over the property: • 2010/99L – granted in December 2010 and expires on 19 December 2025 • 2015/5L – granted in March 2015 and expires on 9 March 2035. Various local farm landowners hold surface rights over the prospecting licences. The area is sparsely populated and is predominately used for cattle and game farming. The project lies within the Hainaveld and Toteng ranch areas. The Kuke veterinary cordon fence cuts across the licence areas. A small part of the southern licence area extends into the Central Kalahari Game Reserve and the surrounding Wildlife Management Areas but does not impact the three Expansion deposits. The Botswana Minister of Local Government holds surface rights for the Central Kalahari Game Reserve and the Wildlife Management Areas. Many local farm landowners hold surface rights over the prospecting licences PL098/2005 to PL101/2005 and PL001/2006 to PL005/2006 and PL095/2019. Botswana's Mines and Minerals Act allows a company to apply for an extension of its prospecting licences at the end of the two-year licensed period without having to relinquish any licence area. In order to be granted the extension, the company has to demonstrate that it has completed significant expenditure and exploration work on the licences as committed to in the previous licence extension. The exploration programs completed during the recent extension period for the proposed exploration program are designed to satisfy the Botswana Government requirements for the Project.

Criteria	JORC Code explanation	Commentary
		Discussions are continued on an ongoing basis with the relevant Botswana authorities on the planned exploration activities and planned prospecting lease extensions.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Since the late 1960s, there have been several phases of exploration in the Kalahari Copper Belt prior to the current exploration by KCM. Previous owners include: Anglovaal South West Africa and joint venture (JV) partners, DeBeers, Tsumeb Corporation, US Steel Corporation, US Steel Corporation and JV partners Newmont South Africa Ltd and INCO of Canada, Anglo American Prospecting Services (AAPS), Glencore International PLC, Kalahari Gold and Copper (KGC) and JV partner Delta Gold, Hana Mining Ltd and Discovery Metals Ltd. Exploration has included extensive soil sampling, airborne and ground geophysical surveys, extensive RC and DD core drilling, and preliminary metallurgical investigations. Exploration drilling back to 2007 is supported by QAQC data and was deemed suitable for use in Mineral Resource estimation.
Geology	Deposit type, geological setting and style of mineralisation.	The Kalahari Copper Belt consists of a deformed package of meta-sedimentary and metavolcanic rocks that were deposited during the late Mesoproterozoic to early Neoproterozoic eras along the rifted northwest margin of the Kalahari Craton. The late Neoproterozoic collision of the Kalahari and Congo Cratons resulted in the formation of the Pan-African Damara Orogeny forming the present-day structural configuration of the Kalahari Copper Belt In Botswana, the Kalahari Copper Belt is host to several well-known strata-bound sediment-hosted copper deposits and mining operations. The stratigraphic sequence consists of a basal rift related bimodal volcanic suite named the Kgwebe Formation and consists of predominately rhyolites, andesites and gabbros. The Kgwebe volcanic is unconformably overlain by the Ghanzi Group metasediments. This Group, from oldest to youngest, consists of the Kuke Formation, NPF, D'Kar Formation and Mamuno Formation. The entire region has been subject to compression, folding and thrusting along northeast trends resulting in structurally repeated stratigraphically controlled mineralisation over hundreds of kilometres. The structural orientation and related permeability are key aspects in the mineral trap site development. Deposits generally occur at the margins of basement structures where the stratigraphic redox boundary is controlled by sediment deposition and structural geometry. Flexural slip along bedding on the limbs of parasitic folding were important primary fluid pathways. Brittle fractures, and tectonic breccia at local and deposit scale are the dominant secondary structural mechanisms.

Criteria	JORC Code explanation	Commentary
		Mineralisation is both stratigraphically and structurally controlled with copper-silver mineralisation occurring at the redox front near the contact between the oxidised Ngwako Pan and the reduced D'Kar Formations. Increased copper-silver grades are principally related to shearing and flextural slip hosted within the less competent ductile units of the D'Kar Formation; shale, siltstone, and sandstone. The dominant structural trends are northeast-southwest related to the Pan African Damaran–Lufilian Orogen. Economic copper mineralisation is predominantly chalcocite, bornite and chalcopyrite.
Drillhole information	A summary of all information material to the understanding of the Exploration Results including a tabulation of the following information for all Material drillholes: • easting and northing of the drillhole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar • dip and azimuth of the hole • downhole length and interception depth • hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Not applicable as no Exploration Results included in the report.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	Not applicable, as no Exploration Results included in the report.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported. If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	Not applicable, as no Exploration Results included in the report.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.	Not applicable, as no Exploration Results included in the report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misreporting of Exploration Results.	Not applicable as no Exploration Results included in the report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Not applicable as no Exploration Results included in the report.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	**Zone 5**

Criteria	JORC Code explanation	Commentary
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Work relating to further refinement of the orebody continues which includes underground mapping, channel sampling and infill diamond drilling. • To gain more information about the orebody for optimal placement of the ore drives and stopes, drilling programs were implemented in 2021 which continue. These campaigns are on-ore and off-ore drilling campaigns. • The additional drillholes and underground mapping information is currently being used to develop an improved lithological model. This will assist in the better understanding of the grade distributions in relation to the geology. **Mango NE, Zone 5N, Zeta NE** • Infill drilling is proposed to increase confidence within the Indicated material and to confirm grade and width variation at the three Expansion Deposits. Several other locations within the Project area are considered highly prospective including Zone 9, Mawana Fold, South Dome, Banana Peel and Kgwebe, all of which have intersected high copper grades in early drilling; the Zeta Underground area beneath the historical Zeta open pit. Lower priority targets include the Banana Zone which has known mineralisation continuity over long strike lengths (>30 km); Baby Banana and areas to the north of Zone 5 such as Selene and Zone 6, as well as the Ophion and Plutus areas.

Section 3: Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	The Competent Person for this Mineral Resource statement confirms that the database used is suitable for Mineral Resource estimation. Note that the data for the Project now resides entirely with KCM. Details of data handling by previous owners are included here as it is relevant for historical estimations included in the Mineral Resource statement. **Khoemacau Copper Mining** **Zone 5** The Zone 5 dataset is stored and managed separately to the rest of the project area dataset. Standard data protocols have been adhered to throughout all steps of the exploration process, from sampling to resource estimation.

Criteria	JORC Code explanation	Commentary
		Logging of drill core is carried out on paper logs and manually uploaded to the on-site database. An acQuire database is used to capture and store all drilling information. Geologists compared the paper logs to the database to check for data entry errors. The database geologist also reviews the data using the software auditing functions. All paper logs were retained on site in secure files. acQuire software auditing tools were used to check the database for errors. Minor discrepancies between tables were identified and corrected. Once exported from acQuire, more validations were done. Errors were identified and reported to the database geologist for correction. Drillholes with errors that could not be fixed where excluded from the Mineral Resource estimate. Fifty drillholes were excluded from the 2022 Zone 5 Mineral Resource due to issues picked up during validation. 31 drillholes were excluded due to not being validated. **Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition** The main database for the Project prior to 2019 was a SQL Server database via Sable software. Since 2019, the database is SQL Server database via acQuire software. During RC and DD core logging, data is recorded using project-specific geological codes implemented in May 2010. Since 2010, only minor adjustments and updates have been made to the geological codes to maintain consistency in recording. The geological codes are entered into acQuire by the on-site database manager or project field geologists. These personnel have been trained to use the acQuire software. Manually entered data, such as sampling intervals and geological descriptions, was conducted by data entry clerks and geologists. After input, the geologist responsible for each hole compared the data in the database to the original paper log. The on-site database manager then reviewed the database to ensure that no errors occurred during data entry. Automatic validation processes were run through acQuire to capture any further errors. Finally, additional checks were performed in Vancouver, British Columbia by Khoemacau's Quality Control Consultant. All handwritten drillhole logs, assay certificates and survey data sheets are stored on-site in locked filing cabinets. These cabinets can only be accessed with permission from the on-site database manager. Each drillhole has its own folder that includes all documents pertaining to that hole. **Hana Mining Ltd** **Banana Zone (other)** The main database used for the Project was a SQL Server database via Sable software that contained all relevant and historical drillhole data.

Criteria	JORC Code explanation	Commentary
		During the RC and core logging process, data is recorded on paper using geological codes which have been implemented since May 2010. Since that time, only slight changes have been made to the geological codes in order to update new results and conclusions. The information was then entered into the Sable Database Warehouse. The on-site database manager along with the field geologists have been trained to use the Sable software. Drillholes logged prior to implementation of the database have been compiled and imported into the current format and entered in the system. Sable is secure and user configured, therefore the data cannot be changed by those other than the user responsible for the data. Data validations were also incorporated into the Sable database to ensure valid data is being loaded. The on-site database manager oversees the data capturing process and also imports external data into the database such as laboratory assay results. **Zone 6** The main database used for the Project is a SQL Server database via Sable software. The database used for the resource estimate includes Hana and historical DD drilling, percussion drilling and RC drilling. Database validation was undertaken by GeoLogix as part of the Zone 6 resource estimate in 2009. **Discovery Metals Ltd** **Ophion, Selene** DML was migrating their drilling database from Microsoft Access to an acQuire software system during the October 2012 Resource Model construction. Data storage and validation protocols were in hiatus due to the change to a new system. Senior geologists validated anomalous database records against logging and assay submission as part of a database migration. Further database checks were completed, and corrections made by Xstract, the authors of the Mineral Resource estimates. **Plutus, Zeta Underground** An acQuire database software was used to capture and store all drilling information. The database was established in mid-2012. Database validation was undertaken by QG as part of the 2013 Plutus Mineral Resource. Corrections were made relating to the merging of historical datasets to the then current dataset, as well as to the storage of survey data. For data related to the 2011 and 2012 database: • The main database used for the Khoemacau Project is a SQL Server database via Sable software that contains all relevant and historic drill hole data.

Criteria	JORC Code explanation	Commentary
		• During the RC and core logging process, data is recorded on paper using geological codes which have been implemented since May 2010. The information was then entered into the Sable Database Warehouse. The on-site database manager along with the field geologists have been trained to use the Sable software. • Drillholes logged prior to implementation of the database have been compiled and imported into the current format and entered in the system. Sable is secure and user configured, therefore the data cannot be changed by those other than the user responsible for the data. Data validations were also incorporated into the Sable database to ensure valid data is being loaded. • The on-site database manager oversees the data capturing process and also imports external data into the database such as laboratory assay results.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	The Competent Person for the Khoemacau Mineral Resource visited site in December 2023. All relevant procedures and protocols for measuring, sampling, logging, capturing, recording, and storing data have been reviewed. Core logging practices have been sighted and selected drill core inspected, as a check against paper copies. The core facility was deemed secure for core storage. All procedures conducted by the core yard geology personnel met best practice industry standards and no significant issues were identified.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	Confidence in the geological interpretation across the Project area is high, with ground truthing (via drilling) of mapping compiled from geophysical surveys consistently intersecting the anticipated stratigraphy. Tabular and planar lithological units with strong continuity along strike provided good support for stratigraphically hosted mineralisation. Good correlation exists between high-grade mineralisation and structural zones caused by flexural slip and minor parasitic folding. Localised thrusting, parasitic folding and shearing is responsible for thickening mineralisation and increasing copper and silver grades over wide intervals. **Khoemacau Copper Mining** **Mango NE, Zone 5N, Zeta NE, New Discovery, NE Fold, South Limb Definition** The Mango NE and Zone 5 deposits are interpreted to have formed in a basin high, shallow water setting. Organic-rich carbonate sediments, sulphates and limestones are present. Host lithologies are sandstone, siltstone and marlstone. The Zone 5N deposit is interpreted to have formed in a basin high, shallow water setting. Carbonate sediments and sulphates are present. Host lithologies are black shale, siltstone and sandstone. The Zeta NE deposit is interpreted to have formed in a basin foreslope/delta setting. Host lithologies are sandstone, siltstone and silty marl.

Criteria	JORC Code explanation	Commentary
		New Discovery is a stratabound deposit that is structurally controlled and contains vein shears that are not conformable with bedding and crosscut stratigraphy. The NE Fold deposit represents an example of a stratabound deposit that is structurally controlled. South Limb Definition is a structurally controlled, stratabound deposit, which contains veins, shears and alteration zones that are not conformable with bedding and crosscut stratigraphy. The Khoemacau team constructed geology models to aid in defining copper grade zones. The lithology models were based on drill hole interpretation and logging by Khoemacau's geologists. Copper grade zone domains of predominately continuous, stratiform mineralisation were identified and built into 3D wireframe solids. The copper grade zone domains and the Mineral Resource estimation were guided and controlled by the interpreted geology models. Continuous, high-grade domains used a copper cut-off of 1.0% and were typically enveloped by a lower grade, disseminated copper domain using a copper cut-off of 0.1%. Interpretations will improve with increased drilling but would be unlikely to cause a material change in the Mineral Resource estimation. Local improvements in understanding of structural relationships, particularly at Mango NE, would only result in minor changes to orientation and thickness. **Hana Mining Ltd** **Banana Zone (other), Zone 6** The lithology model was based on drillhole interpretation and logging by Khoemacau's geologists. Copper grade zone domains of predominantly continuous, stratabound mineralisation were identified and built into 3D wireframe solids. The mineralised zones were interpreted on cross sections spaced 100 m or 200 m apart depending on the local drill spacing. The polyline interpretations were tied together into 3D wireframe solids models which were checked for continuity on 25 m spaced levels. The lower-grade shell, which is continuous throughout all of Banana Zone, was created based on copper values >= 0.1%. Higher-grade shells were created in areas of persistent copper >= 0.5%; these occur throughout most areas of Banana Zone and at Zone 6. Alternative interpretations of the geology and mineralisation solids would have minimal impact on the Mineral Resource estimation. Localised changes would only effect slight variations to strike and thickness of some grade zones. **Discovery Metals Ltd** **Ophion, Selene**

Criteria	JORC Code explanation	Commentary
		The geological interpretations were produced by DML. Sectional outlines of the barren capping overburden lithology, copper mineralisation and levels of copper oxidation were interpreted on drill sections from simplified lithology codes, oxidation codes and copper grades. The mineralised zones were interpreted to delineate consistent higher-grade areas of the deposit at widths likely to be mined. (This equated to approximately 4 m or 4 x 1 m samples downhole based on drillholes dipping at 60°.) In most cases, two to three drill intersections were available to define mineralisation boundaries on any given section. The mineralisation was modelled to a maximum depth of 230 m below the surface topography. The mineralisation must maintain an overall downhole composite that reported a copper grade of greater than 0.3% Cu. Mineralisation outlines were terminated at half the drillhole spacing beyond the last known section of copper mineralisation. Where copper mineralisation appeared to extend past the last downhole intersection on a section, the copper mineralisation was extended for a distance equal to the general down-dip drill spacing. At this stage of project development, the wide-spaced drilling demonstrates reasonable geological continuity of mineralisation along strike and down-dip but variography suggests that grade continuity for copper, silver and sulphur generally needs to be defined by infill drilling. Alternative interpretations of the geology and mineralisation solids would have minimal impact on the Mineral Resource estimation. Localised changes would only effect slight variations to strike and thickness of some grade zones. **Plutus** Surfaces for base of oxide and top of sulphide were interpreted using multiple strands of information including: logged observations, S/Cu ratio, acid soluble Cu/total Cu ratio, distribution of acid soluble copper, silver and sulphur grades, along with observations made in the pit. For mineralised domains, the footwall contact is reliably marked by a pronounced jump in grade. It is also clearly apparent in open pit exposure being marked by a changed in blockiness and colour. The hangingwall contact is also generally well-marked by a pronounced step in grade. A threshold of ~0.3% Cu was used to define a mineralised envelope, also taking into consideration the thickness of mineralisation and consistency of geometry. Analysis of grade behaviour across defined provides strong support for the choice for threshold used. **Zeta Underground** As for Plutus, except: • At Zeta, two grade thresholds were interpreted based on analysis of grade distributions and cognisance of likely economic mining cut-offs. A low-grade mineralised envelope was interpreted at an approximately 0.3% Cu cut-off, while a high-grade “core” was interpreted using a threshold

Criteria	JORC Code explanation	Commentary
		of approximately 1.5% Cu. No rigid rules about inclusion of internal waste were applied – more weight was given to consideration of spatial continuity and width of the mineralised zone. • Analysis of grade behaviour across defined provides strong support for the choice for threshold used.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	**Khoemacau Copper Mining** **Zone 5, Mango NE, Zone 5N, Zeta NE** The mineralisation at Zone 5 extends over a strike length of 4.2 km and dips between 55° and 65° towards the southeast. The deposit has an average thickness of 20 m. The resource model extends from the base of oxidation (approximately 60–80 m below surface) to a maximum depth of approximately 1,200 m vertically below surface with an average thickness of 10 m. Drilling has intersected deeper mineralisation below the bottom of the model and the deposit remains open in all directions. The Mango NE deposit has defined mineralisation over a total strike length of 5 km dipping at 65° to the southeast. The central portion of the deposit is host to economic mineralisation over a strike length of 1.5 km. The deposit has only been drilled to 700 m below surface and remains open both along strike and at depth. Two copper domains were identified using a high-grade (>1%) copper cut-off. The domains are separated by 5–6 m of low to moderate grade (<0.4%) copper mineralisation. The high-grade wireframes average 6 m width in both the hangingwall and the footwall zones. Both the hangingwall and footwall zone are continuous across the strike of the central portion of the deposit. The Zeta NE deposit has been drilled over a total strike length of 5 km with mineralisation dipping at 80° toward the northwest. The central portion of the deposit is host to economic mineralisation over a strike length of 1.2 km. The deposit has been drilled to 850 m below surface and remains open both along strike and at depth. Two high-grade (>1%) copper domains are present and are separated by 5–10 m of barren to low-grade (0.2%) copper mineralisation. The high-grade wireframes average 4 m width in both the hangingwall and footwall zones. The footwall zone is continuous across the strike of the deposit. Higher-grade mineralisation is not always present in the upper hangingwall zone but is continuous over the Central portion of the deposit. Where both the hangingwall and footwall are intersected, both zones plus dilution average 13 m. The Zone 5N deposit has been drilled over a strike length of 4.6 km with mineralisation striking at 235° and dipping at 65° to the northwest. The central portion of the deposit is host to economic mineralisation over a strike length of 1.4 km. The deposit has been drilled to 1,000 m below surface and remains open both along strike and at depth. Economic mineralisation has an average thickness of 5 m. **Banana Zone – New Discovery** The deposit has a classified Mineral Resource over a strike length of 1.2 km dipping at 55° to the northwest.

Criteria	JORC Code explanation	Commentary
		The deposit has been drilled to a reasonable density to within 200 m of surface. A limited amount of drilling has taken place down to 600 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 2.5 m in width. **Banana Zone – NE Fold** The deposit has a classified Mineral Resource over a strike length of 1.2 km dipping at 45° to the northwest. The deposit has been drilled to a reasonable density to within 150 m of surface. A limited amount of drilling has taken place down to 450 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 2 m in width. **Banana Zone – South Limb Definition** The deposit has a has a classified Mineral Resource over a strike length of 2.3 km dipping at 80° to the southeast. The deposit has been drilled to a reasonable density to within 150 m of surface. A limited amount of drilling has taken place down to 450 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 2 m in width. **Hana Mining Ltd** **Banana Zone (other)** The wireframed mineralisation at Banana Zone covers a strike length of approximately 32 km along each limb and has both a southeast dipping and northwest dipping component. The deposit has been drilled to a reasonable density to within 200 m of surface. A limited amount of drilling has taken place down to 600 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 9 m in width. **Zone 6** The deposit has a classified Mineral Resource over a strike length of 1.9 km dipping at 45° to the southeast. The deposit has been drilled to a reasonable density to within 150 m of surface. A limited amount of drilling has taken place down to 450 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 8 m in width. **Discovery Metals Ltd** **Ophion, Selene** At Ophion, the mineralisation wireframes cover a strike distance of approximately 5.5 km and extends to 230 m below surface.

Criteria	JORC Code explanation	Commentary
		The copper mineralisation is discernible from drill intersections as four main zones. Each zone is approximately 2–6 m thick and generally dipping 80° to the west. Drilling intersected mineralisation at depths between 23 m and 190 m below surface and always below the base of complete oxidation. On average, the high-grade zones are 8 m in width. The Selene deposit has been drilled over a total strike length of 7 km and dips approximately 70° to the southeast. Mineralisation has been intersected at depths between 25 m to 200 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 3 m in width. **Plutus** The mineralisation extends over a strike length of approximately 3 km and dips between 55° and 65° towards the northwest. The deposit has been drilled to a reasonable density to within 200 m of surface. A limited amount of drilling has taken place down to 500 m from surface in the central portion of the deposit, and the deposit remains open at depth. On average, the zone of copper mineralisation is some 5.5 m wide. **Zeta Underground** The Zeta Underground deposit has been drilled over a total strike length of 5 km with mineralisation dipping at 75° toward the northwest. The deposit has been drilled to a reasonable density to within 200 m of surface. A limited amount of drilling has taken place down to 550 m from surface, and the deposit remains open at depth. On average, the high-grade zones are 3 m in width.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products.	**Khoemacau Copper Mining** **Zone 5** The Zone 5 block model was created using Datamine software in UTM coordinates. The block model was rotated to align with the 060° strike of the orebody. The model was generated by KCM geologist, Shaun Crisp. The block sizes used in the resource model are 15 mE x 2 mN x 2 mRL. Block sizes were selected based on the geological variability, drill pattern spacing and planned selective mining unit. The model is sub-blocked along domain boundaries to a minimum of 1 m x 1 m x 1 m, and the Datamine Splits setting is set to 3 to get better resolution on the edge of the wireframes. High-grade values in each grade zone were capped and restricted based on probability plot results to reduce potential grade distortion. At Zone 5, ordinary Kriging (OK), constrained by the mineralised zone wireframe was used to estimate copper, silver, lead, zinc, and arsenic, while inverse distance squared (ID^2) weighting was used to estimate acid soluble copper to total copper ratio and cyanide copper to total copper ratio. Grades were interpolated using 1 m composites within hard boundary mineralised domains. Dynamic anisotropy was used to estimate copper, silver, lead, zinc, and arsenics in all grade zones.

Criteria	JORC Code explanation	Commentary
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	A Measured, Indicated and Inferred Mineral Resource Estimate was previously reported for Zone 5 in June 2020. A total of 873 drillholes, of which 262 are off-ore holes was used in the current Zone 5 Mineral Resource model. The December 2022 model was updated using the same methodologies used for the 2020 model and showed strong correlation with the previous models. The 2022 model included a total of 262 additional off-ore drillhole intersections since the 2020 model. These holes have provided a higher confidence level on continuity and mineralogy of the deposit. The grade zone domains at Zone 5 are based on copper grade. Copper, silver, arsenic, lead and zinc have been interpolated based on the copper grade zones in the Mineral Resource. Copper grade domains and the estimation process was controlled by referencing the interpreted lithological solids. High-grade copper zones used a >1.0% Cu cut-off and were enveloped by a lower-grade copper zone with a >0.1% and less than 1.0% cut-off. Grade was continuous along strike, reflecting the stratiform style of the mineralisation. Histogram plots by individual grade zones were used to determine the potential risk of grade distortion from higher-grade assays outside the general population. To reduce the influence of excessive values on the deposit, both copper and silver grade capping was applied to each grade zone and ore type. The model was validated by a visual comparison of the colour coded block grades to drillhole assays and composite grades in section view, a global comparison of average/mean grades and swath plot. **Mango NE, Zone 5N, Zeta NE** The block models for the three Expansion Deposits were created by Ridge Geoscience using Hexagon Mining's HxGN MinePlan 3D software or Leapfrog Edge in UTM coordinates. The models were rotated horizontally to align with the strike of the deposits. A combination of decile analysis and review of lognormal probability plots by individual grade zones was used to determine the potential risk of grade distortion from higher grade assays outside the general population. To reduce the influence of extreme values on the estimate, both copper and silver grade capping was applied to each grade zone and ore type. Compositing was applied after grade capping (2 m at Zone 5N, full length at Mango NE and Zeta NE). The block sizes used for estimation were based on the local drill spacing, geological variability of the deposit and the likely size of the selective mining unit. A 10 m along strike, 2 m along dip and 2 m in the plane of the orebody block size was used for both Zeta NE and Zone 5N. The Mango NE block size was 10 m x 5 m x 5 m. Each model was further sub-blocked for better definition along grade zone boundaries.

Criteria	JORC Code explanation	Commentary
		At all three Expansion Deposits, OK was used to estimate copper, silver, lead, zinc, and arsenic and molybdenum, while ID^2 weighting was used to estimate acid soluble copper to total copper ratio and cyanide copper to total copper ratio. Grades were interpolated using composites within hard boundary mineralised domains. ID^2 and Nearest Neighbour (NN) methods were used as model comparisons. The estimation method used a weighting by length of composite and search ellipsoid based on the variogram models and completed in one or two passes. The three Expansion Deposits are primarily copper deposits with additional moderate-grade silver. The mineral grade zone domains were based on primarily on copper grade. The Mineral Resource estimate interpolated copper, silver, lead, zinc, arsenic, and molybdenum based on the copper grade zones defined. No assumptions were made between correlations of variables. Copper and silver values were estimated independently within the defined grade zones. The copper grade zone domains and the Mineral Resource estimation was guided and controlled by the interpreted geology models. Continuous, high-grade domains used a copper cut-off >=1.0% and were typically enveloped by a lower grade, disseminated copper domain using a copper cut-off >= 0.1%. The model was validated by a visual comparison of the colour coded block grades to drillhole assays and composite grades in section view, a quantitative comparison of composite and block grade distributions, a global comparison of NN and OK models, and a graphical comparison of several spatial grade distributions using swath plots. Visual comparison for copper and silver showed a strong correlation between values. No large discrepancies were apparent. The quantitative assessment comparing the distribution of composite and block grades indicates a good comparison that shows the smoothing effect of the Kriging algorithms. A comparison of the NN and OK models resulted in copper and silver grade differences of less than 3% which is within acceptable tolerances. Correlation of the swath plots over the high-grade domains showed consistent agreement with the primary estimates being slightly smoother vs that of the NN estimates. **Banana Zone – New Discovery** Assays were composited to 2 m lengths across the individual grade zones. Residual segments shorter than 1 m have their length distributed among the other intervals. Composited data was used to generate lognormal probability plots and histogram plots by mineralised domain. A review of the results showed that some high-grade outliers were spatially discontinuous from the remainder of the dataset and that there was justification for restricting their range of influence. Copper and silver composites above the outlier value identified from graphical analysis were limited to a nominal 30 m influence for block grade interpolation. Beyond that distance, the outlier values were capped to the outlier value when used to estimate grade. Lead and zinc composites above the restricted value were limited to a 60 m influence for block grade interpolation.

Criteria	JORC Code explanation	Commentary
		Variogram models were completed to determine the orientation and spatial continuity of the composited copper and silver values. Due to the narrow mineralisation, no downhole correlograms were generated, and the nugget was determined from the 3D variograms. Nested spherical models were fit to the directional variograms. The block model was created by Ridge Geoscience using Leapfrog Edge version 2021.2.4 in UTM coordinates. The model is rotated 34° counter-clockwise so that it aligns with the 056° strike of the deposit. The parent block size is 10 m x 5 m x 5 m, and blocks were further sub-blocked to a minimum of 2.5 m x 0.625 m x 0.625 m along the grade zone boundaries. The New Discovery Mineral Resource estimation model was completed using both OK (copper and silver) and Inverse Distance Cubed (ID^3) for lead, zinc, copper solubility ratios and density. Estimated were constrained to the mineralised grade zone solids. The estimation used 2 m composites. Composite sharing across grade zone boundaries was not allowed. High-grade restrictions were applied in all search passes. All interpolations, except for density, used a variable search orientation based on the geometry of the zones. Density values were interpolated using 5 m composites independent of the grade zones and an inclined search ellipse parallel to the orebody geometry. The New Discovery block model was validated by visual comparison of colour coded block grades to drillhole composite grades in both sectional and long section views, global comparison of a NN model with the OK model, swath plot analysis comparing NN and OK grades. **Banana Zone – NE Fold** Due to the narrow nature of the individual stacked high-grade zones, assays were weight-averaged into full-length composites across the individual grade zones. This resulted in average composite lengths of 2.8 m, 2.8 m, 3.1 m, and 2.2 m for Grades Zones 20, 30, 40, and 42, respectively. Grade Zone 10, occurring above, between, and beneath the high-grade zones, was composited to a maximum of 5 m. Composited data was used to generate lognormal probability plots and histogram plots. A review of the results showed that some high-grade outliers were spatially discontinuous from the remainder of the dataset and that there was justification for restricting their range of influence. Composite values above the restricted value were limited to a 45 m influence for block grade interpolation. Beyond that distance, the high-grade composites were capped to the restricted value when used to estimate grade. Variography was attempted on the composited copper and silver values but was difficult due to the unique geometry of the deposit. Given the stratabound nature of the mineralisation, the use of detailed grade domaining, and the regular drillhole spacing, and ID^2 weighting interpolation was deemed to be equally satisfactory as a Kriged interpolation method. Nevertheless, weak 3D global variograms produced ranges of approximately 250–300 m, which was used as a guide for search criteria in composite selection and model interpolation.

Criteria	JORC Code explanation	Commentary
		The block model was created by Ridge Geoscience using Leapfrog Edge version 2021.2.4 in UTM coordinates. The model is rotated 36° counter-clockwise so that it aligns with the 054° strike of the deposit. The parent block size is 5 m x 5 m x 5 m, and blocks were further sub-blocked to a minimum of 0.625 m x 0.625 m x 0.625 m along the grade zone boundaries. The NE Fold Mineral Resource estimation model was completed using ID^3 and constrained to the mineralized grade zone solids. The estimation used full-length composites for each high-grade zone and 5 m composites for the low-grade zone. Composite sharing across grade zone boundaries was not allowed. The high-grade restrictions were applied in all search passes. All interpolations used a spherical search. Specific gravity values were interpolated using 5 m composites independent of the grade zones. The NE Fold block model was validated by visual comparison of colour coded block grades to drillhole composite grades in both sectional and long section views, Global comparison of a NN model with the OK model, Swath plot analysis comparing NN and OK grades. **Banana Zone – South Limb Definition** Assays were weight-averaged into 2 m composites across the individual grade zones. Residual segments shorter than 1 m have their length distributed among the other intervals. Composited data was used to generate cumulative probability and histogram plots. A review of the results showed that some high-grade outliers were spatially discontinuous from the remainder of the dataset and that there was justification for restricting their range of influence. Composite values above the restricted value were limited to a 40 m influence for block grade interpolation. Beyond that distance, the high-grade composites were capped to the restricted value when used to estimate grade. Variogram models were completed to determine the orientation and spatial continuity of the composited copper and silver values. Due to the narrow mineralisation, no downhole correlograms were generated, and the nugget was determined from the 3D variograms. Nested spherical models were fit to the directional variograms. The block model was created by Ridge Geoscience using Leapfrog Edge version 2021.2.4 in UTM coordinates. The model is rotated 44° counter-clockwise so that it aligns with the 046° strike of the deposit. The parent block size is 10 m x 5 m x 5 m, and blocks were further sub-blocked to a minimum of 2.5 m x 0.625 m x 0.625 m along the grade zone boundaries. The interpolation plan for the South Limb Definition Mineral Resource estimation model was completed using both OK (copper and silver) and ID^3 (lead, zinc, copper solubility ratios and density) and constrained to the mineralised grade zone solids. The estimation used 2 m composites. Composite sharing across grade zone boundaries was not allowed. The high-grade restrictions were applied in all search passes. All interpolations except for density used a variable search orientation based on the geometry of the zones. Density values were interpolated using 5 m composites independent of the grade zones and an inclined search ellipse parallel to the orebody geometry.

Criteria	JORC Code explanation	Commentary
		The South Limb Definition block model was validated by visual comparison of colour coded block grades to drillhole composite grades in both sectional and long section views, Global comparison of a NN model with the OK model, swath plot analysis comparing NN and OK grades. **Hana Mining Ltd** **Banana Zone – North Limb Mid, North Limb South, Chalcocite, South Limb South, South Limb Mid, South Limb North** The Banana Zone block model was created by DRA Mineral Projects using MineSight® software. Copper and silver assay grades were capped (top cut) before compositing. Capping levels were selected based on lognormal probability plots for each metal by grade zone. One-metre downhole composites were created after assay capping. A new composite was started where the grade zone changed. Shorter length composites (less than 0.5 m) at the bottom of the grade zone were merged into the previous (up-hole) composite for all models. A 3D block model was defined for Banana Zone. Block dimensions were 40 m along strike, 6 m along dip and 4 m in the plane of the overall deposit. Grade zones were used to assign codes to the appropriate blocks in the model. With this method, the percentage of the block within each grade zone is stored in the block. Copper and silver grades were interpolated and stored separately for each grade zone portion of the block. The interpolation plan was completed using ID^3 and NN methods with hard boundaries used between the various grade shells. Visual comparisons, NN models and swath plots were used for checking the models. **Banana Zone – North Limb North, South Limb 70** The North Limb North and South Limb 70 block models were created by DRA Mineral Projects using MineSight® software. Copper and silver assay grades were capped (top cut) before compositing. Capping levels were selected based on lognormal probability plots for each metal by grade zone. One-metre downhole composites were created after assay capping. A new composite was started where the grade zone changed. Shorter length composites (less than 0.5 m) at the bottom of the grade zone were merged into the previous (up-hole) composite for all models. 3D block models were generated for North Limb North and South Limb 70. Block dimensions were 40 m along strike, 6 m along dip and 4 m in the plane of the overall deposit. Grade zones were used to assign codes to the appropriate blocks in the model. With this method, the percentage of the block within each grade zone is stored in the block.

Criteria	JORC Code explanation	Commentary
		Copper and silver grades were interpolated and stored separately for each grade zone portion of the block. The interpolation plan was completed using ID^3 and NN methods with hard boundaries used between the various grade shells. Visual comparisons, NN models and swath plots were used for checking the models. **Zone 6** Copper and silver assay grades were capped (top cut) before compositing. Capping levels were selected based on coefficient of variation plots for each metal by grade zone. One-metre downhole composites were created after assay capping. A new composite was started where the grade zone changed. Variography was attempted but insufficient data is contained along dip to enable variograms to be modelled with confidence. The block model was created in UTM coordinates. The model was rotated horizontally and vertically to align with the strike of the deposit. The parent block size is 50 mE x 50 mN x 2 mRL, and blocks were further sub-blocked to a minimum of 10 m x 10 m x 0.02 m along the grade zone boundaries. ID^3 interpolation was used to estimate the grades into model blocks for copper and silver in the mineralised domains. Hard boundaries were used between the various grade shells. For validation, a cross-validation exercise was completed to test the robustness of the estimation parameters. The jack-knifing method was used. This method removes each point in turn from the data file and estimates its value from the remaining data. A table of actual and estimated values is created. A comparison is then made, comparing the actual grades vs estimates. One or more of the estimation parameters can then be changed and the process rerun to see whether the new parameters improve the results of the statistical analysis. The method is therefore iterative, requiring several runs to establish the best set of parameters. The cross-validation study showed satisfactory results, with good correlations. **Discovery Metals Ltd** **Ophion, Selene** Software used in resource estimation was CAE Mining Datamine software. Assays were weight-averaged into 1 m composites across the individual grade zones. Residual segments shorter than 1 m have their length distributed among the other intervals. Copper, silver and sulphur assay grades were capped (top cut) as appropriate based on lognormal probability plots and histograms for each metal by grade zone to limit the effect of high-grade outliers located at depth creating an artificial high grade bias in areas where block grades were extrapolated beyond drilling.

Criteria	JORC Code explanation	Commentary
		OK interpolation was used to estimate the grades into model blocks of 40 mE x 80 mN x 40 mRL in size for copper, silver and sulphur in the mineralised domains. Sub-celling was employed to accurately represent model volumes down to 1 mE x 8 mN x 0.05 mRL. Each sub-cell within the mineralisation outline was assigned the grade values of the parent cell. Whist there is a correlation between copper, silver and sulphur, each element was estimated independently from the same or similar numbers of data. Estimation parameters were optimised based on the drillhole data spacing and the models of grade continuity produced by the variography study. An anisotropic, elliptical search neighbourhood was orientated according to the modelled directions of grade continuity for copper, which generally correlate with the mineralisation strike and dip. Data density is not sufficient to model grade variation across the mineralisation width; geological modelling is currently simulating a mining cut-off envelope. Infill drilling is required to allow for more confident modelling of mineralisation volume and to make it possible to determine grade variation across strike and to a scale indicative of selective mining units along strike and down-dip. Search ranges for all elements were adjusted in order to ensure a reasonable number of samples were included in each block estimate and so data in the dip and across-dip direction was not "screened out" by the high dimensional ratios between strike and dip directions and the narrow across-dip width of mineralisation. A comparison between the mean grades from the drillhole composite data and the block estimates (on a parent cell basis) was performed to ensure they were similar and the estimate unbiased in a global sense. Local validation of the estimates was performed by visually inspecting the block model in plan sections, long sections and cross sections. The quality of the local estimates was checked by averaging block grades and composite data for copper, silver and sulphur both along strike and down dip. **Plutus** Software used in resource estimation was CAE Mining Datamine software and Geovariances Isatis software. All data was composited to 1 m prior to estimation. S:Cu ratio was calculated from sulphur and copper assay values. Capping (sometimes referred to as top-cutting) was applied to different variables in order to restrict the influence of extreme grades during estimation. QG based their capping decisions on subjective judgements, which include consideration of: • The total population distribution • Examination of histogram and log probability plots • The spatial location of extreme grades

Criteria	JORC Code explanation	Commentary
		• The impact that extreme values will have in estimates. Variogram models were completed to determine the orientation and spatial continuity of composited copper and silver, sulphur, CuAS, S:Cu ratio and bulk density values. A 3D block model was defined for Plutus. Block dimensions for mineralised zones were 5 mE x 25 mN x 6 m RL. These block dimensions were selected to match the existing grade control model definition. Sub-cells to a minimum dimension of 0.3125 mE x 3.125 mN x 1.25 mRL were used to represent volume. The model is rotated 50° clockwise around the vertical axis. Copper and silver, sulphur, CuAS, S:Cu ratio and bulk density values were interpolated by OK and hard boundaries were used between the various grade shells. Estimates were validated visually in Datamine's 3D graphical environment, by examining reproduction of global estimation statistics, and by comparing semi-local reproduction of grade in swath plots. **Zeta Underground** Software used in resource estimation was CAE Mining Datamine software and Geovariances Isatis software. All data was composited to 1 m prior to estimation. S:Cu ratio was calculated from sulphur and copper assay values. Capping (sometimes referred to as top cutting) was applied to different variables in order to restrict the influence of extreme grades during estimation. QG based their capping decisions on subjective judgements, which include consideration of: • The total population distribution • Examination of histogram and log probability plots • The spatial location of extreme grades • The impact that extreme values will have in estimates. Variogram models were completed to determine the orientation and spatial continuity of composited copper and silver, sulphur, CuAS, S:Cu ratio and bulk density values. A 3D block model was defined for Zeta. Block dimensions for mineralised zones were 5 mE x 25 mN x 10 mRL. Sub-cells to a minimum dimension of 0.3125 mE x 3.125 mN x 1.25 mRL were used to represent volume. The model is rotated 40° clockwise around the vertical axis. Copper and silver, sulphur, CuAS, S:Cu ratio and bulk density values were interpolated by OK and hard boundaries were used between the various grade shells. Estimates were validated visually in Datamine's 3D graphical environment, by examining reproduction of global estimation statistics, and by comparing semi-local reproduction of grade in swath plots.

Criteria	JORC Code explanation	Commentary
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	All tonnages are estimated and reported dry in-situ basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	**Khoemacau Copper Mining** **Zone 5** Cut-off grade value was determined from the geology models and on continuity of the grade distribution. A continuous low-grade mineralised domain at a 0.1% Cu cut-off was used in 2020 for Mineral Resource estimation. An internal high-grade copper domain at a 1.0% cut-off was based on economic mining studies. These cut-offs were maintained for the 2022 Mineral Resource estimate. The 2022 Zone 5 Mineral Resource estimate is reported (with internal dilution included within a NSR mining shell and depleted) as of 31 December 2022. The Zone 5 Mineral Resource is constrained by a US$65/t NSR underground mining shell. This is a change from the previously reported Zone 5 Mineral Resource, which was based on the mineralisation only, above a 1% Cu cut-off. Underground Mineral Resources include all blocks inside mineable stope optimiser (MSO) shapes returning $65 NSR, based on $3.54/lb copper, $21.35/oz silver, recoveries averaging 88% for copper and 84% for silver and assumed payability of 97% and 90% **Mango NE, Zone 5N, Zeta NE** The cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. Copper grade shell domains for the Mineral Resource estimate were built using a copper cut-off of 1.0%. These high-grade zones are typically enveloped by a lower grade disseminated mineralisation which is modelled based on a 0.1% Cu cut-off. Only material within the high-grade zones is included in the tabulation of the Mineral Resource. Material within the low-grade zones is estimated only for potential inclusion as dilution in internal mining studies. Mineral Resources are reported on a dry in-situ basis at a 1.0% Cu cut-off. Reporting cut-off grade was selected based on assumed prices of US$3.54/lb and US$21.35/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 84%, respectively, and assumed payability of 97% and 90%, respectively. This equates to approximately US$66/t of NSR value, which Ridge considers a reasonable underground mining operation incremental cut-off based on operations of similar type, scale, and location. The lower grade 0.1% Cu cut-off grade domain is available for use as dilution in internal mining studies. **Banana Zone – New Discovery**

Criteria	JORC Code explanation	Commentary
		The mineralisation cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. The high-grade copper domain wireframes were based on an approximate copper cut-off of greater than 1.0%. Low-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.1%. The Mineral Resource is reported using a 1.0% Cu block cut-off grade. **Banana Zone – NE Fold** The mineralisation cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. The high-grade copper domain wireframes were based on an approximate copper cut-off of greater than 1.0%. Low-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.1%. The Mineral Resource is reported using a 0.26% CuEq block cut-off grade and constrained by a preliminary pit shell. The copper equivalency formula used is CuEq% = Cu% + (Ag g/t x 0.0083). **Banana Zone – South Limb Definition** The mineralisation cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. The high-grade copper domain wireframes were based on an approximate copper cut-off of greater than 1.0%. Low-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.1%. The Mineral Resource is reported using a 1.0% Cu block cut-off grade. **Hana Mining Ltd** **Banana Zone – Remainder** The mineralisation cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. The high-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.5%. Low-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.1%. Mineral Resources are reported above a 1.0% Cu cut-off for potential underground areas, in line with the New Discovery and South Limb Definition Mineral Resource reporting The Chalcocite area is reported at 0.26% Cu cu-off in line with the NE Fold Mineral Resource reporting. **Zone 6** A nominal 1.0% block copper lower cut-off is used for reporting the mineral resource on the basis of what is used for the nearby underground mining operations. **Discovery Metals Ltd**

Criteria	JORC Code explanation	Commentary
		Ophion, Selene A nominal 0.6% block copper lower cut-off is used for reporting the mineral resource on the basis of what is used for the nearby Zeta open pit mining operation. **Plutus** For mineralisation QG used a threshold of ~0.3% Cu to define a mineralised envelope, also taking into consideration the thickness of mineralisation and consistency of geometry. For reporting open pit resources, a variable block cut-off is applied on copper grades depending on oxidation state (1% Cu in oxide, 0.7% Cu in transition material, and 0.5% in sulphide ores). These cut-offs were calculated based on application of a simple economic model (copper price $5,700/t, mining cost of $2/t, processing cost of $25/t, and copper recovery of 45% in oxide, 65% in transition and 90% in fresh). For reporting underground resources, a block cut-off of 1.07% CuEq was applied, where CuEq = Cu + Ag*0.0113. This equates to a minimum mining width of 5 m. This cut-off grade is derived from a more complex economic analysis incorporating taxation, transport, smelting and refining charges. **Zeta Underground** The mineralisation cut-off grade was selected based on the geology models (lithology, structure, and mineralogy) and on continuity of the grade distribution. The high-grade copper domain wireframes were based on an approximate copper cut-off of greater than 1.5%. Low-grade copper domain wireframes were based on an approximate copper cut-off of greater than 0.5%. For reporting underground resources, a block cut-off of 1.07% CuEq was applied, where CuEq = Cu + Ag*0.0113. This equates to a minimum mining width of 5 m. This cut-off grade is derived from a more complex economic analysis incorporating taxation, transport, smelting and refining charges.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	**Khoemacau Copper Mining** **Zone 5** The underground resource at Zone 5 was constrained by the high-grade copper domain and the property boundary. Ore production at Zone 5 is conducted through longhole open stoping methods (planned 25 m high, 50 m long and a minimum width of 3 m). Paste fill is planned at depths greater than 445 m below surface for North Corridor and 475 m below surface for Central Corridor and South Corridor. Production rate is planned at 3.6 Mtpa. The mine is divided into three corridors (North, Central and South), with twin declines in both the Central Corridor and South Corridor. The December 2022 Resource model was depleted using mine development and production voids till end of December 2022. **Mango NE, Zone 5N, Zeta NE** Mineral Resources are reported above a 1.0% Cu cut-off. Reporting cut-off grade was selected based on assumed prices of US$3.54/lb and US$21.35/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 84% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$66/t of NSR value, which Ridge considers a reasonable underground mining operation incremental cut-off based on operations of similar type, scale, and location. **Banana Zone – New Discovery** Mineral Resources are reported above a 1.0% Cu cut-off. Reporting cut-off grade was selected based on assumed prices of US$3.20/lb and US$20.00/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 83% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$60/t of metal value, which Ridge considers a reasonable underground mining operation incremental cut-off based on operations of similar type, scale, and location. **Banana Zone – NE Fold** Mineral Resources are reported above a 1.0% Cu cut-off. The Mineral Resource is reported using a 0.26% CuEq cut-off and constrained by a preliminary pit shell. Additionally, the Mineral Resource includes only sulphide material below the variably oxidised cap. The copper equivalency formula used is CuEq% = Cu% + (Ag g/t x 0.0083). **Banana Zone – South Limb Definition**

Criteria	JORC Code explanation	Commentary
		Mineral Resources are reported above a 1.0% Cu cut-off. Reporting cut-off grade was selected based on assumed prices of US$3.20/lb and US$20.00/oz for copper and silver, respectively, assumed metallurgical recoveries of 88% and 83% respectively, and assumed payability of 97% and 90% respectively. This equates to approximately US$60/t of metal value, which Ridge considers a reasonable underground mining operation incremental cut-off based on operations of similar type, scale, and location. **Hana Mining Ltd** **Banana Zone remainder** Mineral Resources are reported above a 1.0% Cu cut-off for potential underground areas, in line with the New Discovery and South Limb Definition Mineral Resource reporting The Chalcocite area is reported at 0.26% Cu cut-off in line with the NE Fold Mineral Resource reporting. As the Banana Zone (remainder) area is in the early stages of project development, as further engineering studies are completed, the project could change from potentially mineable by open pit methods to a combination of open pit and underground methods. **Zone 6** A nominal 1.0% block copper lower cut-off is used for reporting the mineral resource on the basis of what is used for the nearby underground mining operations. Mining studies have not been carried out to determine optimal underground grade cut-off. **Discovery Metals Ltd** **Ophion, Selene** A nominal 0.6% Cu lower cut-off is used for reporting the mineral resource based on what was used for the nearby Zeta open pit mining operation. Mining studies for the Ophion and Selene prospects have not been carried out to determine optimal open pit and underground grade cut-offs. The Mineral Resources are considered to be amenable to extraction by open pit mining at this stage and modelling does not extend to sufficient depth to report a section of the Mineral Resource above a higher grade cut-off expected to be relevant to underground mining. **Plutus** Open pit Mineral Resources are reported above a 0.5% Cu cut-off in fresh rock, 0.7% Cu cut-off in transitional rock and 1.0% Cu cut-off in in oxide. Resources are further constrained within a shell optimised at 1.5 times the reserve copper price ($5700/t).

Criteria	JORC Code explanation	Commentary
		Underground Mineral Resources are reported above a 1.07% CuEq (CuEq = Cu + Ag*0.0113) and a 5 m minimum mining width. Resources are further constrained within the limits of the interpreted copper grade domains. No economic feasibility study has yet been completed for Plutus, but at nearby Zeta the economic viability of underground mining has been demonstrated, and the same cut-off assumptions have been applied to Plutus. **Zeta Underground** Underground Mineral Resources are reported above a 1.07% CuEq (CuEq = Cu + Ag*0.0113) and a 5 m minimum mining width. Resources are largely constrained to the limits of the interpreted high-grade domain. A feasibility study has demonstrated economic viability of underground mining at Zeta.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made	**Khoemacau Copper Mining** **Zone 5** No oxide material or recoveries have been included in the Mineral Resource estimate. The top of the model was terminated against the oxide/sulphide boundary. Multiple metallurgical testwork programs have been completed on the Zone 5 ore between 2013 and 2020. This includes testwork on both oxidised, partially oxidised, and sulphide ore composites. The average copper and silver recoveries achieved in this ore reserve estimate for sulphide material on average are 88.2% and 84.1% respectively. These recoveries reflect the best fit regression recoveries from sulphide ore testwork completed up to June 2020. Mineralogy in the model was determined based on the Cu:S ratio. The ratio was calculated for individual assay intervals and averaged in 1 m downhole composites. Grade zone boundaries were respected in the compositing. The Hangingwall Zone is predominantly chalcopyrite and pyrite with low recoveries, while Central Zone is dominantly bornite with improved recoveries and chalcocite with high recoveries. The interpolation plan for the Cu:S ratio was completed using inverse distance cubed (ID3) weighting and constrained to the mineralised grade zone solids. After the estimation, each block contains a Cu:S ratio that was used to define mineralogy and subsequently recovery. Copper recoveries were capped at 95%. The recovery value was then discounted by the proportion of oxide when the AsCu/TCu ratio was greater than 15%. **Mango NE, Zone 5N, Zeta NE**

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<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
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Mineralogical and metallurgical sampling was initiated in early 2020 for the three Expansion Deposits. Testwork consisted of nine composite samples from each deposit that intersected sulphide mineralisation. Three dominant ore types were tested for each deposit: bornite, chalcocite and chalcopyrite at low, moderate and high copper-silver grades. The testwork aimed at characterising sulphide mineralisation, testing ore hardness fluctuations across the strike and down dip and confirm plant design and mine planning in the Central portions of the deposits where the best economics have been obtained.
Preliminary testwork was carried out by Mintek in Johannesburg, South Africa. All nine composite samples per deposit (27 samples in all) were tested for Bond Mill Work Index (BMWi), rougher and cleaner analysis. Preliminary results exhibit similar mineralogy, BMWi and metallurgical response to Zone 5.
Overall, copper recoveries were in excess of 87% and copper concentrate grade was found to be in the range of 38% to 50%.
Mineralogy was defined based on the Cu:S ratio, calculated for each assay interval and composited down the hole while respecting the boundaries of the grade zones.
The interpolation plan for the Cu:S ratio was completed using Inverse Distance Weighting and constrained to the mineralised grade zone solids.
After the estimation, each block contains a Cu:S ratio that was used to define mineralogy and subsequently recovery as shown below.
<table>
<tr><th colspan="3">Cu:S ratio</th><th colspan="2">Recovery formula</th></tr>
<tr><th>From</th><th>To</th><th>Mineralogy</th><th>Cu</th><th>Ag</th></tr>
<tr><td>0.01</td><td>0.75</td><td>Chalcopyrite</td><td>86.12 + 0.56*Cu%</td><td>83.3</td></tr>
<tr><td>0.75</td><td>1.5</td><td>Bornite</td><td>86.42 + 0.56*Cu%</td><td>83.1</td></tr>
<tr><td>1.5</td><td>99</td><td>Chalcocite</td><td>88.65 + 0.56*Cu%</td><td>87.1</td></tr>
</table>
Copper recoveries were capped at 95%.
Recovery values were then discounted by the proportion of oxide when the AsCu/TCu ratio was greater than 10%.
Banana Zone – New Discovery
Recovery formulae are based on recent metallurgical testwork on Zone 5 ore.
<table>
<tr><th>Metal</th><th>Recovery Formula</th></tr>
<tr><td>Cu</td><td>86.42 + (0.56 * Cu%)</td></tr>
<tr><td>Ag</td><td>74.47 + (0.327 * Ag g/t)</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
Copper and silver recoveries are calculated for each block independently and stored to the sub-blocked model. The maximum copper and silver recoveries are capped at 95%. The copper recovery value was then discounted by the proportion of oxide when the AsCu/TCu ratio was greater than 10%, using the formula: Recovery(final) = Recovery (Initial) x (1-(AsCu/TCu)).
Banana Zone – NE Fold
Recovery formulae are based on recent metallurgical testwork on Zone 5 ore.
<table>
<tr><th>Metal</th><th>Recovery Formula</th></tr>
<tr><td>Cu</td><td>86.42 + (0.56 * Cu%)</td></tr>
<tr><td>Ag</td><td>74.47 + (0.327 *|Ag g/t)</td></tr>
</table>
Copper and silver recoveries are calculated for each block independently and stored to the sub-blocked model. The maximum copper and silver recoveries are capped at 95%. The copper recovery value was then discounted by the proportion of oxide when the AsCu/TCu ratio was greater than 15%, using the formula: Recovery(final) = Recovery (Initial) x (1-(AsCu/TCu+0.05)).
Banana Zone – South Limb Definition
Recovery formulae are based on recent metallurgical testwork on Zone 5 ore.
<table>
<tr><th>Metal</th><th>Recovery Formula</th></tr>
<tr><td>Cu</td><td>86.42 + (0.56 * Cu%)</td></tr>
<tr><td>Ag</td><td>74.47 + (0.327 *|Ag g/t)</td></tr>
</table>
Copper and silver recoveries are calculated for each block independently and stored to the sub-blocked model. The maximum copper and silver recoveries are capped at 95%. The copper recovery value was then discounted by the proportion of oxide when the AsCu/TCu ratio was greater than 10%, using the formula: Recovery(final) = Recovery (Initial) x (1-(AsCu/TCu)).
Hana Mining Ltd
Banana Zone – Remainder
Metallurgical testing in support of the Banana Zone Preliminary Economic Assessment began in 2010 under the guidance of Hana with mineralogical evaluations, oxide leach testing and sulphide flotation testing on the Banana Zone resource areas. Khoemacau then advanced the metallurgical program for the Banana Zone in 2013 with mineralogy examinations, comminution testing and more detailed sulphide flotation testing on an expanded resource base for the NE Fold Zone.
Based on the metallurgical response, a flotation recovery of 90% for copper and 85% for silver is projected. Copper concentrate grade will be a function of copper mineralisation. It is assumed that bornite and chalcocite will be the dominant copper-bearing minerals in the various deposits collectively known as the Banana Zone and a copper concentrate grade of 38% is projected.
</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
Zone 6
Metallurgical testing has been carried out on material from surrounding prospects over several campaigns. The work showed copper and silver recoveries of 94% and 80%, respectively.
Discovery Metals Ltd
Ophion, Selene
Different trends in Ophion and Selene Cu:S ratios indicate that metallurgical assumptions from mining the Zeta pit should be tested for Ophion.
Plutus, Zeta Underground
The process metallurgical recovery is based upon analysis of the project-to-date metallurgical performance of the Plutus open pit.
<table>
<tr><th>Metal</th><th>Recovery
(%)</th></tr>
<tr><td>Copper</td><td>Min(2.0755*(S:Cu Ratio %) + 36.285, 93)</td></tr>
<tr><td>Weathered Silver</td><td>40</td></tr>
<tr><td>Transitional Silver</td><td>70</td></tr>
<tr><td>Sulphide Silver</td><td>65</td></tr>
</table>
</td></tr>
<tr><td>Environmental factors or assumptions</td><td>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</td><td>
Khoemacau Copper Mining
Zone 5
Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the Environmental Impact Assessment Act of 2011 and Waste Management Act.
Khoemacau has completed the Environmental and Social Impact Assessment (ESIA) process for Zone 5.
The Environmental Management Plan is monitored by on-site staff and biannually audited by an independent consultant. Key to the independent consultant review is the assurance that the company is complying with the recommendations of the ESIA.
Mango NE, Zone 5N, Zeta NE
Authorisation of the Environmental Management Plan for exploration activities was given on 30 March 2020 and is valid for five years.
Banana Zone – New Discovery
</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the *Environmental Impact Assessment Act of 2011* and *Waste Management Act*. **Banana Zone – North East Fold** Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the *Environmental Impact Assessment Act of 2011* and *Waste Management Act*. **Banana Zone – South Limb Definition** Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the *Environmental Impact Assessment Act of 2011* and *Waste Management Act*. **Banana Zone - Remainder** Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the *Environmental Impact Assessment Act of 2011* and *Waste Management Act*. **Zone 6** Khoemacau ensures compliance to the requirements of the applicable regulations of Botswana including, the *Environmental Impact Assessment Act of 2011* and *Waste Management Act*. **Ophion, Selene** No environmental impact study has been completed at this initial stage of Mineral Resource estimation. Current assumptions of similarity to the nearby Zeta NE open pit operations and treatment at the established Boseto copper concentrator mean there is no apparent material environmental impact on exploitation of this Mineral Resource at this stage. **Plutus** DML has appropriate and approved waste dump designs in place and in operation, of sufficient size to store the expected quantities of mine waste rock associated with the Plutus Ore Reserve. DML has received the relevant mining licence from the government of the Republic of Botswana (Mining Licence No. 2010/99L) which is valid until 19 December 2025. This licence covers the area incorporating Plutus pit and associated waste dumps and haul roads, the plant and tailing facility, and offices. **Zeta Underground** No environmental impact study has been completed at this stage of Mineral Resource estimation. Current assumptions of similarity to the Zeta NE open pit operations and treatment at the established Boseto copper concentrator mean there is no apparent material environmental impact on exploitation of this Mineral Resource at this stage.

Criteria	JORC Code explanation	Commentary
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size, and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	**Khoemacau Copper Mining** **Zone 5** Bulk density measurements were collected throughout the mineralised zone at 2 m intervals. The standard Archimedean technique was used. Bulk density values were estimated into the Zone 5 block model using the inverse distance (ID1) estimation method. Testing of 30 samples showed <1% difference between wet and dry masses, and therefore it is reasonable to use the in-situ measurements as a substitute for dry bulk density. **Mango NE, Zone 5N, Zeta NE** A total of 4,050 bulk density measurements were taken on core samples collected from DD holes drilled at the three Expansion Deposits and analysed using the water immersion technique. Bulk density measurements were taken almost every two metres within mineralised intersections if core was competent. Bulk density was estimated into blocks. Any blocks that were not interpolated due to sparse data received an average bulk density ranging from 2.70 t/m^3 to 2.72 t/m^3 for sulphide blocks. **Banana Zone – New Discovery** In the most recent drillholes, bulk density measurements were taken almost every 2 m within mineralised intersections if core was competent. Samples were tested using Archimedean techniques, an accepted industry standard. The bulk density measurements range from 2.09 t/m^3 to 2.99 t/m^3, with an average of 2.75 t/m^3. Bulk density measurements by Khoemacau were used to estimate density values into blocks using ID^2. **Banana Zone – NE Fold** In the most recent drillholes, bulk density measurements were taken almost every 2 m within mineralised intersections if core was competent. Samples were tested using Archimedean techniques, an accepted industry standard. The bulk density measurements range from 2.12 t/m^3 to 3.49 t/m^3, with an average of 2.69 t/m^3. Bulk density measurements by Khoemacau were used to estimate density values into blocks using ID2. **Banana Zone – South Limb Definition** In the most recent drillholes, bulk density measurements were taken almost every 2 m within mineralised intersections if core was competent. Samples were tested using Archimedean techniques, an accepted industry standard. The bulk density measurements range from 2.02 t/m^3 to 3.04 t/m^3, with an average of 2.72 t/m^3.

Criteria	JORC Code explanation	Commentary
		Bulk density measurements by Khoemacau were used to estimate density values into blocks using ID2. **Hana Mining Ltd** **Banana Zone – Remainder** Bulk density measurements were conducted by the geologist before sampling took place. Generally, these measurements were taken on a 10 cm piece of competent core at 2 m intervals beginning 10 m before and ending 10 m after mineralisation. Bulk density measurements were grouped into oxidation domains defined in the geological model and mean values were used as a dry bulk density factor on this basis. Overburden was assigned a value of 1.4 t/m^3. Oxide blocks were assigned a density value of 2.3 t/m^3. Sulphide blocks were assigned a density of 2.71 t/m^3. **Zone 6** Bulk density measurements were conducted by the geologist before sampling took place. Generally, these measurements were taken on a 10 cm piece of competent core at 2 m intervals beginning 10 m before and ending 10 m after mineralisation. Bulk density measurements were grouped into oxidation domains defined in the geological model and mean values were used as a dry bulk density factor on this basis. Oxide blocks were assigned a density value of 2.6 t/m^3. Sulphide blocks were assigned a density of 2.72 t/m^3. **Discovery Metals Ltd** **Ophion, Selene** Bulk density measurements were taken from drill core were grouped into oxidation domains defined in the geological model and mean values were used as a dry bulk density factor on this basis. A bulk density value of 2.64 t/m^3 was used for oxidised material due to lack of sufficient sampling. This value was derived from open pit mining of the Zeta deposit. A bulk density value of 2.72 t/m^3 was used for oxidised material. Estimation of bulk density factors from specific gravity sampling can be improved through more representative sampling of weathered zones and incorporating geological domain interpretations for lithology and weathering. **Plutus** Bulk density was estimated into the model from a database of 4,500 measurements. Majority of the measurements were Archimedean determinations made on short core lengths (average 0.15 cm). A small number were made on longer core intervals.

Criteria	JORC Code explanation	Commentary
		Subsequent to commencement of Plutus open pit mining, a number of grab samples from the pit were tested, which confirm earlier core measurements. **Zeta Underground** Bulk density was estimated into the model from a database of 3,046 measurements. Majority of the measurements were Archimedean determinations made on short core lengths (average 0.15 cm). A small number were made on longer core intervals. Subsequent to commencement of Plutus open pit mining, a number of grab samples from the pit were tested, which confirm earlier core measurements.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit.	**Khoemacau Copper Mining** **Zone 5** The resource was classified as Measured, Indicated, and Inferred according to the JORC Code (2012) and Australasian Institute of Mining and Metallurgy (AusIMM) guidelines. Resource classification considered geological and grade continuity, sample spacing and the quality of the data. It also ensured spatial continuity and consistency with the deposit definition. Measured Resources were based on an average distance of 55 m for the composites from the closest three drillholes and used a minimum of three holes. Indicated Resources were assigned to blocks that were estimated using at least three drillholes where the closest composite was within 60 m or the average distance of the composites in the closest three drillholes used was within 95 m. Inferred Resources were assigned to blocks that used at least two drillholes and the distance to the closet composite was within 150 m. This classification was allowed to carry across the strike length along the outer edge limits where the drilling is spaced 400 m along strike. **Mango NE, Zone 5N, Zeta NE** Classification was subdivided into Indicated and Inferred Resources according to the JORC Code (2012) and AusIMM guidelines. Classification was based on order of increasing confidence levels using a combination of drill hole spacing, number of samples used to estimate a block, and other geostatistical studies. The classification method took into account geological and grade continuity and the quality of the informing data. It also ensured spatial continuity and consistency with the deposit definition. Indicated Resources were assigned to blocks that were estimated using at least three drillholes where the average distance of the composites in the closest three drillholes used was within approximately 120–140m, variably for each of the three Expansion Deposits.

Criteria	JORC Code explanation	Commentary
		Inferred Resources were assigned to the remaining blocks within the mineralisation wireframes, where the average distance of the composites in the closest drillholes used was within approximately 250 m. The classification was allowed to carry across some strike lengths along the outer edge limits where the drilling is spaced 400 m or greater along strike. The final classification was smoothed to ensure spatial continuity and to be consistent with the level of understanding of each deposit. **Banana Zone – New Discovery** The resource was classified as Indicated and Inferred according to the JORC Code (2012) and AusIMM guidelines. Indicated classification was assigned to blocks that were estimated using at least three drillholes, where the average distance to the closest three drillholes was within approximately 100 m, and distance to the closest drillhole was less than 60 m. Inferred classification was assigned to blocks that used at least two drillholes and the average distance to the closest three drillholes was less than approximately 300 m, and distance to the closest drillhole was less than 125 m. **Banana Zone – NE Fold** The resource was classified as Measured, Indicated, and Inferred according to the JORC Code (2012) and AusIMM guidelines. Measured classification was assigned to blocks that were estimated using at least three drillholes, where the average distance to the closest three drillholes was within approximately 50 m, and distance to the closest drillhole was less than 40 m. Measured classification was constrained to GZ10 and GZ30 only, which are the most continuous grade zones at NE Fold. Indicated classification was assigned to blocks that were estimated using at least three drillholes, where the average distance to the closest three drillholes was within approximately 100 m for GZ30 and within 50 m for GZ20, GZ40 and GZ42. Distance of the closest drillholes is generally less than 60 m. Inferred classification was assigned to blocks that used at least two drillholes and the average distance to the closest two or three drillholes was less than approximately 250 m for GZ30 and less than 100 m for GZ20, GZ40, and GZ42. Distance to the closest drillhole is generally within 125 m. After applying the above criteria, the boundaries of the classification were smoothed to ensure spatial continuity and to be consistent with the understanding of the deposit and confidence in the grade estimates. **Banana Zone – South Limb Definition** The resource was classified as Indicated and Inferred according to the JORC Code (2012) and AusIMM guidelines.

Criteria	JORC Code explanation	Commentary
		Indicated classification was assigned to blocks that were estimated using at least three drillholes, where the average distance to the closest three drillholes was within approximately 100 m, and distance to the closest drillhole was less than 60 m. Inferred classification was assigned to blocks that used at least two drillholes and the average distance to the closest three drillholes was less than approximately 300 m, and distance to the closest drillhole was less than 125 m. After applying the above criteria, the boundaries of the classification were smoothed to ensure spatial continuity and to be consistent with the understanding of the deposit and confidence in the grade estimates. **Hana Mining Ltd** **Banana Zone – Remainder** Resources have been classified as Indicated and Inferred using the CIM Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2010). For Indicated Mineral Resources, a nominal drillhole spacing of 100 m (along strike) x 50 m (down dip) or 100 m x 75 m with a maximum projection distance beyond drilling of 50 m along strike and 35 m down dip was used. This spacing is based on reviewing drillhole copper assays and logged geology in cross section. For Inferred Mineral Resources, a drill spacing of 200 m (along strike) x 100 m (down dip) with a maximum projection to the bottom of the mineralisation wireframes to an elevation of 700 m. The resource classification was initially interpreted on long sections running parallel to the subzone strike. This was modified in cross section as necessary then 3D solids models were built for block coding. The drillhole spacing criteria for categorizing resources is based on geological observations that mineralisation, although vein-style, is strata-bound. Encountering certain mineralised horizons is highly predicable in drilling, and this fact was considered when determining drill spacing requirements for classification. Mineral Resources as reported here are considered amenable to open pit mining. **Zone 6** Resources have been classified as Inferred. The entire mineralisation volume has been classified as an Inferred due to the current data spacing at the project. **Discovery Metals Ltd** **Ophion, Selene** The Mineral Resource has been classified as Inferred according to the JORC Code (2012) and AusIMM guidelines.

Criteria	JORC Code explanation	Commentary
		Due to the current, early stages of project development, where data density is typically beyond grade continuity along strike and key areas of spatial location and QAQC require further investigation and issue resolution a higher classification cannot be supported. **Plutus** The estimates have been classified into Measured, Indicated and Inferred Resources according to the JORC Code (2012), taking into account data quality, data density, geological continuity, grade continuity and estimation confidence. Measured Resources are largely restricted to the area of grade control drilling, where drill spacing is 25 m along strike x 10 m vertically. Measured Resource has been cautiously extended beyond the limits of grade control drilling where resource drilling is present at 50 m (strike) x 25 mRL. Indicated Resources are defined where drilling is at 100 m centres along strike, by 50–70 mRL or better. Inferred Resources are defined around the margins of Indicated resource. Long section polygons were used to defined zones of different classification. **Zeta Underground** The estimates have been classified into Measured, Indicated and Inferred Resources according to the JORC Code (2012), taking into account data quality, data density, geological continuity, grade continuity and estimation confidence. Measured Resources are largely restricted to the area of grade control drilling, where drill spacing is 25 m along strike x 10 m vertically. Measured Resource has been cautiously extended beyond the limits of grade control drilling where resource drilling is present at 50 m (strike) x 25 mRL. Indicated Resources are defined where drilling is at 100 m centres along strike, by 50–70 mRL or better. Inferred Resources are defined around the margins of Indicated resource. Long section polygons were used to defined zones of different classification.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	High-level reviews of the reported Mineral Resource estimates have been completed by ERM as part of compilation of this Competent Persons Report. **Zone 5** Internal reviews have been completed by Khoemacau mine technical services staff. No significant issues were raised. **Mango NE, Zone 5N, Zeta NE** Both Ridge and Khoemacau geologists conducted internal peer reviews of the Mineral Resource estimates.

Criteria	JORC Code explanation	Commentary
		Banana Zone – New Discovery, NE Fold, South Limb Definition Internal reviews of the Mineral Resource estimate followed Ridge's standard internal peer review procedures. **Banana Zone – Remainder** No documented model reviews. **Zone 6** No documented model reviews. **Ophion, Selene** Xstract has completed an internal peer review of the estimates. **Plutus, Zeta Underground** QG has completed an internal peer review of the estimates. **Zeta Underground** QG has completed an internal peer review of the estimates.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	**Khoemacau Copper Mining** **Zone 5** Data protocols and estimation techniques used in the Mineral Resource adhere to the guidelines outlined in the JORC Code (2012 Edition). The Mineral Resource statement relates to both selective and global estimates of tonnes and grade in each mineralised domain. A drillhole spacing study supports the criteria selected for use in the Mineral Resource classification. The accuracy and confidence of the Mineral Resource estimations are consistent with the results from the mining operations. **Mango NE, Zone 5N, Zeta NE** The Mineral Resource data collection and estimation techniques are consistent with the guidelines of the JORC Code (2012). The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. The accuracy and confidence of the Mineral Resource estimations are consistent with the current study level. **Banana Zone – New Discovery** The Mineral Resource data collection and estimation techniques are consistent with the guidelines of the JORC Code (2012).

Criteria	JORC Code explanation	Commentary
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate. **Banana Zone – NE Fold** The Mineral Resource data collection and estimation techniques are consistent with the guidelines of the JORC Code (2012). The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate. **Banana Zone – South Limb Definition** The Mineral Resource data collection and estimation techniques are consistent with the guidelines of the JORC Code (2012). The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate. **Hana Mining Ltd** **Banana Zone – Remainder** The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate. **Zone 6** The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate. **Discovery Metals Ltd** **Ophion, Selene** The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. Estimates do not model local grade variability across the mineralisation and only broadly along strike and down dip. Overall estimation accuracy is relatively low compared to projects sampled sufficiently to warrant a detailed mining study. No studies have been undertaken to quantify the accuracy and confidence of the estimate. Metallurgical and mining studies have also not been undertaken to evaluate the which proportion of this Mineral Resource may be economic. **Plutus, Zeta Underground** The Mineral Resource statement relates to global estimates of tonnes and grade in each mineralised domain. No studies have been undertaken to quantify the accuracy and confidence of the estimate.

Section 4: Estimation and Reporting of Ore Reserves

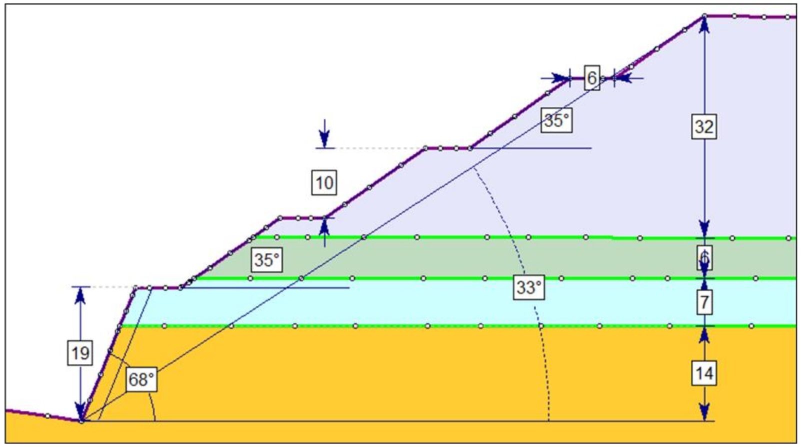
<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td>Mineral Resource estimate for conversion to Ore Reserves</td><td>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.

Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</td><td>Various consultancies and KCM personnel have been involved in the production of the Mineral Resource estimates used for the completion of the Expansion Project and Life of Mine (LOM) Study. All Mineral Resource estimates used in this work have been reviewed by ERM and each is classified and reported in accordance with the JORC Code (2012). ERM are satisfied that the Mineral Resource estimates are appropriate and fit for purpose. The following Mineral Resource estimate was used by CSA Global to develop the Ore Reserve estimated for the Expansion Project and LOM Study in 2023 as at 30 June 2023.

<table>
<tr><th rowspan="3">Deposit</th><th rowspan="3">Resource category</th><th colspan="5">Measured & Indicated</th></tr>
<tr><th rowspan="2">Mt</th><th rowspan="2">Cu (%)</th><th rowspan="2">Ag (g/t)</th><th colspan="2">Contained metal</th></tr>
<tr><th>Cu (kt)</th><th>Ag (koz)</th></tr>
<tr><td rowspan="3">Zone 5</td><td>Measured</td><td>12.56</td><td>2.12</td><td>20.33</td><td>266</td><td>8,207</td></tr>
<tr><td>Indicated</td><td>27.21</td><td>1.92</td><td>19.17</td><td>523</td><td>16,722</td></tr>
<tr><td>Total</td><td>39.77</td><td>1.98</td><td>19.54</td><td>789</td><td>24,979</td></tr>
<tr><td rowspan="3">Zone 5N</td><td>Measured</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Indicated</td><td>4.4</td><td>2.64</td><td>43.6</td><td>256</td><td>6,168</td></tr>
<tr><td>Total</td><td>4.4</td><td>2.64</td><td>43.6</td><td>256</td><td>6,168</td></tr>
<tr><td rowspan="3">Mango</td><td>Measured</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Indicated</td><td>11.4</td><td>1.93</td><td>22.7</td><td>484</td><td>8,328</td></tr>
<tr><td>Total</td><td>11.4</td><td>1.93</td><td>22.7</td><td>484</td><td>8,328</td></tr>
<tr><td rowspan="3">Zeta NE</td><td>Measured</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Indicated</td><td>8.9</td><td>2.56</td><td>53.4</td><td>506</td><td>15,345</td></tr>
<tr><td>Total</td><td>8.9</td><td>2.56</td><td>53.4</td><td>506</td><td>15,345</td></tr>
<tr><td colspan="2">TOTAL</td><td>64.47</td><td>2.10</td><td>26.45</td><td>1,354</td><td>54,820</td></tr>
</table>

The dates of each Mineral Resource estimate are listed below:
• Zone 5 – 30 April 2023 (depleted for mining up to this date)
• Zone 5N - 18 April 2023
• Mango – 16 August 2021
• Zeta NE – 20 November 2020.
The Mineral Resource estimates are inclusive of the estimated Ore Reserves.</td></tr>
</table>

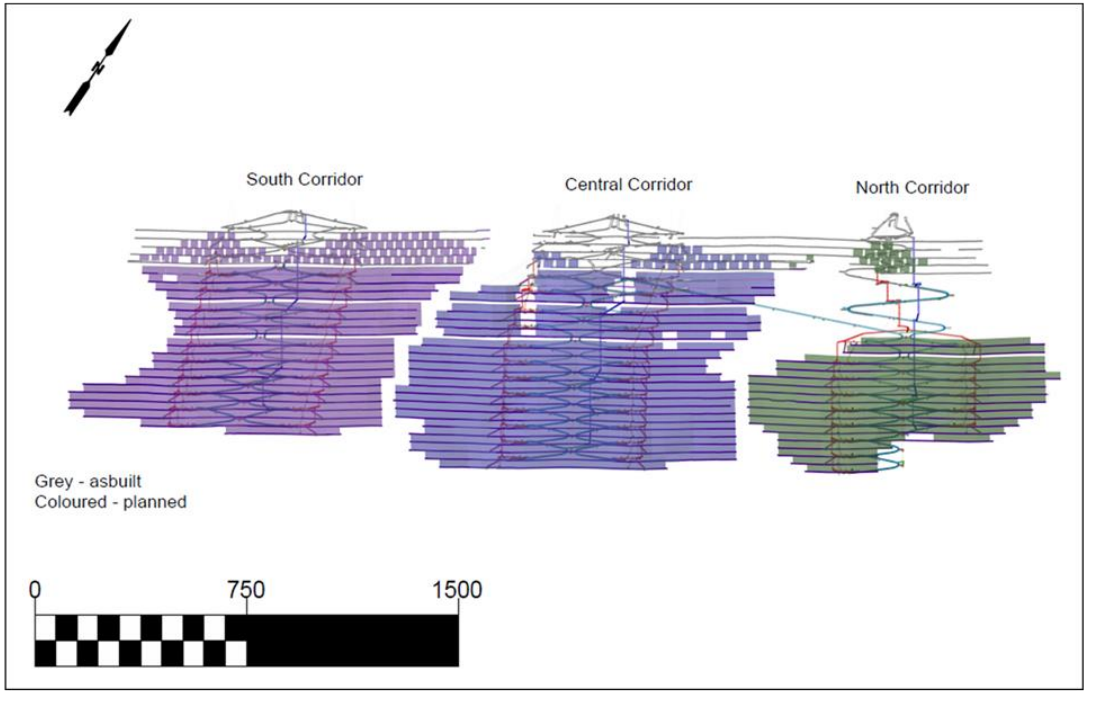
Criteria	JORC Code Explanation	Commentary
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	A site visit was undertaken by the Competent Person for the current Ore Reserve estimate (A.D. Pooley) between 31 January 2022 and 3 February 2022. The reviewer and compiler of the Ore Reserve estimate for this Competent Persons Report (T.N. Burns) also visited site from 13 December to 17 December 2023 (inclusive) and his observations are contained in Chapter 12.3.3.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The Zone 5 operation is currently an operating underground mine and the operational business plan, and the mining and processing performance has formed the basis for the conversion of each of the deposit's Mineral Resource estimate into an Ore Reserve estimate with a corresponding level of confidence. A Prefeasibility Study (PFS) has been completed for each of the deposits included in the Expansion Project and LOM Study (Zone 5 Expansion, Zone 5N, Mango and Zeta NE). The PFS has largely been informed by the Zone 5 operation as each new deposit has adopted a similar mining and processing approach. CSA Global originally reviewed the work completed and was satisfied that the standard was of a PFS level of accuracy or better and that it was suitable to support the conversion of the Mineral Resource estimates to an Ore Reserve estimate. ERM found the approach to be reasonable during the review and compilation for this Competent Persons Report.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	NSRs have been used to determine the cut-off grade for each deposit: • Zone 5 Expansion– US$65/t (US$70/t for first two years of mine life) • Zeta NE and Zone 5N – US$65/t • Mango – US$55/t (no mine backfill used). The NSR factor was used as the cut-off measure for mine planning because NSR considers value contributions from both copper and silver, their respective recoveries, metal prices, and any possible impacts from deleterious elements.
Mining factors or assumptions	The method and assumptions used as reported in the Prefeasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Engineering studies completed in 2018 confirmed that up-hole, continuous retreat longhole open stoping was the preferred mining method for use with Khoemacau-style deposits exhibiting a tabular geometry and narrow to medium width mineralised zones. The inclusion of paste backfill into the mining system from ~400 m below surface was also shown to add significant value to the project economics by increasing the ultimate extraction of each deposit. Multiple declines accessing the deposits from the footwall was selected as the most viable approach where multiple boxcuts were developed through the Kalahari sand to establish portal faces. Geotechnical studies focused on data acquisition and validation, geotechnical characterisation and domaining of the deposits, indicative boxcut slope and stability analysis, derivation of acceptable stope geometries, the estimation of the size and placement of rib, sill, inter-stope waste pillars and remnant pillars in barren zones, and the minimum requirements for a crown pillar.

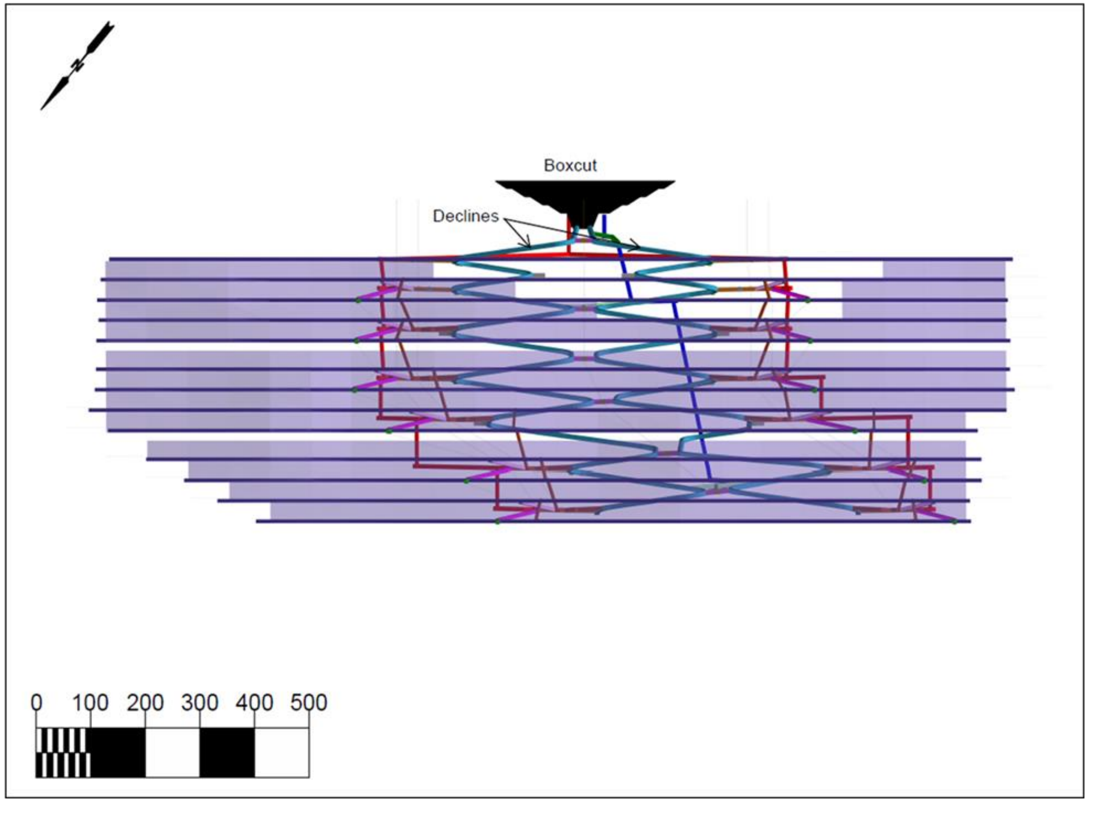
Criteria	JORC Code Explanation	Commentary
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used. The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.	Geotechnical parameters of the boxcut design includes: • Overall slope angle: 33° • Bench angles in sand: 35° • Bench heights in sand: 10 m • Berm widths in sand: 6 m • Berm width (fit raiseborer): 20 m • Bench angle for calcrete: 35° • Berm width in fresh NPF: 19–20 m • Bench angle for fresh NPF: 68°.  Individual geotechnical design values for each underground mine can vary depending on depth, the following have been included in the design: • Crown, rib and sill pillars • 2.5 m long 25 mm diameter full column resin bolt support at various densities and dependent on the excavation dimensions • Cable bolt support for large excavations or areas of poor ground conditions as specified • Shotcrete at 50 mm to 60 mm in thickness • Backfill from ~400 m below surface in order to increase percentage extraction with the exception of Mango where backfill will not be used.

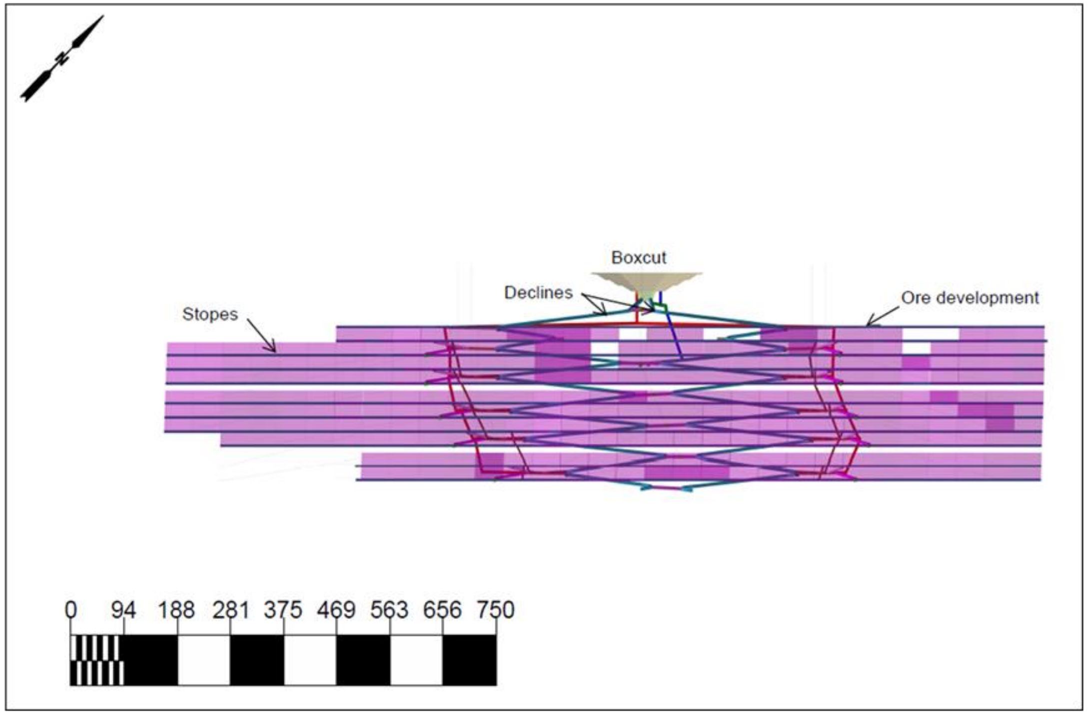
Criteria	JORC Code Explanation	Commentary
		Minable Stope Optimiser (MSO) was used to create the stope shapes above the NSR cut-off. Parameters included in the MSO runs were: • Level spacing 25 m • Stope length including rib pillar 50 m • Minimum mining width 3.0 m (true width) • Minimum waste pillar (Zone 5, Zone 5N and Mango 10 m, Zeta NE 5 m) • Hangingwall dilution skin 0.5 m built into stope shape • Footwall dilution skin 0.5 m built into stope shape. Mining layouts for each of the deposits were generated and based on the mining method design criteria for the selected mining method as well as the stope shapes identified in the MSO evaluation. Mine designs were developed these have been evaluated and a summary of the development and production mining inventories (Measured and Indicated Mineral Resources only) for each is shown below.

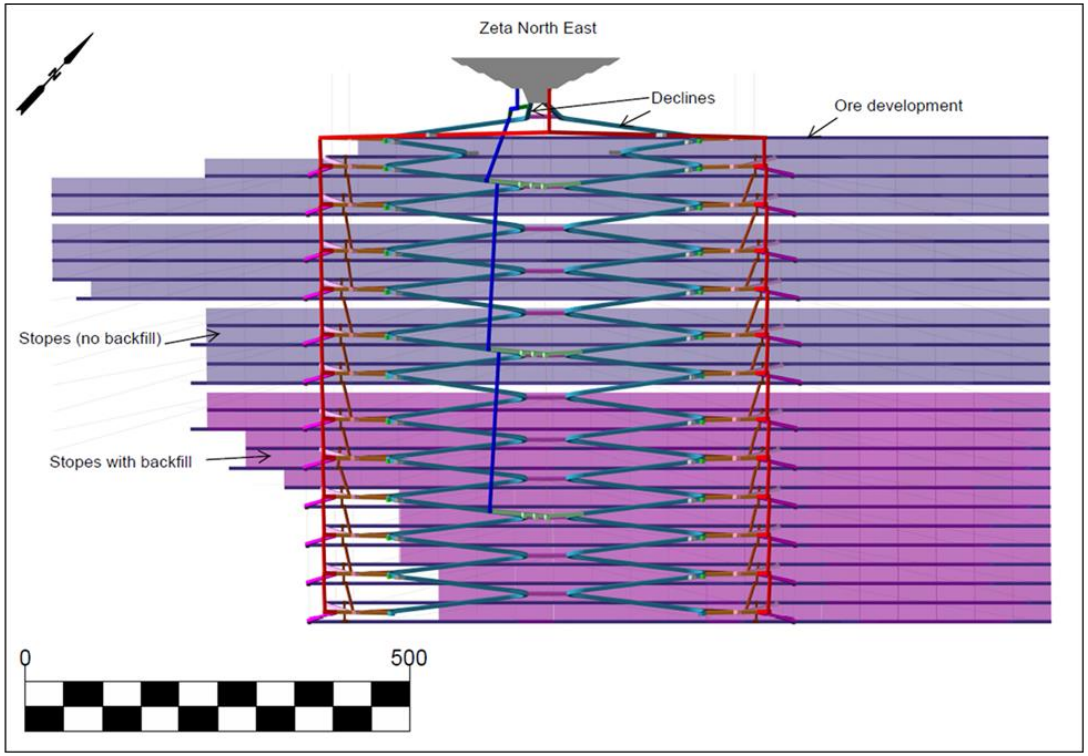
Inventory item	Zone 5	Zone 5 Nth	Mango	Zeta NE	Totals
Waste development (m)	50,053	13,186	12,788	24,509	100,535
Waste development (t)	4,172,842	1,076,458	1,064,922	2,032,345	8,346,566
Ore development (m)	55,116	13,725	17,189	27,250	113,280
Ore development (t)	3,628,804	824,685	1,028,806	1,616,587	7,098,881
Stope ore (t)	25,175,615	2,313,002	5,327,350	6,707,001	39,522,968
Total ore (t)	28,806,019	3,137,687	6,319,795	8,307,427	46,570,928
Cu %	2.03%	2.29%	1.73%	1.78%	1.96%
Cu content (t)	584,690	71,803	109,308	148,065	913,867
Measured ore (t)	7,258,313	0	0	0	7,258,313
Measured Cu %	2.23%	0%	0%	0%	2.23%
Measured Cu content (t)	161,820	0	0	0	161,820
Indicated ore (t)	21,245,862	2,959,434	6,167,491	8,109,495	38,482,282
Indicated Cu %	1.92%	2.31%	1.75%	1.81%	1.90%
Indicated Cu content (t)	406,893	68,222	107,944	146,608	729,667
Inferred ore (t)	93,773	148,815	83,346	87,290	413,224
Inferred Cu %	1.80%	2.41%	1.64%	1.67%	1.96%
Inferred Cu content (t)	1,688	3,581	1,364	1,457	8,091
Mined unclassified (T)	208,071	29,437	68,958	110,642	417,108

A vertical projection of each of the mine layouts is also shown below. A vertical projection of each of the mine layouts is also shown below.

Criteria	JORC Code Explanation	Commentary
		The above table outlines the mining inventory from which the Ore Reserves have been derived and Inferred Mineral Resources and Unclassified material have been excluded where possible. Minor amounts of Inferred Mineral Resource and Unclassified material are unavoidably included in the mining inventory where they form part of a stope which is payable based on Measured and Indicated Mineral Resources only. These tonnages have been excluded from any financial evaluations and are not included in the Ore Reserve. **Zone 5 Expansion Design**  **Zone 5N Design**

Criteria	JORC Code Explanation	Commentary
		 **Mango Design**

Criteria	JORC Code Explanation	Commentary
		 **Zeta NE Design**

Criteria	JORC Code Explanation	Commentary
		 The above mine designs were sequenced in a logical manner and scheduled according to the advance rates and productivities described below. **Development Productivities**

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Description</th><th>Rate</th></tr>
<tr><td colspan="2">Capital lateral</td></tr>
<tr><td>North Decline priority*</td><td>130 m per month</td></tr>
<tr><td>Decline</td><td>100 m per month</td></tr>
<tr><td>Level access</td><td>100 m per month</td></tr>
<tr><td>Return air access</td><td>100 m per month</td></tr>
<tr><td>Stockpile</td><td>100 m per month</td></tr>
<tr><td>Sump</td><td>100 m per month</td></tr>
<tr><td>Substation</td><td>100 m per month</td></tr>
<tr><td>Link drive</td><td>100 m per month</td></tr>
<tr><td>Other no specific capital</td><td>100 m per month</td></tr>
<tr><td colspan="2">Operating lateral</td></tr>
<tr><td>Ore drive</td><td>100 m per month</td></tr>
<tr><td>Ore pass access</td><td>100 m per month</td></tr>
<tr><td>Vertical</td><td></td></tr>
<tr><td>Return air raise (5 m × 5 m)</td><td>60 m per month</td></tr>
<tr><td>Fresh air raise (5 m × 5 m)</td><td>60 m per month</td></tr>
<tr><td>Escapeway (1.5 m × 1.5 m)</td><td>60 m per month</td></tr>
<tr><td colspan="2">Drilling</td></tr>
<tr><td>Diamond drilling</td><td>30 m per day</td></tr>
<tr><td>Infill drilling</td><td>60 m per day</td></tr>
</table>
The top-down sublevel stoping system has a vertical advance in a downwards direction and the main activities are:

Slot development
Production blasthole drilling
Blast hole charging and firing
Loading of blasted ore.

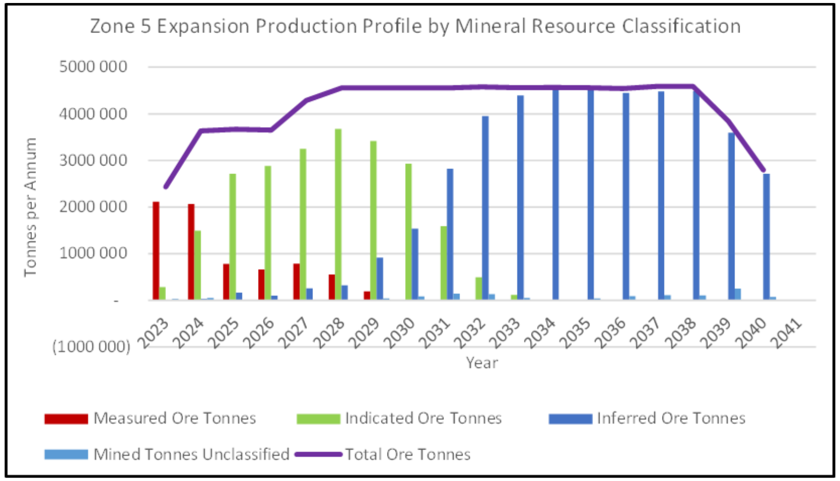
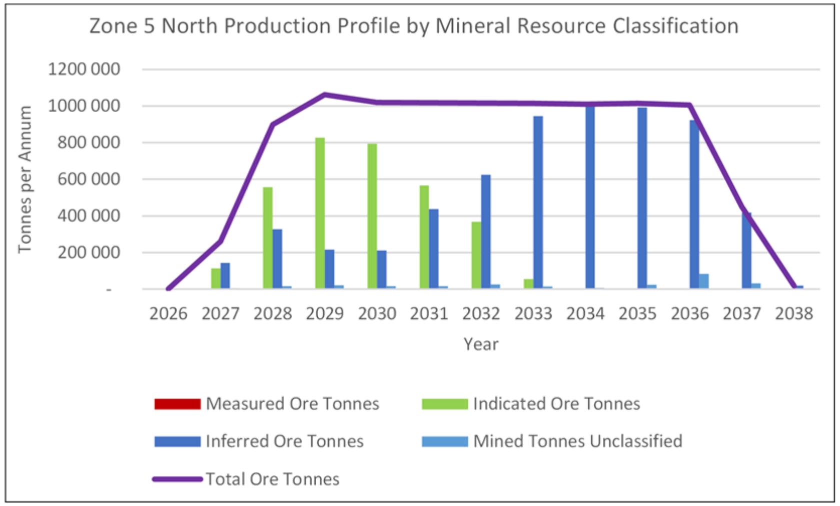
When transitioned to backfill, the following additional activities are sequenced:

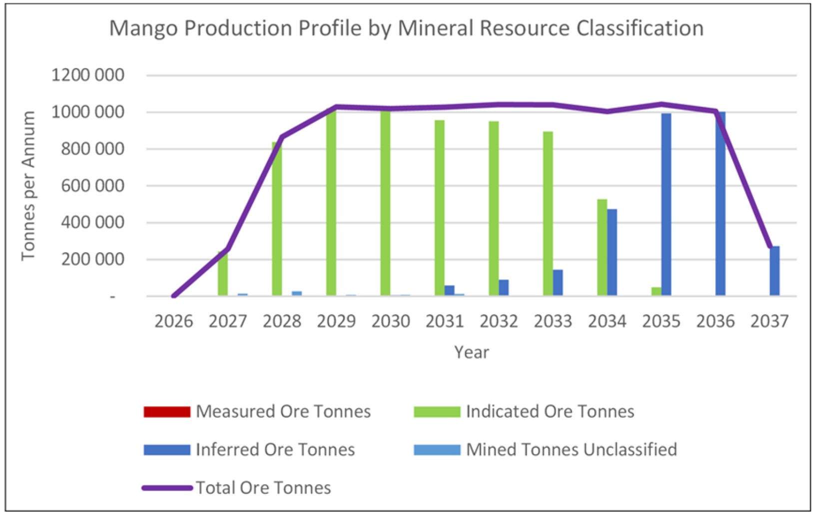
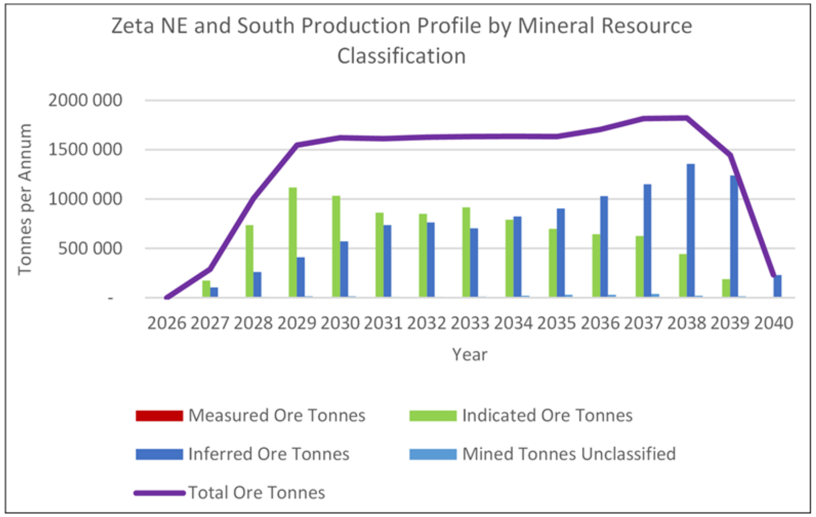
Fill barrier construction
Backfill placement
Backfill curing.

</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary

		The stoping activities occur in series on each ore drive. However, it is possible to have multiple sublevels operating at different stages of development and production if the appropriate scheduling constraints are observed.
		The stoping schedule is based on the following rates and assumptions for the main production activities:
		• Open stoping.
		• Stope slotting: 3 m/d.
		• Stope production drilling metres: 250 m/d.
		• Stope mucking (variable depending on distance from ore pass):
		  ○ Stopes 0–150 m from ore pass: 2,750 tpd
		  ○ Stopes 150–300 m from ore pass: 2,000 tpd
		  ○ Stopes >300 m from ore pass: 1,600 tpd.
		Stoping with backfill:
		• Backfill preparation/barricade construction: 7 days.
		• Backfill curing: 7–15 days.
		In addition to the above rates, several delays were built into the links between the various stoping activities for the stoping schedule as follows:
		• Ore drives infill drilling: 7 days
		• Slot raise infill drilling: 2 days
		• Slot raise production drilling: 2 days
		• Production drilling: 2 days.
		The resultant schedules developed for the LOM Study are shown below. All classifications are shown, and the Inferred Mineral Resources and Unclassified mineralisation are excluded from the Ore Reserve estimate.

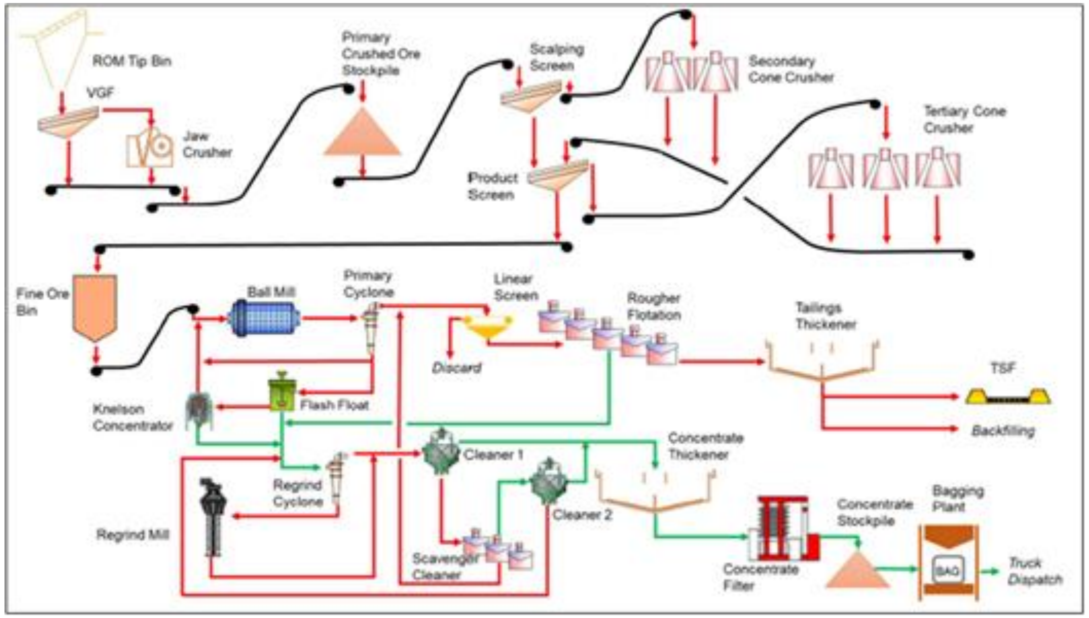
Criteria	JORC Code Explanation	Commentary
		

Criteria	JORC Code Explanation	Commentary
		 

Criteria	JORC Code Explanation	Commentary
		Support for the new mines and the expansion of production levels at Zone 5, various mine services and support infrastructure will be required at each site. This has all been included as part of the PFS and includes: • Mining equipment • Ventilation fans • Electrical power supply and reticulation • Mine service water supply and reticulation • Dirty water pumping • Surface support infrastructure (offices, workshops, stores, etc.).
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical testwork undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale testwork and the degree to which such samples are considered representative of the orebody as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Initial metallurgical testwork on Khoemacau was completed by Hana in 2010 using drill cores from the Banana Zone and Chalcocite Zone (Ghanzi district). The testwork included preliminary basic comminution, mineralogical characterisation, and scoping flotation tests. In 2013 and 2014, a series of further metallurgical test programs were carried out by KCM under the supervision of Sedgman to define the metallurgical characteristics of 14 drill core composites from the Zone 5 and NE Fold deposits. Work included geochemical and mineralogical characterisation, plus work index testwork on 14 composites of varying mineralogy and depth to develop an initial flowsheet for the project which was to beneficiate copper and silver contained in the Zone 5 and NE Fold deposits only. The metallurgical data developed from the testwork indicated that the composite samples studied were amenable to recovery by conventional milling and flotation. Copper recoveries for the Zone 5 composites ranged between 83% and 92% and copper concentrate grade varied between 27% and 53% Cu. The concentrates from the NE Fold composites contained between 92% and 98% of the feed copper at grades ranging from about 29% to 50% Cu. The NE Fold deposit contains transition ore (ores with higher acid soluble copper content), which exhibit low recoveries under standard flotation conditions. Sulphidisation of malachite was attempted but cleaner recoveries were low; therefore, flotation of oxide mineralisation was not pursued further as a viable process option. Silver recoveries for Zone 5 variability composites ranged between 77% and 97%, with silver concentrate grades between 126 g/t and 549 g/t. Silver recoveries for the NE Fold composites ranged between 88% and 96%, with silver concentrate grade varied between 107 g/t and 1,721 g/t. Four test programs (KM3703, KM3964, KM4014 and KM4069) were subsequently completed by KCM in support of the Feasibility Study plant design under the supervision of Sedgman at ALS laboratories in Kamloops, British Columbia, between 2014 and 2015. A total of 39 composites from oxide, transition and sulphide materials from open pit and underground zones at both the NE Fold zone and Zone 5 were analysed.

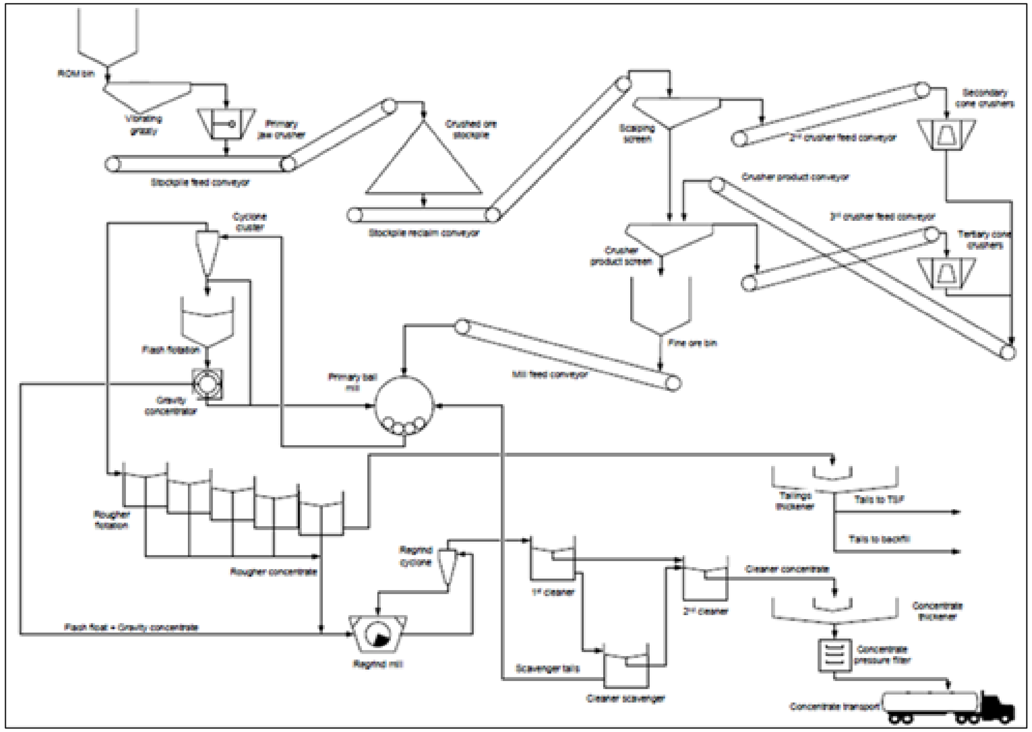
Criteria	JORC Code Explanation	Commentary
		Further testwork was carried out by SGS in 2015 and 2016 on six samples of varying mineralogy and depth from Zone 5. The testwork confirmed the flowsheet developed in 2014 and established a recovery algorithm for geological modelling. Detailed metallurgical characterisation of Zone 5 ores was undertaken by Fluor in 2018, including mineralogical analysis and metallurgical response of Zone 5 ore types. Work was principally undertaken to develop a recovery algorithm by ore type to be used in the geological block model, as well as provide design parameters for equipment sizing for the expansion from 3.00 Mtpa to 3.65 Mtpa. The mineralogical work suggested composites varied widely in the content of different copper sulphide species, primarily chalcopyrite, while several showed varying amounts of bornite and chalcocite group minerals. Trace amounts of covellite and tetrahedrite were found. Minor galena, sphalerite, molybdenite, arsenopyrite and silver was also detected. The main gangue minerals identified were silicate minerals, primarily quartz, feldspars, muscovite and chlorite. Batch cleaner tests were completed on each of the variability composites. For Zone 5 variability composites, recovery of copper to the final concentrates ranged from 77% to 92%, and for the NE Fold variability composites, between 83% and 97% of the copper was recovered. Final concentrate grades ranged from 20% to 55% copper for both Zone 5 and NE Fold variability composites. Copper grades were lower than expected, given secondary copper sulphide deportment. This was attributed to non-sulphide gangue dilution of the concentrates. Several tests were repeated with additional regrinding and although this showed some improvement, resulting concentrate grade was found to be variable depending on the cyanide soluble copper content (representing the chalcocite and bornite copper minerals), and the relative concentrations of lead to copper (Pb:Cu) and zinc to copper (Zn:Cu). Silver recoveries ranged from about 57% to 95% for both Zone 5 and NE Fold variability composites. Molybdenum recoveries ranged from about 36% to 79% for the NE Fold composites. Increased feed ratios of lead and zinc, in relation to copper content of the feed, resulted in an increased content of lead and zinc in the concentrates. Results of these tests were used to size the regrind mill and flotation cells in the FS design, as well as to determine the appropriate reagent additions. Ultimately, the original Boseto processing plant was built to the Feasibility Study design in order to treat open pit oxide transition and sulphide as well as underground sulphide materials from Zone 5 and the NE Fold. Further metallurgical testwork on bornite, chalcopyrite and chalcocite dominant ore types at Zone 5, and grade recovery testwork by domain was also carried out in 2018, with additional testwork including detailed concentrate analysis completed in 2018. The Boseto processing plant flowsheet was then finalised, with the expansion completed in 2019. In September 2020, further grade/recovery optimisation work for Zone 5 ores treated at the Boseto processing plant was undertaken at SGS and Mintek in South Africa. A final reagent suite including XP200 as frother, PAX as collector, with sulphidation by NaHS and dispersion by sodium silicate was recommended from this work.

Criteria	JORC Code Explanation	Commentary
		Expansion Project Testwork Characterisation of new zones at Zone 5N, Zeta NE and Mango, including detailed mineralogy and assessing metallurgical responses, was undertaken at Mintek in 2019 and 20206. The major copper-bearing phases are bornite and chalcopyrite for most of the samples; however, the Zone 5N flotation feed and Zeta NE float feed samples have more chalcocite than chalcopyrite. The major diluents within the various samples are silicates (quartz) and carbonates (calcite) with minor oxides. Initial work on the metallurgical response samples from the same zones to the existing flowsheet at Boseto was completed in 2020 and reported in 2021. The re-cleaner results presented show that all the three deposits respond very well to the conditions employed. The target final product specification of ≥88% copper recovery and ≥40% copper grade was met seamlessly, particularly from the BN (bornite), CPY (chalcopyrite) and Master composite. The CC (chalcocite) domain composite was characterised by slower copper kinetics, hence the relatively lower overall recovery of 87.8% although concentrate grade was in excess of 50% copper. Although the CPY domain was characterised by lower copper grade, the samples exhibited the fastest copper rougher kinetics and attained relatively high rougher and cleaner recoveries. Overall, mineralogical characterisation and metallurgical testing of Expansion Zone materials from Mango, Zeta NE and Zone 5N show the feed is similar to the existing feed from Zone 5 and will process well in the existing Boseto processing plant. The proposed metallurgical process is shown in the flowsheet below.

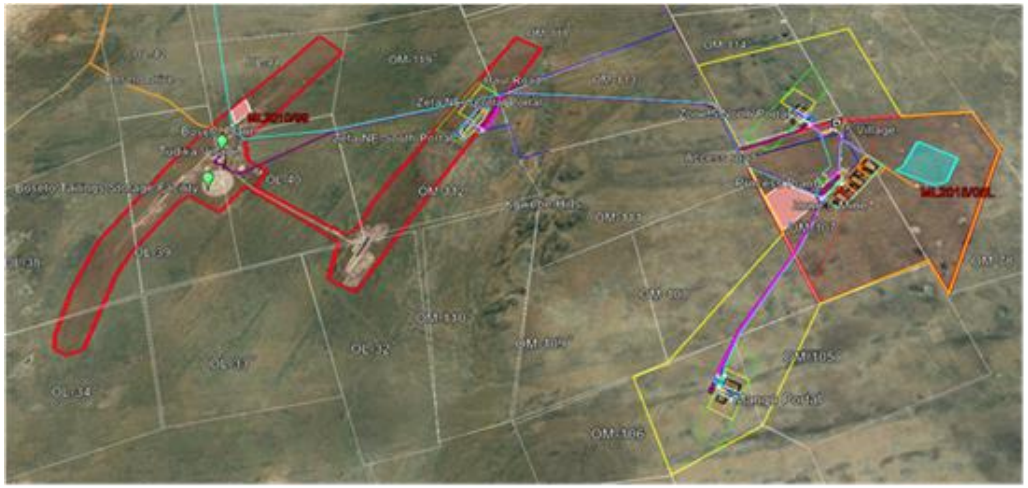
<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>


The above flowsheet represents the existing Boseto processing plant currently processing ore from Zone 5 mining, the process is therefore considered well proven.

In regard to the Expansion Project, ore from Zone 5N, Mango and Zeta NE will be processed through the existing Boseto Plant, a new plant will be constructed for the expanded Zone 5 production with the Boseto Plant being used as the basis of design. The following figure shows the flowsheet proposed for the new Zone 5 plant.
</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary
		
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	The proposed Expansion Project is part of a fully permitted existing operation and as such, there is already a Permitting Framework in place with all permits and licences necessary to support current and future activities. It is understood that the mining permits required for the Expansion Project can be incorporated into the existing mining licences, with the Zone 5N and Mango mines integrated as an extension to the existing Zone 5 Mining Licence (ML2015/05L), and the Zeta NE mine as an amendment to the existing Boseto Mining Licence (ML2010/99L). The current operation has a sound system in place for identifying and managing all permitting requirements and KCM maintains a detailed permit and compliance register. The DEA has been consulted on requirements for the Expansion Project and while the process may be slow, CSA Global does not anticipate any issues in obtaining the required project permitting.

Criteria	JORC Code Explanation	Commentary
		The project consultant has been contracted to undertake the environmental and social impact assessment (ESIA) studies for the Expansion Project. Advice obtained from the DEA and after discussions with the project team, it is proposed that four different Project Briefs would be submitted to start the ESIA process: • ESIA for Zone 5N and Mango mines, and the Zone 5 processing plant • Update existing Boseto processing plant ESIA to include Zeta NE mine • ESIA for the 50 MW solar plant at Boseto • ESIA for all proposed new wellfields/water resources. There is an ESG operating framework based on IFC Guidelines and the Equator Principles, with an Environmental Strategy and Management System in place. There is a great deal of accumulated environmental and social baseline data and monitoring data; mitigation of impacts; and functioning environmental and social management plans. Impacts for the Expansion Project are likely to be similar to those of Zone 5, possibly with a cumulative increase or acceleration of those identified previously. The Zone 5 mine has an established tailings storage facility (TSF) adjacent to the Boseto processing plant with capacity of 33 Mt. A design has been completed to expand this to 66 Mt and a new TSF near Zone 5 is planned for the Expansion Project with a capacity of 73 Mt. The combined volume is considered suitable to accommodate the volume of tailings produced during the life of the Expansion Project and LOM Study given that significant volumes of tailings will be placed back underground as stope backfill. The mining method proposed generates limited amounts of waste and the waste from boxcut excavations has been dumped adjacent to the excavations at Zone 5. A similar approach has been proposed for the new mining sites and the limited development waste generated from underground will also be located adjacent to each of the boxcuts (as currently exists for the Zone 5 mine).
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All primary project infrastructure for Zone 5 is already in place, is operational, and is able to support the proposed increase in production at Zone 5. Additional infrastructure similar to that already constructed for Zone 5 has been planned for the Zone 5N, Mango and Zeta NE mines. The figure below shows the overall site layout in this regard.

Criteria	JORC Code Explanation	Commentary
		 Bulk power supply is already in place and is capable of supporting the proposed Expansion Projects. Current capacity is 125 MVA total and the Expansion Project requirement is estimated at 106 MVA. A bulk water supply is already in place from the Haka borefield to the Zone 5 site. Additional sources of bulk water are planned for the Expansion Project, this will be sourced from a planned extension to the Haka wellfield (total supply 80,000 m^3 per month) and the establishment of a new wellfield at Kgwebe (total supply 40,000 m^3 per month). A surface road network is in place on the mining lease and additional roads will be constructed as required to access new sites. The existing camp accommodation will be expanded for the Expansion Project and suitable land is available for the construction of all required infrastructure.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements. The source of exchange rates used in the study.	Capital costs have been estimated on the project to PFS levels of accuracy. Capital costs are based primarily on current costs or updated quotations for mechanical equipment, plus scaled bills of quantity with unit pricing escalated from 2020 pricing to 2023, or January 2023 pricing in cases, applied. In places, quantities have been scaled with costs escalated from a 2020 base costing applied. A broad-based contingency of 20% (for surface infrastructure and the processing plant) has been allowed which is considered acceptable for PFS levels of design and cost estimation. Sufficient provisions for sustaining capital as well as closure capital have been made. Final upfront capital estimates of $644 million and sustaining capex of $1,780 over the LOM are considered well within the benchmark for a project in this context and at this scale.

Criteria	JORC Code Explanation	Commentary
	Derivation of transportation charges. The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private.	Operating cost estimates are based on December 2022 operating costs for initial Project operations and are considered to be at better than PFS levels of accuracy. C1 cash costs are estimated at $42.80/ROM tonne or $1.16/lb.
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Pricing of copper and silver applied in the evaluation is based on a long-term market consensus price outlook at an average price of US$3.95/lb copper and US$22.05/oz silver. The FX rates used include: • USD/BWP 12.75 • USD/ZAR 17.20 • AUD/USD 0.69 • EUR/USD 0.95 All costs and charges are derived from actuals at the current Zone 5 operation.
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	KCM currently produces a high-grade copper-silver concentrate from Zone 5 of approximately 35% copper with relatively low impurity levels. Concentrates are sold direct to smelters serving markets in Asia. Minor penalties are experienced for certain deleterious elements, including fluorine, arsenic, zinc and lead, but the levels are low and do not affect the marketability of the concentrates currently produced. A formal contract is in place for sale of concentrates, and future contracts for expanded production is in process. Copper represents about 90% of the concentrate revenue, with by-product silver accounting for the remainder of the revenue from concentrate sales.
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.	The mining, services and infrastructure design was costed to an appropriate level of accuracy to support a PFS level of study. Operating and capital costs have been generated from first principals using zero based information such as actual costs from the Zone 5 project, budget quotations and modelled quantities and schedules relating to the mine production physicals. The costs generated were aggregated based on the development and mining schedules and a discounted cashflow analysis completed to determine the viability of the projects based on the Measured and Indicated Mineral Resources only. The results of this discounted cashflow analysis is shown in the below.

Criteria	JORC Code Explanation	Commentary

Area/Activity	Units	Zone 5 Expansion	Zone 5N	Mango	Zeta NE
Physicals					
Tonnes milled	kt	28 615	2 959	6 167	8 109
Copper grade	%	2.0	2.3	1.8	1.8
Silver grade	g/t	19.8	38.0	22.4	36.8
Copper recovery	%	86	88	88	88
Silver recovery	%	82	84	83	84
Concentrate produced	kdmt	1 218	149	305	337
Copper produced (payable)	Mlb	1 049	129	201	276
Silver produced (payable)	koz	13 371	2 710	3 327	7 234
Economics					
Copper price	US$/lb	3.95	3.95	3.95	3.95
Silver price	US$/oz	22.42	22.05	22.05	22.05
Revenue					
Gross revenue	US$ M	4 422	568	868	1 248
NSR	US$ M	4 053	523	781	1 148
Royalties	US$ M	128	17	25	38
Net revenue	US$ M	3 925	506	756	1 110
Silver Stream adjustment	US$ M	- 238	-	- 58	-
Operating Cost					
Mining	US$/t	36.5	33.1	24.0	32.9
Ore hauling	US$/t	1.3	1.8	3.1	0.8
Processing	US$/t	8.8	8.8	8.8	8.8
Centralised services	US$/t	1.7	0.9	0.9	0.9
Site G&A	US$/t	2.3	0.5	0.5	0.5
Corporate G&A	US$/t	1.1	0.6	0.6	0.6
C1 Cash Cost	US$/t	60.3	45.8	37.9	44.6
C1 Cash Cost(1)	US$/lb	1.64	1.06	1.16	1.32
Capital Cost					
Project Capital Cost	US$ M	261	117	141	140
Sustaining Capital Cost	US$ M	481	82	90	146
AISC	US$/t	76.9	73.6	52.5	62.8
AISC(1)	US$/lb	2.10	1.69	1.61	1.85
Financials					
EBITDA	US$ M	2 206	371	464	749
Free Cashflow	US$ M	1 041	103	137	275
Post-Tax NPV_8	**US$ M**	***768***	***45***	***47***	***116***
Post-Tax IRR	*%*	***N/A***	***23***	***18***	***28***
Operating Margin	%	56	73	69	67

Criteria	JORC Code Explanation	Commentary
		It is specifically noted that in generating mining schedules for Measured and Indicated mineral resources that it is unavoidable that some Inferred and Unclassified mineralisation in the geological block models is included into the mining schedule. This is predominantly due to the spatial distribution of the mineralisation in the various categories and the regularised shape of the planned stopes. The amount of Inferred and Unclassified mineralisation in these schedules has been excluded from the financial evaluation and the reporting of financial metrics for these studies. No costs or revenues attributable to these volumes has been included in the evaluation.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	ESIA authorisations for the existing project include suitable Social Management Plans incorporating the proposed mitigations for identified impacts. Monthly report statistics and descriptions are compiled in annual ESG databases that cover site labour statistics, human resources issues, and health and safety outcomes. Social monitoring includes stakeholder engagements undertaken, grievances, community development, compensations, and procurement opportunities. Public meetings and community engagement have been required for the various ESIA studies as part of the original permitting process and the operational stakeholder engagement is comprehensive in range of stakeholders and the approach to engagement. This includes local community consultations, local and national government authorities, non-government organisations, and covers Community Leadership engagement workshops, meetings with the Local Enterprise Authority, District Council meetings and visits from politicians, Commissioner and the DHMT. Activities are recorded and reported. A grievance mechanism for both community and the workforce is well established and functioning on site. Local people know about the mechanism, it is easy to use and culturally appropriate, and any complaints and queries are properly and quickly dealt with by the structure of the process.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements.	Not applicable.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td></td><td>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</td><td></td></tr>
<tr><td>Classification</td><td>The basis for the classification of the Ore Reserves into varying confidence categories.

Whether the result appropriately reflects the Competent Person's view of the deposit.

The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</td><td>Techno-economic project evaluation to a level of accuracy of at least PFS is considered to have been undertaken for the new mine options comprising the KCM Expansion Project and LOM Study.

This evaluation has relied only on Measured and Indicated Resources only and has produced a positive economic outcome and is considered appropriate to use as a JORC (2012) Ore Reserve estimate for the Expansion Project with an effective date of 30 April 2023.

<table>
<tr><th>Mining area</th><th>Category</th><th>Tonnes (kt)</th><th>Cu grade (%)</th><th>Ag grade (g/t)</th><th>Cu content (t)</th><th>Ag content (koz)</th></tr>
<tr><td rowspan="2">Zone 5</td><td>Proven</td><td>7,258</td><td>2.23</td><td>21.59</td><td>162,800</td><td>5,039</td></tr>
<tr><td>Probable</td><td>21,246</td><td>1.92</td><td>19.23</td><td>407,900</td><td>13,139</td></tr>
<tr><td rowspan="2">Zone 5N</td><td>Proven</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Probable</td><td>2,959</td><td>2.31</td><td>37.97</td><td>68,200</td><td>3,613</td></tr>
<tr><td rowspan="2">Mango</td><td>Proven</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Probable</td><td>6,167</td><td>1.75</td><td>22.44</td><td>107,940</td><td>4,449</td></tr>
<tr><td rowspan="2">Zeta NE</td><td>Proven</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Probable</td><td>8,109</td><td>1.81%</td><td>36.77</td><td>146,600</td><td>9,586</td></tr>
<tr><td rowspan="3">Total</td><td>Proven</td><td>7,258</td><td>2.23</td><td>21.59</td><td>162,800</td><td>5,039</td></tr>
<tr><td>Probable</td><td>38,482</td><td>1.90</td><td>24.88</td><td>729,670</td><td>30,787</td></tr>
<tr><td>TOTAL</td><td>45,741</td><td>1.95</td><td>24.36</td><td>891,490</td><td>35,826</td></tr>
</table>

All Measured Resources for Zone 5 have been converted to Proven Ore Reserves while the Indicated Mineral Resources have been converted to Probable Ore Reserves. This is considered appropriate as Zone 5 is currently an operating mine and the Ore Reserve estimate is based on the current operating practice.

Mineral Resources for Zone 5N, Mango and Zeta NE deposits are all classified as Indicated Resources and have generated Probable Ore Reserves for these locations.

The Competent Person (A.D. Pooley) considers this approach to be appropriate.</td></tr>
</table>

Criteria	JORC Code Explanation	Commentary
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	No audits or reviews have been undertaken on the Ore Reserve estimate.
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Not applicable.

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