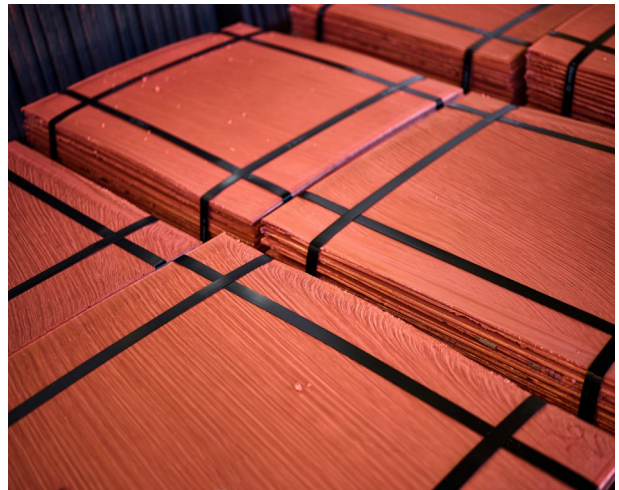


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# BKM Project Feasibility Study Update

## Executive Summary

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**All references to dollars in this report are in United States Dollars (US\$).**

Note: Data in tables contained within this document may not add due to rounding.

## 1 Study Overview

The 2023 BKM Feasibility Study Update has evolved significantly from the original intention of updating the financials based on the physical inputs of the 2019 study. Due to very significant changes in the macro-environment over the past three years a decision was taken early in the study to update all physical inputs for the project. Subsequently the only aspects of the BKM Project that have not been updated as part of this 2023 BKM feasibility study update are the Resource Model and the mining/processing methodology employed to deliver copper cathode product.

Asiamet has directly coordinated all aspects of the study update with new work being completed in the areas of mine design, mine/process scheduling (significant input from NewPro Consulting), mine hydrogeological and geotechnical studies, water management and non-process infrastructure. Consultants contributing to the study were selected for specific skills and experience relevant to the proposed project and operating environment. Table 1 provides a list of the key contributors to the Study update.

NewPro Consulting focused on updating process design criteria and all associated process infrastructure development for the detailed capital cost estimate. Detailed operating cost models and project financial modelling were co-ordinated and developed by Asiamet. Compilation and review of the Feasibility Study report was undertaken by NewPro with contribution and review by Asiamet and AMDAD for Mine Design and Planning.

**Table 1 BKM Project Feasibility Study Update Contributors**

Company	Area of Expertise	References / Information Supplied
NewPro Consulting	Process Plant Engineering	Overall Process Design Criteria, detailed Heap Leach Stacking model, detailed Capital cost estimate. Project Execution Planning. FS Study Report compilation.
AMDAD Pty Ltd	Mining engineering	Pit Optimisation, Pit detailed design. Detailed mine and processing production scheduling. Competent Person for Ore Reserves.
PT Geomine Indonesia	Geotechnical engineering	Detailed BKM Pit geotechnical assessment.
PT Ground Risk Management	Geotechnical engineering	Peer review and consultation across both Pit Geotech and Hydrogeological work programs.
PT Douglas Valley Indonesia	Hydrogeology	Hydrogeological data review, conceptual model development and planning for future investigative work. Coordinating work with Delta H.
Delta H	Hydrogeology	Finite element modelling of groundwater system.
PT UWR Consulting	Hydrology, Engineering	Design work on Open Pit and Waste Rock water management structures (drains, diversions) including assessment of hydrology.
Mworx Pty Ltd	Metallurgy	Heap leach test work and process design criteria for the BKM Copper Project. Interpretation of Heap leach recoveries, iron leaching and acid consumption.
PT Lorax Environmental	Environmental	Project environmental and social impacts. Site water quality baseline surveys.
Lorax Environmental Canada	Environmental	Detailed Water Balance and Water Quality modelling for BKM Project.
ERM Indonesia	ESG	ESG Materiality assessment and development of ESG Strategy Framework. Body of work compiled into the ESG Communications Playbook.
PT Transcontinent	Transport and Logistics	Several route surveys and Operational logistics cost estimates for all aspects.

Asiamet Resources Limited	Commercial	Copper price forecast (Cu price data sourced from 19 global investment banks and leading independent commodity analysis companies). Project financial model and full life of mine operating cost model.
Hackman and Associates Pty Ltd	Mineral Resource estimation	June 2019 Mineral Resource Estimate for the BKM Copper Deposit including estimation of soluble copper for heap leaching.

## 2 Project Overview

Asiamet Resources Limited (the Company) is the 100% owner of the Beruang Kanan Main (BKM) Project in Central Kalimantan, Indonesia (Figure 1). The BKM Project is within the Kalimantan Surya Kencana Contract of Work (KSK CoW) which is a statutorily recognised tenement under Indonesian Mining law.

**Figure 1 Location of the BKM Copper Project**



The primary objectives of this Feasibility Study Update were to:

- Review and update all the technical aspects of the project and consequently develop appropriate scope and requirements for the subsequent detailed engineering phase.
- Develop project implementation plans, including identifying and planning for early-works and pre-commitment activities.
- Define a robust business case to support financing and development of the BKM Copper Project.

The BKM Feasibility Study 2023 Update assesses development of the BKM copper resource through open pit mining and heap leach, solvent extraction and electrowinning (SX-EW) processing to produce London Metal Exchange (LME) Grade A copper cathode. The study covers four major components whilst Figure 2 provides an overview of the proposed site only facilities:

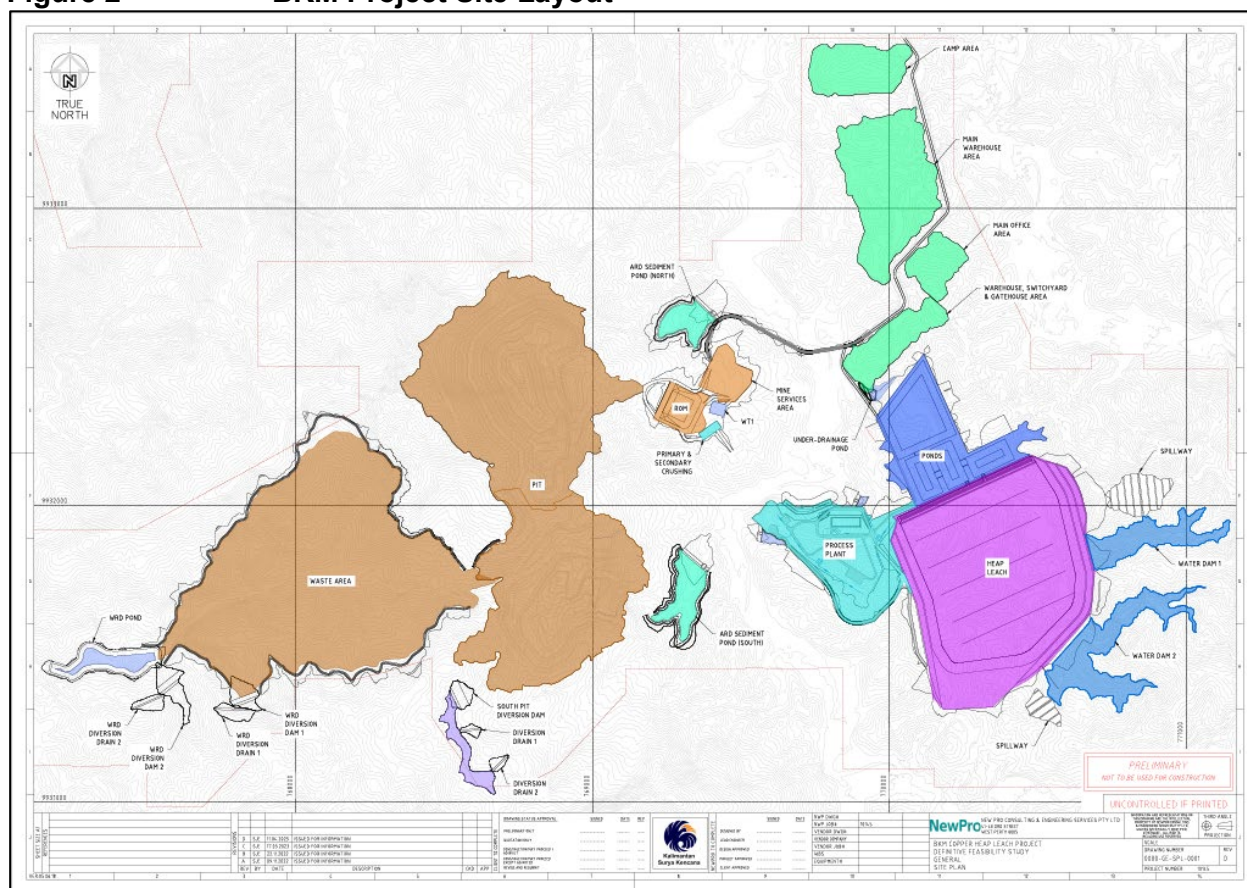
**Mining:** open pit mine; waste rock dump (WRD); mine services area (containing workshops, warehouses, offices, and fuel storage); magazine (explosives storage) and water management facilities (e.g. drainage systems, acid-rock drainage (ARD) management ponds).

**Processing:** crushing (primary, secondary and tertiary) and agglomeration units; the heap leach area (heap leach pad, stacking equipment, irrigation, drainage and collection facilities, and heap leach ponds), SX-EW process plant area (solvent extraction and electrowinning plants), water management (mine ARD water treatment, process bleed neutralisation plant) and associated facilities such as reagent storage and delivery.

**On-site non-process infrastructure and support services:** incoming power (main switchyard including power transformer, substation and outgoing power distribution system); general site infrastructure (e.g. offices, warehouses and storage areas, accommodation facilities and waste management services); and site roads.

**Off-site non-process infrastructure and support services (not depicted in Figure 2):** primary access road from Tumbang Manggu to the BKM site (unsealed, all-weather access route), transportation services by road to and from the main importation and exportation facility at Bagendang Container Port in Central Kalimantan. Logistics facilities will be established at the portside in Bagendang and contractor managed logistics transit hub located half-way between the port and site at Tumbang Samba.

**Figure 2 BKM Project Site Layout**



## 2.1 Corporate Strategy

Asiamet is well positioned to take advantage of what is looming to be a supply constrained copper market. The consensus view from market analysts and commodity producers is that copper mine supply will be insufficient to meet copper demand over the coming 10 years. As recently as

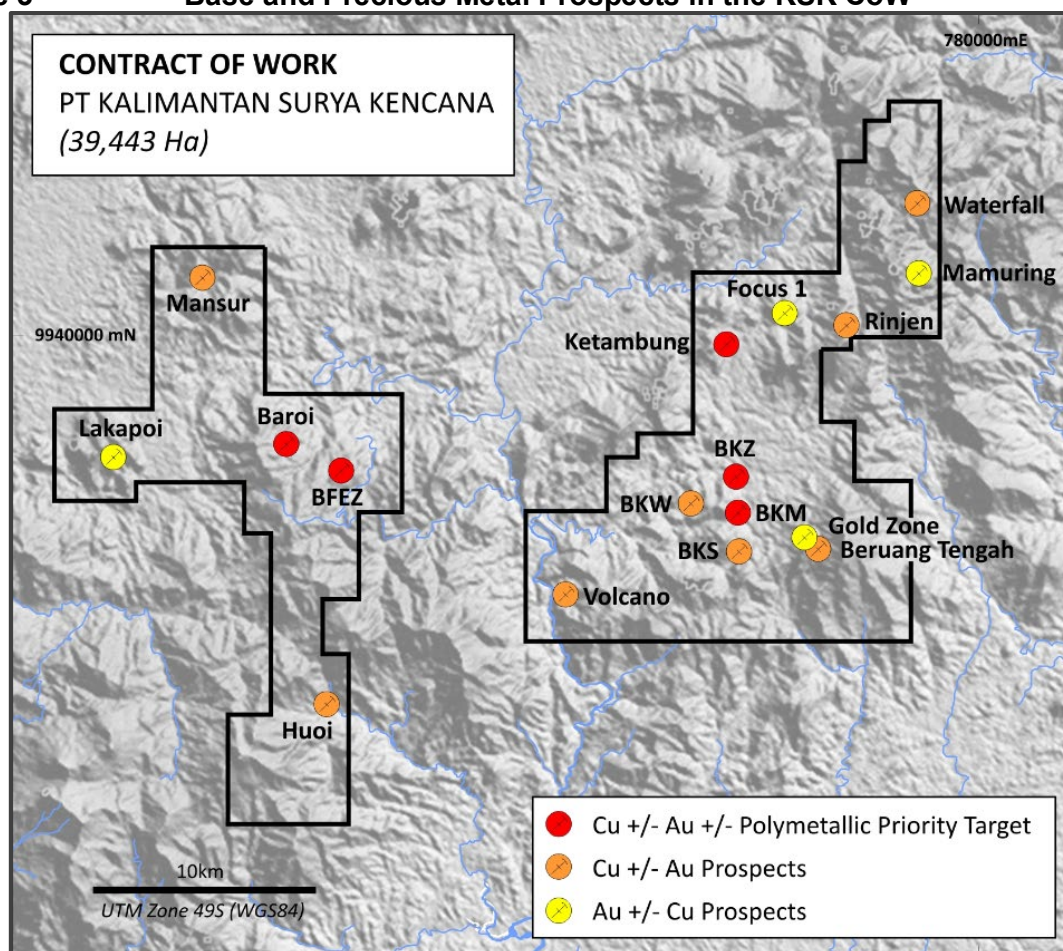
December 2022, investment bank Goldman Sachs forecasts peak copper supply occurring in 2024 and open-ended deficits beyond this point<sup>1</sup>. Consumption is projected to be driven by base level industrial demand growth in emerging economies, together with a significant build out of renewable energy infrastructure and electric vehicles as developed economies decarbonise over the next 20-30 years.

Adding to this has been the recent global initiative to decarbonise, with many industrialised economies setting targets for net zero carbon emissions over the next 20 years. All of which requires a significant amount of copper to achieve these outcomes.

The development and operation of the BKM copper mine will significantly enhance the Company's ability to create long term value through the phased development approach proposed for the Beruang Kanan district and continued evaluation and systematic progression of exploration activities across the KSK CoW. Fifteen additional highly prospective opportunities have been identified to date within the CoW of which the BKM Project is the most advanced. Asiamet has defined a high grade polymetallic JORC compliant resource at BKZ, 800m to the north of BKM. There is an excellent opportunity to drill out a medium sized, high grade Zn-Pb-Cu-Au-Ag deposit for future treatment to generate base metal concentrates with significant precious metals.

Other base and precious metal targets across the KSK CoW are shown in Figure 3. Given the substantial potential for extending mine life through the evaluation and development of additional nearby prospects, an NPV<sub>8</sub> post tax, excluding closure costs is provided as part of the financial metrics in Table 2. These prospects will be the subject of further exploration activity.

**Figure 3 Base and Precious Metal Prospects in the KSK CoW**

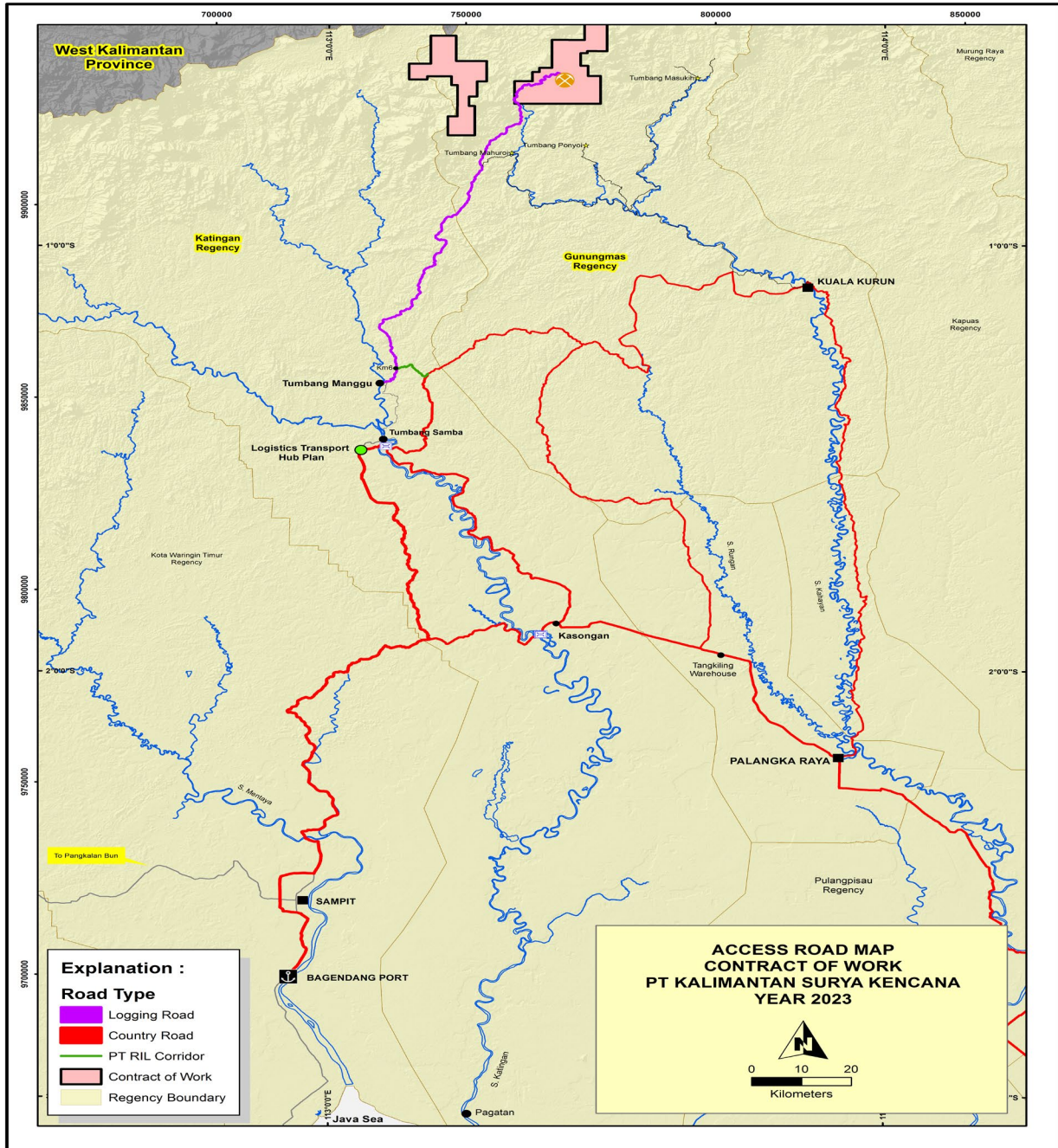


1. Goldman Sachs Commodities Research Copper: The end of surplus 6 December, 2022

### 3 Regional Location

The KSK CoW is approximately 280km North by road from Palangkaraya, the capital city of Central Kalimantan. The container handling port of Bagendang, to the south of the regional centre of Sampit is approximately 400km from site.

**Figure 4 KSK CoW Regional Location**



### 4 Project Financials and Economics

The BKM Project will produce more than 156.3kt tonnes of LME Grade A specification copper cathode over its full production life. The copper cathode market is highly liquid with significant premiums (over copper in concentrate) currently being paid in the Asian market (\$100/t Cu). Importantly production of copper cathode meets the downstream processing requirements of the Government of Indonesia.

Table 2 describes key project metrics. The valuation is based on the following economic assumptions:

- 2026 copper price \$4.34/lb, 2027 to end of Life of Mine copper price of \$3.98/lb LME (\$8,774/t), referred to as the long-term copper price.
- Discount rate of 8% (post tax, Real)
- Indonesian corporate income tax rate of 22%.
- Indonesian Government Royalty of 2% (of revenue).

## 4.1 Project Inputs

### 4.1.1 Copper Price Assumption

The long-term copper price assumptions of used in the BKM project feasibility study financial model is derived from the commodity analysts price forecasts at sixteen banks and resource investment houses. In line with this consensus pricing the financial model uses a long-term copper price of \$3.98/lb from Jan 2027 with pricing in 2026, the first year of production, at \$4.34/lb.

**Table 2 BKM Copper Project Summary**

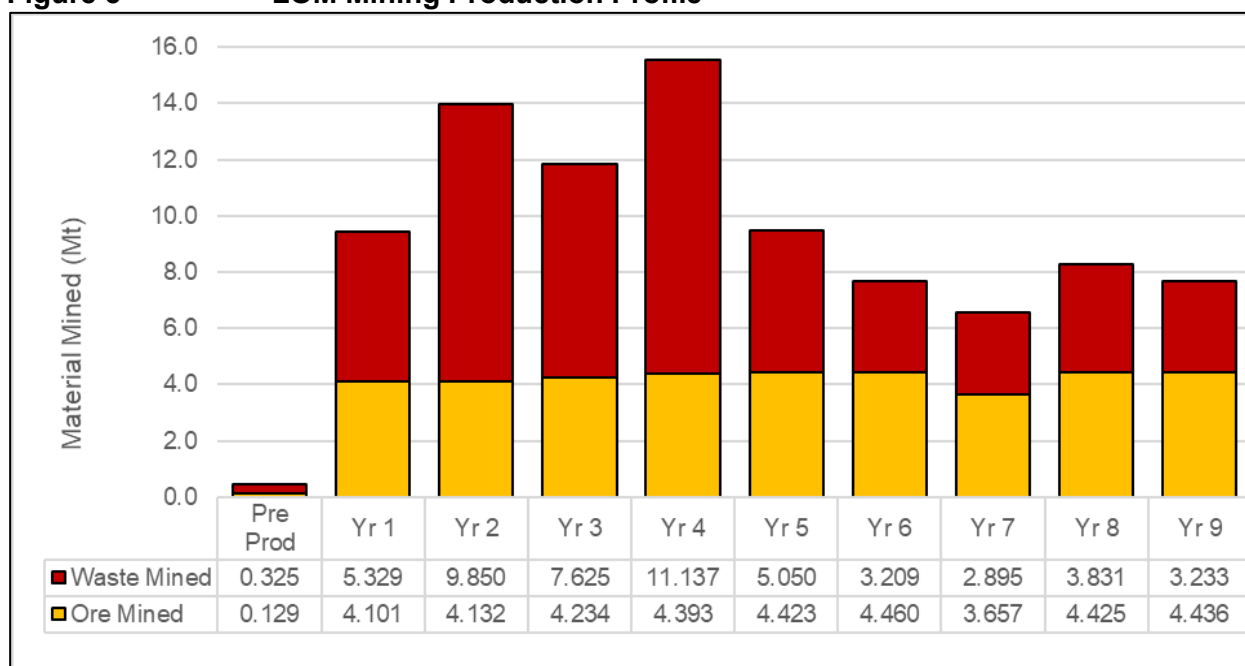
Area	Measure	Unit	Feasibility Study
<b>Production</b>	Ore mined	Mt	38.4
	Waste mined	Mt	52.5
	Strip ratio	Waste:Ore	1.37:1
	Average soluble copper grade	%	0.51
	Soluble copper recovery	%	78.6
	Copper cathode produced	Kt	156.3
<b>Capital</b>	Initial project capital (ex. contingency & growth)	\$M	208.7
	Contingency + Growth (Initial Capital)	\$M	26.7
	Sustaining capex	\$M	35.4
<b>Closure &amp; rehabilitation</b>	Closure & rehabilitation costs	\$M	45.7
<b>Economic Assumptions</b>	LT Copper Price	\$/lb	3.98
	Discount factor	%	8.0
<b>Financials</b>	Revenue	\$M	1,396.6
	Direct costs (ex. royalties)	\$M	657.3
	Other in-directs (inc. royalties)	\$M	38.3
	EBITDA	\$M	655.3
	NPAT	\$M	378.6
	NPV <sub>8</sub> post-tax	\$M	146.9
	NPV <sub>8</sub> post-tax, pre-closure	\$M	162.8
	IRR post-tax	%	20.4
	IRR post-tax, pre-closure	%	21.0
	Initial mine life	Years	9.2
	Payback period	Years	3.4
	C1	\$/lb	1.91
	AISC	\$/lb	2.25



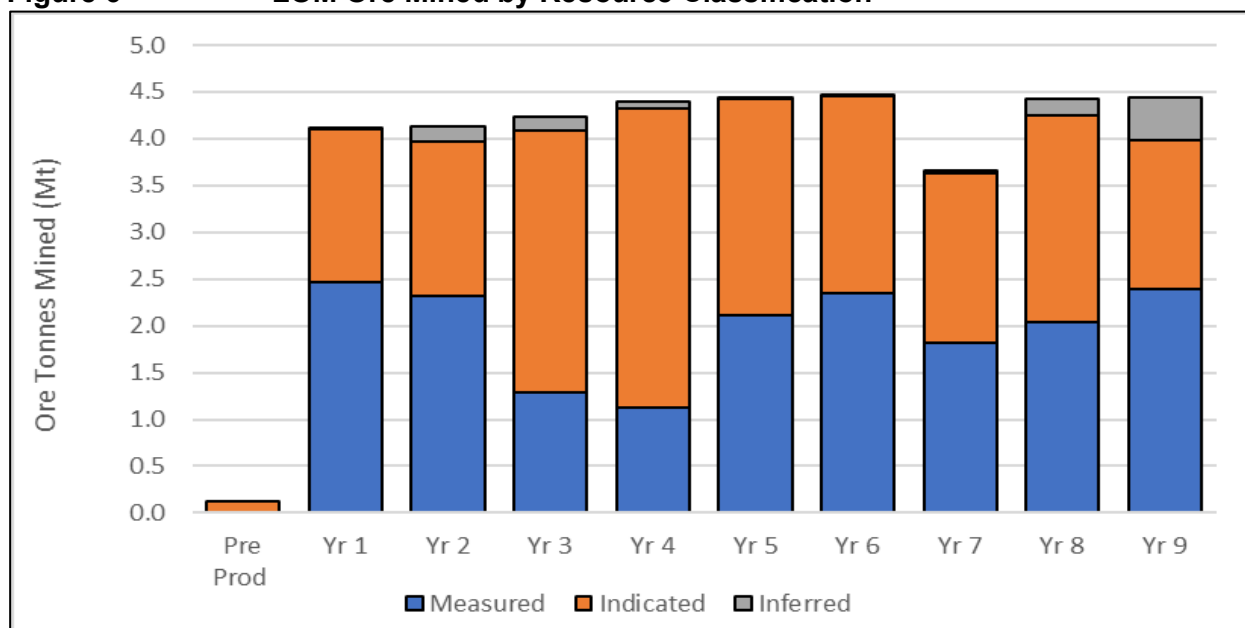
## 4.1.2 Production

Figure 5 shows the mining production profile over the life of mine (LOM). Ore mined in the first three years of operation is lower at approximately 4.1Mtpa before ramping up to 4.4Mtpa for the remainder of the life of mine. Of the total 38.4Mt of ore mined in the production schedule 1.05Mt of this is inferred material contained within the final pit design. This represents only 2.7% of the total ore to be mined and processed. The ore mined classification is depicted in Figure 6.

**Figure 5 LOM Mining Production Profile**

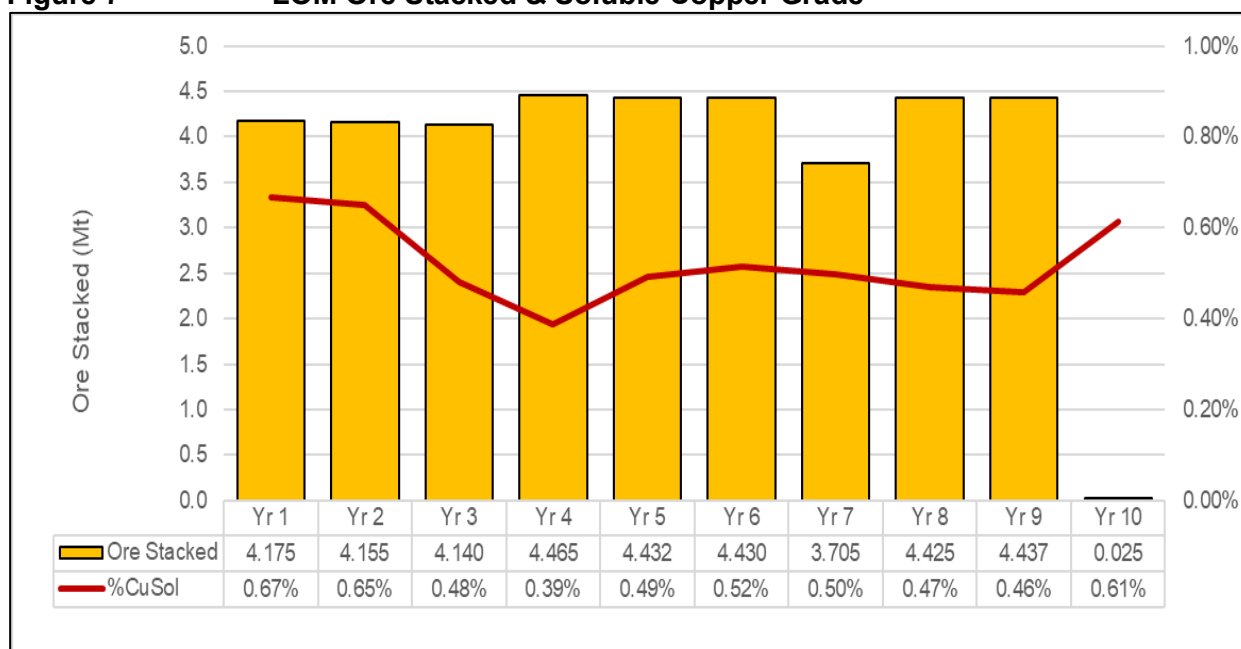


**Figure 6 LOM Ore Mined by Resource Classification**



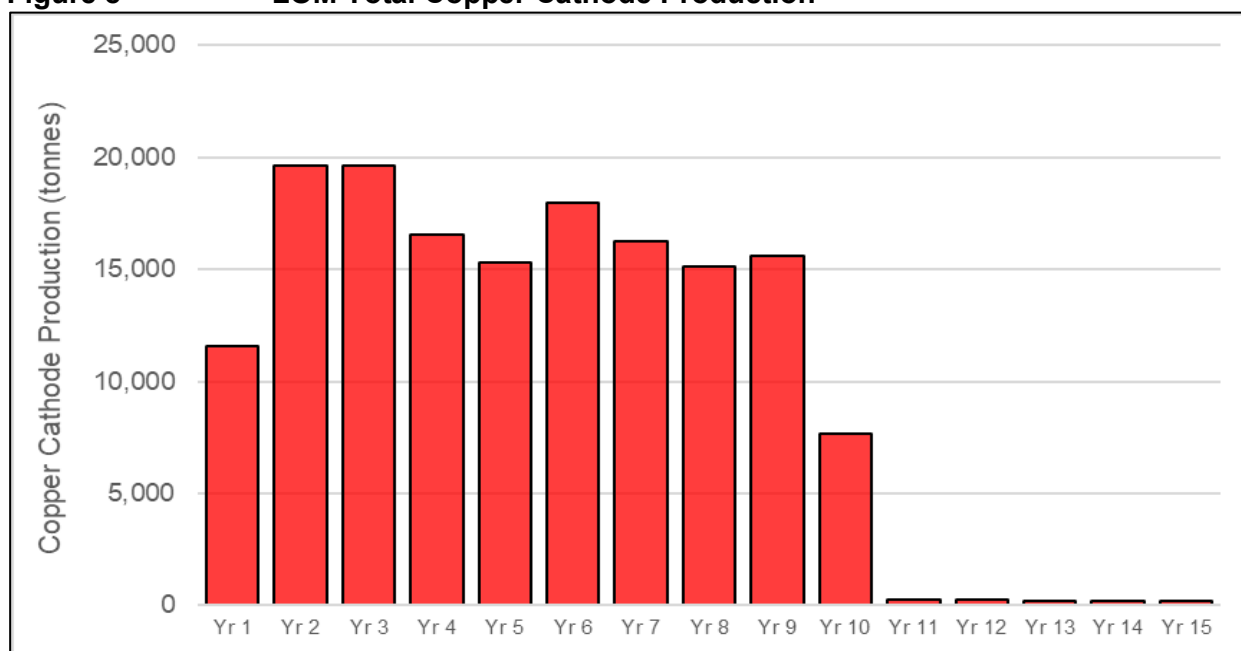
Similarly, ore forecast to be stacked is maintained at 4.1Mtpa for years 1 to 3 followed by an increase to 4.4Mtpa. Year 7 ore processed is considerably lower due to a period of nearly 2 months cessation of stacking. This is explained further in Section 7. The ore stacking and soluble copper grade schedule is provided in Figure 7.

**Figure 7 LOM Ore Stacked & Soluble Copper Grade**



Copper cathode production (Figure 8) is effectively at maximum EW plating capacity for Years 2 and 3 of plant production due to early high soluble copper grades. Significant additional copper is built up in leach solution over this period and is drawn down as soluble copper in feed decreases.

**Figure 8 LOM Total Copper Cathode Production**

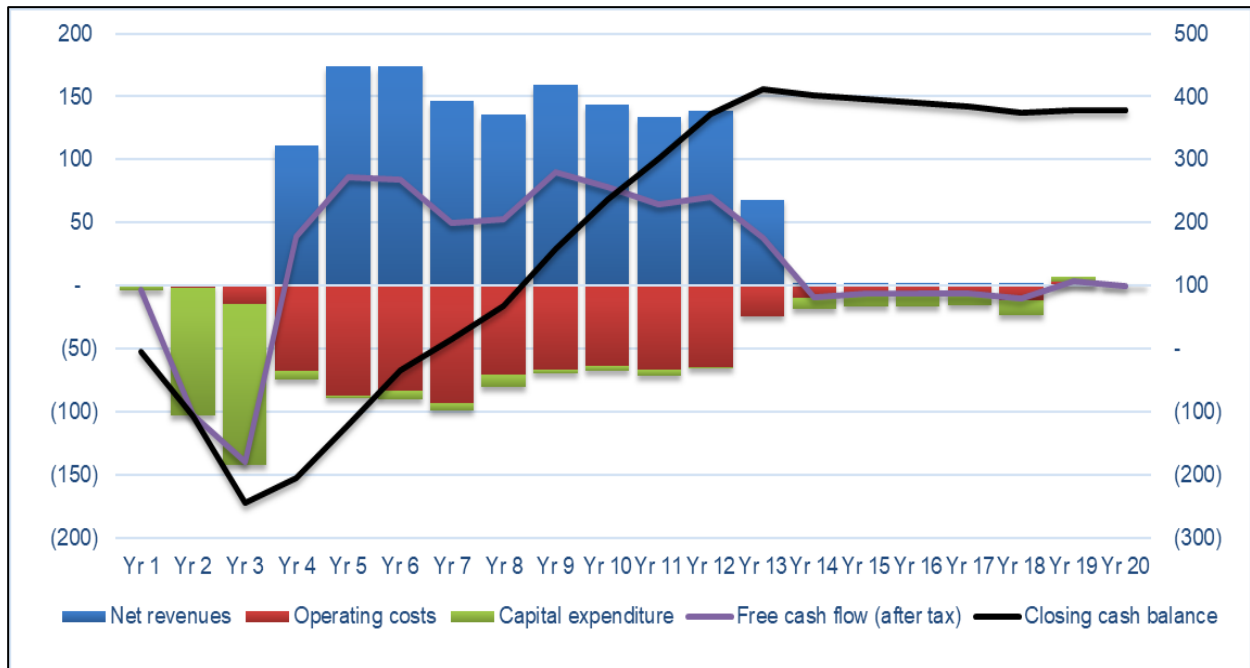


The total copper production across the life of mine and closure is 156.3kt of which 2.1kt is derived from treating mine ARD water. A total of 1.2kt is produced in the 5 years after cessation of heap leaching from treating mine ARD water for copper recovery as well as drawing down most of the copper in circuit inventory. Following commissioning and stabilisation of the downstream operations including the heap leach and SX-EW, copper cathode production ramps up quickly due to high soluble copper grades being delivered to the heap. The maximum copper production capacity of the EW cellhouse is reached in Years 2 and 3 of production at 19.6/19.7kt.

## 4.2 Project Economics

Figure 9 outlines the project cash flows over the LOM that have been calculated by Asiamet Resources' integrated financial model, with LOM revenues of \$1.4bn and EBITDA of \$655.3M.

**Figure 9 BKM Project LOM Cash Flows – \$M**



## 4.3 Sensitivities

Sensitivity analysis was conducted to determine the effect of key variables on the base case post-tax excluding closure NPV<sub>8</sub> of \$162.8M. The results of this analysis are shown in Figure 10 and Table 2. A 10% increase in long term copper price to \$4.37/lb delivers an NPV<sub>8</sub> of \$223M.

**Figure 10 Project Sensitivities - \$M Base NPV<sub>8</sub> (Post Tax, Excl. Closure, Real)**

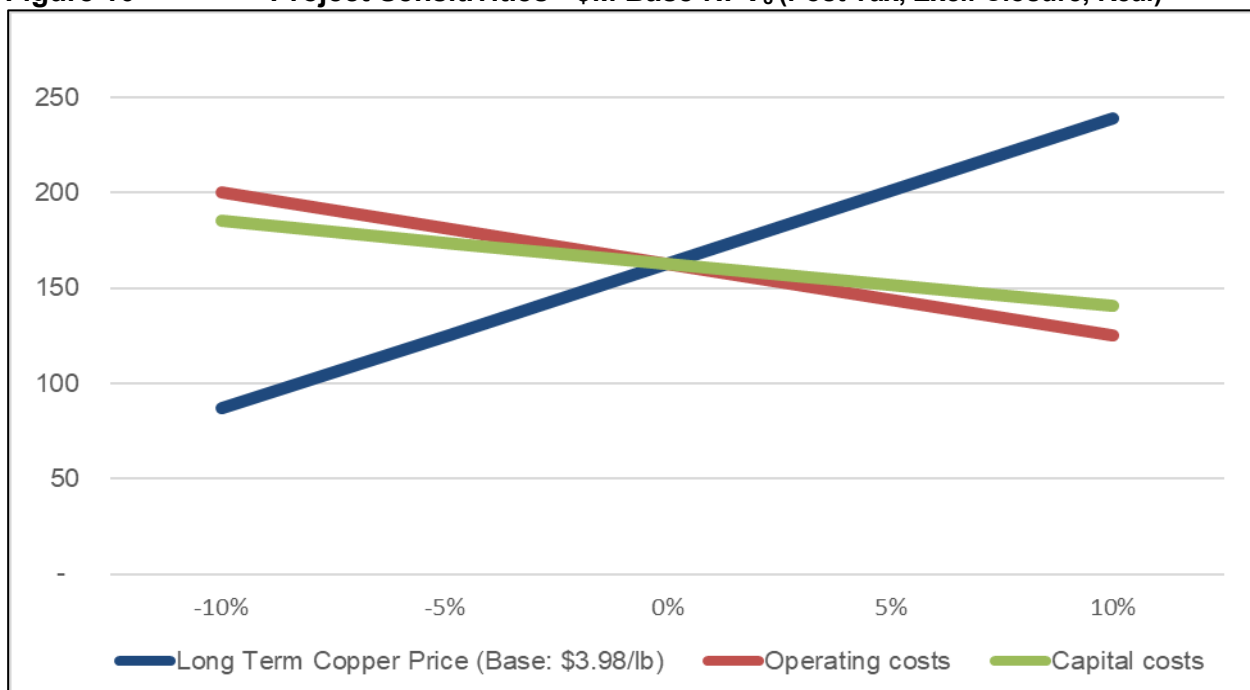


Table 3 provides a sensitivity of +/- 2% for the Company's 8% weighted average cost of capital (WACC).

**Table 3 Weighted Average Cost of Capital Sensitivity**

NPV +/- 2%	NPV <sub>6</sub>	Base Case NPV <sub>8</sub>	NPV <sub>10</sub>
NPV Post-tax	189.8	146.9	111.1
NPV Post-tax (excl. closure)	210.7	162.8	123.3

## 4.4 Income Tax / Investment Incentive

### 4.4.1 Financial – Income Tax

The Corporate Income Tax (CIT) rate applicable for the BKM Project in accordance with the KSK CoW is subject to prevailing Indonesian law. The current CIT for Indonesia is 22%.

### 4.4.2 Investment Incentive

Indonesia's Ministry of Finance issued an updated regulation 130/PMK.010/2020 on 18 September 2020 (replacing 35/PMK.010/2018) with the ongoing intention to promote increased investment in Indonesia. The incentive is in the form of tax holiday regime based on capital investment with regulation PMK-130 covering 18 industries including base metals. As the BKM Project will produce copper cathode it qualifies for the investment incentive under KBLI 24202C, "Base metal industry that produces copper cathode" (Industri logam dasar yang menghasilkan katoda tembaga).

The CIT reduction is determined by the initial capital investment and is applied as follows:

- Depending on the capital investment, a 100% reduction in the CIT rate for an initial period, starting from commercial production; then
- A further 50% reduction in the CIT rate for a two year period after the end of the initial period.

Commercial production is defined as when product is first sold or self-used. Table 4 provides the Indonesian Rupiah (US\$ equivalent) investment requirement to satisfy the tax holiday.

**Table 4 Capital Investment & Investment Incentive**

Investment		Tax Holiday Period (initial period)
Indonesian Rupiah (Billion)	US/IDR = 15,100	
500 to < 1,000	\$33.1M to < \$66.2M	5 years
1,000 to < 5,000	\$66.2M to < \$331.1M	7 years
5,000 to < 15,000	\$331.1M to < \$993.4M	10 years
15,000 to < 30,000	\$993.4M to < \$1,986.8M	15 years
≥30,000	≥\$1,986.8M	20 years

The BKM Project, subject to successful application, will be entitled to a 100% CIT reduction for 7 years followed by a further 2 years at a 50% reduction in the CIT rate.

## 4.5 Capital Costs

Capital costs have been estimated for the Project based on Feasibility Study level engineering. The estimated initial capital costs are summarised in Table 5. A total \$26.7M has been allocated for Growth and Contingency. The growth component totals \$14.9M or 7.2% of the \$208.7M capital cost with a % allowance allocated to each line item in the estimate. The contingency allowance is \$11.8M or 5% of the total capital cost of \$235.4M.

**Table 5 Initial Capital Costs**

Plant Area	Capital Estimate \$M
Mining Facilities	5.4
Crushing, Agglomeration and Stacking	19.0
Heap Leach	31.7
SX-EW (incl Neutralisation)	27.1
Process Area Services and Utilities	17.6
On Site Infrastructure and Bulk Earthworks	30.9
Off Site Infrastructure	14.2
<b>Sub-Total Direct Costs</b>	<b>145.9</b>
Construction Indirect Costs	27.7
Spares and First Fills	6.9
Engineering, Project Management, Construction Management and Commissioning Services	10.3
Owners Costs	17.8
<b>Total Capital Estimate (excluding Contingency)</b>	<b>208.7</b>
Contingency and Growth	26.7
<b>Total Capital Estimate</b>	<b>235.4</b>

The capital estimate provided here relates to the project construction costs and excludes mine sustaining capital and mine closure costs which have been included as part of the financial model (refer Table 2). It also excludes the working capital cost of operations leading into the commencement of operations until first copper sales are realised.

#### 4.6 Life of Mine Operating Costs

The LOM operating costs for the Project are shown in Table 6.

**Table 6 LOM Operating Costs**

Site Operating Costs	\$M	Cost \$/lb
Mining	305.9	0.89
Processing	234.3	0.68
General and Administration	117.1	0.34
<b>LOM Cost / C1 \$/lb</b>	<b>657.3</b>	<b>1.91</b>
Other Indirects	38.3	0.11
Sustaining Capital	35.4	0.10
Closure & Rehabilitation	45.7	0.13
<b>AISC \$/lb</b>	<b>776.8</b>	<b>2.25</b>

The LOM mining costs are provided in Table 7. The mining scope of work is to be performed by a number of groups however load and haul will be performed by a primary contractor. The LOM cost per tonne mined is forecast to be \$3.37 which is considered comparable with other projects of a similar scale using similar fleet in Indonesia and was relatively consistent across several contractors. The most cost-effective proposal has been used for the purpose of the study update.

**Table 7 LOM Mining Costs**

Activity	\$M	\$/t Mined	\$/lb C1	Proportion
Mine Geology	8.0	0.09	0.02	2.6%
Mining – Owner	6.1	0.07	0.02	2.0%
Mob/Demob/Site Prep	6.6	0.07	0.02	2.2%
Drill and Blast	58.0	0.64	0.17	19.0%
Load and Haul	206.4	2.27	0.60	67.5%

ROM Rehandle	5.9	0.06	0.02	1.9%
Ancillary Services	14.9	0.16	0.04	4.9%
<b>Total Mining</b>	<b>305.9</b>	<b>3.37</b>	<b>0.89</b>	<b>100.0%</b>

The LOM processing costs are shown in Table 8. The main component of the costs is electricity consumption (calculated for the entire site). Power is proposed to be sourced from the development of a new, dedicated biomass power station located within 135km of the site with a dedicated transmission line connecting power station and BKM. The power station will be operated by a third party who will be responsible for its construction, operation and maintenance. The current cost model adopted for the project, as agreed in consultation with the proponents of the power station delivers an average unit cost, over the life of the heap leach facility of 11.4c/kWh.

**Table 8 LOM Processing Costs**

Activity	\$M	\$/t Stacked	\$/lb C1	Proportion
Processing – Labour	12.7	0.33	0.04	5.4%
Processing - Consumables - Reagents	45.3	1.18	0.13	19.3%
Processing - Consumables - General	3.3	0.09	0.01	1.4%
Processing - Contracted Services	23.3	0.61	0.07	10.0%
Maintenance - Labour	17.8	0.46	0.05	7.6%
Maintenance - Materials - Liners	11.4	0.30	0.03	4.9%
Maintenance - Materials - General	30.9	0.80	0.09	13.2%
Maintenance - Contracted Services	1.0	0.03	0.00	0.4%
Power - All Site	88.5	2.31	0.26	37.8%
<b>Total Processing</b>	<b>234.3</b>	<b>6.10</b>	<b>0.68</b>	<b>100.0%</b>

The LOM Transport, Logistics and Support Services (including all General and Administration costs) are estimated at \$3.05/t of ore stacked or \$0.34/lb of copper cathode produced. These costs include non-operational management costs as well as operational support activities.

**Table 9 LOM Transport Logistics and Support Services Costs**

Activity	\$M	\$/t Stacked	\$/lb C1	Proportion
Labour	33.2	0.87	0.10	28.4%
Administration and Support Services	7.3	0.19	0.02	6.3%
Information Technology	4.9	0.13	0.01	4.2%
Camp Services	14.6	0.38	0.04	12.5%
Supply Chain Management	36.5	0.95	0.11	31.2%
Occupational Health and Safety	9.8	0.26	0.03	8.4%
Environment & Community	10.8	0.28	0.03	9.2%
<b>Total Transport Logistics and Support Services</b>	<b>117.1</b>	<b>3.05</b>	<b>0.34</b>	<b>100.0%</b>

## 5 Resources and Reserves

### 5.1 Geology Overview

There has been no new geological work undertaken on the BKM Copper deposit that influences the resource model as reported on 14 June 2019 and therefore that model has been used as the basis for all work in this study update. The commentary below is consistent with past reporting.

The KSK CoW is situated within a mid-Tertiary age magmatic arc that hosts a number of medium to large scale epithermal gold deposits (Kelian, Indo Muro) and significant prospects such as Muyup, Masupa Ria, Gunung Mas and Mirah.

Recorded exploration on the KSK CoW commenced in 1981 when PT. Pancaran Cahaya Mulia (later PT. Pancaran Bahagia) and Sinar Enterprises International B.V. explored the area. Reconnaissance surveys were conducted from 1982 until 1985 in the upper Kahayan area. This period of exploration was undertaken primarily for placer gold deposits. Subsequent exploration and evaluation of the KSK CoW has centred on four primary areas (Baroi, Beruang Tengah, Beruang Kanan and Mansur, where activities have focused on identifying porphyry and related epithermal styles mineralisation.

At the Beruang Kanan Main Zone deposit copper is the only element of economic interest, occurring as chalcocite, covellite, bornite and chalcopyrite replacement of pyrite in veins and less common fracture fill settings. The BKM deposit is structurally controlled and has been delineated as:

- twenty five laminated stacked and adjacent domains dipping on average easterly at 30 degrees (10 to 45 degrees dips) over a northerly strike length of 1,300m, across a total width of 900m and a vertical extent of 450m;
- centred on three areas whose lateral and vertical extents are well defined; and
- having extensive and intense alteration throughout the mineralised zone.

Four drillholes, two in the Northeast and two in the Southwest of BKM were completed as part of the drilling program undertaken over 2021/2022. These holes tested for down dip extensions of the BKM resources in these locations. The low-grade copper intersected remains open at depth and along strike and requires future follow up work.

The 2021/2022 drill program referred to in the preceding paragraph significantly expanded the resources contained in the BKZ deposit, which is located 800m to the north of BKM. BKZ is a polymetallic deposit containing mineralised lenses of Zinc/Lead, Copper/Gold/Silver and Gold/Silver/Lead which all remain open for further expansion. The current geological understanding is that BKM and BKZ, along with potential mineralisation at BK South (BKS) are parts of the same 3km long volcanogenic massive sulphide (VMS) system. The BKZ polymetallic mineralization will require an alternative process flowsheet to that proposed for the BKM copper heap leach project.

Geological observations during field mapping and geochemical data from drill core, surface rock chip samples at Beruang Kanan South and Beruang Kanan West prospects indicate near surface and similar style copper mineralisation, highlighting the potential for the development of additional copper resources within the current mining operation permit boundary.

## 5.2 Resource Estimate

The BKM 2019 Copper Resource Estimate details the geology and mineralisation of the deposit and modelled features of the mineralisation and host rock utilised in developing the modifying factors for estimation of Ore Reserves.

A total of 329 holes (51,369m) have been drilled in and around the Beruang Kanan Main deposit. Encapsulated within the drilling, the Beruang Kanan Resource model is underpinned by data from 267 Diamond Drill holes (36,857m). Modelled copper mineralisation has been intercepted in 12,800 metres from the 267 holes.

The Beruang Kanan Main Zone 2019 Copper Resource Estimate reported in accordance with the JORC Code, 2012 Edition is shown in Table 10 below. It is estimated that there are 148.5kt of contained copper in the Measured Resource category, 212.6kt of contained copper in the

Indicated Resource Category and 90.8kt of contained copper in the Inferred Resource Category at the anticipated economic and natural geological grade cut-off of 0.2% Cu. The mineralisation has been classified into 33% Measured Resources, 47% Indicated Resources and 20% Inferred Resources at a reporting copper cut-off grade of 0.2%.

**Table 10 Tabulated Copper Resources - Summary**

<b>Measured Mineral Resources (JORC, 2012)</b>				
<b>Reporting Cut Cu %</b>	<b>Tonnes M</b>	<b>Cu Grade %</b>	<b>Contained Copper kt</b>	<b>Contained Copper Mlbs</b>
0.2	20.6	0.7	148.5	327.3
0.5	14.9	0.8	124.9	275.3
0.7	8.6	1.0	87.6	193.0
<b>Indicated Mineral Resources (JORC, 2012)</b>				
<b>Reporting Cut Cu %</b>	<b>Tonnes M</b>	<b>Cu Grade %</b>	<b>Contained Copper kt</b>	<b>Contained Copper Mlbs</b>
0.2	34.1	0.6	212.6	468.8
0.5	21.4	0.8	161.3	355.6
0.7	9.5	1.0	90.6	199.7
<b>Inferred Mineral Resources (JORC, 2012)</b>				
<b>Reporting Cut Cu %</b>	<b>Tonnes M</b>	<b>Cu Grade %</b>	<b>Contained Copper kt</b>	<b>Contained Copper Mlbs</b>
0.2	15.0	0.6	90.8	200.3
0.5	10.0	0.7	70.3	154.9
0.7	3.8	0.9	33.5	73.8
<b>Measured Plus Indicated Plus Inferred Mineral Resources (JORC, 2012)</b>				
<b>Reporting Cut Cu %</b>	<b>Tonnes M</b>	<b>Cu Grade %</b>	<b>Contained Copper kt</b>	<b>Contained Copper Mlbs</b>
0.2	69.6	0.6	451.9	996.3
0.5	46.3	0.8	356.4	785.8
0.7	21.9	1.0	211.6	466.5

Notes Table 10: The 0.2%Cu grade reporting cut approximates the mineralised domains extents. Mineral Resources for the Beruang Kanan Main Zone mineralisation have been estimated in conformity with generally accepted guidelines outlined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition). In the opinion of Duncan Hackman, the block model Resource Estimate and Resource classification reported herein are a reasonable representation of the copper Mineral Resources found in the defined volume of the Beruang Kanan Main mineralisation. Mineral Resources are not Ore Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resource will be converted into Ore Reserve. Computational discrepancies in the table and the body of the Report are the result of rounding. This report has been produced in accordance with the guidelines in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012 Edition) and was prepared by Duncan Hackman (B.App.Sc., MSc., MAIG). Duncan Hackman has the expertise and experience required to be considered a Competent Person under the guidelines outlined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition) for undertaking resource estimates on mineralisation styles such as those identified at BKM. Further detail on the Project's Mineral Resources were released to the market on 14 June 2019.

### 5.3 Ore Reserve

The Ore Reserve reported in Table 11 represents the outcome of a new pit optimisation utilising the final operating costs. Mining, processing and support service costs have been applied to generate a new reserve block model which is then applied to the finalised BKM pit design (based on an earlier pit optimisation, see Section 7.1). The BKM Project Ore Reserve contains more proven and probable tonnes, at a slightly lower grade with more contained soluble copper than the current FS production schedule even with its inclusion of Inferred Resources. The current maximum capacity of the BKM Heap Leach Facility (HLF) is the FS design of 38.4M tonnes of ore therefore the project is currently not able to process all the reported Ore Reserve. The Ore Reserve remains as reported as the likelihood of processing the additional ore is high with ongoing development of the project. The FS production schedule delivers less tonnes at higher



grade than the stated Ore Reserve. The new Ore Reserve remains a significant opportunity for the project specifically looking at a new HLF location with a view to being able to contain the reported Ore Reserve plus an updated volume of inferred resources contained within the final pit.

**Table 11 2023 Ore Reserve Estimate for BKM Project**

Ore Reserve Category	Tonnes	Soluble	Total	Contained Copper	
		Copper	Copper	Soluble	Total
	Mt	%	%	kt	kt
<b>Total Proved Ore</b>	<b>19.0</b>	<b>0.5</b>	<b>0.7</b>	<b>102</b>	<b>137</b>
<b>Total Probable Ore</b>	<b>21.8</b>	<b>0.4</b>	<b>0.6</b>	<b>95</b>	<b>135</b>
<b>Total Proved and Probable Ore</b>	<b>40.8</b>	<b>0.5</b>	<b>0.7</b>	<b>198</b>	<b>272</b>
Waste Rock	50.3				
Waste : Ore Ratio	1.2				

Notes Table 11: The tonnes and grades shown in the totals rows are stated to a number of significant figures reflecting the confidence of the estimate. The table may nevertheless show apparent inconsistencies between the sum of components and the corresponding rounded totals. The Ore Reserves are reported within the final pit design forming the basis of the Feasibility Study. They do not include Inferred Mineral Resources. The Ore Reserves treat Inferred Resources within the pit design as waste rock. The Competent Person for the Ore Reserves is Mr John Wyche who is a full time employee of Australian Mine Design and Development Pty Ltd. Mr Wyche is a Fellow of the Australasian Institute of Mining and Metallurgy. He has 35 years of experience with the BKM style of mineralisation and type of mining. He has consented to be named as the Competent Person for the Ore Reserves.

## 6 Geotechnical and Hydrology

### 6.1 Geotechnical – Open Pit

The assessment of open pit geotechnical conditions and pit design has differed from the previous study. As there was a requirement to complete works on a new pit optimisation early in the study, pit slope design parameters from the 2019 geotechnical studies were used as a guide for overall slope angles. Flatter slopes were adopted (22-24 degrees) for the upper oxide materials and the pit slopes below the oxide layer adopted overall slope angles of 42 to 45 degrees (not including the flatter upper oxide slope). Detailed pit designs were completed upon agreement of the selected optimisation pit shell with the final pit design being the subject of the geotechnical assessment completed for the study. There has been no further iteration of the pit design post the outcome of the geotechnical and hydrogeological studies.

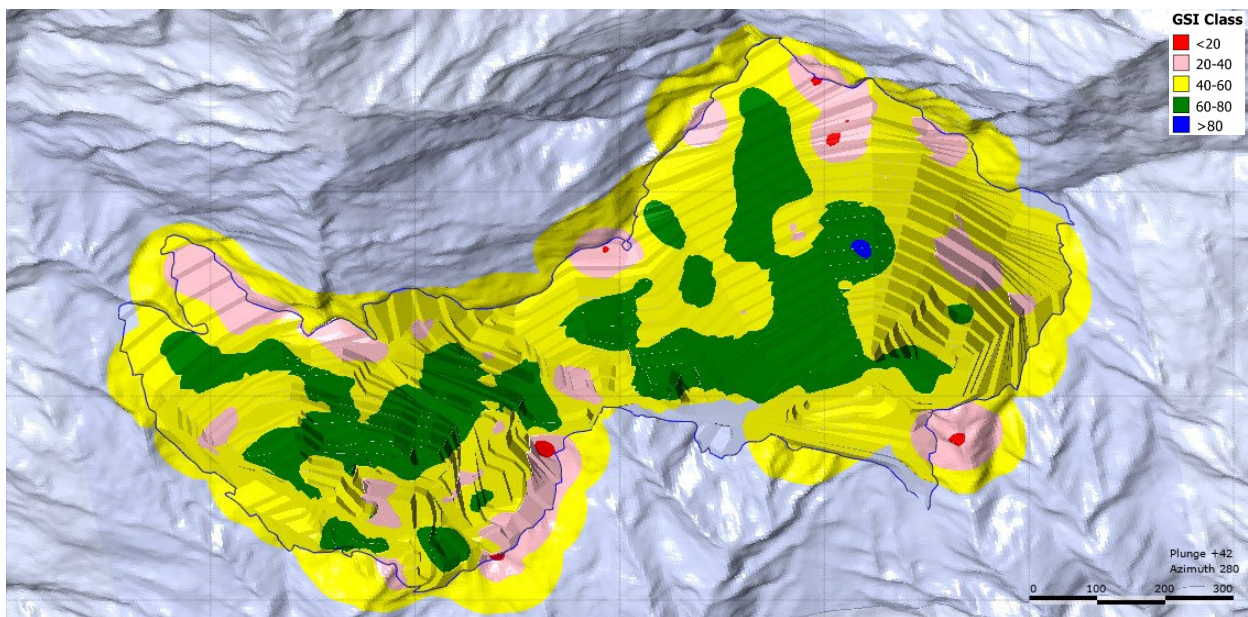
The 2023 BKM FS update reviewed the approach taken in the previous works as related to the assessment of open pit stability. A fundamental question at the completion of the previous study related to the characterisation of rock mass quality of the BKM deposit particularly with respect to conditions the final pit wall would be exposed to. The key parameters describing rock mass quality, the Geological Strength Index (GSI) and Intact Rock Constant (mi) differed between various technical contributors at the conclusion of the 2019 work. It was established very early in this study that there needed to be agreement on how these parameters would be determined for the assessment of pit stability, in particular the value of GSI and how it would be applied.

In collaboration with the two geotechnical consulting groups, it was agreed the best approach to assessing rock mass conditions of the final pit wall would be to perform a determination of the GSI parameter using drill core photo's, selecting for assessment all exploration holes that intersect the pit walls. In a similar way to completing a borehole log, geotechnical engineers inspected core photographs from 171 holes (83 in North Pit, 88 in South Pit) and completed GSI determinations on a total of 8,407m of core. Core was assessed from where the drill hole intersected the pit wall through to the end of hole with the upper part of the holes not logged for GSI as the critical aspect is the rock mass condition of the final excavation.

As this work progressed it became clear there is no direct relationship between lithology and rock mass quality as defined by the GSI value. This was a critical finding as the previous geotechnical work adopted a single GSI value for each of the two key lithology types, Andesitic Breccia and Wispy Breccia which are dominant in the deposit and are present in the final walls. The Wispy

Breccia material was given a very low GSI value in previous work, based in part on information from drilling but also from inspection and sampling of a surface outcrop of this material. The recent GSI assessment of drill core has shown that GSI and by inference rock quality is significantly improved at depth and that there is no correlation directly with lithology meaning it is impossible to assign a single GSI figure to a lithology type. Within the Andesitic and Wispy Breccia materials there is quite variable GSI but in general higher than the previous assessment particularly for the Wispy Breccia. Low GSI figures are seen in small areas of the deposit and typically close to surface in oxide materials where exposed in the final pit wall. The overall outcome of the GSI assessment work is the creation of a 3D, GSI model at the final pit surface. This is depicted in Figure 11.

**Figure 11** GSI 3D Model at final pit design

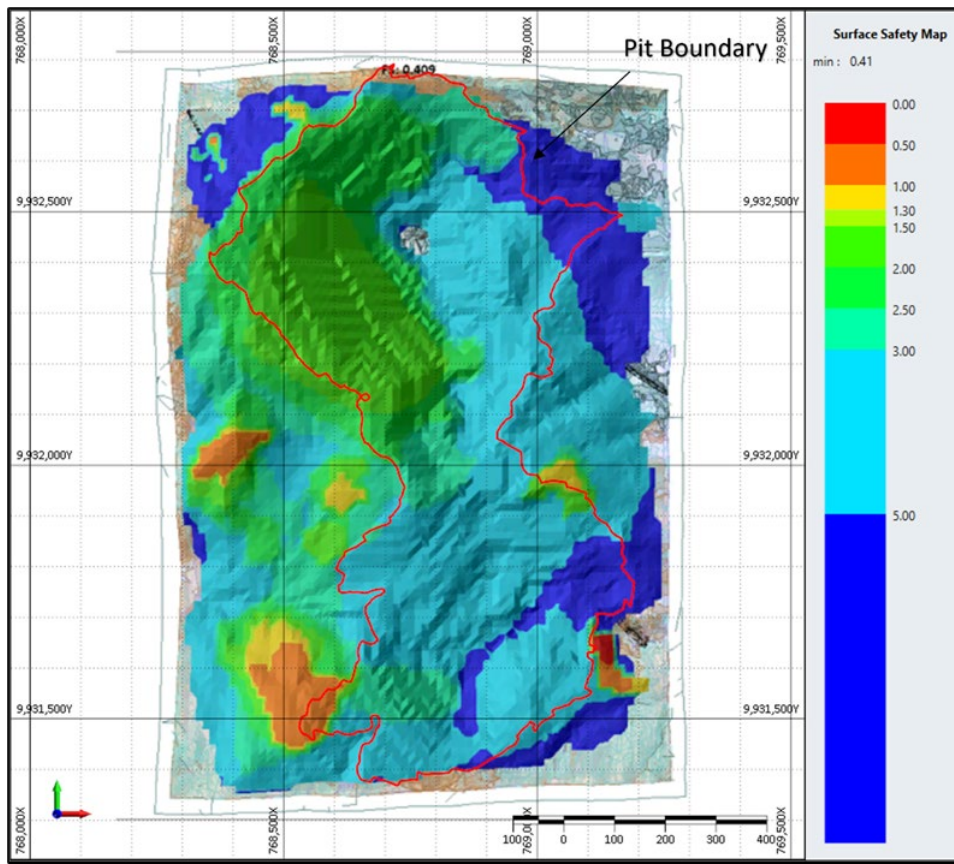


Stability analysis of the BKM Open pit has been undertaken using both 2D and 3D limit equilibrium methods. 3D analysis has been used to assess the overall global stability of the pit design with the use of 2D analysis to allow focusing assessment on any areas of key concern. Key comments in relation to the stability analysis include:

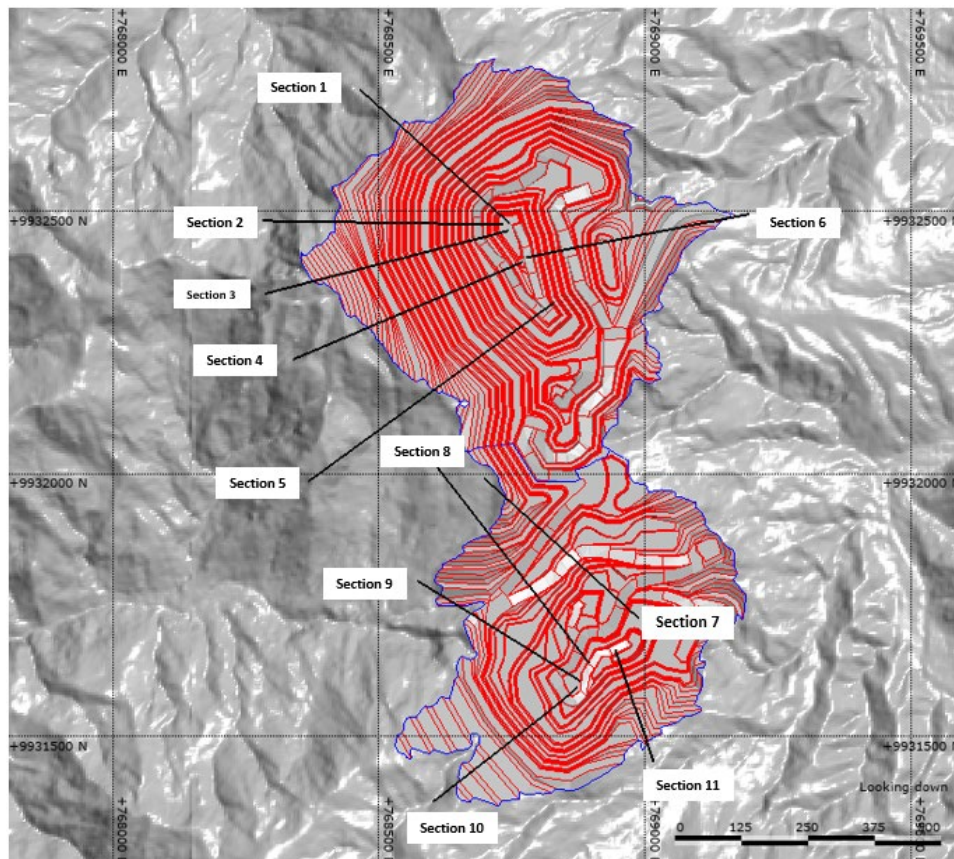
- Minimum factor of safety (FoS) of 1.3 to be achieved.
- Groundwater input derived from 3D finite element (FE) model delivered by Douglas Valley/Delta H. Two groundwater models have been applied:
  - Transient Model – at the end of year 10, 1 year after mining has ceased.
  - Horizontal Drain Model – simulation providing impact of array of horizontal drains.
- GSI model derived from core photo logging and implicit modelling. A range of GSI values applied to each of the lithology types.
- mi value based on published data.
- D (disturbance factor) of 0.7 for blasted material.

An example of the 3D stability analysis is provided in Figure 12. This represents the case using the transient groundwater model. This Figure shows that all slopes within the pit limit have a factor of safety greater than 1.3. Following on from the 3D stability analysis, a series of 13 2D sections were analysed. The location of these sections is provided in Figure 13. The outcome of the 2D factor of safety analysis is provided in Table 12, with the lowest factor of safety being 1.46 in section 1. This outcome is positive for the project in that final pit wall stability is good even with the base case groundwater conditions, i.e. no enhanced drainage applied.

**Figure 12 3D Stability Analysis – Transient Groundwater Model**



**Figure 13 2D Factor of Safety Analysis Sections**



**Table 12 2D Stability Analysis – Transient Groundwater Model**

Model Section	Pit	Wall	Height (m)	OSA (deg)	Min FoS
Section 1	North	Northwest	215	45	1.46
Section 2	North	Northwest	260	42	1.70
Section 3	North	Northwest	275	45	1.79
Section 4	North	Northwest	235	44	1.67
Section 5	North	Southwest	194	42	1.80
Section 6	North	East	108	41	3.22
Section 7	South	North	135	25	4.33
Section 8	South	Northwest	115	22	3.86
Section 9	South	Southwest	75	22	4.84
Section 10	South	Southwest	135	30	1.96
Section 11	South	South	79	43	2.89

The Douglas Valley/Delta H consultants finite element groundwater model was set up to simulate the introduction of horizontal drainage into the western wall of the north pit. A network of drains were modelled on each bench from RL455 down to RL350, placed at 50m spacing and drilled 100m into the wall. The outcome of the model was a new free groundwater surface within the rock mass behind the pit wall. 2D analysis was run on two of the critical sections that would be impacted by drainage of the pit wall with the outcome provided below. As can be seen from data in Table 13 there is significant benefit in the application of horizontal drains notwithstanding the factor of safety without drains is acceptable.

**Table 13 2D Stability Analysis – Comparison with Horizontal Drains**

Model Section	Wall	Height (m)	OSA (deg)	FoS Transient GW Model	FoS HD GW Model	Variance
Section 1	Northwest	215	45	1.46	1.77	0.31
Section 4	Northwest	235	44	1.67	1.86	0.18

In summary, the factors of safety presented from the geotechnical analysis under conditions with or without horizontal drainage of the North Pit highwall show them being of acceptable values. This gives confidence the existing pit design for BKM can be executed safely. The mining operations cost base includes the execution of a horizontal drain hole program consistent with what is modelled in the study. The opportunity potentially lies in reviewing pit slope parameters with the inclusion of horizontal drains to ascertain if potential reductions in waste movement could be realised through adoption of slightly steeper pit wall slope angles. Additional work is proposed to further enhance the understanding of groundwater behaviour which in turn will be used to improve the 3D groundwater model. On completion of this work a review of the horizontal drain program and pit slope design could be revisited.

## 6.2 Geotechnical – Heap Leach Facility

Previous geotechnical work on infrastructure including the heap leach facility was completed by Ausenco Engineering. There has been no additional sub-surface investigative work (i.e. drilling) completed as part of this study update. However, two bodies of work have been completed that relate to geotechnical assessment of BKM’s HLF and additional non-process infrastructure; a) Passive Seismic HVSR geophysical study and 2) Geotechnical Review of proposed HLF design.

### 6.2.1 Passive Seismic HVSR

A passive seismic HVSR program was carried out over the Heap Leach Facility, Process Plant site, Ponds area and Non-Process Infrastructure locations. Passive seismic was chosen as a tool for conducting this sub-surface assessment due to it being a non-invasive process and could be executed with less ground clearing requirements due to the smaller scale nature of the equipment. The outcomes of this work are discussed in more detail in the respective chapter of the report however a clear outcome of the work was the determination of the distance from surface to bedrock. This is important for the assessment of earthworks when it comes to detailed design and planning. A 3D model of the sub-surface conditions across this area has been provided and will be made available to the civil earthworks design engineers at the detailed design phase.

## 6.2.2 Independent Geotechnical Review of HLF Design

Knight Piesold (Perth) were engaged to review the proposed design of the heap leach facility. The group has a long association with heap leach facilities in Indonesia and is well placed to comment on the proposed approach being taken for the BKM HLF. A range of recommendations have been provided and will be considered as the project moves forward into detailed design. The BKM HLF is being constructed effectively as a single graded pad (with a small “mezzanine” extension after its first lift) which requires significant earthworks as part of initial construction but minimal requirements beyond this. It delivers an inherently more stable heap leach foundation and is considered a positive from a geotechnical stability perspective as well as water management and the ability to link in with the mining schedule. It also allows for an intermediate leach solution (ILS) system in the design, the benefits of which will be discussed in Section 8.

## 6.3 Hydrogeology

Asiamet engaged PT Douglas Valley Indonesia (DVI) to undertake work on the hydrogeology of the BKM Project with focus on the area related to the open pit. DVI’s work was phased in approach:

- Phase 1 – initial review of all data and report, provide proposal for Phase 2 hydrogeology works (next point).
- Phase 2 – development of conceptual groundwater model, execute drilling program to obtain additional groundwater characterisation data, update conceptual model.
- Phase 3 – build hydrogeological numerical model to incorporate surface and groundwater processes.

Phase 1 and Part A of Phase 2 are complete however it is not possible to undertake Part B, the site investigation due to being unable to perform drilling activities under the current site permit transition process. Asiamet has allocated resources to undertake the drilling program on receipt of the mining operations permit. It was intended originally to commence work on Phase 3 numerical modelling after the site investigation program was completed however it was beneficial to establish this model early using existing data as it was used to inform the pit geotechnical stability study as described in section 5.1.

The groundwater conceptual model has broadly remained the same as described by previous work in this area. There are considered to be 3 main groundwater systems:

1. Fracture Basement Rock aquifers
2. Weathered Profile aquifers
3. Alluvial aquifers

The groundwater system with the most information available is the weathered profile aquifer. It will be important to gain a better understanding of all three systems through the execution of the site investigation, testing and monitoring program to be implemented in Phase 2b. Assumptions

of bulk hydraulic conductivities have been used as inputs into the conceptual and numerical model.

Numerical model development included a process of calibrating the model using all available site data which include water level monitoring across 135 exploration boreholes. The calibration process is detailed in the modelling report from Delta H however comment is made that the model fitting process delivered a very good correlation between observed and modelled groundwater levels. From this calibration process conductivities of the main aquifer units were determined by:

- Shallow weathered and alluvial aquifer –  $1 \times 10^{-6}$  decreasing to  $9 \times 10^{-8}$  m/s
- Fractured basement aquifer –  $1 \times 10^{-9}$  m/s

The numerical model was run under a number of scenarios to predict the volume of water entering the open pit. The most relevant for the discussion is the baseline groundwater flow over the 10 years of mining (no enhanced drainage). The average daily inflow to the pit from groundwater for each year is provided in Table 14 below. This is a very modest amount of groundwater inflow and is reflective of the current assumption of low permeability of the rock mass.

**Table 14**                      **Average Daily Groundwater Inflow to Open Pit**

	North Pit (m3/day)	South Pit (m3/day)	Pits Total (m3/day)
Year 1	30	48	78
Year 2	11	42	53
Year 3	8	40	48
Year 4	7	46	53
Year 5	8	44	52
Year 6	12	43	55
Year 7	12	41	53
Year 8	14	41	55
Year 9	16	39	55
Year 10	15	39	54

The planned site investigation program will provide additional input into the groundwater modelling program. The installation of groundwater pressure monitoring equipment prior to commencement of mining is an excellent risk management approach which will provide important information on the behaviour of the groundwater system from the beginning of operations. This will allow the best opportunity to continuously improve the groundwater model and thus improve the predictability of the impacts on pit wall stability and/or mitigation measures to improve stability.

## 6.4 Geochemistry

There has been no new ARD testwork undertaken in this study however Lorax Environmental Engineers have completed a review of all of the previous testwork. Some testwork results not used in the previous assessment due to timing mismatches were available for this study and hence have been incorporated in this contemporary review. The most significant change to geochemistry understanding and its flow on effect to water quality has been an updating of the geochemical source terms used by the modelling. This was necessary due to mine plan revisions (changes in pit shape, development plan over time) and the need to model operational water quality at a higher resolution than in previous studies. It must be noted the work on source terms has only been performed for the operational phase of the project and does not include an assessment into closure.

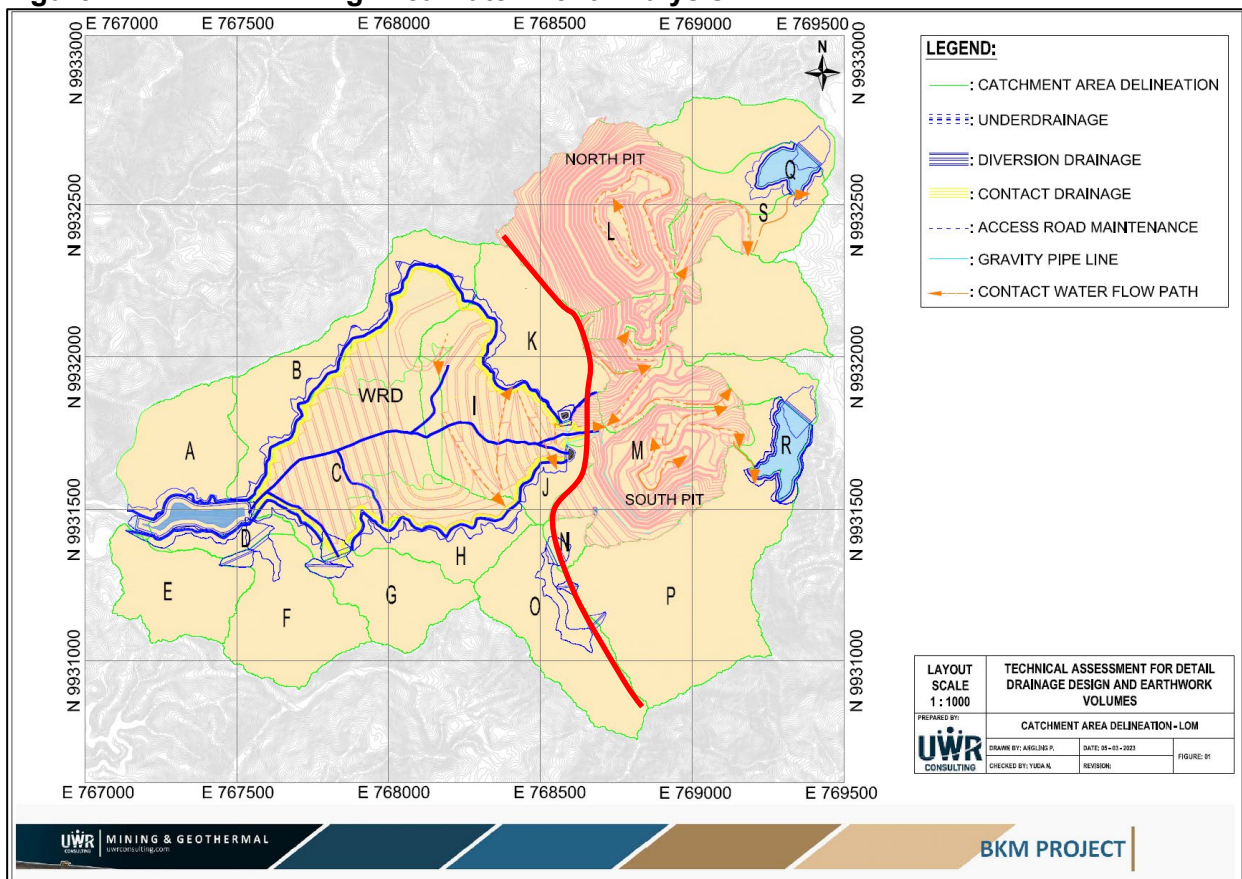
Geochemistry of the BKM deposit is dominated by an abundance of pyrite, copper mineralisation and a distinct lack of any neutralising component of the ore (calcite, dolomite etc). For this reason the material is expected to start oxidising and generating acidic leachates almost immediately on exposure during mining. This is the principal challenge for the site, the management of ARD from the open pits and waste rock dump. The lack of neutralising capacity of the BKM material is also a contributor to very low levels of gangue acid consumption in the heap leach operation and a key reason, along with high levels of pyrite that the heap leach facility will be net acid generating during significant periods of operation.

## 6.5 Hydrology

The hydrology of the site is characterised by a network of short-lived and permanent streams draining the area. Mine facilities are situated within three adjacent catchments. The rivers in these catchments flow northwards to the Marungoi River, which then drains to the Kahayan River 10km southwest of the BKM site. From there, the Kahayan River flows to the Java Sea, 300km to the south of the site.

The western catchment comprises the waste rock dump and is located west of the open pit. Run off from the dump reports to an ARD pond which then sees water pumped back over to the Central Catchment for treatment.

**Figure 14 Mining Area Catchment Analysis**



The central catchment area contains the remaining infrastructure and is split by the Beruang Tengah creek. The open pit, run-of-mine stockpile, sizers and mine workshop will be situated on the west side of this catchment. The heap leach pad, process plant and non-process infrastructure will be situated on the east side of this catchment. All water treatment facilities will be located in this catchment with Mine ARD water treatment plant (WTP) being located near the ROM

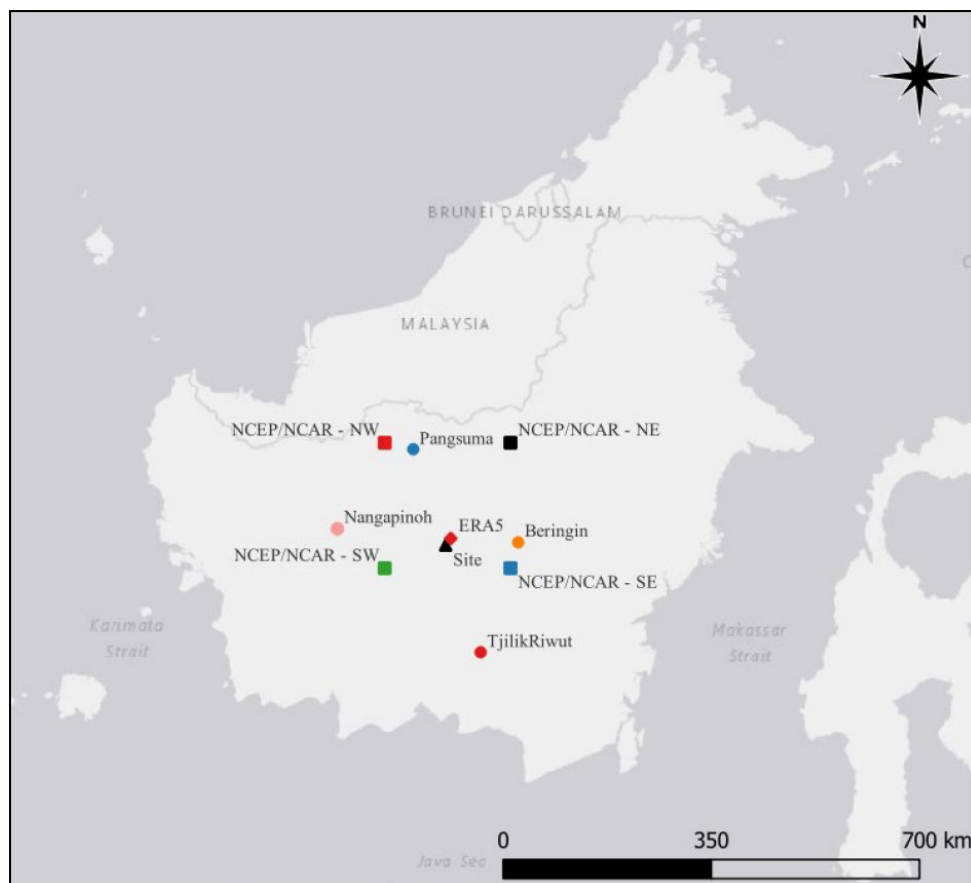
pad/crusher area. The process plant neutralisation (PPN) plant will be located on the process plant site and treat excess heap leach solution that must be removed due to the positive water balance. ARD WTP and PPN discharge will be combined in the maturation pond and passively discharged into the Beruang Tengah River.

The eastern catchment is a small catchment where diversion of the upstream water of the heap leach facility will be diverted into.

## 6.6 Climate

An updated climate assessment was undertaken by Lorax Environmental Consultants in a similar approach to that taken in the earlier study. The key differences in this update were a significantly longer period of site data on which to be able to compare against regional station data (refer Figure 15) and the inclusion of the ERA5 gridded climate data set.

**Figure 15 Sources of climate data for the BKM Study site.**



The key outcomes of the updated climate assessment are as follows:

- Mean Average Precipitation (MAP) – 4,040mm/yr
- 1 in 100year, 24hr Storm Event – 328mm
- Probably Maximum Flood 24hr Event – 739mm

All of the rainfall metrics are reduced relative to the work completed previously primarily as a result of the increase in the amount of site data to compare with regional stations and the new gridded data set from ERA5. The long-term climate dataset has been used as the primary input into the water management studies as described in the next section.



## 6.7 Water Management

Lorax Environmental (Canada) completed work to update and integrate a full sitewide water balance along with updating geochemical source terms and delivering the pit/waste rock dump water quality model. Some of these items have been discussed in preceding sections. Key elements of the site water management plan design included:

- Long term climate data analysis – Lorax Environmental
- Updated baseline water quality sampling and hydrology measurements – PT Lorax
- Development of a conceptual water management layout for the project – Lorax Environmental
- Construction of a site-wide water balance (including HLF) and water quality model (excluding HLF) – Lorax Environmental
- Design of water management structures (drains, diversions, ponds) to deliver the water balance outcomes – PT UWR Consulting.

The baseline water quality monitoring undertaken as part of this study update identified similar trends as previously observed, that there is natural ARD at the mine site with some high elevation sampling sites (e.g. near the future open pit) showing evidence of acidic conditions. Existing tributaries in the proposed open pit area are naturally acidic at pH 3 and show elevated signatures for trace metals such as Cu and Zn. Water quality monitoring of the Marungoi River has confirmed background water quality conditions are good. Water course flows as measured by stream gauging were similar to previous measurements.

Key principles of the water management system are 1) keep clean water clean and 2) capture impacted water and treat for discharge. Water management infrastructure is proposed to minimise the volumes of contact water generated by diverting clean water, and to provide adequate storage, pumping and treatment capacity to maintain control over discharge of mine impacted water. The water management system layout consists of:

- Three ARD Ponds – Waste Rock Dump (WRD), North Pit and South Pit
- Pumping systems at each of these ponds
- Centralised ARD Water Treatment Plant (WTP)
- Stormwater Pond for Heap Leach, Process Plant excess water management
- Process Plant Neutralisation (PPN) Treatment Plant
- Maturation Pond receives ARD and PPN treated water for combination and single point discharge to receiving system
- Network of water diversions and cut off drains (non-contact runoff)
- Contact Water drainage.

Pipelines and a pumping system are required to convey water from the Waste Rock Dump and Pit ARD ponds to the central ARD WTP. Retained, poorer quality water from ARD treatment will be pumped to the PPN plant for combined treatment with Heap Leach solution bleed. Importantly the process plant neutralisation circuit is designed to allow the recovery of copper from ARD waters and leach solution bleed.

The outcome of the water management study delivered design volumes for ARD water management facilities (ponds) and models of capacity utilisation of these facilities over a wide range of rainfall scenarios using stochastic modelling. Deterministic modelling was also performed to assess specific rainfall cases and observe utilisation of water management facilities.

No detailed work has been undertaken on post closure water quality from the open pit, heap leach facility and waste rock dump. The downstream face of the Waste Rock Dump will be progressively rehabilitated over the life of mine, starting within the first year of operations however large open

areas will remain throughout operations. The objective will be to rehabilitate landforms that shed water rapidly and minimise conditions that engender AMD.

## 7 Mining

### 7.1 Pit Optimisation

The final pit design for BKM was derived from a pit optimisation assessment completed by mining engineering consultant AMDAD. An initial pit optimisation was undertaken early in Feasibility Study update to reflect the best knowledge of operational costs at the time (June 2022):

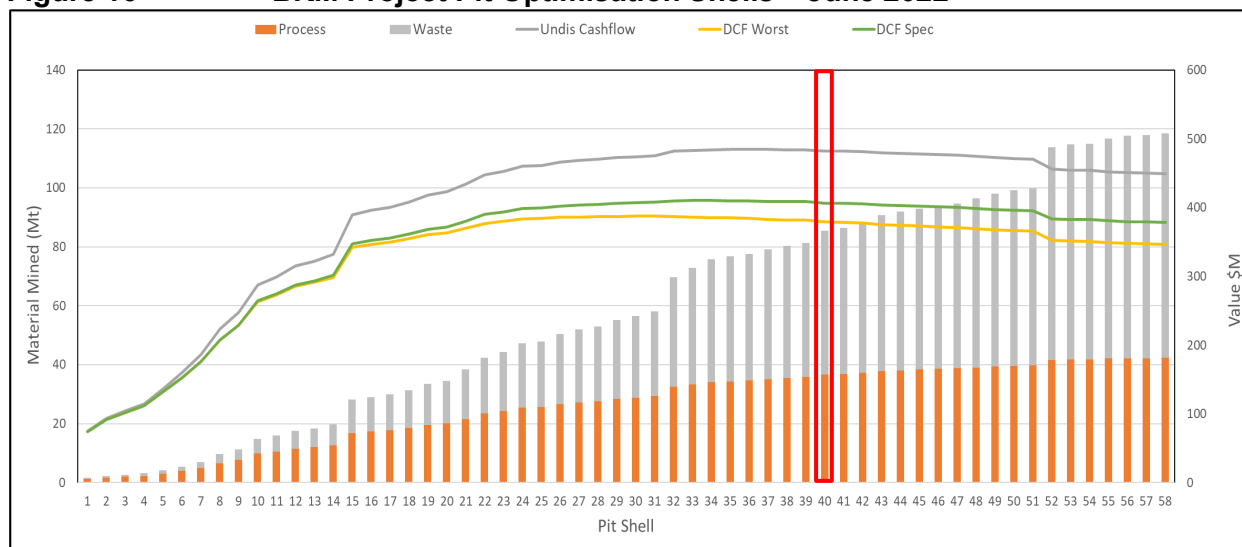
- Updated mining operating cost estimate was provided based on use of a fleet that was considered more representative of what would be used at BKM and applying knowledge of operating costs in similar work environment.
- Consulting engineer NewPro completed a preliminary processing operating cost estimate with some material changes noted relative to that which had been used previously.
- Updated general and administrative cost that better reflected reality of site and company operational requirements.
- Copper price of \$3.69/lb.

The outcome of the pit optimisation process yielded the basis for the detailed pit design and study. The details of the pit shell selected were:

- Revenue Factor (RF) – 1.08
- Ore – 36.67Mt @ 0.52% Copper Soluble
- Waste – 48.84Mt
- Total – 85.51Mt

Figure 16 depicts the series of optimisation shells generated by Whittle pit optimiser for the initial optimisation of the BKM deposit for the Feasibility Study update.

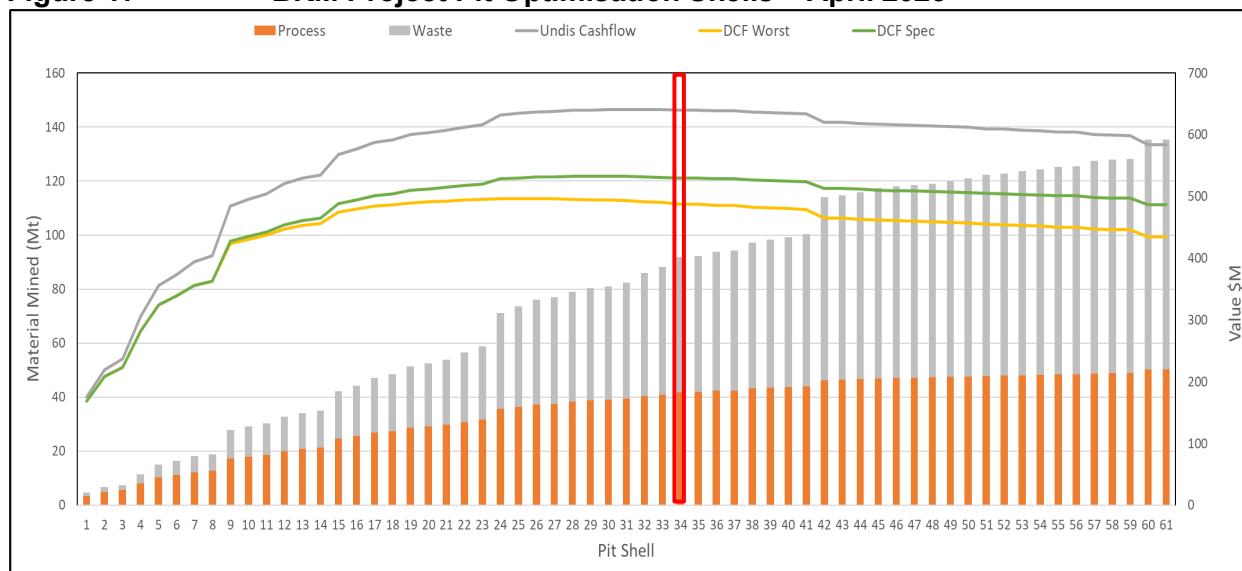
**Figure 16 BKM Project Pit Optimisation Shells – June 2022**



As highlighted in the figure, the selected pit shell was slightly to the right of the peak specified discounted cash flow (DCF) driven by the selection of a pit shell with a revenue factor slightly over 1. The decision was made at this point to accept this and give some buffer in the event copper prices improved and still retained a project of reasonable size. Pit shell 40 was taken forward as the basis for undertaking the detailed pit design as described in the next section. The BKM pit design, based on the original optimisation delivered 37.34Mt Ore at 0.51% Copper soluble and 53.53Mt Waste for a total material mined of 90.87Mt. The total material volume is higher for the pit design compared to the optimisation shell due to practical pit design requirements.

To close out the study it was a requirement to revisit the pit optimisation utilising the outcome of the detailed work on operational costs which have been presented in earlier sections. The updated project costs were used as a new set of inputs for pit optimisation along with the updated reference copper price (RF=1) of \$3.96/lb. The outcome of the optimisation is provided in Figure 17, depicting the set of Whittle pit shells by revenue factor (note Pit Shell 36 = RF 1).

**Figure 17 BKM Project Pit Optimisation Shells – April 2023**



Pit shell 34 is marked on this diagram as it represents the closest shell that delivers the total tonnes represented by the BKM final pit design and hence most closely matches the design. Pit shell 34 delivers the following:

- Revenue Factor – 0.96
- Ore – 41.77Mt @ 0.48% Copper Soluble
- Waste – 49.96Mt
- Total – 91.73Mt

The pit optimisation closely aligns with the final BKM pit design therefore represents a consistent outcome between the study pit design and check optimisation.

## 7.2 Pit Design

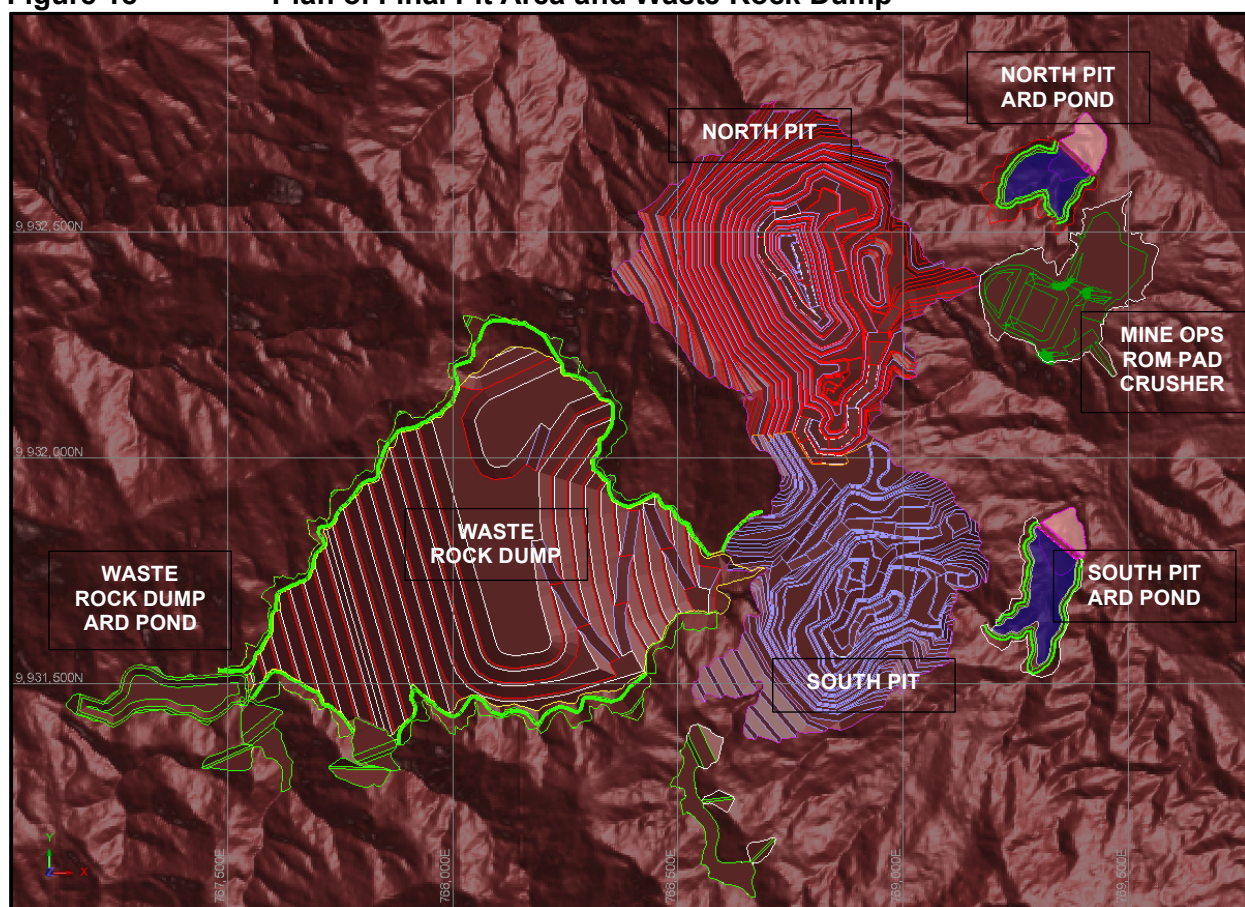
As described in the previous section, the final pit design was modelled on an initial pit optimisation shell. It was noted more waste is mined in the final design than the optimisation (4.69Mt), a function of practical mining impacts such as geotechnical considerations and haul road requirements. Generally overall slope angles in the final pit design are marginally less than used in the pit optimisation again for the reasons just mentioned. Ore mined is very similar for both cases with only a 0.67Mt difference.

The pit development is relatively simple with only 2 stages each in the North and South pits:

- Initial roads to provide access to the waste rock dump in a valley running west of the pit and the ROM stockpile and crusher east of the pit.
- Shallow starter pits in the south and north of the deposit which cut into the eastern face accessing high grade, predominantly chalcocite ore.
- Pushbacks to the final pit in the south and north of the deposit.

Figure 18 depicts the layout of the open pit, waste rock dump, ROM Crusher, Mine operations areas and the North and South Pit ARD management ponds.

**Figure 18 Plan of Final Pit Area and Waste Rock Dump**



### 7.3 Production Schedule

The 2023 BKM heap leach project is a single stage heap leach development with no expansion of footprint during the project life. With a leach cycle of 330 days (described in the next section) this effectively fixes the rate at which material can be stacked on the heap. The mine has very little flexibility in its production schedule because of this, i.e. the mine is driven by the heap leach stacking schedule and therefore has had to fit to this with little deviation. In addition to matching the stacking schedule it is planned to keep ROM rehandle at no more than 20% of ore feed to the crusher to control costs. Both lead to a relatively tightly coupled mine plan and ore delivery production schedule as depicted in Table 15.

**Table 15 Annual Production Schedule**

	Year	Pre Prod	1	2	3	4	5	6	7	8	9	10	Total
<b>MINING</b>													
Ore tonnes	Mt	0.13	4.10	4.13	4.23	4.39	4.42	4.46	3.66	4.43	4.44		<b>38.39</b>
Waste tonnes	Mt	0.32	5.33	9.85	7.62	11.14	5.05	3.21	2.89	3.83	3.23		<b>52.48</b>
Total tonnes	Mt	0.45	9.43	13.98	11.86	15.53	9.47	7.67	6.55	8.26	7.67		<b>90.87</b>
Total Volume	Mbcm	0.22	4.06	5.62	4.76	5.89	3.51	2.80	2.42	3.00	2.73		<b>35.01</b>
Ore to Waste Ratio	t:t	2.52	1.30	2.38	1.80	2.53	1.14	0.72	0.79	0.87	0.73		<b>1.37</b>
Stockpile Reclaim	Mt	0.00	0.84	0.83	0.83	0.90	0.89	0.89	0.74	0.88	0.89	0.02	<b>7.71</b>

The production schedule includes ore reserves as well as Inferred Resources where they fall within the final pit shell design. Inferred resources have not been used as part of available material for the pit optimisation process. Section 4.1.2 and Figure 6 provided details of the amount and timing of inferred resources making up material mined. To reiterate, Inferred Resources make up only 2.7% of the ore mined and processed in the current production schedule. Largest volume of

inferred material is mined at the end of the mine life. It can be noted there is some volume of Inferred Resources in the mining schedule in early years and this will be the subject of grade control drilling over that period. Inferred Mineral Resources are of lower confidence (due to limited geological data) and it is possible that some or all of the Inferred Resources may not be realised in the pit. The opportunity will be taken to drill and upgrade Inferred Resources to Indicated allowing to be considered in ore reserve determination. Whilst reference is made to Inferred Resources in this section as noted in 5.2 Ore Reserves, the updated Ore Reserve for BKM now contains economic ore in excess of current heap leach facility capacity therefore ultimately no inferred resources will be necessary to process to consume current capacity.

## 7.4 Mine Operations

Mining operations at BKM will involve the following activities:

- Medium to Long Term Mine planning, Grade Control drilling, sampling and modelling and short-term production scheduling conducted by KSK.
- Technical aspects such as Drill and Blast, Survey oversight, Geotechnical Engineering and Hydrogeology will be resourced within KSK.
- Grade Control – performed by dedicated RC drill rig for the first 5 years of operations with associated sample collection. It has been assumed that will move to blast hole sampling for the final 4 years of operations as mining volumes reduce significantly.
- Blasthole Drilling – to be performed by the contract mining company based on pattern design from KSK.
- Blasting – the current model proposes that KSK engage a service provider directly and have them deliver complete “Down the Hole” service. Blast powder factors are currently assigned to material types in the block model.
- Load and Haul – operations utilising 95t hydraulic excavators, 60t articulated dump trucks and necessary ancillary equipment will be conducted by a mining contractor.
- Waste Rock Dump Management – dump being constructed from bottom up and additional compaction has been allowed for in the operating cost. Progressive placement of topsoil on the dump face will also be undertaken and costs are allocated to this in the economic model.
- Horizontal Drain Holes – provision has been made for drilling horizontal drains in the North pit west wall. No provision has been made for the South Pit due to its short duration in operation.
- Pit / Waste Rock Dump water management – management of drainage within the pits and on the WRD, pumping of contact water to necessary ponds and water treatment.
- Pit roads, drainage maintenance – high rain fall and potential rock degradability in some areas of the pit will make it necessary maintain a source of surfacing material for pit benches and ramps.

## 8 Metallurgy and Ore Treatment

There has been no additional metallurgical testwork undertaken as part of the 2023 BKM Feasibility Study update. The key body of work that has been undertaken as part of this study is a complete review, update and reporting of all of the results from work generated previously. This detailed, comprehensive compilation has led to changes in approach to modelling aspects of the heap leach operation which will be explained briefly here. The detailed Metallurgical Testwork Report that has been collated and interpreted by Mr David Readett (MWorx) is discussed in more detail in the Metallurgy chapter of the study and will be provided as an Appendix. Additionally, the other key aspects of site treatment processes relates to water management and the use of limestone as primary reagent for neutralisation.

### 8.1 Production Schedule

The ore stacking and copper production schedule is provided in Table 16.

**Table 16 Inputs for Heap Leach, SX-EW Process Design Criteria**

	Year	1	2	3	4	5	6	7	8	9	10	11-15	Total
<b>PROCESSING</b>													
Ore Stacked	Mt	4.18	4.16	4.14	4.47	4.43	4.43	3.70	4.42	4.44	0.02		<b>38.39</b>
Soluble copper	%	0.67	0.65	0.48	0.39	0.49	0.52	0.50	0.47	0.46	0.61		<b>0.51</b>
Copper Cathode Total	Kt	11.55	19.60	19.65	16.57	15.30	17.94	16.22	15.10	15.59	7.64	1.18	<b>156.35</b>

The most notable aspect of the production schedule is the decrease in ore stacked in Year 7. This represents a pause in stacking of 2 months to allow for irrigation time of leaching for ore stacked in this period to reach what is considered an acceptable time. The current irrigation schedule sees lift 5 is exposed to a shorter leach cycle in an effort to balance acceptable leach/irrigation time with the standdown time of stacking ore that occurs in Year 7. Currently the schedule calls for ceasing stacking for 60 days to allow lift 5 to reach the irrigation time of 260-280 days. An overall target for the study update was to deliver a total heap leach duration of 10 years or less which is achieved with the current schedule. Copper cathode production includes recovery of copper from mine ARD waters through the neutralisation/Bleed SX circuit.

## 8.2 Heap Leach Terminal Recovery

The terminal recovery of soluble copper in the heap leach is a critical parameter for economic development of the deposit. Prior to this update the terminal recovery was assigned a figure for three ore types (defined by dominant copper mineralogy); Chalcocite (CC) – 80%, Covellite/Bornite (CoBo) – 75% and Chalcopyrite (Cpy) – 77% with these recovery figures delivered over 365 days of leaching. The recovery figure related to the recovery of soluble copper in the material, not total copper. The current study has changed the approach to terminal recovery to one defined by a ratio of acid soluble copper and cyanide soluble copper. The CC material is considered acid soluble and CoBo material cyanide soluble (which means slower leaching in ferric iron / sulphuric acid solutions).

**Figure 19 Heap Leach Soluble Copper Terminal Recovery**

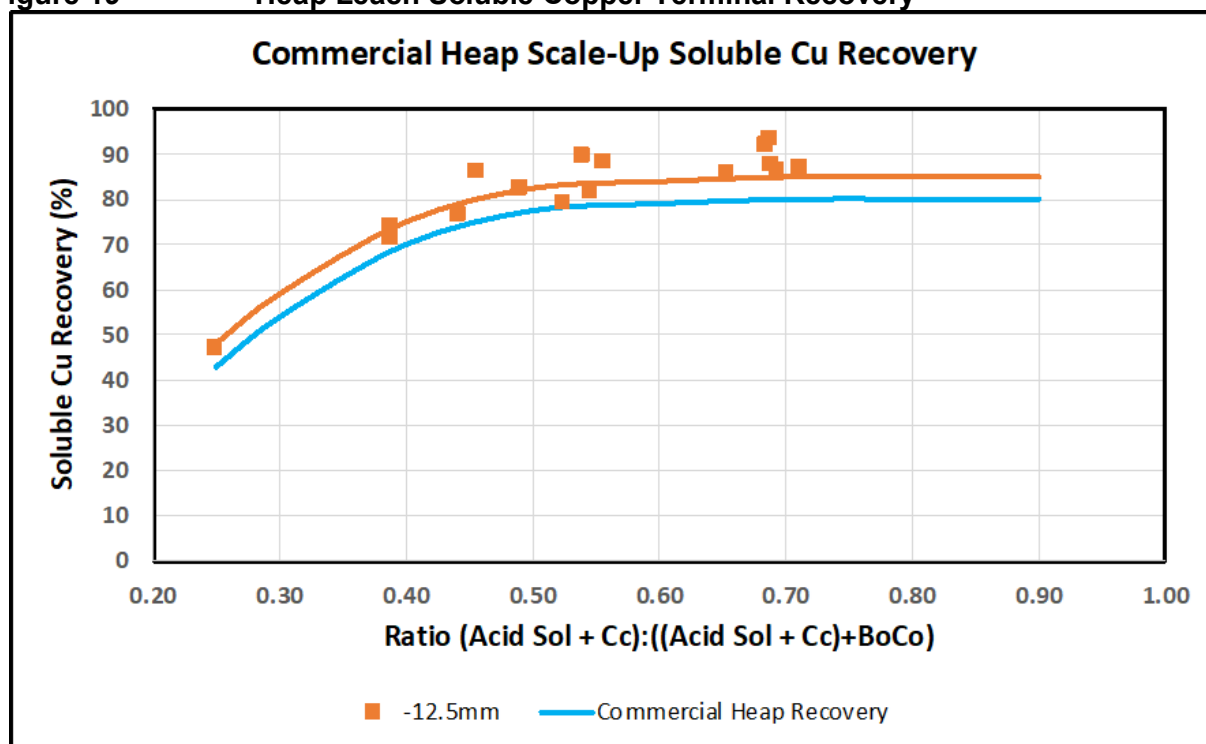


Figure 19 shows the recovery of soluble copper in the proposed heap is modelled effectively constant above a CC/(CC+CoBo) ratio of 0.5 at 80%. The blue line is the commercial heap curve (discounted) and orange line that derived from the testwork program. The testwork recovery was reduced by 5% as part of the scale up to commercial operations. This relationship has been used in the mining reserve model to determine the terminal recovery of each block of ore based on the soluble copper ratio, accordingly there is no longer a designation into the three ore types with respect to heap leach terminal copper recovery.

### 8.3 Iron and Acid in Heap Leach Operation

A fundamental outcome of the comparison of the two column leaching programs was the impact of solution chemistry on aspects of “heap leach” performance. The first column leach test programme that was undertaken at Core Resources utilised a very high starting level of iron and acid in the leach solution. The second testing program at Bureau Veritas (BV) learnt from the issues noted in the earlier program and adopted much lower levels of iron and acid in the starting leach solutions. This change aligns with more standard leach chemistry for a low-grade heap leach operation. The key outcome of this was clearly demonstrating that maintaining lower levels of iron and acid in leach solutions were critical to ensuring that excessive iron (pyrite) dissolution did not occur which would lead to excessive iron and acid in leach solutions. Importantly, the control of leach chemistry and thus controlling the extent of leaching of pyrite reduced the potential break down of material (decrepitation) in the column which is positive from a heap permeability and stability perspective.

Further interpretation of the BV testwork programme demonstrated that the BKM ore has little to no gross acid consuming properties and that over time, iron/pyrite dissolution occurs generating acid. Bleed of leach solution will thus be necessary to control iron and acid in leach solutions, in the case of the BKM Project this requirement is effectively met by the need to remove and treat excess leach solution due to the positive water balance. The issue of managing pyrite dissolution and leach chemistry is also a primary reason for BKM adopting the use of interlift liners at certain stages of the operation. The use of interlift liners effectively locks off the older layers of the heap from being irrigated and hence curtails ongoing leaching of pyrite. Excessive leaching times, particularly in a high pyrite environment are known to create issues with excessive iron/pyrite leaching, excessive acid and iron reporting to leach solutions (affecting SX-EW recovery) and poor heap leach performance (due to high mass dissolution causing slump). A positive outcome of this understanding is a reduced requirement for fresh sulphuric acid to be added to the leach circuit with periods of nil addition observed when heap leach times extend, and iron dissolution is expected to increase. The forecast total fresh sulphuric acid demand to the BKM circuit has been significantly reduced from previous assessments of the project. Fresh acid addition is allowed for at the start of operations to provide enough for copper leaching until such time as acid is recovered from copper in electrowinning and ferric concentrations build up from pyrite leaching. This may occur quicker in the field once bacterial action is better understood. Fresh sulphuric acid is constantly added to the system through the EW circuit as the result of electrolyte bleed to control iron in the cellhouse for maintaining current efficiency. The electrolyte bleed will be directed to the agglomeration circuit being mixed with raffinate.

### 8.4 Heap Leach, SX-EW Process Design Criteria

The following table provides a list of key process design criteria for the BKM copper project that have been derived from interpretation of the testwork programmes relating to the heap leach and SX-EW processes.

**Table 17 Inputs for Heap Leach, SX-EW Process Design Criteria**

Inputs for Process Design Criteria		
Process Area	Description	Unit
Comminution	Crush Size	p80 12.5mm

<b>Agglomeration</b>	Agglomeration Acid	Raffinate, up to 4kg/t fresh
<b>Stacking</b>	Lift Height	10m
<b>Heap Leach</b>	Solution Application	3.62kL/t
	Solution Application Rate	7.77 L/h/m <sup>2</sup>
	Solution Application Rate PDC	8 L/h/m <sup>2</sup>
	Leach Time Calculated	330 days
	Leach Time PDC	330 days
	Soluble Cu Recovery	As per Copper Species Ratio
	Acid Consumption (Acid Generation)	2.0 to – 4.0kg/t (-ve meaning acid generating)
	Iron Dissolution	1.5 to 5%
	Interlift Liner Placement	Lift 2, Lift 3 and Lift 5
<b>Solvent Extraction Stage 2 Heap Leach</b>	PLS Grade Copper	1.5-3g/L
	PLS Flow (Max)	1,500 m <sup>3</sup> /hr
	Extractant	LIX984N (or Equivalent)
	Diluent	Shellsol 2046 (or equivalent)
	Extraction Stages	2+1 parallel
	Strip Stages	1
	Copper Production Rate	18ktpa Nominal, 19.6ktpa Max.

## 8.5 Site Water Treatment

The management of water for the BKM Project has undergone a significant review and change from previous concepts. Fundamentally the site has to treat water impacted by the operations for discharge to the environment. As described in an earlier section, the BKM Project site is characterised as a high rainfall environment and thus delivers a positive water balance meaning that excess water must be treated and discharged. Conceptually, the water management system is treating two sources of contact water:

1. ARD from the mine
2. Excess water from Heap Leach / Process Areas

ARD treatment is proposed to utilise membrane separation technology in the form of ultrafiltration (UF) and reverse osmosis (RO). The separation technology will be used to separate metals from water through membrane filtration producing good quality “permeate” that with small pH adjustment is suitable for discharge. The metals, sulphate retained by the system, referred to as “retentate” is delivered to the main PPN plant where it is combined with excess water being removed from the heap leach circuit for treatment.

Excess water from the heap leach circuit is to be removed from the circuit via the a “bleed” of SX raffinate solution to maintain balance in the processing pond system. Any water or solutions captured in the stormwater pond system will also be pumped to the neutralisation plant. These waters combine with the ARD treatment retentate stream and are to be treated in the first stage of neutralisation using limestone. The key to the first stage of neutralisation is to remove all of the free acid in the water as well as a substantial amount of iron but, to not raise pH too high such to drop out any copper in solution. The partially neutralised water is to be then contacted with SX organic in a single extraction stage to recover any copper in this water. The removal of the free acid from the water allows for efficient recovery of copper in this circuit. This is the means of recovering copper from the heap leach raffinate bleed stream and mine ARD water, delivering additional copper metal units to the EW circuit which otherwise would be lost in a direct neutralisation process.



After copper extraction the water is to be sent to the second neutralisation stage where additional limestone is added to remove all iron from the water followed by a small amount of lime at the end of the process to raise the pH of the water to the final discharge requirement and remove any residual metals. The water at target pH is then clarified prior to discharging into a maturation pond from which water passively discharges to the environment. The maturation pond will also be fed with permeate from the ARD water treatment process such that a single location for discharge of treated water from site is provided. This will become a key compliance monitoring point for site operations.

## 8.6 Limestone

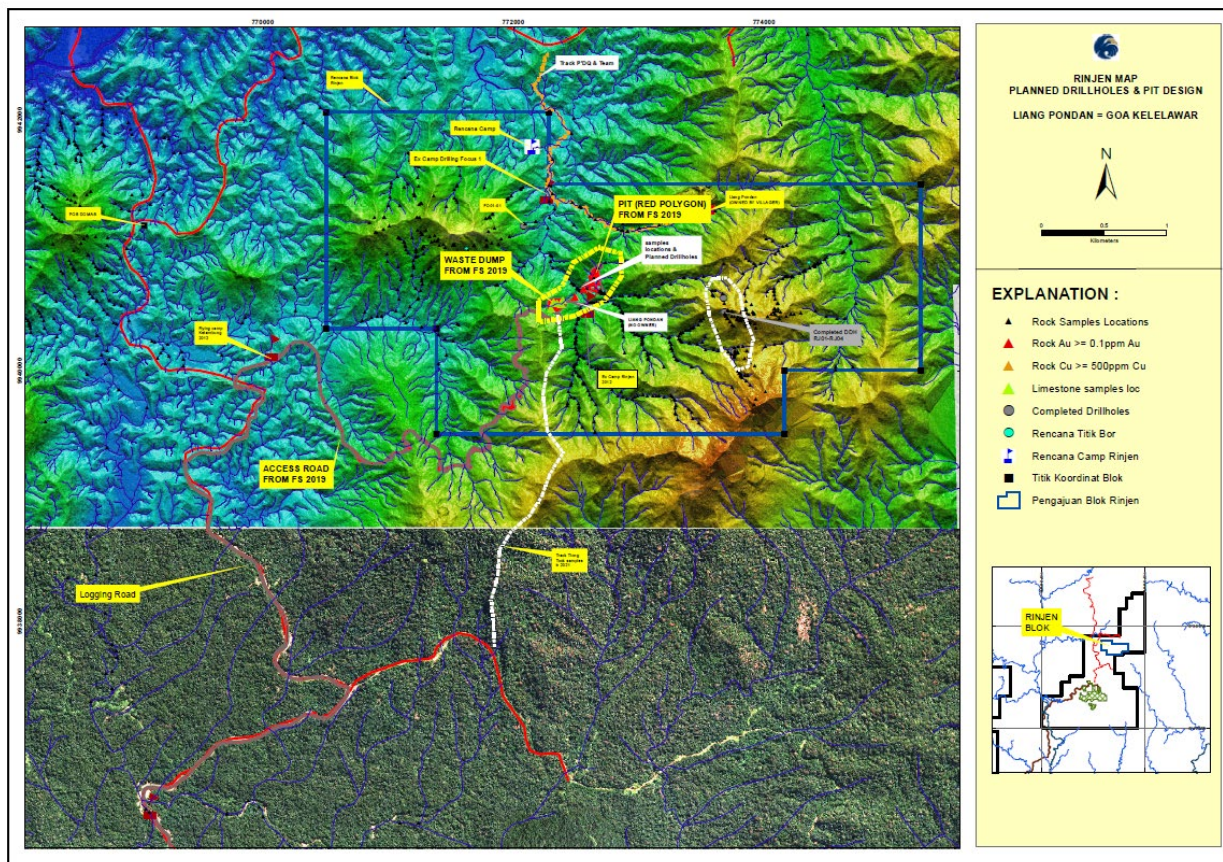
The current study is proposing to adopt the use of locally sourced limestone for the neutralisation process described in the preceding section rather than the alternative of importing a large volume of quicklime to site for the same purpose. The cost of lime delivered to the site is very high taking into consideration the transportation costs from Surabaya to BKM.

Limestone is known to occur at the Rinjen prospect on the KSK CoW, at a location approximately 20km north by road (12-13km direct line) from the existing BKM exploration camp. The area has been the subject of several exploration activities over the years with more recent focus placed on understanding the potential for hosting limestone. Recent inspections of the location have yielded surface samples of limestone across a broad area with very high quality calcite assays being returned from these samples. KSK is progressing its applications for conducting drilling on the Rinjen Block (blue outline in Figure 20). The required environmental monitoring and management plans have been submitted and once approved, the application for the exploration permit will be processed. KSK intends to self-perform a drilling campaign to define the limestone resource and to have this completed before the end of 2023.

A pre-feasibility study assessment has been completed for a proposed limestone processing facility to be included as part of the BKM FS update. Process modelling has determined the volume of limestone required for neutralisation and process design criteria agreed enabling circuit design, capital and operating cost estimates to be developed. Additional contingency has been allowed for in the capital cost estimate to reflect the level of study undertaken and the information available. Process modelling across a range of heap leach conditions, namely varying levels of pyrite oxidation have been performed. This provides the range of limestone consumption based on the amount of pyrite oxidation observed in the heap leach.

Separate to the cost estimates for processing of crushed limestone, an operating cost model for delivery of crushed limestone product to the limestone processing circuit is included in the processing operational costs. It is proposed to use locally sourced mobile equipment (dozer, excavator, dump trucks) to be deployed at the site and perform clearing, ripping, loading and hauling to the process plant site. It is expected moving forward that the mining and hauling activities can be issued as a more standard mining services contract arrangement albeit targeting local contractors with this opportunity. Crushing of limestone is proposed to be done with an external crushing circuit at least for the first 4 years of operations, then reverting to use of the BKM ore crushing circuit (at a lower cost) which has excess capacity to crush the small amount of limestone needed (relative to the ore crushing requirements). Use of the BKM crushing circuit will involve multiple rehandling of the limestone and this forms a major part of the estimated operating cost. This workstream will continue to be updated as the limestone resource drill out is completed and with refinement of development plans.

**Figure 20 Rinjen Limestone Resource Block**



## 9 Processing Plant Infrastructure

The proposed BKM Project processing plant consists of 3-stage crushing followed by stacking in a flat, graded area developed for the Heap Leach facility followed by conventional SX-EW technology for purification and recovery of copper cathode. Process infrastructure is to be included to treat excess water that must be removed from the heap leach circuit due to the positive water balance (due to the site being in a high rainfall environment). In addition to treating excess heap leach circuit solution a separate system is to process acid rock drainage (ARD) waters from the mine and waste rock dump.

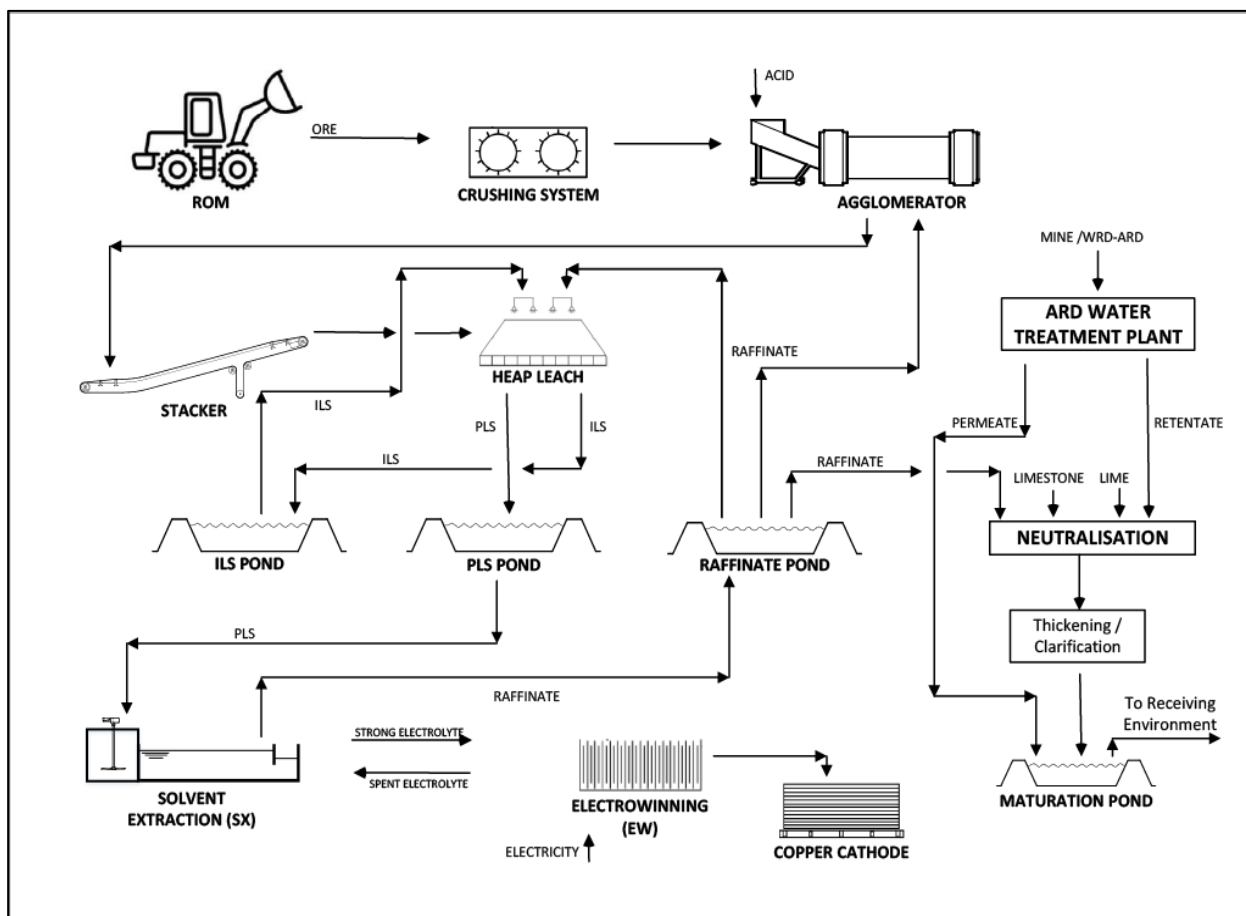
Processing plant facilities are to include:

- Three-stage ore crushing circuit with primary and secondary sizers and two parallel tertiary cone crushers.
  - Additionally a screening circuit is included in the tertiary crushing stage to enable the production of screened ore (fines removed) which is to be loaded and hauled to the heap leach facility and used as the drainage layer at the start of each lift.
- Ore agglomeration stage to facilitate fines stabilisation and pre-conditioning of the ore with raffinate followed by moveable conveyor system delivering ore to the stacking system;
- Leach pad stacker consisting of portable ramp (“grasshopper”) conveyors and a radial stacker. This will allow agglomerated ore to be stacked in lifts up to 10m high;
- Graded pad heap leach facility that is designed to allow for 8 lifts each of 10m to accommodate the Life of Mine stacked ore of 38.4Mt including:
  - Underdrain system collecting groundwater and acting as indicator of any issue with heap leach lining.

- Engineered initial platform with a composite liner system.
- Leach solution collection system, stormwater management system, perimeter access road, stacking system and irrigation system.
- Pond network to support the heap leach which will include PLS pond, ILS pond, raffinate pond, stormwater pond and underdrain pond.
- Heap leaching carried out in 10m lifts, with overstacking followed by installation of interlift liners at 3 stages in the life of the facility.
- Heap leach adopting a 2-stage counter-current leaching system using raffinate and ILS (intermediate leach solution) to irrigate the ore (thus grade building). It is important to note that:
  - 2-stage system is possible due to moving away from complicated valley-fill design to a flat, graded pad arrangement for the heap leach.
  - Post initial commencement of leaching, raffinate will be used as primary solution with discharge from the heap directed to the ILS pond, with ILS then used to continue leaching. This effectively halves the volume of PLS generated and doubles the concentration of copper in solution.
- Solvent Extraction (SX), where copper is transferred from PLS to the clean electrolyte solution increasing it's the copper concentration in preparation for final recovery.
- Electrowinning (EW) where copper metal is plated on stainless steel mother-plates over a 7-day cycle. The pure copper cathode deposit is stripped from the stainless steel mother-plates, bundled and strapped for sale at a maximum capacity of 19,600tpa cathode copper (current density 350A/m<sup>2</sup>). The nominal copper production rate from the EW cellhouse is 18,000tpa (321A/m<sup>2</sup>).
- 3-stage neutralisation circuit designed to treat excess heap leach acidic solution as well as wastewater from an ARD water treatment circuit.
  - Excess heap leach solution neutralised with ground limestone in a series of agitated tanks in Stage 1. Free acid and most of the iron is to be removed from the water as pH raised along these tanks. This partially neutralised water is then to be clarified in a thickener with overflow reporting to the Bleed SX circuit.
  - Partially neutralised water is to be passed to a Bleed SX circuit. Organic from the main SX circuit is directed to the bleed SX (single stage extraction, Extract 4) to recover copper in this bleed stream. Copper extraction is possible due to the removal of free acid in Stage 1 neutralisation. After passing through the Bleed SX the water, with copper removed is sent to Stage 2 neutralisation.
  - Stage 2 neutralisation will involve the addition of further limestone to raise pH followed by the use of lime to reach the discharge pH limit while at the same time precipitating any remaining dissolved heavy metals. Neutralised water is thickened with thickener overflow reporting to the Maturation Pond prior to passive discharge to the receiving system. Thickened gypsum/metal precipitate is to be removed, filtered, loaded and hauled to the waste rock dump for placement within the mine waste.
- Limestone system is proposed to comprise a small scale mine at Rinjen prospect, haulage of limestone to processing plant, crushing of limestone on site, storage of crushed product and loading of product into the limestone processing circuit. Limestone circuit is proposed to include a ball mill with capacity of 12-13 tonnes per hour, cyclones for product size control and storage tank for ground limestone slurry.

The overall BKM Copper process flowsheet is depicted in Figure 21 below:

**Figure 21 Process Flowsheet Schematic**

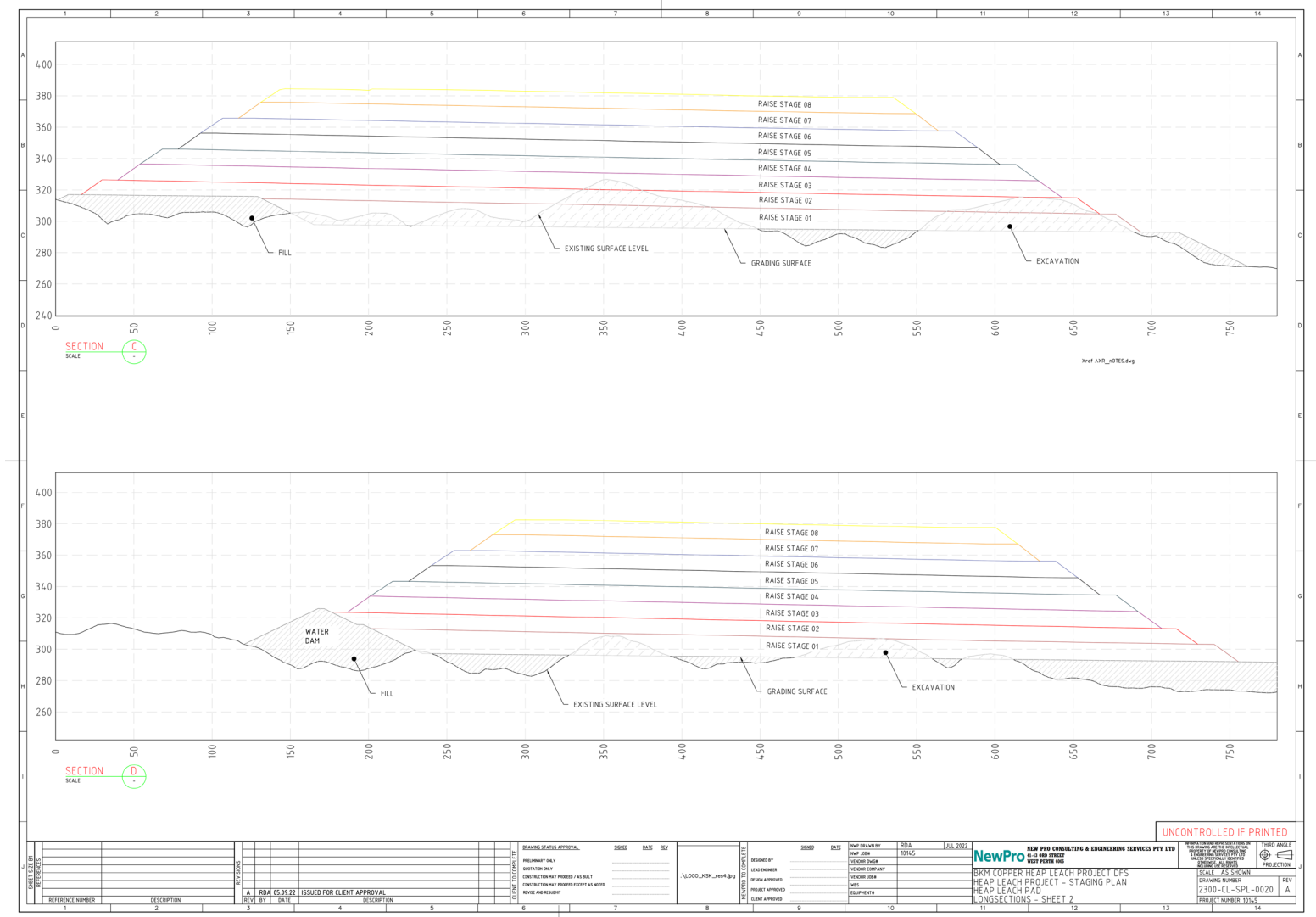


Figures 22 and 23 show the overall plan of the proposed heap leach facility (HLF) after placement of Lift 8. The total footprint of the proposed HLF is approximately 37 hectares. As noted in the cross sections, a single level graded pad will be developed on which to place the stacked ore. A significant aspect of developing this heap leach pad is the need to divert existing drainage around the facility. Rather than trying to drain water courses under the facility the design calls for building of embankments in two locations on the facility to cut off water inflows as marked in Figure 14. These embankments will hold water behind them and drain passively through spillways to existing water courses thus diverting these upstream inflows. Development of these diversions will be one of the earliest construction tasks executed to eliminate this water from entering the main heap leach construction area.

**Figure 22 General Layout of Heap Leach Facility Pad and Ponds – Stage 8 (Final)**



**Figure 23 Heap Leach Facility Arrangement of 8 Lifts**



## 10 Transport and Logistics

Due to the remote location of the BKM Project the transport and logistics component of project development and operations is of great importance. Early in the study update a barge/LCT option was investigated however the outcome of this work indicated the river system available for use was not going to be reliable enough for routine operations. Based on this finding it was concluded that focus needed to be placed on road transport for all logistics requirements both in construction and operations. Asiamet has worked closely with a PT Transcontinent, an experienced transport and logistics service provider to understand the logistics requirements and deliver cost proposals for this service.

### 10.1 Transport of Personnel

Daily commercial flights connect Jakarta with Palangkaraya, the capital city of Central Kalimantan with routine flights from other provincial cities. Access to the site from Palangkaraya by road takes approximately seven hours (295km) using public roads and the unsealed all weather forestry corridor. Palangkaraya will be the marshalling location for all people and bus transport will be used for travel to/from the site.

### 10.2 Inbound Logistics

The base case for the study update is all inbound logistics will be consolidated in Surabaya followed by sea transport through to the container port of Bagendang located south of Sampit in Central Kalimantan. Bagendang has a maximum capacity of 25t per individual load due to the rated capacity of the unloading crane at the port. The basis of the transport and logistics cost estimates is to use Surabaya as the principal consolidation location for all inbound logistics including international packages. From Surabaya vessels sail regularly to Bagendang where all containers will be marshalled for coordination of road transport to BKM. Costs have been provided based on delivering containers to BKM or unloading the containers at the port and using smaller trucks for delivery to site. The total distance, one-way to site is approximately 400km. Area will be made available at the portside in Bagendang, rented by KSK from Pelindo (the port operator) for establishing a secure area for managing inbound materials. It is assumed all operational logistics will move through to site via the Surabaya-Bagendang-BKM route.

In addition to the area at Bagendang port, a transit hub is to be established approximately half-way between port and site just outside the town of Tumbang Samba on the western side of the Telok bridge. It is expected that land will be available for lease or purchase in the Telok area and it would be the requirement of the logistics contractor to make arrangements for this. Capital has been allocated for development of the Telok Laydown area which will include a vehicle maintenance area, camp/mess for logistics drivers and space for laydown. This area is well serviced, well located and suitable for development of this facility.

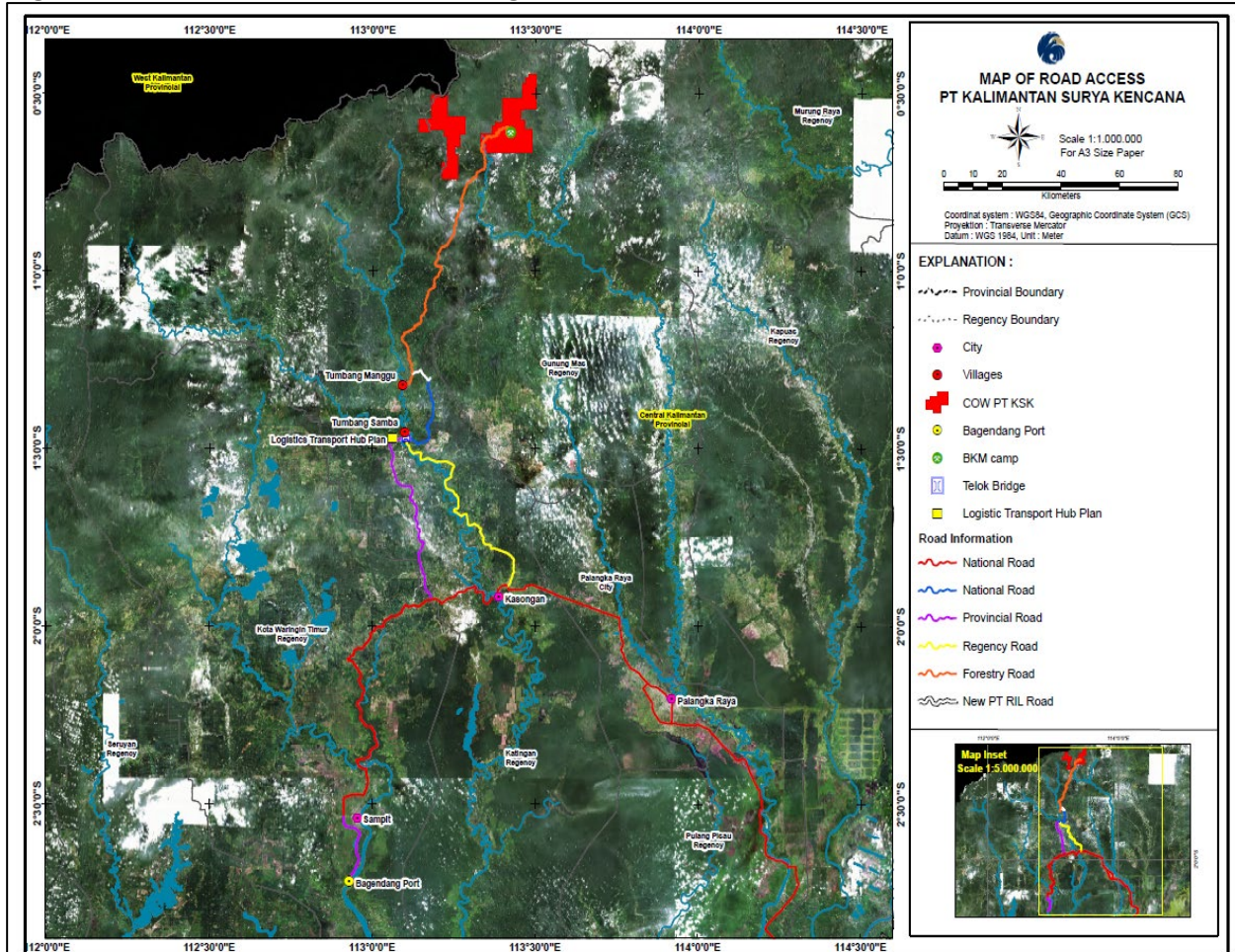
Construction logistics comprises both international and domestic shipments. Currently all international construction packages will be mobilised to Surabaya and then through to Bagendang port with the exception of three packages. The Agglomeration Drums, Cone Crushers and Tertiary Screens are too large to ship through Bagendang port so will be mobilised through Banjarmasin Port due to its greater cargo handling capacity. These are oversize/out of gauge shipments and will need special arrangements for road transport through to site. The majority of construction materials and equipment will be containerised and therefore travels through Bagendang.

Logistics costs have been provided on an IDR per tonne basis for 20 foot containers to maximum of 20 tonnes and 40 foot containers to a maximum of 25 tonnes either unloaded at Bagendang port or at BKM site. Separate costs have been provided for transporting general cargo or dangerous goods. A special case involves sulphuric acid where transport is done with the use of special isotainers. The cost for these isotainers is done on an IDR/day basis with a minimum

contractual period of two years. This cost is purely to “rent” the isotainer for use, the transportation costs is added to this for which an IDR/t cost has been provided. The total cost of acid on site at BKM is thus cost of the acid itself, isotainer rental and transport costs.

The locations referenced above (with the exception of Banjarmasin in South Kalimantan) can be seen in Figure 24.

**Figure 24 Transport and Logistics Map – Central Kalimantan**



### 10.3 Cathode Transport

Copper cathode product is proposed to be backloaded on logistics trucks that have brought materials to the site. Costs have been provided for transport of cathode on empty trucks back to Bagendang, loaded in containers and transported to Surabaya for onward shipment.

## 11 Non-Process Infrastructure and Utilities

Key elements of the non-process infrastructure and utilities to be developed for the project include:

- Accommodation camp sized for 550 beds;
- Site warehousing facility incorporating main warehouse, lime warehouse, Supply Chain Management (SCM) office;
- Main site administration office facilities;
- Ammonium Nitrate storage and emulsion facility;
- Non-mining fuel storage and dispensing facility;
- On-site switchyard and main substation accepting 70kV transmission line; and

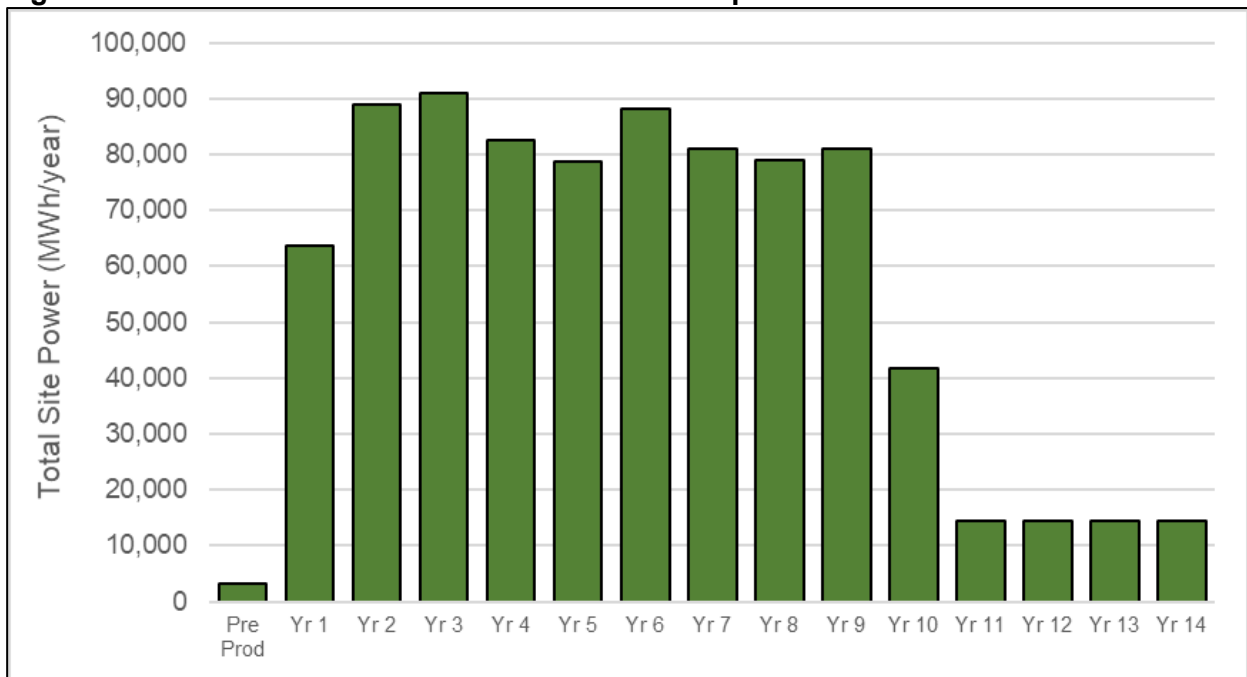


- Communication system.

## 11.1 Electricity Supply

Electrical power will be provided by a dedicated biomass power plant located offsite with power delivered to BKM by a 70kV transmission line. Average power draw over the life of mine is provided in Figure 25. Noting that crushing and stacking ceases at the start of the last year (Yr 13 in Figure 25) and copper production steadily decreases both leading to significant decrease in power consumption. Power consumption Yrs 14-18 relate to ongoing water treatment during mine closure.

**Figure 25 Total Site Annual Power Consumption – LoM**

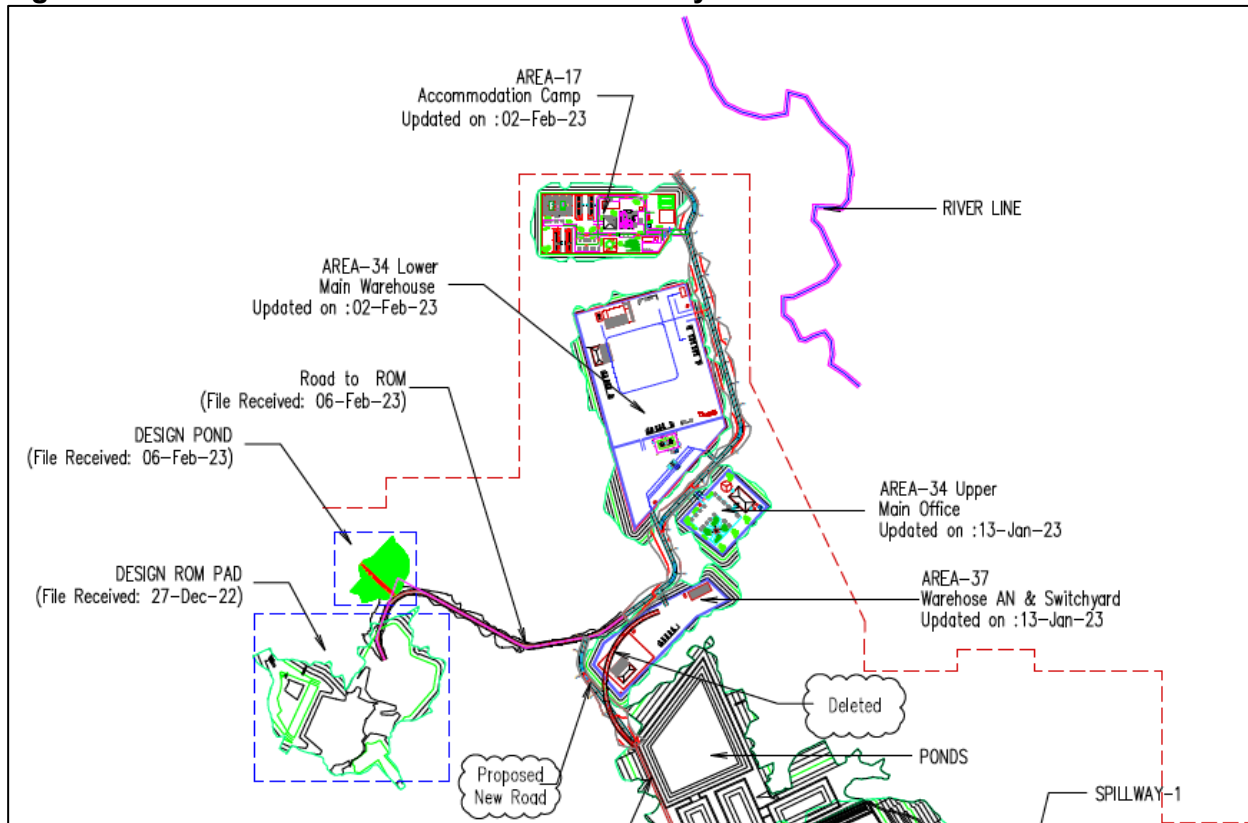


The dedicated biomass power plant is proposed to be 3 of 7MW generating sets with two operational and one standby. The power station will be fed by waste products from palm oil operations located offsite proximal to the power plant. The power station will be 100% dedicated to KSK operations but owned and operated by a third party (contract pending). The battery limit of this third party owned and operated facility is the HV termination at the BKM switchyard.

## 11.2 Non-Process Infrastructure

Figure 26 provides the layout for most of the key areas of non-process infrastructure as described above. Entry to the site is to be from the North and the accommodation camp (Area 17) being the first area on entry. The main access road will then pass to the east of the area designated for warehousing/SCM (Area 34 Lower) and pass past the main administration office (Area 34 Upper). Area 37 represents the area allocated for the main switchyard and ammonium nitrate storage/emulsion preparation facility. The main site access road will pass through these facilities then branch off to the mining operations area over the river and around the process pond area connecting to the processing plant area.

**Figure 26 Non-Process Infrastructure Layout**



## 12 Personnel

The KSK workforce requirement is based on managing a mining operation in the Indonesian regulatory context. The Company will utilise contractors where it is considered necessary such as executing grade control drilling, mining services, blasting services, camp accommodation/messing and transport and logistics. The Project does not have absolute detail of contractor manning for some work scopes however those contractors that will be on site and requiring the use of KSK’s accommodation camp have been provided or estimated. Table 17 describes the forecast headcount by department. There is a ramp up of personnel over the pre-production and first years of operation, Year 2 is the first year of full manpower.

**Table 17 Total Full Time Equivalent Personnel (Year 2 Operations) – KSK Only**

Department	KSK
Mine Geology	13
Mining	33
Processing	102
Maintenance	92
Operations Management (GMO)	1
Jakarta Office	15
Palangkaraya Office	15
IT and Systems	2
Supply Chain Management	42
Human Resources	5
Camp Services	14
Occupational Health, Safety & Security	46
Environment	20
Community	9
<b>Total</b>	<b>409</b>

Of these 409 personnel, 337 are proposed to be permanent site-based roles on a standard roster of 6 weeks on, 3 weeks off delivering an average occupancy requirement of 225. Room types have been allocated by role with the standard being single room, two to a room and four to a room. A focus has been placed on those roles which absolutely must be on site and a number of roles are to be located in Palangkaraya supporting operations. It must be noted the mining contractor will construct and manage their own accommodation camp as this is the basis for their mining rates. The current estimated maximum number of personnel to be resident in the BKM camp facility is 374 (active on site).

Where possible the BKM operations will recruit employees from local villages, regencies, and the Central Kalimantan Province before sourcing from elsewhere in Indonesia. The province has a population of approximately 2.7 million with approximately 300,000 people living in Palangkaraya which has several universities. A focus will be placed on delivering as many roles to Central Kalimantan however it is also understood there will be a need for experienced and technical personnel to be drawn from other parts of Indonesia. A small number of expatriate resources are assigned for processing, maintenance and supply chain management however these resources are not in the plan for the entire life of mine with assistance being limited to the early years.

## 13 Regulatory Requirements

### 13.1 Contract of Work

PT KSK (KSK) operates under an amended CoW which was agreed and signed in March 2018. The amended conditions of the CoW align with the current Indonesian Mining Law and the continuation of the CoW is clearly stated in these amendments. To recap on the key elements of the KSK CoW amendment:

- CoW Area – based on the technical evaluation and review of the mining plan, the Government agrees that KSK may retain its Mining Area of 39,443 hectares;
- Continuation of the mining operation - operation period in the mining area is 30 years from the commencement of mining operation/production as approved by the Government of Indonesia (GoI). Upon the expiration of such operation period, the Government may grant an extension period to KSK in form of an IUPK for a 10-year period, with a second extension which may be granted for another 10 years;
- State revenue - corporate income tax (as described in section 4.2) and secondary taxes such as dead rent and royalties are charged in accordance with the prevailing law. Export proceeds in foreign currency must be received through banks in Indonesia, in line with the prevailing laws and regulations.
- The obligation to conduct in-country processing and refining - KSK is obliged to conduct the processing and refining of the mining products in Indonesia by establishing processing and refinery facilities as per regulated under the prevailing law. The BKM Project will be produce copper cathode, which addresses this requirement.
- The obligation to divest shares - KSK is obliged to divest its foreign shares, namely 51% from the total shares in the Company, 10 years after the start of production. Under Article 24 of the amendment to the CoW, it is stated that the price of shares to be divested will be determined based on the fair market value and KSK may also appoint an independent expert for the evaluation.
- Local content - KSK agrees to prioritise the use of local workforce and local goods as well as registered local mining services companies.

### 13.2 Regulatory Approvals

The four key approvals in support of project permitting are the:

1. Government of Indonesia Feasibility Study (Approved 28 February 2019)

2. Environmental and Social Impact Assessment (Approved January 2019)
3. 5 - Year Reclamation Plans (Approved February 2020)
4. Forestry "Approval to Use Forest Area" permit, PPKH (In Progress).

The purpose of the Government of Indonesia Feasibility Study is to provide an assessment of the project's technical and economic feasibility presented in a standard format approved by Ministry of Energy and Mineral Resources (MEMR). The document contains all reports and studies related to technical and economic matters, covering resources, reserves, geology, geotechnics, metallurgy, mine planning, processing, reclamation and mine closure, environment, social and economic feasibility. The Government of Indonesia Feasibility Study for the BKM Project was approved by the MEMR on 28 February 2019. It is expected there will be an update to this official study submitted in due course as this will reset the baseline production requirements to be reported on by KSK in its annual plan. Submitted updated feasibility studies to MEMR through the Directorate of Mineral and Coal (Minerba) is common practice and necessary to do during operations as mines change from original study parameters.

The Environmental and Social Impact Assessment (ESIA) or Analisa Mengenai Dampak Lingkungan (AMDAL), the Indonesian equivalent, provides a framework for considering the environmental, social, cultural and economic impacts of the proposed mine in the context of legislative and policy requirements. Stakeholder consultations required for the compilation of the AMDAL were conducted in April 2017 with the Term of Reference for the AMDAL (KA ANDAL) approved by the Central Kalimantan Government in July 2018. Approval of the AMDAL and issuance of the Environmental Licence for the BKM Project by the Central Kalimantan Government was completed in January 2019. With changes to baseline information required for the AMDAL KSK will be required to submit an Addendum to its current AMDAL. This is a well understood process with clear regulations in place and a standard process to follow. Many of the changes to be updated are positives with respect to environmental impacts, most notably the significant reduction in operational area which is a critical input into the impact assessment.

Importantly, as KSK has an approved AMDAL and Environmental Permit the project can commence development on the basis that impacts remain consistent and hence approved environmental monitoring and management plans remain valid. Management plans will be updated as part of the AMDAL addendum process but the nature/type of impacts during construction will be the same as described previously and therefore existing plans will be suitable for managing environmental impacts given that construction is taking place in the same locations as previously assessed.

Submission of a Five-Year Reclamation Plan (progressive reclamation) and a Mine Closure Plan are requirements of the regulatory process. The BKM Reclamation Plan was approved by MEMR 5<sup>th</sup> February, 2020. The BKM Mine Closure plan was submitted on 16<sup>th</sup> April, 2021 and is still in process though its approval is not as critical given its requirements start after the project is in operations. However, there will need to be updates made to both the Reclamation and Mine Closure plans primarily due to the reduction in disturbed area with new calculations performed.

KSK received its conditional approval to use forest area (PPKH-OP) on 25 April 2022. The conditional permit is valid for 12 months during which time KSK is required to complete five tasks to move the permit from conditional to definitive. The five items to complete are:

1. PPKH Boundary Pegging – completed.
2. Watershed Rehabilitation Plan (area offset) – plan completed.
3. Baseline Calculation of disturbed area – completed.
4. Memorandum of Understanding (MoU) with logging concession holder regarding compensation for transfer of concession – completed.
5. Memorandum of Understanding with operators of logging access corridor for sharing its use – in progress.

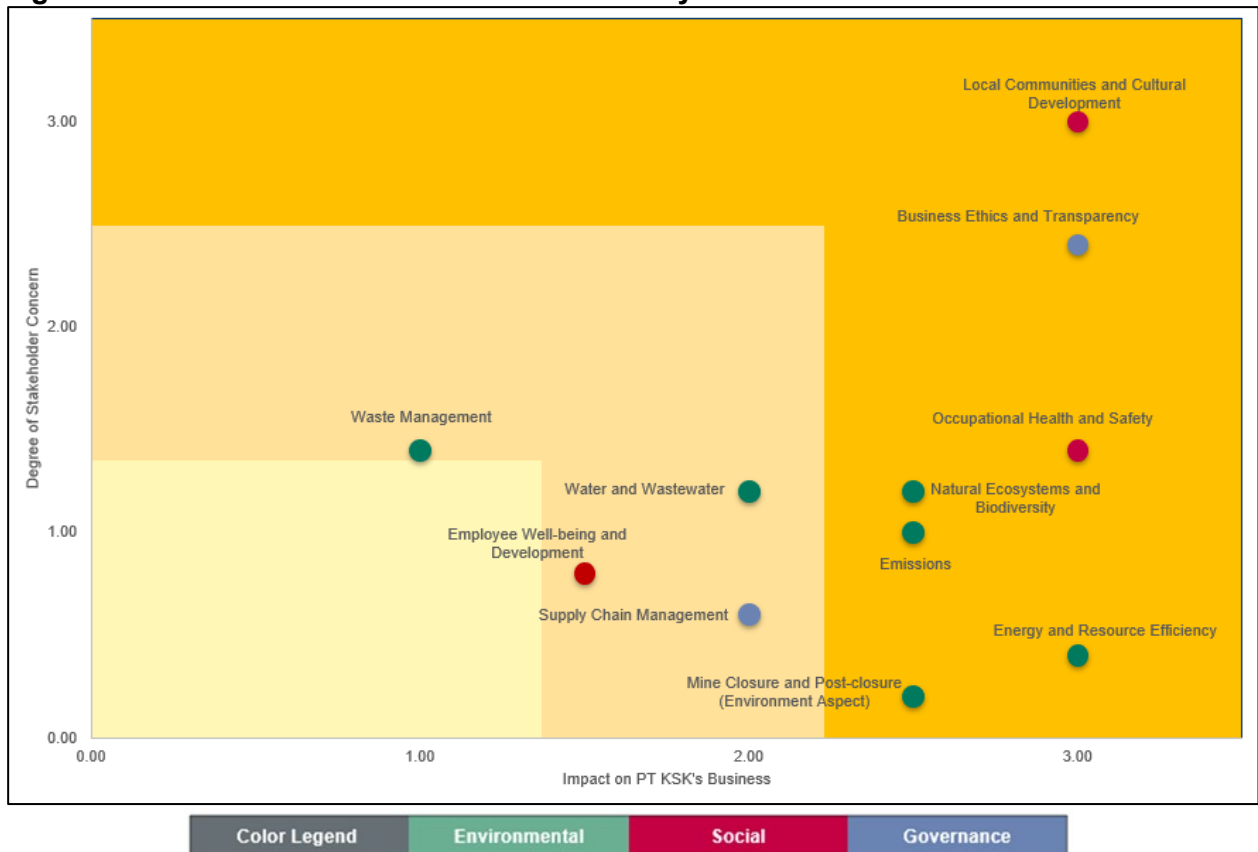
The items on the list have been submitted to the Ministry of Environment and Forestry on the 17 April 2023 and review process for approval will commence soon after. As noted item 5 remains work in progress and with active engagement ongoing with the other parties to the MoU.

## 14 Community and Environment

### 14.1 Asiamet / KSK ESG Framework

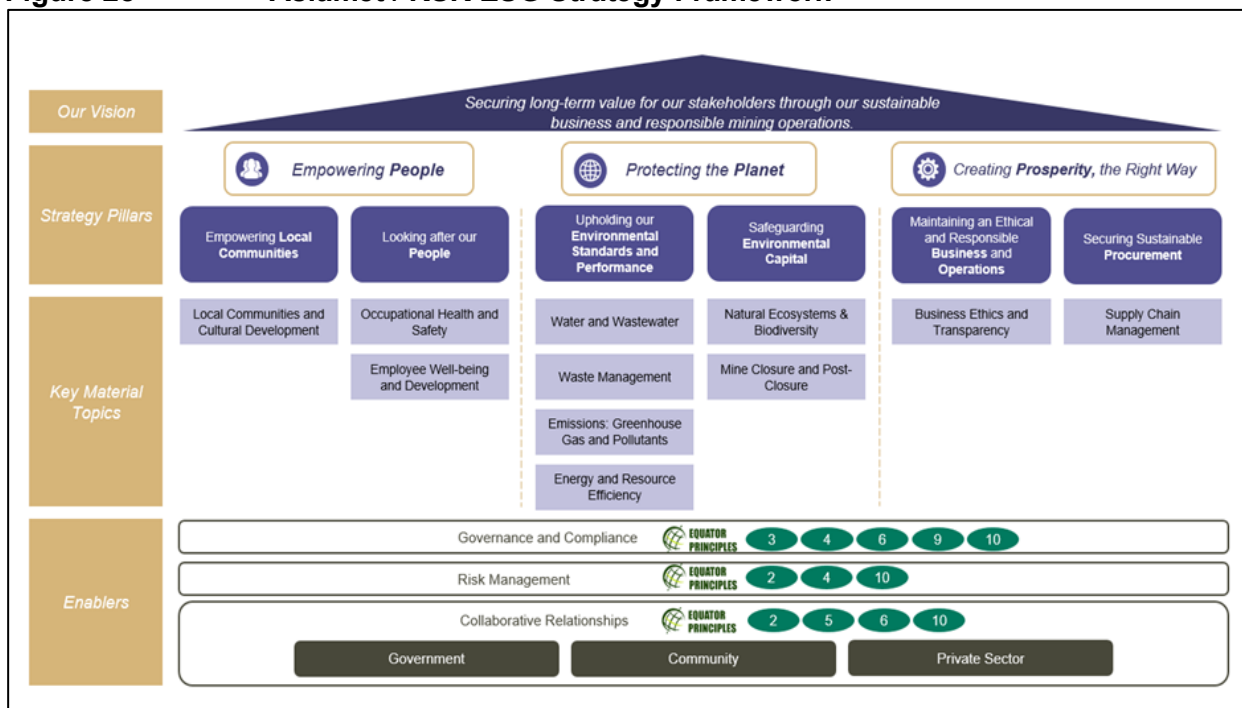
During the second half of 2022, Asiamet completed its first materiality assessment as related to Environmental, Social and Governance aspects of its business through engagement with leading sustainability consulting group ERM through their group office in Indonesia. This was the first assessment of its type completed for the Company and focused on what the Company saw as its material issues in relation to its current activities and considering the future potential development of the BKM Project. The outcome of this work is the ESG materiality matrix provided in Figure 27.

**Figure 27 Asiamet / KSK ESG Materiality Matrix**



The material issues were defined as topics related to Environment, Social or Governance with definitions of the topic also provided. The total of 11 material topics were placed into six ESG strategy pillars which form the basis of the ESG Strategy framework. The ESG strategy framework is depicted in Figure 28.

**Figure 28 Asiamet / KSK ESG Strategy Framework**



From this work a roadmap and timeline for developing Asiamet and KSK’s ESG development ambitions. From Asiamet / KSK’s current baseline as an exploration company and transitioning to project development and finally through to an operating site, the requirements for managing all aspects of ESG will increase significantly. Resources will be allocated to undertaking this work commensurate with the status of the project over the course of the next 2-3 years. Asiamet / KSK has an excellent starting baseline from which to work from and will deliver on the necessary actions and initiatives to build out the detailed requirements that sit behind the ESG Strategy Framework.

## 14.2 Community and Social Engagement

Asiamet Resources and its predecessor companies have maintained strong and effective long term stakeholder relations and programs of active community engagement since taking ownership of the KSK CoW and BKM Project.

In 1997, the Company established an independent community development foundation, Yayasan Tambuhak Sinta (YTS), with the purpose of ensuring the local people would benefit from any mineral development in the area. The Company has provided management, staffing and financial support for the YTS Foundation since its inception, continuing the earlier initiatives in health and education, as well as new initiatives in economic development.

The Company’s stakeholder engagement with village leadership and with the local Governments (Sub-District and Regency levels) has been particularly strong, with YTS training creating stronger links between village and local Governments. This approach has resulted in personnel from every level of Government being fully aware of the presence of the BKM Project and its exploration and development activities.

In 2003, the Company broadened efforts to include a new focus on integrated regional development, good governance, and participatory community development within a framework of creating a sustainable mineral development project. The Company has focused its efforts and resources on improving the welfare of people living close to the BKM Project site. These programs started during early exploration, through the employment and training of local residents.

ARS, through YTS is working in project affected villages to provide support for livelihood activities such as farming (animal husbandry and crop management), local education, health services, economic and livelihood opportunities and the development of local infrastructure.

Extensive stakeholder engagement has occurred in relation to the BKM Project both as part of the permitting process as well as routine and ongoing engagement by YTS and the Company. Stakeholder consultations required as a part of the AMDAL process were completed in April 2017. Stakeholder consultation specifically in support of the Mine Closure Plan development were conducted in August 2018. In addition, the Company continues to actively communicate with villages to provide information regarding project activities and through YTS, have several field personnel who regularly visit villages in the project area. These staff provide updates on the project's progress, as well as identify concerns or grievances regarding the BKM Project. The feedback is documented through to resolution. Field staff regularly update the organisation's stakeholder database, which also functions as an early identification system for the Company on any issues or concerns that may be arising in the local communities.

The overall impact of the community development program has been to improve community relations both with KSK and the local government. There is strong widespread support for KSK and its activities.

Social, economic and cultural baseline conditions were documented through desktop and baseline field surveys conducted by social experts at the University of Palangkaraya and incorporated into the BKM AMDAL.

The detailed activities proposed with respect to community development are provided in the Community Development and Empowerment Plan (RI-PPM, Rencana Induk Pengembangan dan Perberdayaan Masyarakat 2021 – 2034). The PPM is complete however has not been submitted for final approval to Directorate Mineral and Coal as this will be provided as a part of the updated Feasibility Study. The total cost of the program is provided in the PPM document and is used as the key input into the Community Development budget. It is expected that companies will deliver on their commitment to PPM through realisation of planned expenditure. KSK will be required to report on its PPM spend every year as part of its annual planning processes with the Government.

### **14.3 Environmental Management**

The mining industry in Indonesia has a strong regulatory framework in relation to environmental management. Regulations exist within the Ministry of Environment and Forestry as well as specific regulations applying to the mining industry in Indonesia. KSK will address these requirements together with implementing good international industry practice to the development and operations of the BKM Project. More specifically, in managing environmental and social issues, the Company is committed to complying with the applicable environmental and social standards and guidelines established by the World Bank Group and International Finance Corporation as they relate to the Equator Principles.

Environmental baseline studies for the BKM Project were conducted between 2016 and 2018 by PT Lorax with assessments conducted during both the wet and dry season to document inter-seasonal variability. Characterisation of the watershed of the project area was carried out in this earlier work with an additional survey completed as part of this current study with a further follow up survey to be completed by mid-2023. Flora and Fauna surveys were completed previously and reviews of these works will be part of the AMDAL addendum process that will be carried out post completion of the current study.

The BKM Project has required significant additional work to be completed on water management. For the first time a fully integrated water balance model has been developed, meaning both the Heap Leach Facility and Mine Water Management systems have been combined in the one model and fully integrated set of outcomes delivered. This model has been the driving force behind sizing of water storage and pumping systems for the effective management of water. Due to the high rainfall environment BKM has a positive site water balance meaning it must discharge water from

the site on a regular basis. Discharge from site is a regulated process and KSK will need to have in place appropriate monitoring and control strategies to ensure water discharge meets all compliance requirements. A relatively new regulatory requirement is to have site discharge monitored in real time with various parameters connected to an online monitoring system managed by the Directorate of Mineral and Coal. KSK will need to put in place monitoring systems that comply with these requirements and connect to the governments data management system.

An assessment of the “carbon footprint” of the BKM Project is has not been performed. As the project moves closer to development and Asiamet/KSK continue to develop its policies and procedures relating to environmental management it is expected a carbon footprint assessment will be performed. The BKM Project has some key drivers of its carbon footprint which are difficult to counter:

- Clearing of land for mining and project development
- Diesel consumption of mobile fleet.

This being said, the current BKM Project has delivered significant reduction in cleared area necessary for the project and large reductions in total material movements for relatively modest reduction in overall copper output leading to improvements in carbon emissions on a tonne of carbon per tonne of copper production basis. The proposed use of biomass as the fuel for power supply is also a major step forward in delivering lower carbon footprint copper production.

#### **14.4 Site Reclamation and Mine Closure**

As described in section 12, site reclamation (5 years) and mine closure plans have been prepared as required using the regulatory framework provided by the Directorate of Mineral and Coal. Both require updating to bring to current costs and realigned with the new scope of the Project.

### **15 Project Risks and Opportunities**

#### **15.1 Project Risk**

A risk assessment for the Project, covering both capital project and impact on the operational phase was completed. The study has identified and ranked these risks and made comments on preventative and mitigative controls that are proposed to address these risks. This will remain a live document as the project moves from study to detailed design with any design related risk controls considered. Risks related to execution will be discussed with construction execution partners with respect to managing these.

The top 5 risks when considering the worst case scenario outcome are:

1. SX Fire/Explosion – Extreme Risk (Health and Safety, Financial)
  - a. With agreed controls – High Risk.
2. Heap Leach recovery lower than FS – Extreme Risk (Financial)
  - a. With agreed controls – High Risk.
3. BKM Pit major geotechnical failure of pit wall – Extreme Risk (Financial)
  - a. With agreed controls – High Risk.
4. Heap Leach structural failure – Extreme Risk (Production)
  - a. With agreed controls – High Risk.
5. Metallurgical Recovery low due to excessive pyrite oxidation – Extreme Risk (Financial)
  - a. With agreed controls – Moderate Risk



## 15.2 Project Opportunities

The current Project outcomes described in this report are a representation of the current status of various work streams associated with the BKM Copper project which delivers a robust outcome in terms of financial metrics. That being said there remain some significant opportunities that are available to the project that have resulted from completing the study but not having the time to investigate these.

- Relocation of the Heap Leach Facility – this is the most significant change proposed but is possible due to the current scale of the heap leach project. There exists a location within the approved permit boundary that can offer the same area as the current location but with less earthworks volume required for development. The earthworks that are required is likely to be more straightforward than the current proposed location therefore direct costs related to volume and time to execute are likely to be improved. This is the single largest direct opportunity to reduce up-front capital costs on the project and will be investigated more thoroughly in parallel with financing discussions. However some of the benefit of reduced earthworks may be given back if it is possible to design a HLF that is capable of stacking the Ore Reserve of 40.8Mt plus allowance for any inferred resources within the pit design as this will ultimately lead to more copper being produced. Part of this process will be to review HLF layouts for various capacity requirements.
- Project Delivery Model – the opportunity exists to investigate the delivery of additional engineering from within Indonesia and review the approach to construction management currently proposed. The current project execution plan currently allows for detailed engineering design to be completed in Indonesia and China however all engineering coordination is undertaken internationally. The opportunity is to review if this work can be done within Indonesia, delivering engineering outputs that are potentially more readily understood and executed by Indonesian contractors. The project execution plan and the costs associated with the execution model are the baseline for the existing project capital cost estimate and will deliver on the necessary outcomes however the opportunity exists to review a modified model of delivery.
- BKM Pit Wall Design – the completion of the FS work on pit geotechnics and hydrogeology have demonstrated the current pit wall design delivers good outcomes in terms of factors of safety across all parts of the wall design. The initial indications of the impact of enhanced slope dewatering/depressurisation are positive showing significant improvements in the factor of safety across some key sections of the wall. A key outcome of the geotechnical assessment was the vastly improved understanding of the rock mass conditions of the final pit wall, with them being considerably better than originally understood. With completion of the additional hydrogeology investigative work and updating of the finite element groundwater model, additional assessments can be run on dewatering and slope stability with a view to testing steeper final wall angles in appropriate areas of the pit. This would reduce waste mined having a number of positive flow on effects.
- ARD Water Treatment – with a clearer understanding of the expected water chemistry of the mine ARD an opportunity exists to look at a range of technologies which may better target valuable metals, namely copper in the ARD water streams needing treatment. The existing ARD water treatment system in its combination with the process plant neutralisation circuit are an excellent approach to delivering the opportunity to recover copper from ARD waters and effectively deliver the quality of water needed for discharge. However some competing technologies potentially offer some advantages which can be explored with groups specialising in this area. This opportunity will be investigated prior to commencement of detailed design to determine if any change should be made to the basis of design. The opportunity is to maximise the recovery of available copper from ARD streams to copper cathode.

## 15.3 Future Development

The BKM Copper Project is considered the starting point for the long-term development of the KSK CoW. All mining projects need a starting point and executing a project that delivers copper cathode into a strong copper market is considered the most appropriate path forward. BKM Project will establish of a new mining district and the infrastructure necessary to support long term mineral development on the KSK CoW. The development strategy for KSK adopts a phased approach building on execution of phase 1, the BKM Copper Project:

- Phase 1 BKM Copper Heap Leach – as described by this Feasibility Study Update
- Phase 2 BKM Copper/Pyrite Flotation – develop flotation circuit to produce high grade pyrite, low grade copper concentrate for delivery to company owned downstream processing facility. Deliver concentrated sulphuric acid, iron pellets and copper cathode as final products. This will aim to utilise more of the existing BKM Copper resource base.
  - Note: the 38.4Mt of ore on the heap leach facility will be able to be reprocessed through a flotation circuit with pyrite and remnant copper recovered.
- Phase 3 BKZ Polymetallic Flotation – expand flotation circuit to treat BKZ polymetallic orebody and produce lead, zinc and copper concentrates. Downstream processing of lead and zinc concentrates to be discussed with only operator of these facilities in Indonesia whose smelters are located in Central Kalimantan. Copper concentrates could be treated at KSK facility established for treating pyrite/copper concentrates.
  - Note: Significant precious metals are associated with lead in a distinct mineralised horizon, these would deliver lead concentrates rich in precious metals.
- A significant aspect of moving the BKM site into concentrate production is the need for tailings management, i.e. a tailings storage facility must be constructed.

The aforementioned development plan only considers projects related to deposits with known resources and does not factor in future exploration work and the potential outcomes that drilling programs could deliver. A flexible processing operation that has the capability to treat multiple feed types as expected from polymetallic orebodies will position the site well into the future.

## 16 Abbreviations List

Abbreviation	Definition / Description
<b>AISC</b>	All-in sustaining costs incorporates costs related to sustaining. production. All-in costs include all additional costs that reflect the varying costs of producing copper over the lifecycle of a mine.
<b>AMDAL</b>	Analisa Mengenai Dampak Lingkungan – Indonesian Environmental and Social Impact Assessment
<b>ARD</b>	Acid Rock Drainage
<b>ARS</b>	Asiamet Resources Limited
<b>Bn</b>	Billions of United States Dollars
<b>BKM</b>	Beruang Kanan Main Copper Project - the Project
<b>C</b>	Cents – United States currency
<b>C1</b>	Net Direct Cash Cost (C1) represents the cash cost incurred at each. processing stage, from mining through to recoverable metal delivered to market, less net by-product credits (if any)
<b>Capex</b>	Capital expenditure
<b>Cc</b>	Chalcocite mineralisation
<b>CIT</b>	Corporate income tax
<b>CoBo</b>	Covellite plus bornite mineralisation
<b>CoW</b>	Contract of Work – agreement to mine the concession on behalf of the Government of Indonesia
<b>Cu</b>	Copper
<b>ECP</b>	Environmental control pond – pond for controlling runoff from mine, waste dump etc such that it does not discharge untreated into the local environment
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>Fe</b>	Iron
<b>FS</b>	Feasibility Study – This document is the summary of the Feasibility Study
<b>G</b>	Gram
<b>G&amp;A</b>	General and Administration – categorisation of cost elements supporting the mine
<b>Gol</b>	Government of Indonesia
<b>H</b>	Hour
<b>HSEC</b>	Health Safety Environment and Community
<b>IDR</b>	Indonesian Rupiah – currency of Indonesia
<b>IPPKH</b>	Izin Pinjam Pakai Kawasan Hutan - Forestry Borrow-to-Use Permit
<b>IUP</b>	Izin Usaha Pertambangan – Mining Business License
<b>IUPK</b>	(Izin Usaha Pertambangan Khusus – Special Mining Business License
<b>JORC</b>	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 edition ('the JORC Code') is a professional code of practice that sets minimum standards for Public Reporting of minerals Exploration Results, Mineral Resources and Ore Reserves
<b>KA ANDAL</b>	The terms of reference for the Environmental and Social Impact Assessment (AMDAL)
<b>Kg</b>	Kilogram
<b>kL</b>	Kilo Litre
<b>Km</b>	Kilometre
<b>KSK</b>	PT. Kalimantan Surya Kencana – the Project owner
<b>Kt</b>	Kilo-tonne
<b>kV</b>	Kilo-Volt
<b>kWh</b>	Kilo-Watt hour – measure of electricity generated or used over a period of time
<b>L</b>	Litre
<b>LME</b>	London Metal Exchange
<b>LNG</b>	Liquid natural gas

Abbreviation	Definition / Description
<b>LOM</b>	Life of Mine – the duration of operation of the Project
<b>Lb</b>	Pound (of copper)
<b>M</b>	Metre
<b>Mbcm</b>	Million bank cubic metres
<b>Mlbs</b>	Million pounds (of copper)
<b>MEMR</b>	Ministry of Energy and Mineral Resources
<b>Mm</b>	Millimetre
<b>Mt</b>	Million tonnes
<b>MW</b>	Meg-Watt
<b>\$M</b>	Million United States dollars
<b>NPV</b>	Net Present value
<b>NPV<sub>6</sub></b>	Net Present values with a discount rate of 6% per annum
<b>NPV<sub>8</sub></b>	Net Present values with a discount rate of 8% per annum
<b>NPV<sub>10</sub></b>	Net Present values with a discount rate of 10% per annum
<b>Opex</b>	Operating expenditure
<b>P80</b>	Sieve size (mm) that 80% of the material will pass through
<b>PDC</b>	Process Design Criteria – as used in the design of the process plant
<b>PEA</b>	Preliminary economic assessment – the study and report (dated 19 May 2016) which preceded this Feasibility Study
<b>pH</b>	A measure of acidity - lower the number the more acidic. A pH of 7 is neutral
<b>PLS</b>	Pregnant leach solution – leached solution containing dissolved copper after irrigating the heap leach with acid. The PLS is pumped to the solvent extraction and electrowinning plant to extract the copper
<b>130/PMK.10/2020</b>	Indonesian Ministry of Finance regulation issued 24 September 2020 with the aim to promote increased investment and provide a tax holiday regime based on capital investment and business license designation.
<b>PPKH</b>	Perubahan Peruntukan Kawasan Hutan (change in designation of forest areas)
<b>PQ</b>	Drill size – 122.6 mm outside diameter, 85 mm inside (core) diameter
<b>Q1</b>	Quarter 1
<b>ROM</b>	Run of Mine – ore material as it comes out of the mine pit before any crushing or processing
<b>SX-EW</b>	Solvent Extraction and Electrowinning – the combination of process plants used to convert leached copper in solution from the heap leach into saleable copper cathode
<b>T</b>	Metric tonne
<b>Tpa</b>	Tonnes per annum
<b>US\$</b>	Currency of the United States of America - Dollars
<b>WACC</b>	Weighted average cost of capital
<b>WTP</b>	Water treatment plant – for treating water from the open pit, waste rock dump and heap leach facility which may contain ARD, before discharge into the local stream system
<b>YTS</b>	Yayasan Tambuhak Sinta – community development foundation established in association with the Project