

14 June 2019

BKM Feasibility Study

Executive Summary



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

1 Project Overview

Asiamet Resources Limited (the Company) is the 100% owner of the Beruang Kanan Main (BKM) Copper Project in Central Kalimantan, Indonesia (Figure 1). The BKM Project is within the Kalimantan Surya Kencana Contract of Work (KSK CoW).

Figure 1 Location of the BKM Copper Project



The primary objectives of this Feasibility Study are to:

- assess the technical aspects of the project and develop an appropriate scope and requirements for the detailed engineering phase;
- develop project implementation plans, including identifying and planning for early-works and pre-commitment activities; and
- define a robust business case to support financing and development of the BKM Project.

The BKM Feasibility Study assesses development of the BKM Copper Resource through open pit mining and heap leach SX-EW processing to produce copper cathode for export or domestic use. The study covers four major components (Figure 2).

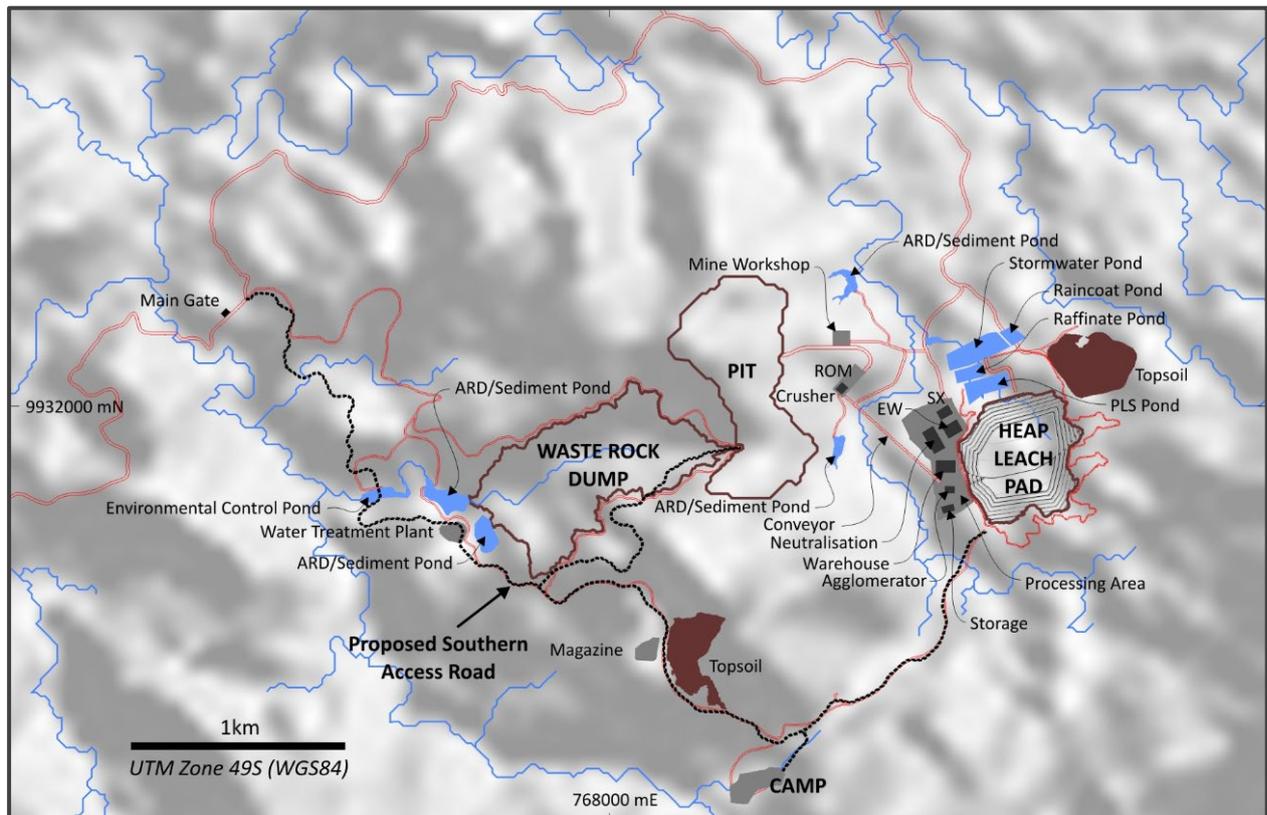
1. Mining infrastructure: an open pit mine; waste rock dump; mine services area (containing workshops, warehouses, offices, and fuel storage); magazine (explosives storage); and water management facilities (e.g. dewatering dams and acid-rock drainage ponds).

2. Processing infrastructure: 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); and the SX-EW process plant area (solvent extraction and electrowinning plants, neutralisation plant and associated facilities, such as reagent storage and dispensing units).

3. On-site non-process infrastructure and support services: power generation facilities; water management infrastructure (civil facilities including dams, diversion channels, etc., and mechanical facilities including transfer pumps and the site water treatment plant); general site infrastructure (e.g. offices, warehouses and storage areas, accommodation facilities and waste management services); and site roads.

4. Off-site non-process infrastructure and support services: primary access road from Tumbang Manggu to the BKM site (unsealed, all-weather access route); and transportation services by road to and from the main importation and exportation facility at Banjarmasin Port, in South Kalimantan.

Figure 2 BKM Project Site Layout



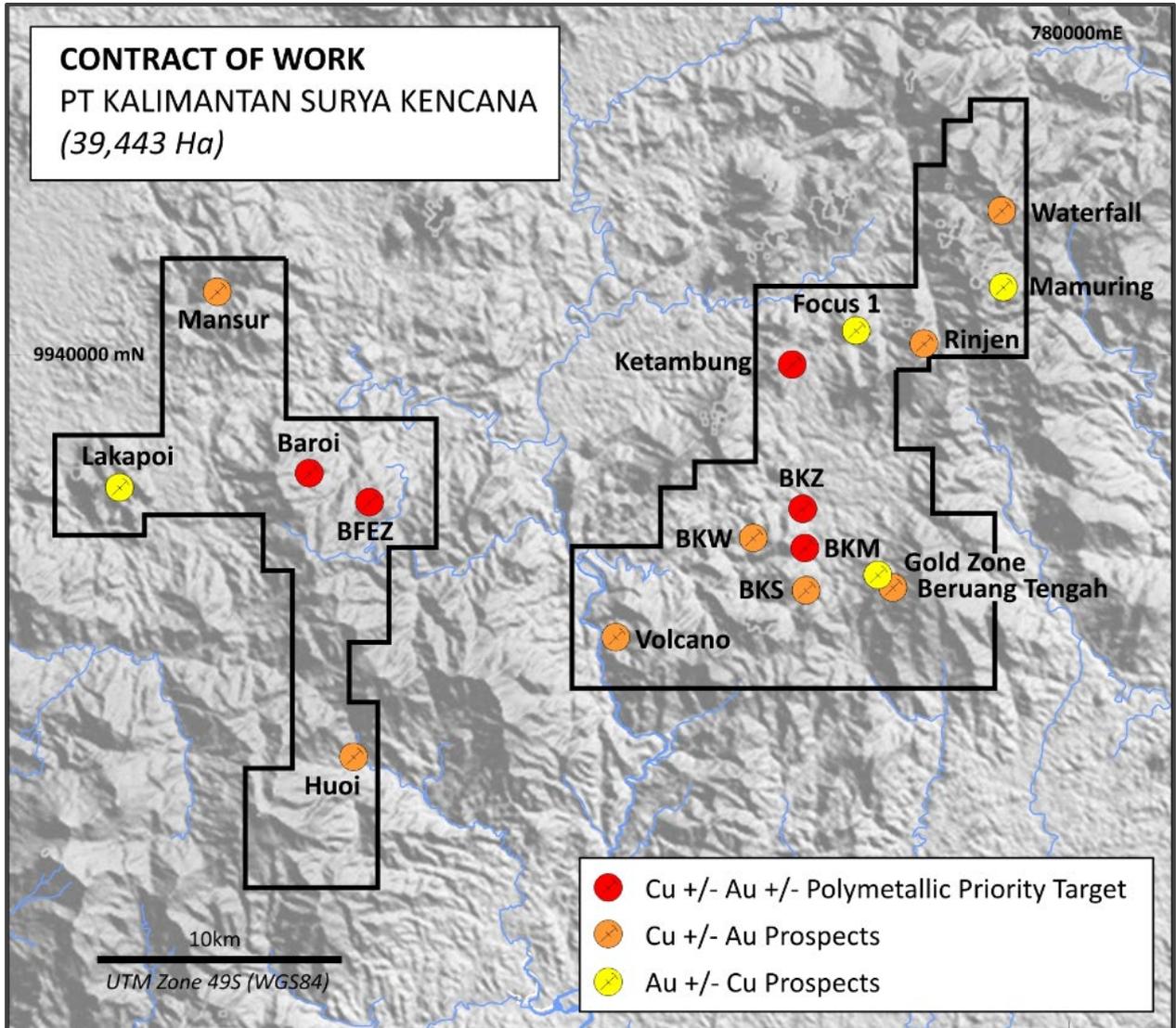
1.1 Corporate Strategy

Asiamet is well positioned to take advantage of the supply constrained copper market. The consensus view from both market analysts and commodity producers is that copper mine supply will be insufficient to meet copper demand over the coming 5 to 10 years. Consumption is projected to be driven by base level industrial demand and the move towards green technology such as solar, the electrification of transport and the growth in household appliances from emerging economies.

The development and operation of the BKM copper mine will significantly enhance the Company's ability to create long term value through the continued evaluation and systematic progression of other high potential prospects discovered within the KSK CoW. Fifteen additional highly prospective opportunities have been identified to date within the CoW of which the BKM Copper Project is the most advanced in its development. Other base and precious metal prospect targets are shown in Figure 3. Given the substantial potential for extending mine life through the evaluation and development of additional nearby prospects, a NPV₈ excluding closure costs is provided in Table 1.

In order to grow substantial long term value Asiamet intends to introduce a strategic partner(s) to assist with mine development and support ongoing exploration and evaluation of its wider tenement holdings. This approach will enable Asiamet to continue unlocking value from its high potential portfolio and provide greater flexibility from a funding perspective.

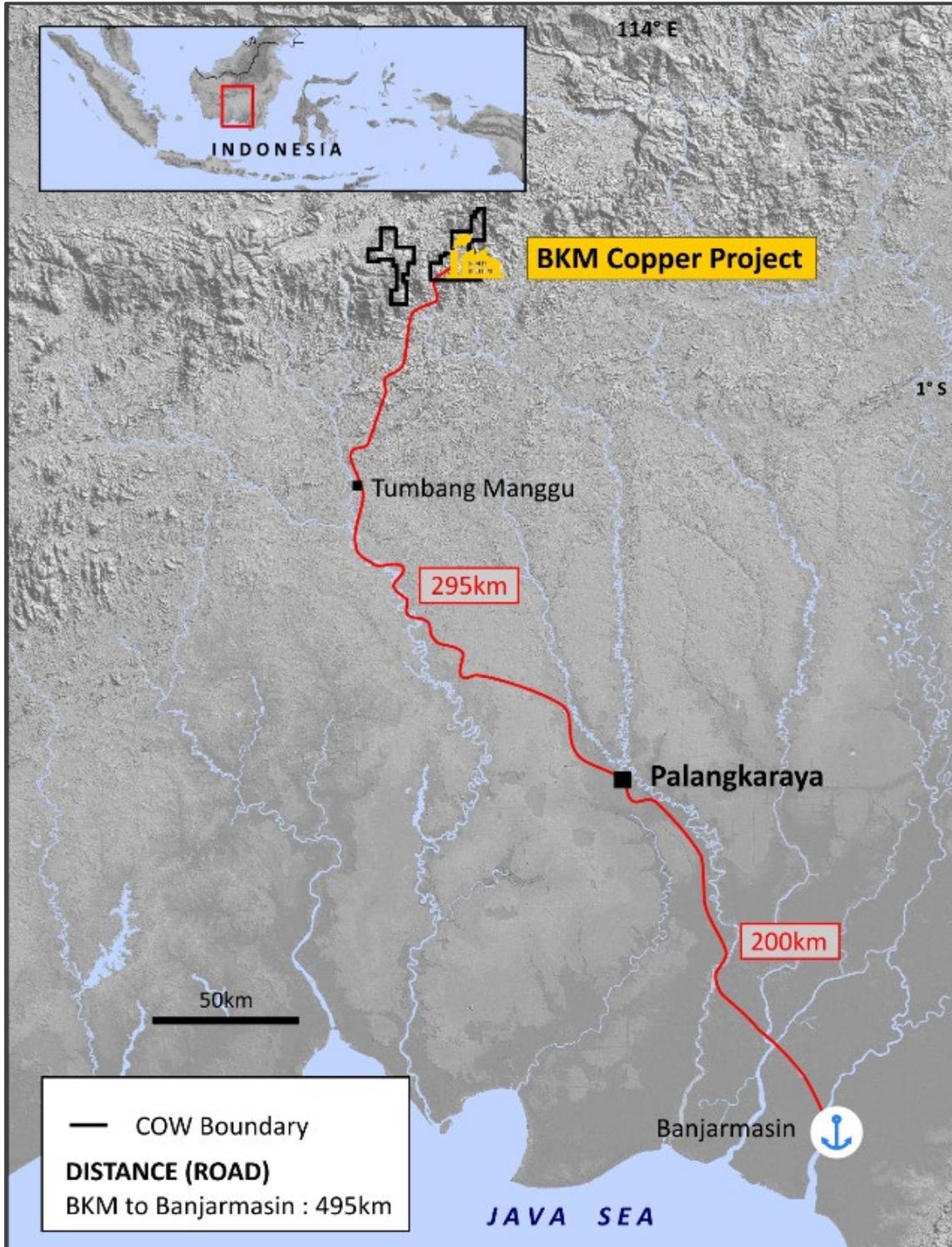
Figure 3 Base and Precious Metal Prospects in the KSK Contract of Work



2 Regional Location

The KSK CoW is located just south of the equator, approximately 295km by road from Palangkaraya, the capital city of Kalimantan (Figure 4).

Figure 4 KSK Contract of Work Regional Location



3 Project Financials and Economics

The BKM Project is planned to produce up to 25,000 tonnes per annum of LME Grade A specification (99.97 - 99.99%) copper cathode. Grade A copper cathode is an easily traded commodity and highly liquid with respect to financial and investment markets.

Whittle Consulting was engaged to undertake Enterprise Optimisation (EO) modelling and integrated strategic planning process for the Feasibility Study. The EO process seeks to identify value traps and bottlenecks through the entire mining to copper cathode production value chain, whilst considering the overlay of community, environmental and other impacts. This varies from traditional pit optimisation focussed predominantly on mining and processing only. By analysing the entire value chain, the EO process improves end to end alignment with the overall strategic business plan.

Table 1 describes key project metrics. The valuation has the following economic assumptions:

- a long term copper price of \$3.30/lb LME (London Metal Exchange);
- a real, after-tax, US dollar, discount rate of 8%;
- an Indonesian income tax rate of 25%; and
- an Indonesian Government Royalty of 4% (of revenue).

Table 1 BKM Copper Project Summary

Area	Measure	Unit	Feasibility Study
Production	Ore mined	Mt	56.61
	Waste mined	Mt	79.91
	Strip ratio	Waste:Ore	1.41:1
	Copper ore grade	%	0.60
	Average soluble copper grade	%	0.39
	Copper recoveries	%	
	- Chalcocite ore type		80%
	- Covellite/Bornite ore type		75%
	- Chalcopyrite ore type		77%
	Copper cathode produced	kt	172.63
Average annual copper production	kt	19.54	
Capital	Initial Project Capital (ex. contingency)	\$M	192.0
	Contingency (initial capital)	\$M	31.4
	Phase 2 - Heap Leach (ex. contingency)	\$M	17.4
	Phase 2 contingency	\$M	3.9
	Closure costs	\$M	32.9
Economic Assumptions	Copper price	\$/lb	3.30
	Discount factor	% (real)	8.00
Financials	Revenue	\$M	1,270.0
	Costs	\$M	627.2
	Royalties	\$M	50.8
	NPV ₈ post-tax	\$M (real)	124.8
	NPV ₈ post-tax, pre-closure	\$M (real)	133.5
	IRR post-tax	% (real)	19.1
	IRR post-tax, pre-closure	% (real)	19.5
	Initial mine life	Years	8.83
	Payback period	Years	4.25
	EBITDA	\$M	563.3
	C1	\$/lb	1.65
	AISC	\$/lb	1.78

Copper Price Assumption

The copper price assumption of \$3.30/lb used in this document is based on long-term consensus price forecasts from a range of global banks who produce research on a number of commodities including copper.

Production

Figure 5 shows the production profile and strip ratio over the LOM. Ore mined across the life of mine is consistent once mining activities ramp up.

Figure 5 LOM Production Profile and Strip Ratio

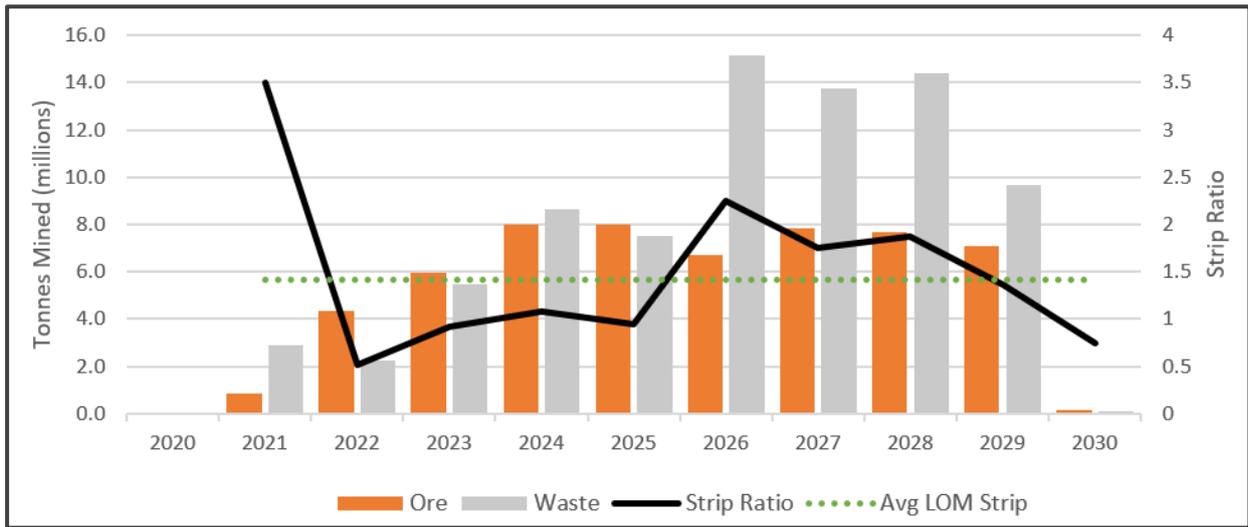
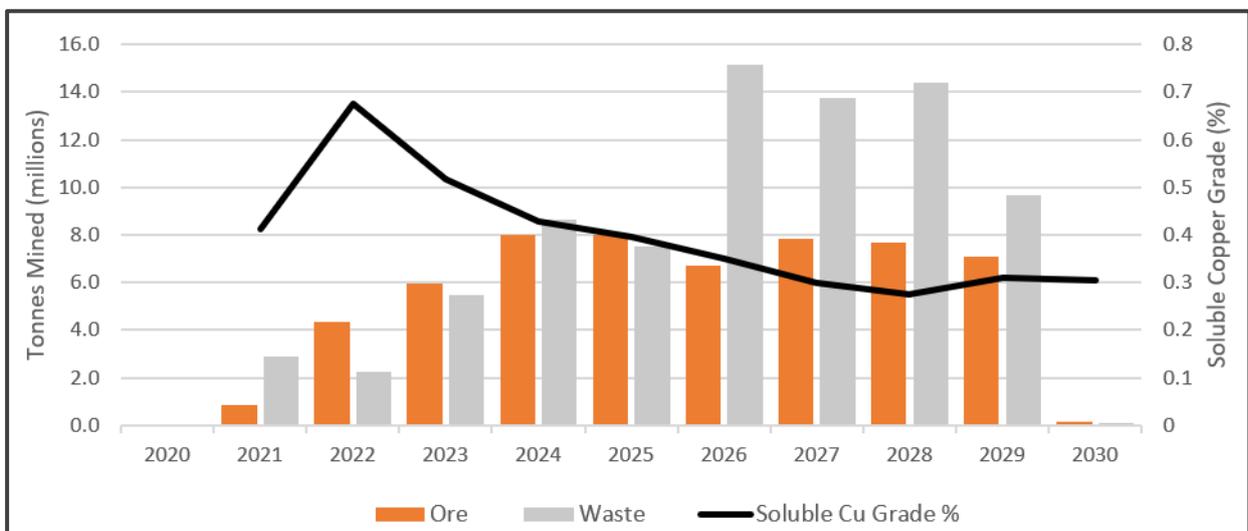


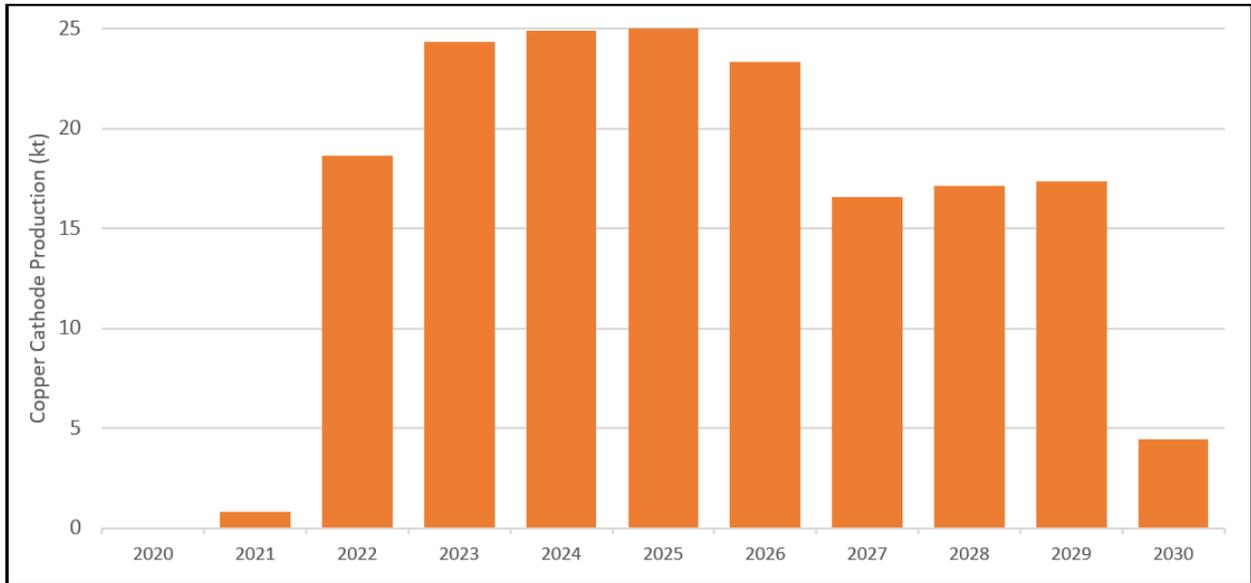
Figure 6 shows the production profile and soluble copper grade over the LOM. The average LOM soluble copper grade is 0.39%. The first six years of operations deliver grades from the mine well above the average LOM soluble copper grades. This results in greater cash flows earlier in the mine life.

Figure 6 LOM Production Profile and Soluble Copper Grade



The LOM copper cathode production of 172.6kt over the 8.8 years of mine life results in an average copper cathode production of 19.54kt per annum. Following commissioning and ramp up of the downstream operations including the heap leach and SX-EW, copper cathode production between 2022 and 2026 is an average of 23.3kt with peak production of 25kt achieved in 2024 and 2025.

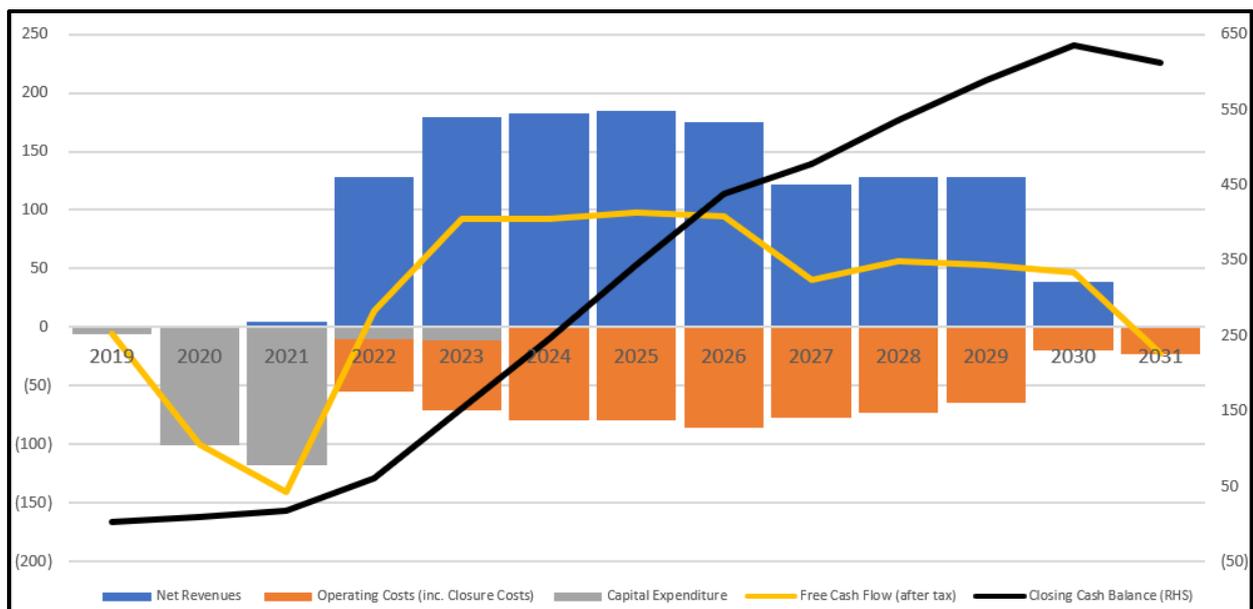
Figure 7 LOM Copper Cathode Production



3.1 Project Economics

Figure 8 outlines the project cash flows over the LOM, with LOM revenues of \$1.27 billion and free cash flows after tax of \$317.9 million. The average free cash flows (after tax) over 2023 - 2026 are \$94.3 million with peak free cash flows of \$97.3 million achieved in 2025.

Figure 8 BKM Project LOM Cash Flows –\$M



3.2 Sensitivities

As part of the Feasibility Study, a sensitivity analysis was conducted to determine the effect of key variables on the base case post-tax NPV₈ of \$124.8 million. The results of this analysis are shown in Figure 9 and Table 2.

Figure 9 Project Sensitivities - \$M Base NPV₈ (Post Tax, Real)

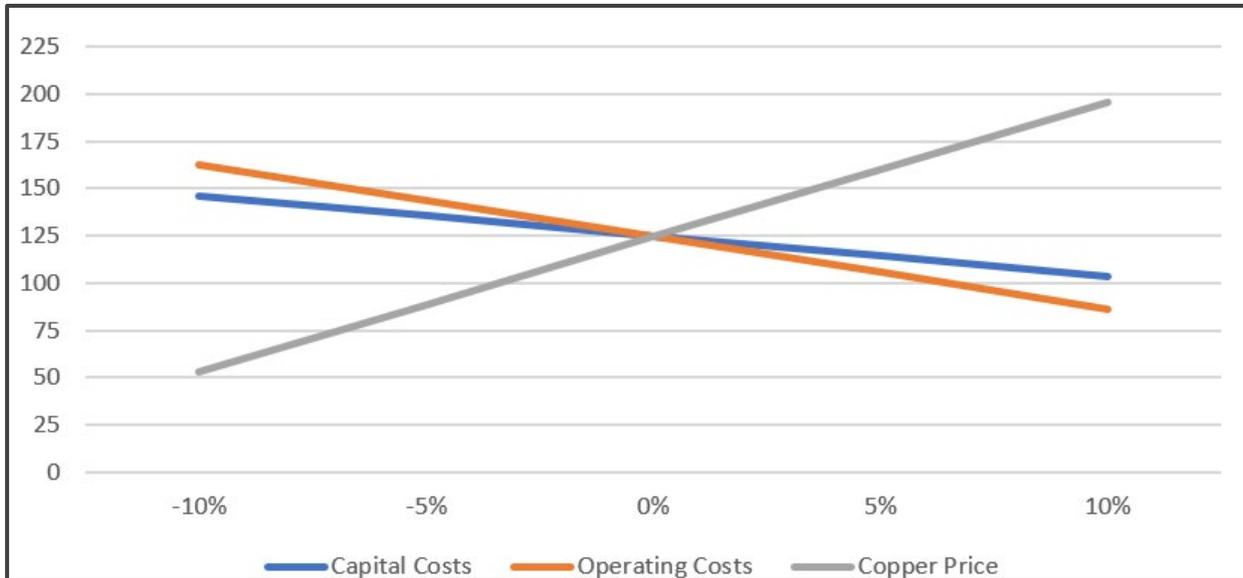


Table 2 provides a sensitivity of +/- 2% for the Company's 8% weighted average cost of capital (WACC).

Table 2 Weighted Average Cost of Capital Sensitivity

NPV +/- 2%	NPV ₆	Base Case NPV ₈	NPV ₁₀
NPV Post-tax	161.6	124.8	93.6
NPV Post-tax (pre-closure)	172.5	133.5	100.6

3.3 Income Tax / Investment Incentive

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 25%.

Investment Incentive

Indonesia's Minister of Finance issued a new regulation, PMK-35 (35/PMK.010/2018) on 4 April 2018 with the aim to promote increased investment and provide a tax holiday regime based on capital investment. This regulation, PMK-35, covers 17 industries and includes the base metals industry. As the BKM Project is intended to produce copper cathode it will qualify for the investment incentive.

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 3 provides the Indonesian Rupiah (US\$ equivalent) investment requirement to satisfy the tax holiday.

Table 3 Capital Investment & Investment Incentive

Investment		Tax Holiday Period (initial period)
Indonesian Rupiah (Billion)	US/IDR = 13,500	
500 to < 1,000	\$35.7M to < \$71.4M	5 years
1,000 to < 5,000	\$71.4M to < \$357.1M	7 years
5,000 to < 15,000	\$357.1M to < \$1,071M	10 years
15,000 to < 30,000	\$1,071M to < \$2,142M	15 years
≥30,000	≥\$2,142M	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.

3.4 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 4.

Table 4 Initial Capital Costs

Plant Area	Capital Estimate \$M
Mining Facilities	1.9
Crushing, Agglomeration and Stacking	31.4
Heap Leach	36.8
SX-EW (incl Neutralisation)	31.7
Process Area Services and Utilities	7.7
On Site Infrastructure and Bulk Earthworks	43.9
Off Site Infrastructure	6.9
Sub-Total Direct Costs	160.3
Construction Indirect Costs	12.1
Spares and First Fills	7.5
Engineering, Project Management, Construction Management and Commissioning Services	9.6
Owners Costs	2.6
Total Capital Estimate (excluding Contingency)	192.0
Contingency	31.4
Total Capital Estimate	223.4

The capital estimate excludes escalation and mine closure costs which have been included as part of the financial model.

In addition to the initial capital costs, a Stage 2 expansion of the Heap Leach is estimated to cost \$21.3 Million (including indirect costs and contingency).

3.5 Life of Mine Operating Costs

The total Life of Mine (LOM) operating costs for the Project are shown in Table 5. Approximately 78% of the total operating costs are incurred in the mining and processing activities. With an initial mine life of 8.8 years, on-going maintenance activities will replace sustaining capex. No replacement or rebuilds are required during the initial project life.

Table 5 LOM Operating Costs

Site Operating Costs	\$M	Cost \$/lb	Proportion %
Mining	270.2	0.71	39.8
Processing	255.5	0.67	37.7
Site Services	91.0	0.24	13.4
General and Administration	10.5	0.03	1.6
LOM Cost / C1 \$/lb	627.2	1.65	92.5
Royalties	50.8	0.13	7.5
Sustaining Capex	-	-	-
AISC \$/lb	678.0	1.78	100.0

The LOM mining costs are shown in Table 6. It is assumed that a mining contractor will undertake this work. The overall LOM cost per tonne mined of \$1.98. This cost is in line with other projects in Central Kalimantan.

Table 6 LOM Mining Costs

LOM Mining Costs	\$M	\$/t Mined	\$/t Ore	C1 \$/lb	Proportion %
Drill & Blast	21.8	0.16	0.39	0.06	8.1
Load & Haul	157.1	1.15	2.78	0.41	58.1
Grade Control	13.1	0.10	0.23	0.03	4.9
ROM Rehandle	4.9	0.04	0.09	0.01	1.8
Labour	10.8	0.08	0.19	0.03	4.0
Mining Other	5.6	0.04	0.10	0.01	2.1
Contractor Fixed Fee	56.8	0.42	1.00	0.15	21.0
Total Mining Costs	270.2	1.98	4.77	0.71	100.0

The LOM processing costs are shown in Table 7. The main component of the processing costs is electricity consumption from LNG fired power units. The cost of electricity is estimated at US14.7c/kWh.

Table 7 LOM Processing Costs

LOM Processing Costs	\$M	\$/t Ore	C1 \$/lb	Proportion%
Power	102.6	1.81	0.27	40.1
Consumables	34.0	0.60	0.09	13.3
Materials & Spare Parts	69.8	1.23	0.18	27.3
Maintenance & Services	10.2	0.18	0.03	4.0
Labour	32.0	0.57	0.08	12.5
Mobile Equipment	6.9	0.12	0.02	2.7
Total Processing Costs	255.5	4.51	0.67	100.00

The LOM site services and general and administration costs are estimated at \$0.27/lb of copper cathode produced. These costs include management of waste water treatment, site facilities, camp buildings, fuel storage and administration.

Table 8 LOM Sites Services and General and Administration Costs

LOM Site Services, General & Admin	\$M	C1 \$/lb	Proportion %
Contractor	15.8	0.04	15.5
Power	13.2	0.03	13.0
Consumables, Materials & Spare Parts	20.4	0.05	20.1
Labour	40.5	0.11	39.9
Mobile Equipment	5.0	0.01	4.9
General & Admin	6.6	0.02	6.5
Total Site Service & General and Administration	101.6	0.27	100.0

4 Resources and Reserves

4.1 Geology Overview

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.

Copper mineralisation at BKM remains open in several areas and exploration in the wider district remains in its infancy with:

- structural interpretation indicates potential for repeat settings to exist at depth and in laterally detached nearby locations, although not yet supported by deeper drill holes.
- 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 mineralisation adjacent to the project, with recent drilling confirming similar style mineralisation.
- obvious drill targets with potential for the discovery of additional copper and polymetallic resources also exist nearby BKM and within the wider KSK CoW.

4.2 Resource Estimate

The BKM 2019 Copper Resource Estimate is an update of the 2017 Copper Resource Estimate and 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 9 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 9 Tabulated Copper Resources - Summary

Measured Mineral Resources (JORC, 2012)				
Reporting Cut Cu %	Tonnes M	Cu Grade %	Contained Copper kt	Contained Copper Mlbs
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
Indicated Mineral Resources (JORC, 2012)				
Reporting Cut Cu %	Tonnes M	Cu Grade %	Contained Copper kt	Contained Copper Mlbs
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
Inferred Mineral Resources (JORC, 2012)				
Reporting Cut Cu %	Tonnes M	Cu Grade %	Contained Copper kt	Contained Copper Mlbs
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
Measured Plus Indicated Plus Inferred Mineral Resources (JORC, 2012)				
Reporting Cut Cu %	Tonnes M	Cu Grade %	Contained Copper kt	Contained Copper Mlbs
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 9: 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 been 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.

4.3 Ore Reserves

A summary of the 2019 Ore Reserve Estimate for the BKM Copper Project reported in accordance with the JORC Code, 2012 edition is provided in Table 10 below. Ore Reserves are based on the 2019 Measured and Indicated Resources reported in Table 9. The Mineral Resources reported are inclusive of the Ore Reserves.

Table 10 2019 Ore Reserve Estimate for BKM Copper Project

Ore Reserve Category	Volume	Tonnes	Total	Soluble	Contained Copper	
	Mbcm	Mt	Copper	Copper	Total	Soluble
			%	%	kt	kt
Proved Ore						
Chalcocite Dominant	5.2	14.9	0.7	0.5	103	77
Covellite/Bornite Dominant	1.6	4.4	0.5	0.5	24	20
Chalcopyrite Dominant	0.6	1.9	0.6	0.2	11	3
Total Proved Ore	7.4	21.1	0.6	0.5	137	101
Probable Ore						
Chalcocite Dominant	5.8	15.4	0.6	0.4	88	63
Covellite/Bornite Dominant	2.9	7.8	0.5	0.4	40	31
Chalcopyrite Dominant	2.7	7.2	0.5	0.1	38	11
Total Probable Ore	11.4	30.4	0.5	0.3	166	105
Proved + Probable Ore						
Chalcocite Dominant	11.0	30.2	0.6	0.5	190	140
Covellite/Bornite Dominant	4.5	12.2	0.5	0.4	64	51
Chalcopyrite Dominant	3.3	9.1	0.5	0.2	49	14
Total Proved and Probable Ore	18.8	51.5	0.6	0.4	303	206
Waste Rock	33.1	85.0				
Waste : Ore Ratio	1.8	1.7				

Notes Table 10: 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 Member of the Australasian Institute of Mining and Metallurgy. He has 32 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. Ore Reserves are presented in the document "Ore Reserves Statement, BKM Copper Project, Central Kalimantan, Indonesia", released to the on 14 June 2019.

5 Geosciences and Water Management

5.1 Geotechnical

Geotechnical studies and investigations have been undertaken for the mine area, plant and infrastructure facilities.

The geotechnical characteristics of the mine rock mass have been found to be very closely related to the underlying structural geology. The interpretations typically show evidence for repeated thrust-faults inclined to the east that are associated with a near parallel altered planar layers common in the rock mass and with the mineralisation. The geological ore grade block-model also supports this interpretation, with mineralisation in lenses all inclined from 25 to 45 degrees to the

east. Typically, the natural topographic slopes over the deposit closely parallel the mineralisation lenses further supporting this geological interpretation. Numerous other smaller faults of the similar orientation were also mapped throughout the area with dips to the northeast ranging between 59 and 75 degrees and normal to slightly angled in the plane of the faults, suggesting sometimes sub-vertical faulting.

In order to exercise an appropriate level of conservatism, the geotechnical model is based on the interpreted east-dipping thrust fault structures and mineralisation with a factor of safety greater than 1.3. The key geotechnical factors to consider for the mine design and during operations are:

- the overall upper bench wall angles will need to be around 24 degrees in the lower strength oxidised rock, top soil and clays for the initial design but can be adjusted during operations;
- material below the weathering zone the rock material is typically high in strength and moderately fractured although there are some areas of material strength reduction that are inferred to be associated with structures or alteration. Based on these strengths, overall inter-ramp angles of around 50 degrees may be applied in fresh rock for wall heights of up to 170m. This angle should be reduced below 50 degrees in sections for wall heights above to 170m;
- the slope angles on the west wall should sub-parallel the structure and mineralisation in order to prevent undercutting of the associated thrust faults and may need to vary along the north-south strike of the west wall with the inclination of the mineralisation lenses;
- the basement rocks and weathered profile, which will form interim and final pit walls, will not likely drain freely (overall), with geotechnical analysis indicating that some form of pore pressure reduction may be required to be implemented once final slopes have been developed;
- that there is potential for variation in the geotechnical model to become apparent during mining. Rock mass and structures will be mapped periodically during mining in order to build confidence in the model and provide design adjustments in order to optimise recovery and stability; and
- a requirement for the installation of vibrating wire piezometers at critical locations near the top of the pit walls. Information from these will be interpreted to provide a basis for wall depressurisation drilling.

Geotechnical investigations were also completed for the heap leach and infrastructure facilities areas, with the level of foundation found to be variable. This data has been incorporated into the earthworks and design criteria.

5.2 Geochemistry

Laboratory geochemical test work was conducted on representative ore and waste samples recovered from exploration drilling to provide an understanding of the geochemical characteristics specific to the deposit and to assess potential for acid rock drainage (ARD) and metal leaching. The study involved static tests in order to quantify the potential of the rock sample to generate ARD and kinetic column testing of waste rock and spent ore for geochemical characterisation and confirmation of ARD.

The static geochemical characterisation demonstrates that most of the BKM ore and waste rock will likely generate acid after exposed to the atmosphere. The kinetic test results of waste rock indicate that sulphide contained, particularly in the high acid generating samples, oxidises rapidly and produced the largest portion of dissolved sulphate in the leachate. Copper and iron were released at relatively high rates from acid generating materials. These are addressed in the water management strategies for the operational stage of the project.

The proportions of ore types making up the composite samples were compared with the expected relative ore type volumes to be excavated from the open pit and were deemed the most

representative of the future overall heap leach make up. Testing produced acidic leachates over the experimental duration with pH values ranging between 1.8 and 3.9. The pH values tended to decrease after 28 weeks of testing and were observed to be relatively stable for the last six weeks of testing at approximately pH 2.

5.3 Hydrogeology

A hydrogeology study was completed and drew heavily on the outcomes of parallel investigations by environmental, geotechnical, mine planning and plant engineering experts.

Three general aquifer types have been identified:

- fractured basement rocks aquifers;
- weathered profile aquifers; and
- alluvial aquifers.

Groundwater inflows to the pit will be minimal compared with rainfall runoff to the pit. The pit water management plan will be largely driven by surface water inflows. The pit dewatering system will only require gravity drainage in the early years of mining and then simple sump pumping thereafter.

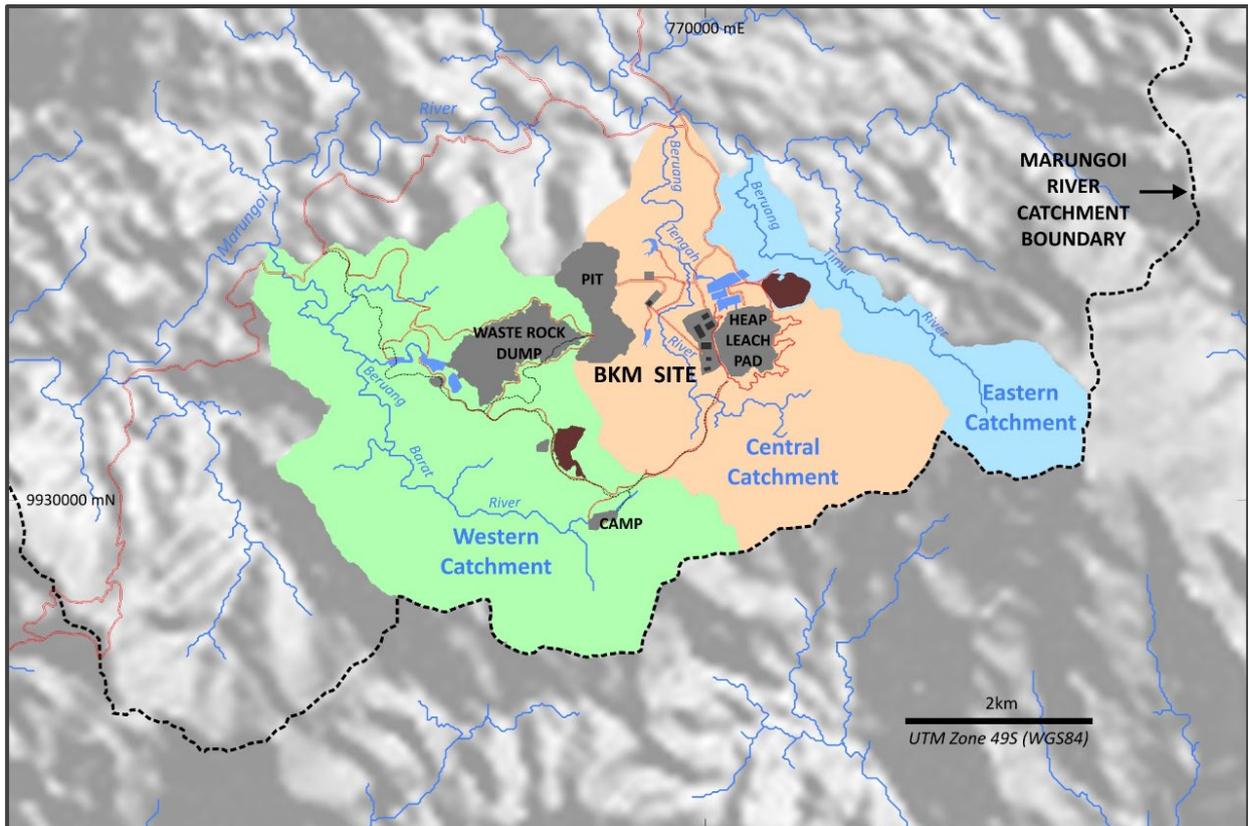
The foundation and water control systems for the heap leach pad and waste rock dump are designed to contain and direct water (and any leachates) to a series of retention and treatment ponds. Any seepage percolating to the local water table is located mostly upstream of the water management ponds. As a result of very slow groundwater seepage velocities and the combined influences of physical and natural geochemical reduction processes, the quality of seepage at discharge zones will likely be no different to natural groundwater.

5.4 Hydrology

The hydrology is characterised by a network of short-lived and permanent streams draining the area (Figure 10). 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 three catchments contain the following mine facilities:

- Western Catchment: The proposed camp, explosives magazine and topsoil stockpile are situated on high ground between this catchment and the adjacent Central Catchment. The waste rock dump is located west of the open pit in this catchment. A single water treatment plant (WTP) is proposed to be situated at the base of the waste rock dump and discharge to an environmental control pond. This is planned to address metal leaching and ARD issues related to waters from the waste rock dump, open pit and heap leach pad;
- Central Catchment: The open pit, run-of-mine stockpile, crusher, agglomerator and mine workshop will be situated on the west side of this catchment. The heap leach pad and process plant will be situated on the east side of the catchment; and
- Eastern Catchment: The topsoil removed from the heap leach pad will be stockpiled in this catchment.

Figure 10 BKM Project Watersheds and Watercourses



5.5 Climate

Climate estimates reported in the study were assembled using site and regional monitoring data, as well as climate datasets for the study location. A climate analysis was undertaken to:

- develop conceptual and feasibility designs for all diversion ditches, settling ponds, water storage dams and structures;
- derive the site-wide water balance and water quality model;
- validate the conceptual water management layout; and
- determine the base case design peak storm event.

The Project site is characterised by a typical tropical climate with two seasons, wet (November to April) and dry (May to October). In general, the Central Kalimantan region experiences very high rainfall (around 3,200mm per annum on average) with 150 to 200 rainy days per year. Rainfall in the highlands in the general area of the BKM Project site is higher. This fact was reflected in the climate estimates utilised for the study. Stream flow measurements indicate discharge rates are highly dependent on short-term precipitation events.

5.6 Water Management

Key elements of the site water management plan design included:

- a climate data analysis;
- the identification of guiding principles and environmental benchmarks (i.e. discharge standards and ambient standards) for management of site water;
- the development of a conceptual water management layout for the project; and
- construction of a site-wide water balance and water quality model.

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 stations on the Marungoi River confirm background water quality conditions are good.

Water management infrastructure is proposed to minimise the volumes of contact water generated, optimise the water conveyance system, and provide adequate storage and retention.

The layout is comprised of:

- water diversions (clean, non-contact runoff);
- contact water ditches;
- four ARD/sediment ponds;
- an environment control pond (ECP); and
- a water treatment plant (WTP).

Pipelines and a pumping system are required to convey water from the heap leach facility (stormwater pond) and from the ARD/sediment ponds at the open pit to the proposed WTP location. Treated water from the WTP will be discharged from site via the ECP.

Post closure water quality from the open pit, heap leach facility and waste rock dump are expected to improve compared to the end of mine. Water quality will slowly improve as exposed pit wall surfaces oxidise and waste at the heap leach facility and waste rock dump are capped by a cover system.

6 Mining

6.1 Pit and Enterprise Optimisation

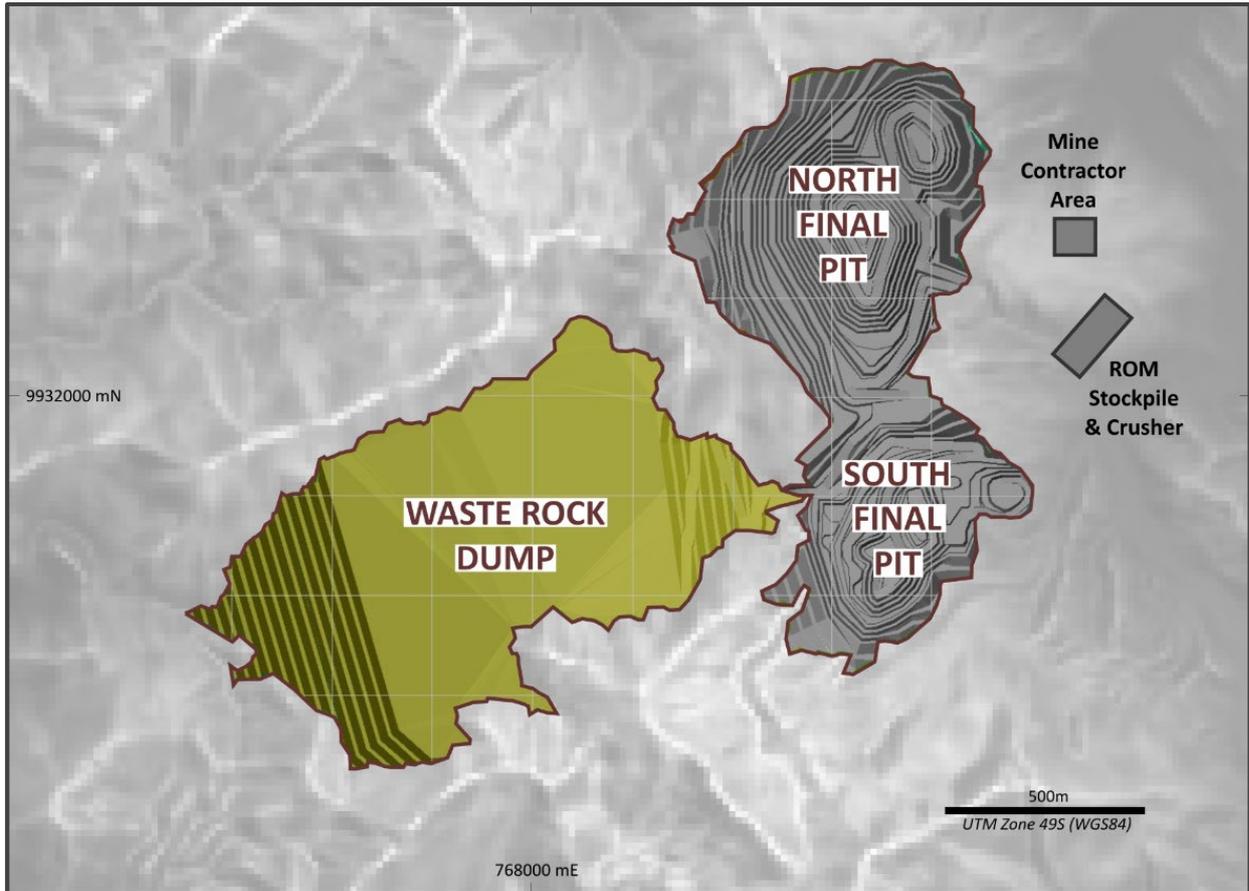
The interim and final pit designs, mining sequence and production schedule are based on Enterprise Optimisation analyses by Whittle Consulting. Enterprise Optimisation uses operating and capital costs, heap leach recoveries and production targets and constraints to optimise cash flows over the life of the project. In the case of BKM, the Enterprise Optimisation provided pit shapes and stages, a mining sequence and variations in mining rate and cut-off grade over a nine year mine life. This has allowed for improvement in value compared to conventional mine design techniques by optimising for ore head grades, early copper metal production and lower mining costs.

6.2 Pit Design

Pits were designed as a close match to the Enterprise Optimisation stage and final pit shells. The pit development stages include:

- 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;
- an intermediate stage pit in the north which assists with continuity of ore supply; and
- pushbacks to the final pit in the south and north of the deposit.

Figure 11 Plan of Final Pit Area and Waste Rock Dump



6.3 Production Schedule

The Enterprise Optimisation work and subsequent pit designs and schedules included Measured and Indicated Resources as well as Inferred Resources. The Measured and Indicated Resources account for 93% of copper cathode produced. The Inferred Resource material is mined almost exclusively towards the end of the mine life and accounts for 7% of copper cathode produced. Inferred Resources have not been included in the Ore Reserves. Sensitivity analysis in the Feasibility Study financial model shows the project remains viable if the cathode production from Inferred Resources is removed and the Inferred Resource material is treated as waste rock.

Inferred Mineral Resources are of lower confidence. It is possible that some or all of the Inferred Resources may not be realised in the pit. Further drilling is recommended to upgrade the Inferred Resources so that changes can be made to the intermediate and final pit stages if required before mining commences on these stages.

Table 11 Annual Production Schedule

	Year	Pre Prod	1	2	3	4	5	6	7	8	9	Total
MINING												
Ore tonnes	kt	50	2,916	4,426	7,721	8,011	7,924	6,677	7,950	7,761	3,171	56,608
Soluble copper	%	0.45	0.56	0.71	0.42	0.42	0.40	0.28	0.30	0.28	0.32	0.39
Waste tonnes	kt	650	3,599	2,211	7,588	9,302	9,934	15,854	13,180	13,577	4,011	79,906
Total tonnes	kt	700	6,515	6,638	15,309	17,313	17,858	22,531	21,130	21,339	7,182	136,514
Total Volume	kbcm	350	2,877	2,706	6,272	6,470	6,847	8,234	7,934	7,677	2,523	51,890
Ore to Waste Ratio	t:t	13.0	1.2	0.5	1.0	1.2	1.3	2.4	1.7	1.7	1.3	1.4
Stockpile Reclaim	kt	0	618	872	1,546	1,600	1,600	1,320	1,597	1,545	654	11,353
CRUSH AND STACK												
Ore tonnes	kt	0	2,932	4,361	7,732	8,000	8,000	6,602	7,987	7,724	3,270	56,608
Soluble copper	%	0.00	0.56	0.72	0.42	0.42	0.39	0.28	0.30	0.28	0.32	0.39
CATHODE	kt	-	9	19	24	25	25	23	19	18	8	173
RESOURCE CLASSIFICATION												
Measured	%	19	63	80	44	34	33	39	55	37	14	46
Indicated	%	81	37	19	56	62	65	60	36	43	28	47
Inferred	%	0	0	0	0	3	2	1	9	20	57	7

6.4 Mine Operations

The mining operations consist of:

- open cut mining operation utilising 300t hydraulic excavators, 100t trucks and ancillary equipment;
- mining activities conducted by a mining contractor; and
- mine planning, grade control sampling, modelling and production scheduling conducted by the Company.

Other key aspects of the mining operation include:

- average mine operating costs over the mine life are \$1.98 per tonne of ore and waste. This cost aligns with actual costs from a comparable scale operating open cut gold mine in Central Kalimantan;
- drill and blast – blast hole patterns and areas of free dig are based on material types in the resource model;
- grade control – sampling assumed to be from blast holes;
- slope stability – the design wall slopes assume dewatering by drilling horizontal drain holes into the pit walls;
- a requirement that all benches and berms be drained to prevent rain water seeping back into the walls;
- pit roads and benches – 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;
- pit water management – slope stability and acid drainage issues make it necessary to capture rain fall and wall seepage in the pit area as quickly as possible for neutralisation in facilities adjacent to the pits; and

- acid waste rock management – most of the leach feed and waste is expected to be pyritic and potentially acid forming. Allowance is made for compaction of all waste in the waste rock dump to minimise seepage through the dump.

7 Metallurgy and Ore Treatment

Two phases of metallurgical test-work programs were undertaken to provide strategic metallurgical inputs into the mine optimisation studies, process design criteria and economic evaluation activities:

1. A 2016 Preliminary Economic Assessment metallurgical program based on a limited selection of ore and preliminary shake flask, bottle roll and column testing. The results indicated that the ore exhibited a relatively high propensity for leaching of copper from the secondary sulphide minerals chalcocite, covellite and bornite under typical, industry standard heap leach conditions, in the presence of acid, ferric ions and bacteria.
2. Subsequently, a series of dedicated PQ holes were drilled in 2016 and 2018, to provide sufficient representative samples for two column test-work programs. The first conducted at the CORE Resources laboratory 2016 and 2017 and second conducted at Bureau Veritas Minerals in 2018. The results and interpretation from these two programs providing mineralogical definition of the composites and forms the primary basis of the Feasibility Study process design criteria.

The results of the two column tests highlighted that:

- comminution testing indicated the ores behave similarly with both average and median values for Unconfined Compressive Strength and Crusher Work Index of 33 to 61 and 4.9 to 7.5 respectively;
- a full suite of agglomeration, optimisation and stacking tests, hydrodynamic column test and integrated column tests provided characterisation of the ore to evaluate the impact of the selected ore preparation practices and operational conditions. The results showed that proper selection of crush-size, strong-acid agglomeration, proper curing and irrigation rate improve the rate and extent of leaching as well as the ores hydrodynamic properties. The ore is sufficiently robust to support percolation leaching at the selected solution application rates at heap heights of up to 40m;
- the 2016 and 2017 testing consisted of 2m and 6m column leach tests. These were conducted on 7 representative ore types at two crush sizes: P80 (80% passing) of 19mm and P80 of 12.5mm. Additionally column testing in 2018 consisted of 2m and 6m column leach tests were conducted on the 7 representative ore types at two crush sizes: P80 (80% passing) of 12.5mm and P80 of 6.35mm was also conducted;
- there were several consistent trends with the overall column leach results. In each case the 6m columns indicated significant improvement in solution efficiency and acid consumption, for all the composites tested. In addition, the 2m columns indicated significantly improved Soluble Cu recovery at the finer crush size;
- the column results confirmed the effect of the varying mineralogy on the leach kinetics, with the predominant chalcocite occurrence having an accelerated leach compared to the covellite and bornite combinations, with the slowest leaching being achieved in samples where the chalcocite was less than the covellite and bornite amount;
- for similar mineralogy and grade there is a uniformity of leaching characteristics across the different regions of the orebody. This is a favourable outcome indicating that general heap leach performance will be consistent across the orebody and throughout the mine life; and
- the acid consumption/generation characteristics are dependent on solution flux with the 6m columns having solution fluxes that are equivalent to those anticipated in the commercial operation, with heap heights of 8 to 12m.

The findings of the test work indicate that:

- two column test work showed that the base case assumption of an 8 to 12m heap with a 12.5mm (P80) crush size, with a dominant chalcocite mineralogy (represents ~80% of Life of Mine plant feed), a soluble copper recovery of 85% to 88.5% could be achieved. The indication is that there are ore zones with elevated covellite and bornite, and in these regions the recovery achieved should be about 80%;
- it is necessary to interpret the column leach results and apply necessary scale-up factors to reflect a commercial size heap leach, when defining the performance of a commercial heap leach operation. With the scale-up factors applied for the dominant chalcocite ore, the anticipated commercial heap leach, at 10 metre lifts, would achieve 80% Soluble Copper recovery, which would require a leaching time of 337 days. The same scale up has been applied to material with a lower ratio of chalcocite to covellite/bornite. The scale-up gives a soluble cu recovery of 75%, at a similar solution flux, requiring a leaching (irrigation) time of 337 days (Figure 12);
- scaled-up leach curves (an example of which is shown below) are provided as inputs to the mining optimisation and mine schedule. The scaled-up curves and outputs are the basis for the Process Design Criteria (PDC); and
- a pregnant leach solution (PLS) was taken for the Solvent Extraction phase compatibility testing and to allow for generation of two typical extraction isotherms. The two solutions tested show classical extraction characteristics, with the impact of PLS acidity highlighted between the two samples.

Figure 12 Cu Extraction Curve – Chalcocite Dominant



Based on the excellent chemical and physical extraction characteristics, stripping isotherm will be generated using proprietary solvent extraction modelling systems, provided by relevant suppliers to model the solvent extraction performance required for the Feasibility Study phase.

Based on the detailed analysis and interpretation completed on the metallurgical programs to-date, key inputs for the PDC have been derived.

Table 12 Inputs for Process Design Criteria

Inputs for Process Design Criteria		
Process Area	Description	Unit
Comminution	Crush Size	p80 12.5mm
Agglomeration	Agglomeration Acid	0.5 - 4kg/t
Stacking	Stack Height	6 - 12m
Heap Leach Type 2/5 Ore types Chalcocite>Covellite Bornite	Solution Application	3.84 kL/t
	Solution Application Rate	8 L/h/m ²
	Solution Application Rate PDC	5 to 10 L/h/m ²
	Leach Time Calculated	337 days
	Leach Time PDC	365 days
	Soluble Cu Recovery	80%
	Acid Consumption (Acid Generation)	- 2 to - 4kg/t
	Acid Consumption PDC	- 5 kg/t
Heap Leach Type 2/5 Ore types Chalcocite=< Covellite Bornite	Solution Application	3.84 kL/t
	Solution Application Rate	8 L/h/m ²
	Solution Application Rate PDC	5 to 10 L/h/m ²
	Leach Time Calculated	337 days
	Leach Time PDC	365 days
	Soluble Cu Recovery	75%
	Acid Consumption (Acid Generation)	- 2 to - 4kg/t
	Acid Consumption PDC	- 5 kg/t
Solvent Extraction Stage 1 Heap Leach	PLS Cu Concentration (calc)	1.25 to 1.5 g/L Cu
	PLS Flow (calc)	2,379 m ³ /hr
	Extractant	LIX984N (or Equivalent)
	Diluent	Shellsol 2046 (or equivalent)
	Extraction Stages	2+1 series parallel
	Strip Stages	1
Solvent Extraction Stage 2 Heap Leach	PLS Cu Concentration (calc)	1.25 to 0.6 g/L Cu
	PLS Flow (Max)	3,000 m ³ /hr
	Extractant	LIX984N (or Equivalent)
	Diluent	Shellsol 2046 (or equivalent)
	Extraction Stages	1+1+1 triple parallel
	Strip Stages	1

Feasibility Study level metallurgical test-work and modelling conducted to date has proven the potential of the BKM material types to support a commercial heap leach operation. The materials show typical column leach responses, based on the secondary sulphide mineral assemblages and host rock.

8 Processing and Plant Infrastructure

The BKM process infrastructure is based on a tertiary crushed ore stacked in a Valley Fill Heap Leach, with conventional SX-EW technology. There is an additional requirement for a neutralisation facility to deal with the excess of acidic water generated due to the site wide positive water balance. A series of schematics for flowsheet, heap leach and ponds are provided in Figures 13 to 15.

Processing and plant facilities details include:

- a three-stage ore crushing circuit (with primary and secondary sizers and two parallel tertiary impact crushers);
- an ore agglomeration to facilitate fines stabilisation and pre-conditioning of the ore with sulphuric acid and raffinate;
- leach pad stacking consists of portable ramp (“grasshopper”) conveyors and a radial stacker with a stinger. This will allow agglomerated ore to be stacked in lifts up to 10m high;
- a valley fill heap leach that is designed to allow for 7 lifts each of 10m to accommodate the Life of Mine stacked ore of 57Mt. It is completed with an engineered initial platform with a composite liner system, underdrain system, solution collection system, stormwater management system, perimeter access road, stacking system and irrigation system. The ponds to support the heap leach include PLS pond, raffinate pond, raincoat pond, stormwater pond and underdrain pond;
- heap leaching carried out in a single lift operation, where raffinate from the solvent extraction (SX) plant is used to irrigate the ore for 365 days to achieve the target soluble Cu recovery of 80%. PLS containing copper, as well as iron and other impurities, is pumped to the SX plant;
- solvent extraction, where the PLS selectively transfers copper to the electrolyte solution and increases it’s the copper concentration. The loaded solution generated from the extraction will be stripped via a single stripping stage via contact with spent electrolyte from the electrowinning plant;
- electrowinning where copper metal is plated on the stainless steel mother-plates over a 7 day plating cycle. This pure copper cathode deposit is then stripped from permanent stainless steel mother-plates, bundled and strapped for sale at a capacity of 25,000tpa cathode copper; and
- the neutralisation circuit is designed to treat excess heap leach acidic solution. The solution will be contacted with ground lime in a series of agitated reactors. In addition, up to 200 m³/h will be pumped from the storm water pond (which collects contact water from the process plant and the heap leach facility) to the site’s WTP.

Figure 13 Process Schematic Flowsheet

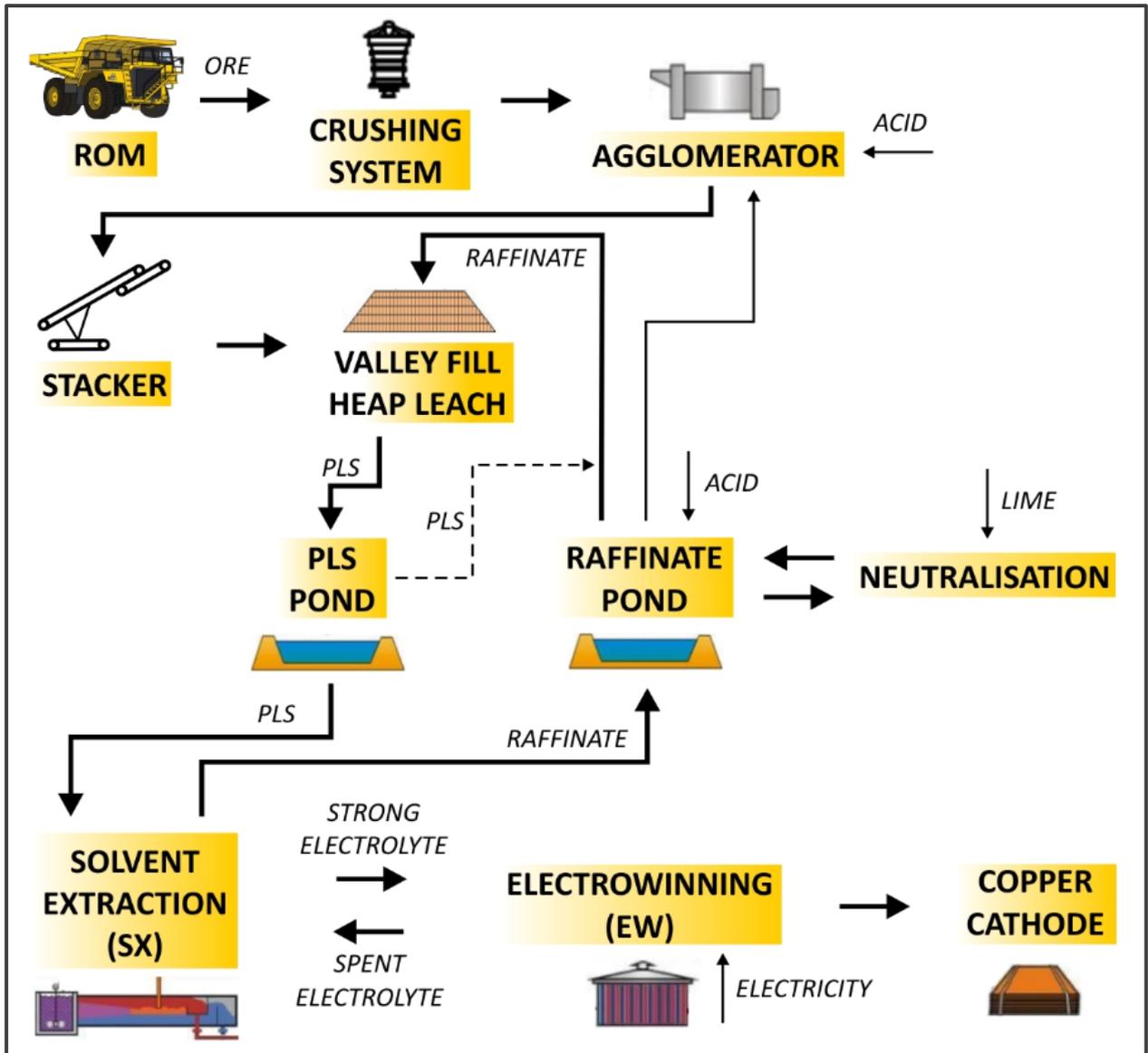


Figure 14 General Layout of Heap Leach Pad and Ponds – Stage 1

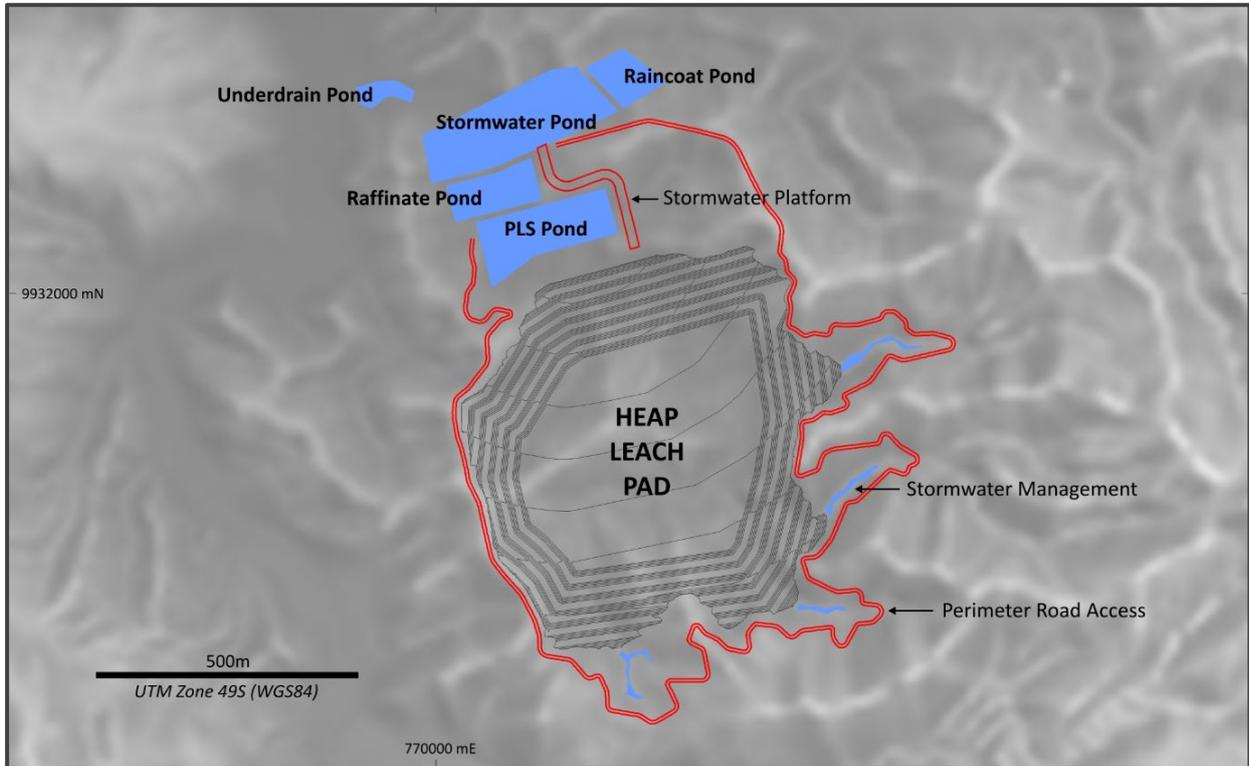
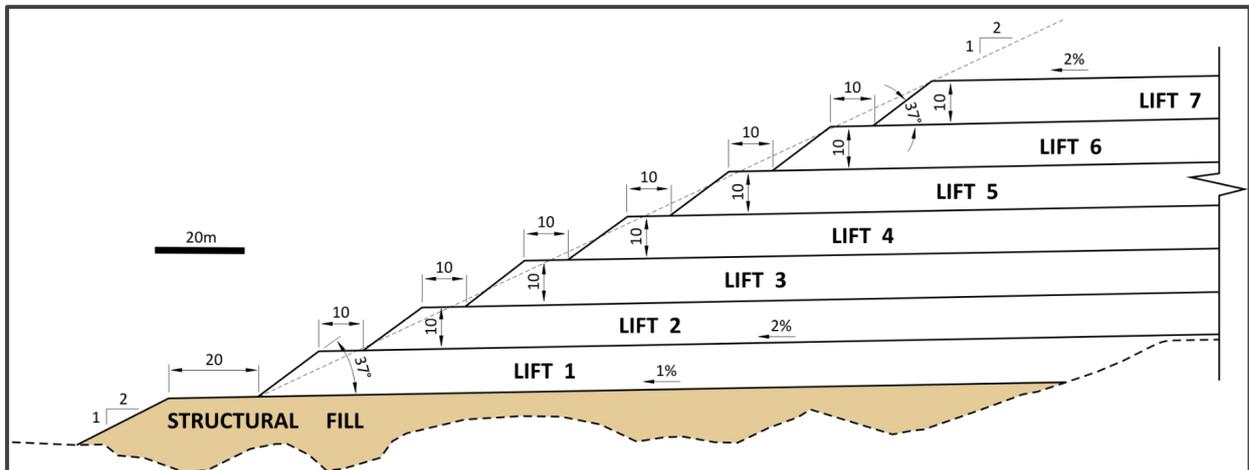


Figure 15 Heap Leach Arrangement of 7 Lifts – Stage 1 Cross Section



9 Transport and Port Facilities

Surveys were conducted of possible routes for the transport of materials and personnel to and from the site. This included roads and river barging. The outcome of this study, based on cost and efficiency selected an all road solution. Upgrades are required to sections of the existing unsealed, good quality road from the mine site to the town of Tumbang Manggu. From this town, the access road connects to the public road network allowing for transport of incoming supplies and shipping of copper cathode to Banjarmasin Port. Travel by road from site to Banjarmasin Port is approximately 495km.

9.1 General Access to Central Kalimantan

Daily commercial flights connect Jakarta with Palangkaraya, the capital city of Central Kalimantan. Access to the site from Palangkaraya by road takes approximately eight hours (295km) using public roads and the unsealed all weather road.

9.2 Port Facilities

Banjarmasin Port is a deep-water port and caters to international vessels. The port has a large container handling and storage service together with a customs clearance and bonded area for international freight. The port includes a general cargo wharf, where containers are also handled using vessel or shore cranes, a bulk material wharf and an oil berth. Banjarmasin Port forms part of the normal ferry and freight route enabling cost effective shipping of containers for transshipment from Jakarta, Surabaya and other industrial hubs without significant time delays.

Project development and operation will require a consolidation point for incoming materials, equipment and steel from both overseas and within Indonesia. A logistics company will provide warehousing and hard stand areas for transport to site by trucks and for storage of copper cathode prior to shipping to buyers.

9.3 Transport Logistics

The main transport and logistics tasks associated with the BKM Project include the:

- importation of construction phase equipment and materials to Banjarmasin Port and subsequent transport by road to site;
- importation of supplies through Banjarmasin Port and trucked to site;
- transport of copper cathode from site by container trucks to Banjarmasin Port; and
- transport of personnel to and from the site.

10 Non-Process Infrastructure and Utilities

Key elements of the non-process infrastructure and utilities include:

- earthworks and drainage to provide working platforms in support of the process plant and other support infrastructure;
- on site access roads;
- mining facilities and associated mining support facilities such as explosive magazine;
- fuel storage and vehicle refuelling;
- power station, transmission and distribution;
- accommodation camp, offices and warehouses;
- water supply and waste water systems, including a WTP for treating ARD from the waste rock dump, pits and heap leach facility; and
- communication systems.

10.1 Electricity Generation and Distribution

Generation

Electrical power will be provided by LNG turbine generators located on the northern side of the process plant, near the ponds area. Key power consumption areas are summarised in Table 13.

Table 13 Key Power Consumption Areas

Project Area	Peak Load kW	Normal Load kW	Net Transformer Size kVA
Process Plant (incl Heap Leach and Crushing Plant)	11,252	11,205	15,000
Mining Facilities	145	145	250
Fuel Storage Facilities	42	37	100
Explosive Magazine	50	45	100
Accommodation Camp	615	606	1,000
Power Plant (Parasitic Loads)	118	107	200

The plant comprises the power house, incorporating eight 3.3 MW General Electric J 620 G series gensets, providing the required 16.3 MW capacity at 80% capacity factor using seven units. The facility also incorporates a storage area for LNG tanks, transformers and switchgear to step down to the 6.6kV site transmission and distribution network.

Site Distribution

The distribution system includes:

- overhead 6.6 kV cables;
- concrete poles for transmission lines; and
- local substations. Each distributed facility has a small substation with a step-down transformer.

11 Personnel

The BKM Feasibility Study workforce design has been based on a mix of contractor and owner-operated activities and equipment. Mining activities that will be carried out by a contractor under owner supervision, with the main processing activities being owner operated.

There is a Utilities and Services function which manages logistics and services. Included within this is power, water and transport. The port facility personnel at Banjarmasin will be contracted due to the relatively small size and physical separation from the main site.

The BKM organisational structure has been designed with the operational phases in mind. The primary functional activities are planned to be managed by the Company, including supervision of the contract activities. Table 14 describes the headcount by department.

Table 14 Total Full Time Equivalent Personnel

Department	Owner	Contractor	Total
Senior Site Management	2	-	2
Mine Operations	22	214	236
Plant Operations	119	23	142
Utilities Operations	40	13	53
HSEC	14	4	18
Commercial	17	49	66
Total	214	303	517

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 2.2 million. Approximately 250,000 people live in Palangkaraya, which has several universities. Further south, Banjarmasin has a population of approximately 700,000.

BKM and contractor personnel will be accommodated in the BKM operations camp, located within the CoW.

12 Tenure and Regulatory Approvals

12.1 Tenure

A number of amendments to the KSK CoW have been agreed upon by the Company and the Government of Indonesia (dated 26 March 2018). The amended conditions of the CoW now align with the current Indonesian Mining Law and the continuation of the CoW is clearly stated in these amendments. The key elements of the KSK CoW amendment are:

- area of CoW - based on the technical evaluation and review of the mining plan, the Government agrees that the Company 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 the Company in form of an IUPK for 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 - the Company 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 - the Company 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 the Company may also appoint an independent expert for the evaluation; and
- local content - the Company shall agree to prioritise the use of local workforce and local goods as well as registered local mining services companies.

12.2 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. Mandatory 5 - Year Reclamation and Mine Closure Plans (In Progress); and
4. Forestry Borrow-to-Use Permit (In Progress).

The purpose of the Government of Indonesia Feasibility Study is to provide an assessment of the project's technical and economic feasibility. This document contained all reports or 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 Ministry of Energy and Mineral Resources (MEMR) on 28 February 2019.

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. The BKM AMDAL process has been completed. Stakeholder consultations required for the compilation of the AMDAL were conducted in April 2017. The Term of Reference for the AMDAL (KA ANDAL) was 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.

Submission of a 5 - Year Reclamation Plan (progressive reclamation) and a Mine Closure Plan are mandatory in support of the project permitting process described in this section. The BKM reclamation and mine closure plans compilation commenced in August 2018 with the first stage, which consisted of stakeholder consultation in support of mine closure planning. The BKM Mine Closure Plan and the 5 - Year Reclamation Plan were submitted to MEMR on 1 March 2019 and 11 March 2019, respectively. Presently the plans are undergoing the review process at MEMR with the approval of the Mine Closure and 5 - Year Reclamation plans expected in July 2019.

The final major permit required in support of issuance of the mine construction permit is the Forestry Borrow-to-Use Permit (IPPKH in Indonesian). The application process for the Forestry Borrow-to-Use Permit was initiated in Q1, 2019 by the Company following the approval of the AMDAL, the Feasibility Study and the submission of the 5 - Year Reclamation and Mine Closure plans. The first step of the application procedure was completed on 8 May 2019, with the KSK CoW upgraded to Operation Production Stage by the MEMR. This transitions the KSK CoW into the Construction Period for a three year term, which is then followed by an Operation Production period for 30 years. Additional steps in the application for the Borrow-to-Use Permit will be conducted by the Company subsequently. The issuance of the Forestry Borrow-to-Use Permit is expected during 2020.

13 Community and Environment

13.1 Community

Asiamet Resources and its predecessor companies (ARS) have maintained strong and effective long term stakeholder relations and programs of active community engagement since taking ownership of the 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 livelihoods.

The Company's stakeholder engagement relationship with village leaders and with the local Governments (Sub-District and Regency levels) has been particularly strong, with YTS training creating stronger links between the 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 its efforts to include a new focus on integrated regional development, good governance, and participatory community development, all 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 corporate social responsibility programs started during early exploration, through the employment and training of local residents.

ARS, through YTS is working in 22 of the 30 villages in the area surrounding the KSK CoW, with the Company activities to expand to all 30 villages once the BKM Project is constructed. The aim will be to continue 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 a 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 has actively communicated with every village to provide information regarding project activities and through YTS, have a number of field personnel who regularly visit villages in the project area. These staff provide updates on the project's progress, as well as identify any 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 development program has been to improve community relations both with the Company and the local government. There is a strong and widespread support for the Company and its activities.

13.2 Environmental and Social Assessment and Management

There are extensive regulations applying to the mining industry in Indonesia and the Company will address these 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.

Extensive environmental and social baseline studies for the BKM Project have been conducted between 2016 and 2018. Environmental studies were conducted during both the wet and dry season to document inter-seasonal variability. This information was used for the environmental and social impact assessment for the Project and development of related management plans.

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.

13.3 Site Reclamation and Mine Closure

A conceptual mine closure plan has been developed for the BKM project that addresses progressive reclamation during operations and mine closure subsequent to cessation of mining and processing operations. Key overarching objectives of the mine closure plan are to:

- comply with applicable legislative requirements;
- protect public and employee health, safety and welfare;
- limit and/or mitigate adverse impacts on the environment, biodiversity and affected communities;
- enhance positive impacts on the affected communities;

- ensure that stakeholders' needs, concerns and aspirations are considered in mine closure planning;
- provide a closure design that is appropriate for the nature and scale of the BKM Project, as well as the baseline environmental and social settings of the project area; and
- provide a reasonable basis on which the costs of closure can be estimated, recognised and managed.

Post-closure social and community development programs will be an extension of existing programs during operations, which generally include programs to enhance the community and will focus on:

- governance;
- infrastructure;
- education;
- health; and
- socio-economics.

14 Project Risks and Opportunities

14.1 Project Risk Summary

Project risks were assessed using industry standard rating methodologies. The study identified sixteen high and two extreme risk events and a combination of fifteen moderate to low level risks.

The risks identified for the Project are common to mining projects at the Feasibility Study stage (for example exceeding Capex, Schedule, external macro factors etc). For all the risks identified in the Feasibility Study risk register, the Company has existing controls or plans to implement the necessary controls to manage or mitigate these risks during the detailed engineering and development phases of the Project.

14.2 Value Enhancement

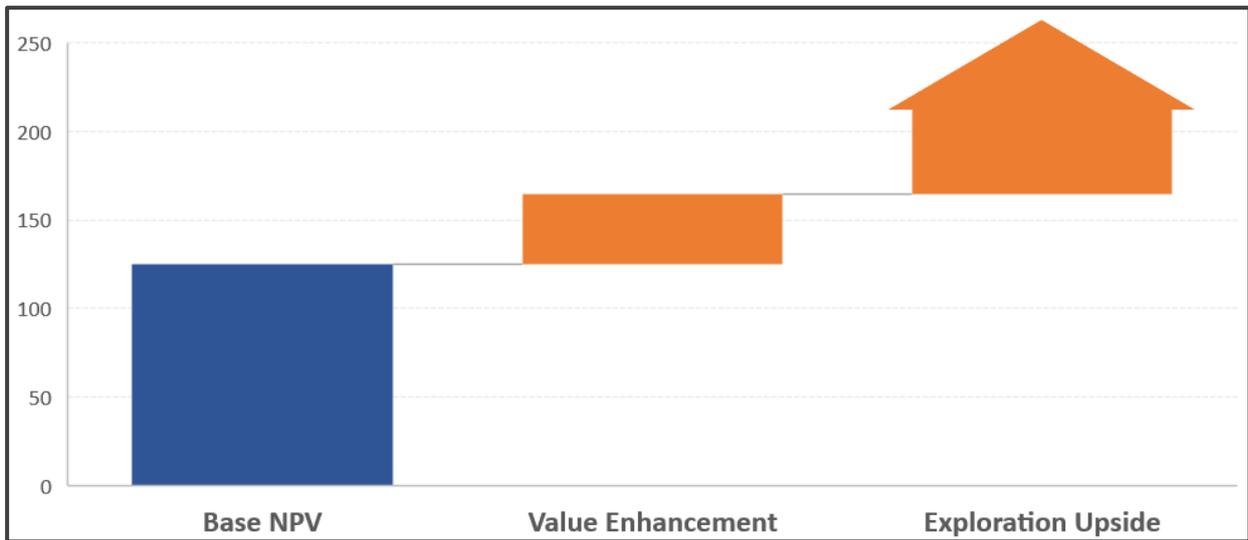
A strategic review of the proposed capital and operating cost estimates was completed to determine value based opportunities to further enhance the project. This process identified and ranked 20 opportunities ranging in value delivery and ease of implementation. The highest value and ease of implementation opportunities totalled an estimated \$35M risk adjusted (excludes exploration success). These will be prioritised for investigation and include:

- pre-treatment of the currently discarded, less-leachable heap leach ore types such as chalcopyrite by utilising the Albion Leaching technology (~\$20M);
- improved mineralisation geological controls by incorporating detailed structural geology model (~\$5M);
- an electricity supply scope change from gas supply to local coal supply (~\$4M);
- further refining the methodology of ore block classification to enhance metal and commercial returns (~\$3.5M);
- reducing construction earthworks costs by sourcing locally and delivering synergies by working with the mining contractor (~\$3M); and
- a review of near mine exploration for targets proximal (less than 3kms) to the BKM Resource that have the potential to add significant value. These targets may add treatable copper resources to that already defined or create further opportunities for revenue enhancement through direct shipping of ore. The high priority targets to be investigated immediately include:
 - BKM 'link zone target' the immediate zone between BKM and BKZ;
 - Testing of IP chargeability highs approximately 800m to the north-west of BKM;

- BKM depth extensions through deeper drilling to follow up IP chargeability at depth; and
- BK-South near surface oxide targets, maybe amenable to SX-EW process and augment the current mine life at BKM.

Figure 16 illustrates the impact of these value enhancement opportunities above the base case Feasibility Study valuation.

Figure 16 Value Enhancement Opportunities \$M



15 Study Team

The Company has led the preparation of the Feasibility Study with contributions from the following independent consultants.

Table 15 Feasibility Study Team

Company	Area of Expertise	References / Information Supplied
PT SMG Consultants	Mine planning Engineering project management and mine infrastructure	Mine operating and capital cost estimate. Assembly and review of Process and Infrastructure capital and Operating cost estimates prepared by contributing engineering companies including but not limited to Ausenco (Process and Infrastructure Design) and Resindo (Infrastructure Design).
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.
PT Geomine	Geotechnical engineering	Pit wall slope assessment for the BKM Copper Project.
PT Ground Risk Management	Geotechnical engineering	Peer review and assembly of geotechnical information and final pit wall recommendations.
Mworx Pty Ltd	Metallurgy	Heap leach test work and process design for the BKM Copper Project. Heap leach recoveries.
Whittle Consulting Pty Ltd	Strategic planning	Enterprise optimisation.
PT Lorax	Environmental	Project environmental and social impacts. Project permitting.
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.
AMDAD Pty Ltd	Mining engineering	Pit design. Detailed production scheduling. Competent Person for Ore Reserves.

16 Abbreviations List

Abbreviation	Definition / Description
AISC	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.
AMDAL	Analisa Mengenai Dampak Lingkungan – Indonesian Environmental and Social Impact Assessment
ARD	Acid rock drainage
ARS	Asiamet Resources
BKM	Beruang Kanan Main Copper Project - the Project
c	Cents – United States currency
C1	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)
Capex	Capital expenditure
Cc	Chalcocite mineralisation
CIT	Corporate income tax
CoBo	Covellite plus bornite mineralisation
CoW	Contract of Work – agreement to mine the concession on behalf of the Government of Indonesia
Cu	Copper
ECP	Environmental control pond – pond for controlling runoff from mine, waste dump etc such that it does not discharge untreated into the local environment
ESIA	Environmental and Social Impact Assessment
Fe	Iron
FS	Feasibility Study – This document is the summary of the Feasibility Study
g	Gram
G&A	General and Administration – categorisation of cost elements supporting the mine
Goi	Government of Indonesia
h	Hour
HSEC	Health Safety Environment and Community
IDR	Indonesian Rupiah – currency of Indonesia
IPPKH	Izin Pinjam Pakai Kawasan Hutan - Forestry Borrow-to-Use Permit
IUP	Izin Usaha Pertambangan – Mining Business License
IUPK	(Izin Usaha Pertambangan Khusus – Special Mining Business License
JORC	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
KA ANDAL	The terms of reference for the Environmental and Social Impact Assessment (AMDAL)
Kg	Kilogram
kL	Kilo Litre
km	Kilometre
KSK	PT. Kalimantan Surya Kencana – the Project owner
kt	Kilo-tonne
kV	Kilo-Volt
kWh	Kilo-Watt hour – measure of electricity generated or used over a period of time
L	Litre
LME	London Metal Exchange
LNG	Liquid natural gas

Abbreviation	Definition / Description
LOM	Life of Mine – the duration of operation of the Project
lb	Pound (of copper)
m	Metre
Mbcm	Million bank cubic metres
Mlbs	Million pounds (of copper)
MEMR	Ministry of Energy and Mineral Resources
Mm	Millimetre
Mt	Million tonnes
MW	Meg-Watt
\$M	Million United States dollars
NPV	Net Present value
NPV₆	Net Present values with a discount rate of 6% per annum
NPV₈	Net Present values with a discount rate of 8% per annum
NPV₁₀	Net Present values with a discount rate of 10% per annum
Opex	Operating expenditure
P80	Sieve size (mm) that 80% of the material will pass through
PDC	Process Design Criteria – as used in the design of the process plant
PEA	Preliminary economic assessment – the study and report (dated 19 may 2016) which preceded this Feasibility Study
pH	A measure of acidity - lower the number the more acidic. A pH of 7 is neutral
PLS	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
PMK-35	Indonesian Ministry of Finance regulation issued 4 April 2018 with the aim to promote increased investment and provide a tax holiday regime based on capital investment
PQ	Drill size – 122.6 mm outside diameter, 85 mm inside (core) diameter
Q1	Quarter 1
ROM	Run of Mine – ore material as it comes out of the mine pit before any crushing or processing
SX-EW	Solvent Extraction and Electrowinning – the combination of process plants used to convert leached copper in solution from the heap leach into saleable copper cathode
t	Metric tonne
tpa	Tonnes per annum
US\$	Currency of the United States of America - Dollars
WACC	Weighted average cost of capital
WTP	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
YTS	Yayasan Tambuhak Sinta – community development foundation established in association with the Project