BLACKTHORN RESOURCES

29 April 2014

PREFEASIBILITY STUDY PROVIDES A MAJOR POSITIVE RE-RATING FOR BLACKTHORN RESOURCES' KITUMBA COPPER PROJECT

Project to move into full feasibility study

KEY POINTS

- Blackthorn Resources has released results of an Optimised Prefeasibility Study for its Kitumba Copper Project in Zambia
- The Optimised PFS has significantly enhanced the Project's economics and development potential and the Company will now progress to a Definitive Feasibility Study (DFS)
- Highlights from the Optimised PFS include:
    - IRR of 21% and NPV_8 of US$461M on a 100% equity basis[1]
    - C1 cash cost of US$1.57/lb of copper metal produced, with an all-in cash cost of US$1.89/lb
    - Copper recovery increased to 92%, with annual metal production of up to 70,000t with an average of 58,000tpa over life of mine
    - Annual ore production of approximately 3Mt Run of Mine (ROM), with average head grade of 2.03% copper
    - Underground mine with 11 year mine life
    - Robust and long life process plant design - suitable for treating a range of ore types, new discoveries and toll-processing of third-party material
    - 31.6Mt LOM production target with 642,000t of contained copper and EBITDA of US$2.48 billion
    - Ore Reserve increased by 18% to 641,000t contained copper metal from the October 2013 Ore Reserve - now includes 31.5 Mt at 2.04% copper in proven and probable reserves
    - Project development cost estimated at US$680M including US$185M for EPCM contractor, owner's costs and contingency
    - Capital intensity of approximately US$11,700 per annual tonne of copper produced with a payback of 3.5 years after start of production.
- BTR is in discussion with a number of potential partners with a view to effective delivery of the DFS and future stages of the Project.

[1] "Real" terms, after tax and based on US$3.50/lb copper price, providing robust economics to price downside

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Blackthorn Resources Limited (ASX: BTR) ("the Company" or "Blackthorn Resources") is pleased to announce the results from the Optimised Prefeasibility Study (OPFS) for its 100% owned Kitumba Copper Project (the "Project") located in Zambia (Figure 1).

The OPFS has delivered an outstanding result which significantly enhances the Project's economics and confirms its potential as a major, economically feasible project with an average production rate of approximately 58,000tpa copper over an 11 year mine life, generating US$2.48 billion in EBITDA, an IRR of 21%, and an NPV_8 of US$461M.

Blackthorn Resources CEO, Mark Mitchell said:

"We are delighted with the result of the PFS optimisation for the Kitumba Copper Project. We have carefully developed the PFS to represent a fully implementable project. The results show that we have an economically robust project at prefeasibility study level, and we have identified a proven, cost effective mining and processing solution with the work having been done to understand the orebody. We will now prepare to move into the definitive feasibility study with the aim of achieving further refinements and improvements to the project economics.

Blackthorn Resources is in discussions with a number of potential partners to help fund the definitive feasibility study, work with us to improve the Project outcomes and ultimately deliver a high performance and responsible copper asset in Zambia."

Blackthorn Resources Chairman, Mike Oppenheimer said:

"As foreshadowed at our AGM, the appointment of our new CEO was the first step in restructuring Blackthorn Resources to enable us to successfully steward capital projects through the feasibility process and into production. The significant enhancements to the Kitumba Project announced today show that we are on the right path.

The Company looks forward with confidence to taking the Kitumba Project on to full feasibility as well as exploring the full potential of our extensive Mumbwa acreage and looking to identify new opportunities."

The Company has now commenced working on the next phase of development and value adding activities. This includes additional drilling and metallurgical testing to support the DFS.

Further details of the optimised prefeasibility study are contained in the attached summary report.

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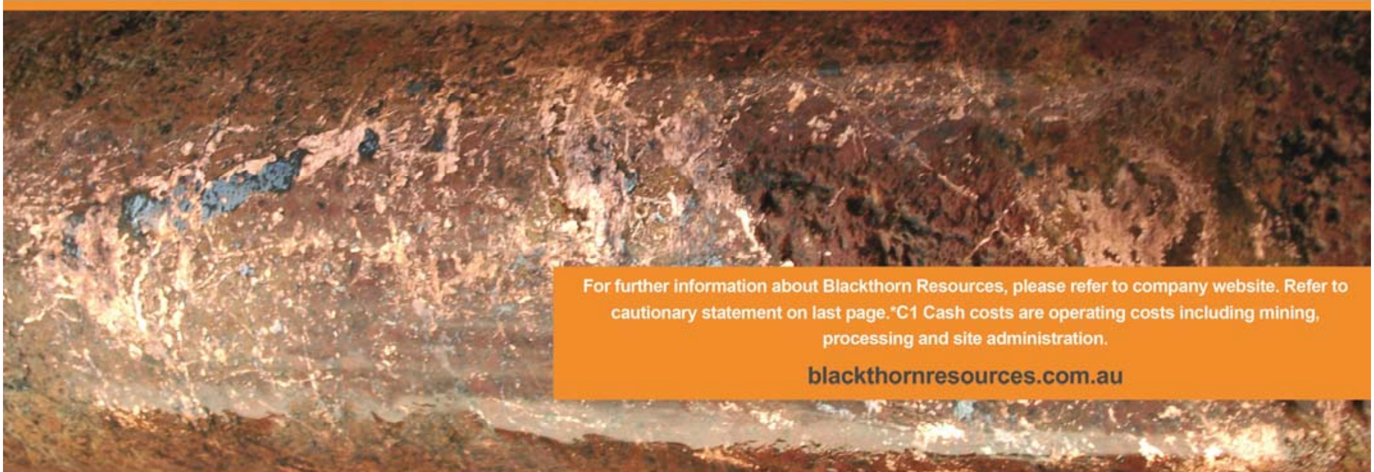
KITUMBA COPPER PROJECT

OPTIMISED PREFEASIBILITY STUDY

APRIL 2014

OPTIMISED PREFEASIBILITY STUDY OUTCOMES

+ IRR of 21% and NPV_8 of US$461 million on a 100% equity basis
+ C1* cash cost of US$1.57/lb of Cu metal produced
+ Payback period: 3.5 years



For further information about Blackthorn Resources, please refer to company website. Refer to cautionary statement on last page.*C1 Cash costs are operating costs including mining, processing and site administration.

blackthornresources.com.au

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1. OPTIMISED PREFEASBILITY STUDY OVERVIEW

The Kitumba Copper Project Optimised Prefeasibility Study (OPFS) is based on the updated Mineral Resource estimate for the Kitumba deposit completed in December 2013, by MSA Group (MSA), and reported in accordance with the JORC Code (2012) - refer to ASX Announcement 'Kitumba Mineral Resources Update' dated 16 December 2013. A copy of the ASX announcement is available on the Company's website at www.blackthornresources.com.au.

The December 2013 Mineral Resource Estimate delivered a total Measured and Indicated Mineral Resource of **34.7 million tonnes at 2.29% copper for a total of 795,000 tonnes of copper** (at a 1% copper cut-off), representing a **25% increase in contained metal** over the April 2013 Mineral Resource Estimate.

Lycopodium Minerals Pty Ltd (Lycopodium) in Perth, Western Australia was engaged to manage the optimisation study in conjunction with a number of other specialist consultants.

The underground mine plan and strategies employed for the OPFS have been developed by AMC Consultants Pty Ltd (AMC), in Perth. The assessment has confirmed an underground mining method, with ore extraction using sub-level caving (SLC) to be most appropriate for the style of deposit at Kitumba.

A 3Mtpa production rate at a stope design cut-off grade of 1.0% copper was chosen as the preferred mining production rate. This results in a production mine life of 11 years, producing an average of 58,000 tonnes of contained copper in ore per annum.

The mined ore will be processed via a concentrator that includes conventional comminution and flotation to produce a sulphide rougher concentrate and a rougher tail containing the non-flotable copper. The sulphide concentrate will be treated through a pressure oxidation (POX) leach. The POX process produces acid and ferric iron as part of the process. This will be used to leach the copper in the flotation tails in an atmospheric leach circuit. The resulting copper rich solution will be fed to a conventional solvent extraction and electrowinning (SX/EW) plant.

The combined plant will produce up to 70,000 tonnes of copper cathode per year at full capacity. The OPFS assumes that the copper cathode is exported direct to customers through the port of Dar es Salaam, Tanzania.

Key economic and planning outcomes from the OPFS are summarised in Table 1, and further detail on the components of the OPFS are provided in this announcement.

The OPFS, together with the Environmental Impact Statement (EIS) which was recently submitted to the Zambian Environmental Management Agency (ZEMA), will provide the necessary support for a Mining Licence Application at Kitumba.

Table 1. KEY KITUMBA OPFS ECONOMIC OUTCOMES

KEY ELEMENT	BASE CASE – Cu PRICE US$3.50/lb
Nominal production rate (ROM)	3 million tonnes
Average Annual Cu Production over Life of Mine	58,000 tonnes
Mine Life	11 years
Cu Head Grade	2.03%
Initial Capital Expenditure	US$680 million (including contingency)
Additional Life of Mine Capital Expenditure *	US$116 million
Average LOM Cash Cost / lb Cu (C1)	US$1.57
All-in Cash Cost / lb Cu	US$1.89
Overall Cu Recovery	Approx. 92%
Real post-tax Internal Rate of Return (100% ungeared equity basis)	21%
Operating Cashflow LOM	US$2,483M
Net Profit LOM	US$1,156M
Post-tax NPV_8	US$461M
Average Annual EBITDA	Approx. US$226M
Capital Payback	3.5 years after first production

* Includes capital for underground mine development, annual TSF raises and rehabilitation
**C1 Cash cost includes cash cost of mining, processing, treatment, refining and transport of Cu metal to market.
***All in Cash Cost is the total cash costs, including C1 plus royalties and sustaining capital cost

2. NEXT STEPS

The results of the OPFS have demonstrated a mining and processing development route for the Project with robust economics. The Company has now commenced working on the next phase of development and value adding activities. This includes additional drilling focussed on collecting further geotechnical data, hydrological information, and metallurgical samples. The Company expects to run confirmatory testwork on the flowsheet proposed in this study and provide the necessary data to support a DFS.

Plans and budgets have been prepared for this next phase and the Company is in discussion with a number of potential partners with a view to effective delivery of the DFS and future stages of the Project.

3. OPPORTUNITIES

In addition to any potential to increase the mine life and Project economics through extensions to the Kitumba resource or additional near-Kitumba discoveries, a real opportunity exists to supplement the copper production through the process plant with the addition of third party copper concentrates.

It is recognised that during the early years of plant production, where ore mined will be predominantly low sulphide supergene material, there will be a need to add a supplementary source of sulphide to generate sufficient acid and heat for the subsequent atmospheric leaching operation. This will be provided by purchasing sulphide concentrates (average of 40ktpa years 1-5) from other operations in Zambia at commercial rates.

Treatment terms are such that external concentrates can be purchased and treated, and the contained copper recovered for sale at a net benefit to the Project.

Thus the ability to import and add flotation concentrate (chalcopyrite) to the POX feed circuit has been provided and costed into the flowsheet. In addition, there is a provision to add elemental sulphur to the POX circuit (replacing a portion of the imported concentrate) to ensure that sufficient acid can be generated without the downstream plant maximum copper production capability being exceeded.

It should be noted that whilst the life of mine (LOM) operation has been modelled with purchased concentrate (assuring the acid balance in operating years 1-5), the processing facility is predicted to have surplus SX/EW capacity in the latter years of operation. This provides a currently unrealised (in the economics presented in the OPFS) opportunity to continue to process purchased concentrate from year 6 onwards (an average of approximately 85ktpa) as production of copper from the Kitumba mine declines towards the end of mine life. The surplus acid generated from the higher sulphur grades encountered in the latter half of the mine life, together with purchased sulphide concentrates can be used to process oxide copper concentrates that are generally available on more favourable commercial terms. Thus a combination of sulphide and oxide concentrates may be profitably processed to utilise surplus SX/EW capacity.

Furthermore, consistent with the forecast longer term availability of concentrate from Zambian and Democratic Republic of Congo (DRC) operations, there is additional economic potential to continue operation of the processing plant as a merchant operation after the mine has reached the end of its economic life. The positive margins that may be realised from these incremental metal sales have not been considered in the Project economics, but represent a material upside to the base economics.

The longer term outlook for Zambian and regional concentrate supply is that a significant potential concentrate surplus may exist [2]. No infrastructure currently exists for the export of copper concentrate as a bulk commodity. In addition to the significant cost of packaging and transporting containerised concentrate to the international market, the Zambian Government actively encourages ‘value adding’ in-country by levying a 10% export tax on concentrate. The Project has therefore assumed that this concentrate is available for purchase at export parity pricing.

[2] Base Metals Marketing Services Ltd (BMMS) report June 2013 – refer to section 18

The Project does not rely on sourcing additional concentrate for its justification, however the Company sees this as a significant opportunity and the economic assessment confirms that a positive margin can be realised on metal produced from this ‘merchant’ concentrate.

4. PROJECT LOCATION AND HISTORY

Blackthorn Resources’ Kitumba Copper Project is located in Central Province, Zambia, approximately 200km west of the capital, Lusaka. It is currently the main focus of activity within Blackthorn Resources’ larger Mumbwa Project exploration holdings, which comprise five exploration licences covering approximately 1,036 km^2.

The Mumbwa Project, previously held in joint venture with BHP Billiton (BHPB), is now owned 100% by Blackthorn Resources with BHPB retaining a 2% production royalty following its decision in 2011 to exit without further direct involvement.

Figure 1: KITUMBA PROJECT- REGIONAL LOCATION MAP

5. KITUMBA MINERAL RESOURCE ESTIMATE

A revised Mineral Resource Estimate (MRE) was completed in December 2013 and reported in accordance with JORC Code (2012) - refer to ASX Announcement ‘Kitumba Mineral Resources Update’ dated 16 December 2013. A copy of the ASX announcement is available on the Company’s website at www.blackthornresources.com.au. The December 2013 MRE was an update of the April 2013 MRE which incorporated results from the Phase 7 drilling program.

The main objectives of the Phase 7 drilling program were to:

- Convert a proportion of the Indicated Mineral Resources in the high-grade core of the deposit to Measured Mineral Resources by way of additional infill drilling

- Assess the potential for further deep hypogene mineralisation as delineated during Phase 5 and Phase 6 drilling
- Drill geotechnical holes to further characterise the structural and engineering properties of material within the current extent of potential underground mining operations
- Test prioritised satellite targets proximal to the Kitumba deposit, defined by Orion 3D IP geophysical anomalies.

The December 2013 MRE is reported above a base case cut-off grade of 1.0% copper. The Mineral Resource has been classified into Measured, Indicated or Inferred Mineral Resource categories in accordance with the guidelines of the 2012 Edition of the JORC Code.

At a cut-off-grade of 1% copper, the total Mineral Resource is 38.8Mt at a total copper grade of 2.19% (Table 2). This equates to 0.85Mt of copper in-situ.

Table 2. KITUMBA MINERAL RESOURCE# ABOVE A CUT-OFF-GRADE OF 1.0% Cu

CATEGORY	TONNES (Millions)	Cu %	ACID SOLUBLE Cu %	Co ppm	Au g/t	Ag g/t	U ppm	DENSITY t/m^3
Supergene Domain								
Measured	6.1	3.44	1.66	205	0.04	1.3	25	2.51
Indicated	15.2	2.07	1.00	180	0.03	0.9	26	2.60
M&I	**21.3**	**2.46**	**1.19**	**187**	**0.03**	**1.0**	**26**	**2.57**
Inferred	0.2	1.12	0.28	124	0.16	0.4	22	2.66
Hypogene Domain								
Measured	4.4	2.23	0.45	247	0.04	1.0	21	2.86
Indicated	9.0	1.93	0.57	210	0.03	0.9	32	2.83
M&I	**13.4**	**2.03**	**0.53**	**222**	**0.03**	**0.9**	**28**	**2.84**
Inferred	3.9	1.39	0.23	415	0.02	0.7	31	2.81
Combined Domain								
Measured	**10.5**	**2.93**	**1.15**	**223**	**0.04**	**1.2**	**23**	**2.66**
Indicated	**24.2**	**2.02**	**0.84**	**191**	**0.03**	**0.9**	**28**	**2.69**
M&I	**34.7**	**2.29**	**0.93**	**201**	**0.03**	**1.0**	**27**	**2.67**
Inferred	**4.1**	**1.38**	**0.23**	**401**	**0.03**	**0.7**	**31**	**2.80**
Total	**38.8**	**2.19**	**0.86**	**222**	**0.03**	**0.9**	**27**	**2.68**

#All tabulated data has been rounded to one decimal place for tonnage and to either, no, one or two decimal places for grades.

Mineral Resource estimates are reported inclusive of Ore Reserves.

In order to illustrate the sensitivity of the Mineral Resource to cut-off grade, the Mineral Resource is tabulated using a number of cut-off grades in Table 3 for Measured and Indicated (M&I) Resources and Table 4 for Inferred Resources.

Table 3. KITUMBA MEASURED AND INDICATED MINERAL RESOURCE# BY CUT-OFF-GRADE

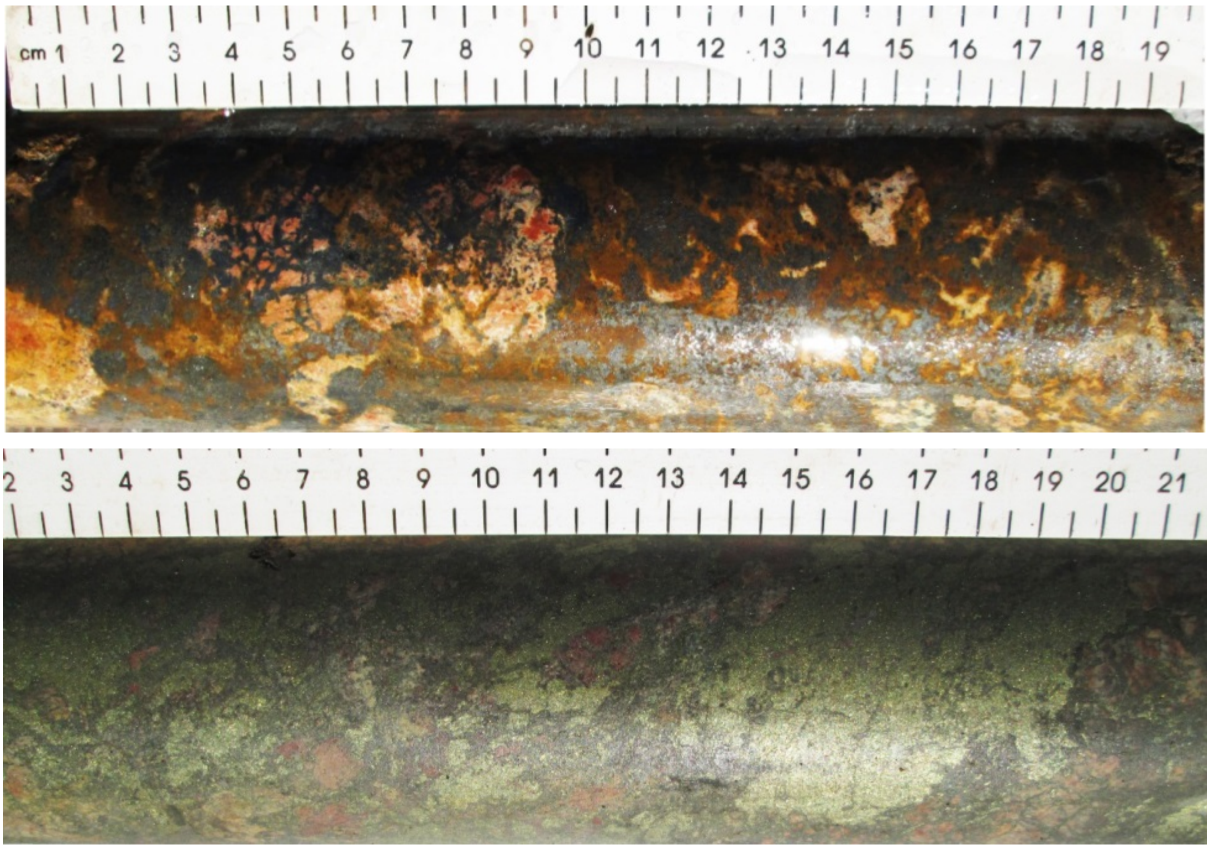
CUT-OFF GRADE (Cu%)	TONNES (Millions)	Cu %	ACID SOLUBLE Cu %	Co ppm	Au g/t	Ag g/t	U ppm	DENSITY t/m^3
0.20	178.2	0.79	0.28	140	0.04	0.8	33	2.67
0.35	113.7	1.10	0.41	163	0.03	0.8	28	2.67
0.50	81.6	1.37	0.52	170	0.04	0.9	28	2.67
1.00	**34.7**	**2.29**	**0.93**	**201**	**0.03**	**1.0**	**27**	**2.67**
1.40	25.1	2.72	1.16	208	0.03	1.0	27	2.65

#All tabulated data has been rounded to one decimal place for tonnage and to either, no, one or two decimal places for grades.

Table 4. KITUMBA INFERRED MINERAL RESOURCE# BY CUT-OFF-GRADE, AS AT 05 DECEMBER 2013

CUT-OFF GRADE (Cu%)	TONNES (Millions)	Cu %	ACID SOLUBLE Cu %	Co ppm	Au g/t	Ag g/t	U ppm	DENSITY t/m^3
0.20	118.3	0.40	0.07	132	0.04	0.7	24	2.76
0.35	45.9	0.63	0.12	149	0.05	0.6	24	2.71
0.50	26.2	0.79	0.15	175	0.04	0.6	26	2.71
1.00	**4.1**	**1.37**	**0.23**	**400**	**0.03**	**0.7**	**30**	**2.80**
1.40	1.4	1.85	0.28	231	0.03	0.5	23	3.00

#All tabulated data has been rounded and therefore minor computational errors may occur.



High grade copper mineralisation from drill hole KITDD_027 from 314m (above, chalcocite) and 417m (below, chalcopyrite)

6. MINING

The OPFS included consideration of a number of mining options and production rates. From the OPFS options, a 3Mtpa SLC operation was preferred. The revised design was based on the updated December 2013 MRE, and resulted in a 19% higher head grade and 12% increase in contained metal. Mine planning is based on geotechnical analysis conducted by Pells Sullivan Meynink Pty Ltd (PSM), and additional analysis conducted by AMC for the OPFS.

AMC conducted mine planning and cost estimation for the OPFS. Mine planning is based on a dual decline design and materials handling is by truck haulage. The mine design is based on 25 metre sub-levels and extends to a depth of approximately 450 metres below surface. Mining capital and operating costs have been estimated using AMC's cost library. Allowances have been made for mine development, infrastructure, stoping and haulage.

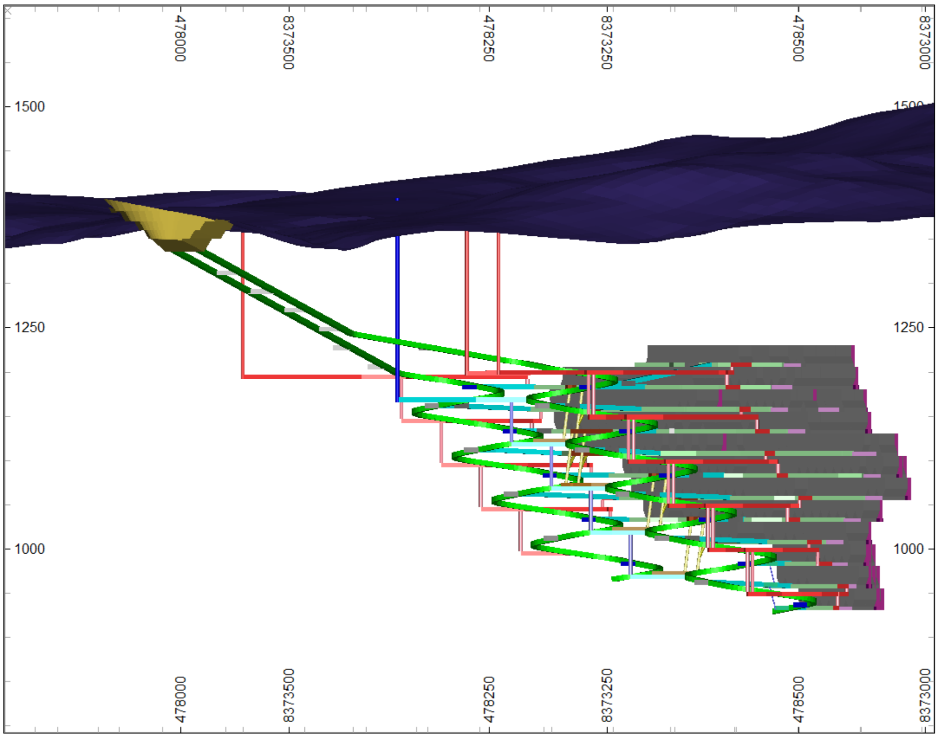


Figure 2: ISOMETRIC VIEW OF MINE DESIGN LOOKING NORTH

Production Summary

After initial development of declines and infrastructure, production horizons are accessed via the decline, and ore crosscuts are developed towards the hanging wall of the orebody. Once ore development is complete, stopes between sub-levels are drilled and blasted to initiate caving. Ore is then loaded into trucks and hauled to surface to be processed.

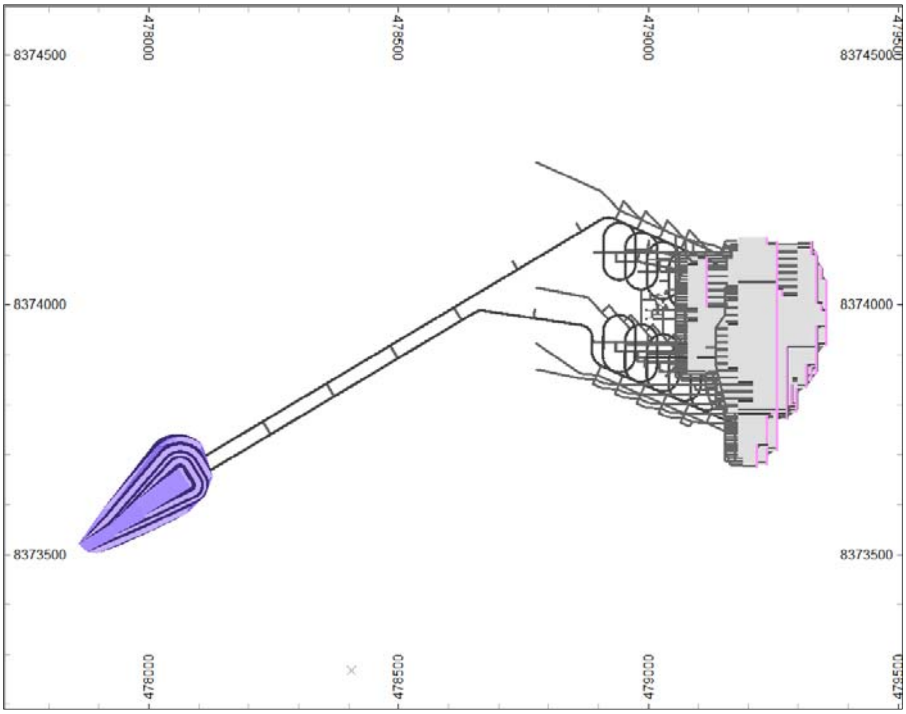


Figure 3: PLAN VIEW OF MINE DESIGN

Ore production ramps up from the commencement of mining to 3Mtpa after approximately 3 years. Production schedules are prepared to target high-grade areas first and to achieve the best blend of oxide and sulphide copper possible.

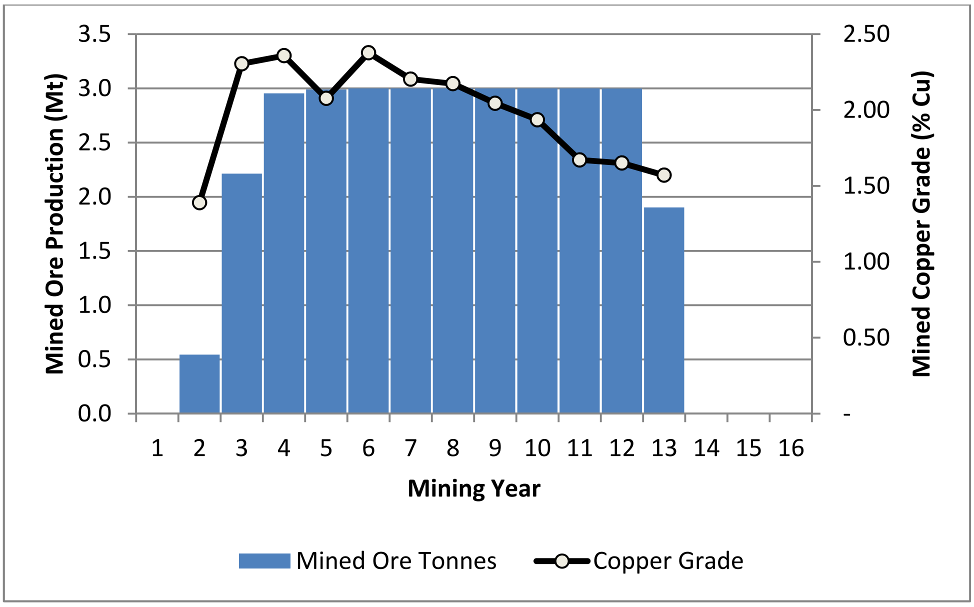


Figure 4: MINED ORE PRODUCTION AND COPPER GRADE SCHEDULE

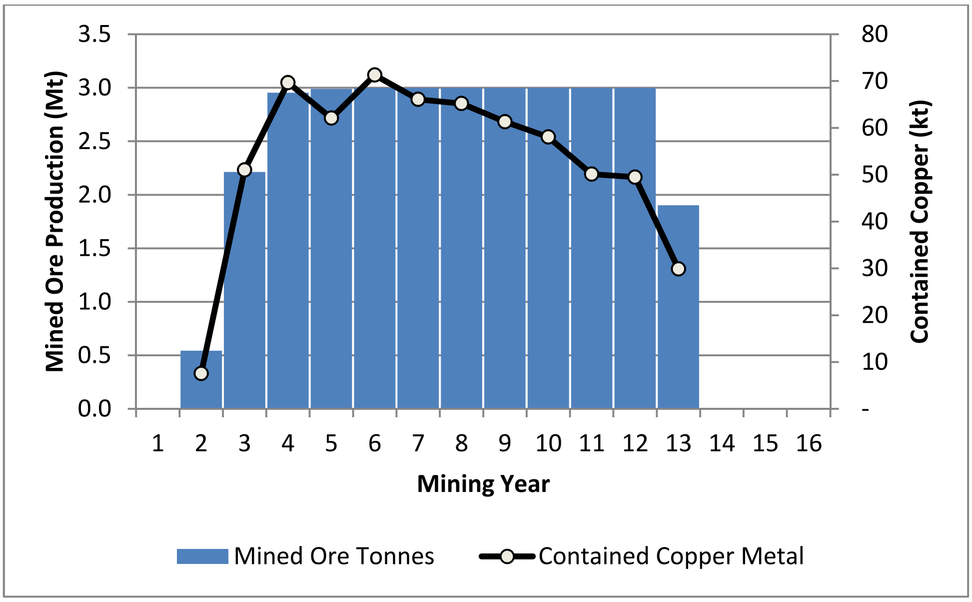


Figure 5: MINED ORE PRODUCTION AND CONTAINED METAL SCHEDULE

7. ORE RESERVE

AMC estimated Ore Reserves for Kitumba, which are reported in accordance with the 2012 Edition of the JORC Code.

Table 5 lists the Ore Reserve estimate for Kitumba.

Table 5. KITUMBA ORE RESERVE ESTIMATE AS AT APRIL 2014

ITEM	TONNES (Mt)	GRADE (% Cu)	METAL (kt Cu)
Proved Ore Reserve	11.9	2.44	291
Probable Ore Reserve	19.6	1.79	350
Total Ore Reserve	**31.5**	**2.04**	**641**

The mining schedule includes 139kt of Inferred Mineral Resources that is not included in the Ore Reserve estimate.

8. METALLURGY AND PROCESS FLOW SHEET DEVELOPMENT

The flowsheet for the Kitumba Copper Project was developed with the intention of optimising the Project economics by:

- Maintaining high copper recovery across the range of feed composition that will come from the orebody, and
- Minimising cost by removing the need for significant amounts of imported sulphuric acid.

The metallurgical testing program was designed specifically around the proposed flowsheet to confirm its performance and to provide key metallurgical design criteria. The data were subsequently used to validate the inputs to a series of METSIM mass and energy balance models. The model outputs were then used to confirm equipment sizes for subsequent capital cost estimation, and reagent consumptions for input into a separate operating cost estimate.

Two separate metallurgical test campaigns were conducted to assess the likely copper extractions achievable on a commercial scale from the proposed flowsheet throughout the life of mine. The first test campaign was carried out on a composite sample taken from 15 separate drill core samples, representative of years 1 to 5 of the mine production schedule and which consisted predominantly of supergene material (typically high oxide, low sulphide copper mineralogy). The second campaign generated a similar composite from 15 drill core samples representative of year 5 to 10 of the mine production schedule, which comprise a significantly higher proportion of hypogene material and thus a greater primary sulphide content.

For each campaign a series of bulk flotation tests were performed, primarily to generate concentrate and tailings products for subsequent batch pressure oxidation (POX) and atmospheric leach testing under a number of different particle size, leaching temperature, and residence time conditions. Assay of feeds, concentrates and tailings were carried out to provide quantitative results for grade and recovery.

Results of the flotation and leaching tests for the first composite sample demonstrated a lower mass pull to the flotation concentrate due to the absence of sulphide material in years 1 to 5. As described in Section 3, the flowsheet design has managed the lower initial amount of sulphide material by including the ability to import and process copper concentrates thereby generating sufficient acid and heat to leach the copper in the flotation tailings.

Qualitative microprobe investigations were conducted on the composites and on leach residues to identify mineral speciation and to provide an insight into possible means of improving leach recoveries. A number of settling rate and flocculant screening tests were also performed to assess the dewatering characteristics of the leach residue and thus facilitate thickener sizing for the counter-current decantation (CCD) circuit.

The overall results of the testwork programs support the proposed flowsheet by returning copper recoveries from the POX and atmospheric leaching circuits of ~98% and ~80% respectively, resulting in an overall >90% copper recovery.

9. PROCESS PLANT

As described, the process plant design is based on a copper leaching process comprised of crushing, grinding, flotation, pressure oxidation, atmospheric acid leaching and solvent extraction / electrowinning unit operations. The flowsheet utilises a commercially proven flowsheet and conventional technology as used at First Quantum's Kansanshi mine in Zambia and MMG's Sepon mine in southern Laos, designed to treat mixed oxide and sulphide ore types, and includes:

- A conventional primary crush / SABC comminution circuit grinding to a P_{80} of 150µm
- Flotation of the sulphide copper minerals
- Pressure oxidation of the flotation concentrate, solubilising the contained copper and generating a valuable acidic / ferric solution
- Leaching of soluble copper from the flotation tails using the acidic / ferric slurry generated in the autoclave
- Recovery of the copper rich pregnant solution by counter-current decantation
- Solvent extraction / electrowinning (SX/EW) of the copper from the pregnant solution to produce standard cathode copper.

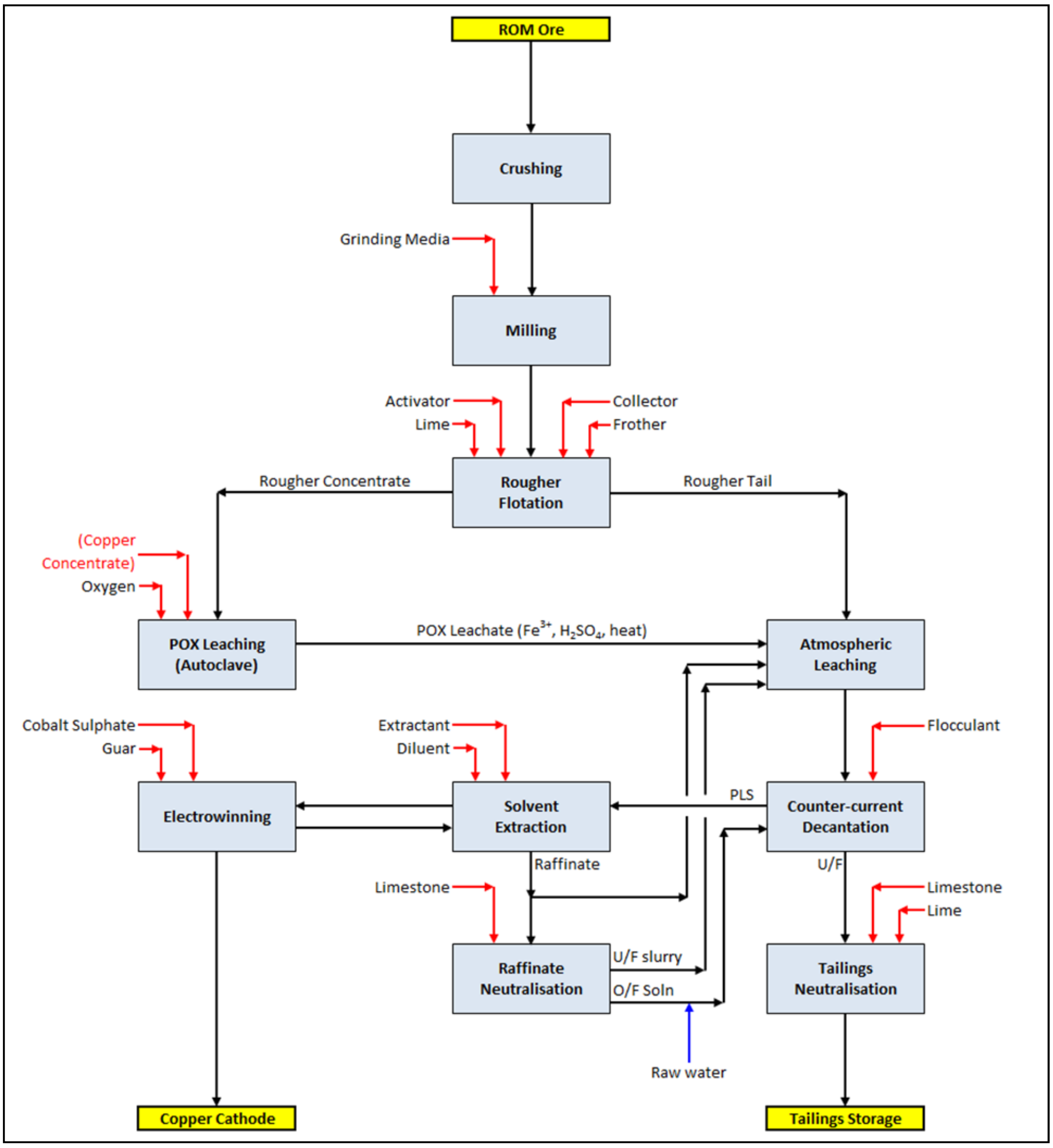


Figure 6: KITUMBA PFS BLOCK FLOW DIAGRAM

The overall design of the process plant reflects:

- Proven and reliable unit processes
- A compact and accessible process plant layout serviced by mobile equipment
- Use of gravity for transport of slurry and tailings streams where possible, to reduce pumping costs.

Underlying the engineering design philosophy is the requirement to minimise capital cost and the complexity of the flow sheet, whilst retaining as much operational flexibility as possible, without compromising safety.

It should be noted that, given the prefeasibility level of the POX and subsequent atmospheric leach testwork, there is opportunity to optimise the individual unit operations during the DFS following a more detailed testwork program including pilot plant testing.

10. WATER SUPPLY

Specialist hydrogeological consultants were commissioned to develop a water balance and suitable water management plan for the Project. The water modelling indicates that the site is water negative with make-up water required from offsite sources (e.g. bore fields). Maximum water requirement from supplementary sources is estimated to be 32 l/sec under average rainfall conditions. For the purposes of the OPFS it has been assumed this requirement can be supplied from bores sunk in known aquifers within the Company's tenements. A water storage dam and the tailings storage facility (TSF) will provide sufficient storage under all expected weather and production conditions.

11. MINE WASTE

The underground mine and process plant will produce waste rock and process tailings on a continuing basis. The former will be stored on a waste rock dump (WRD) and the tailings managed within a TSF.

12. SUPPORT INFRASTRUCTURE AND FACILITIES

Daily operations will be supported by a total services infrastructure shown in Figure 8, including offices, stores and warehousing, laboratory and mine change rooms. Oxygen for the pressure oxidation autoclave will be provided by an on-site oxygen plant supplied and operated under a Build Own Operate (BOO) contract.

Accommodation for the operations work force will be provided in a 600 room permanent village located adjacent to the process plant.

Access to the plant, mine and accommodation village will be controlled by security check points. The plant and mine access will be via a common access road and security gate, with separate access and control for vehicles and pedestrians.

The site will be fully fenced with an appropriate level of fencing to prevent access of wild animals.

13. SITE ACCESS

The site is currently accessed via 52 km of dirt road from Mumbwa. The Zambian government has recently announced its intention to upgrade the public portion of this road, and the OPFS assumes that this will be done at no cost to the Project and in time for construction traffic. This will result in a sealed road to within 6 km of the proposed Project site gate.

14. POWER SUPPLY

Blackthorn Resources is working with ZESCO, the Zambian national electricity provider, on a simple solution for the provision of power from the Zambian grid to the Project. The basis for the OPFS is a proposal prepared by ZESCO for a high voltage power supply to be sourced via a short spur line off the proposed Northwest 330 kV power line interconnecting the Mumbwa substation and Kalumbila substation. This proposed new power line is part of the power supply for the First Quantum Sentinel Project.

ZESCO have confirmed that this main line will be completed prior to the proposed start of construction of the Project.

DRILLING AT KITUMBA

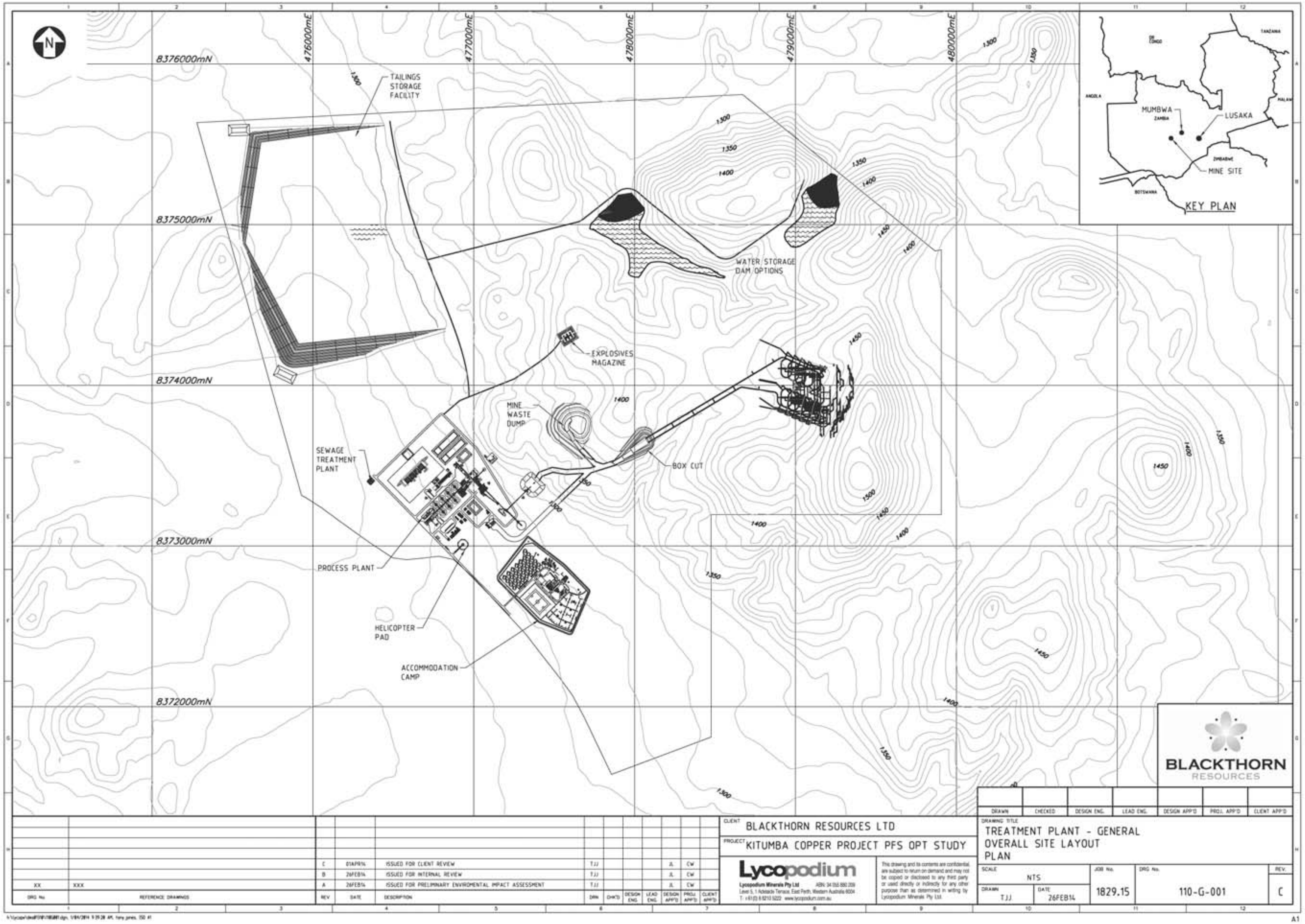


Figure 7: SITE LAYOUT PLAN

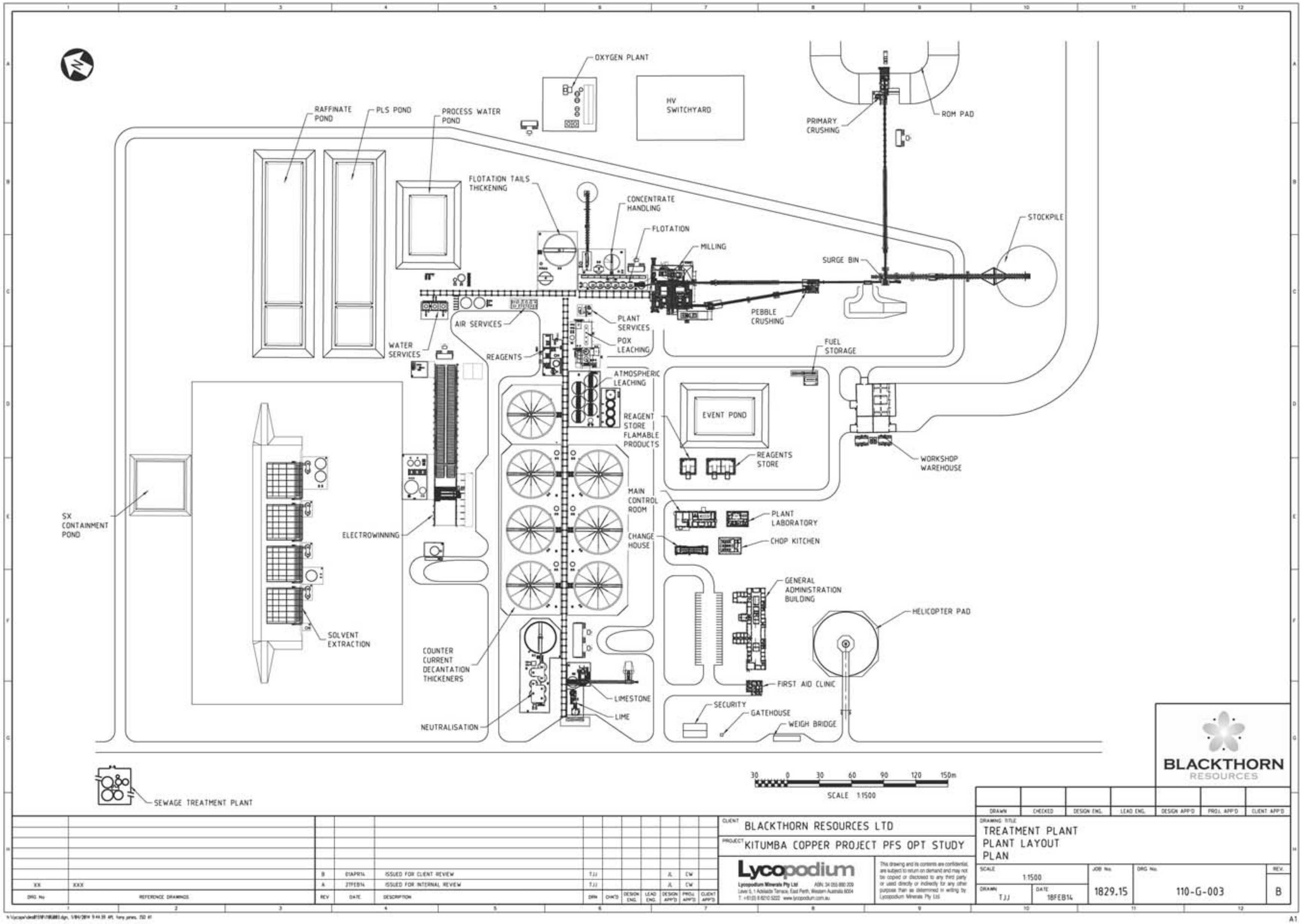


Figure 8: TREATMENT PLANT LAYOUT PLAN

15. PROJECT IMPLEMENTATION

The Project implementation strategy assumed for the OPFS is based on an EPCM approach. This will be a key consideration for the DFS.

16. ENVIRONMENTAL AND SOCIAL IMPACT

A specialist consultant, Africa Geo-Environmental Services Gauteng (PTY) LTD (AGES) has reviewed the Project from an environmental and social impact management perspective, and facilitated the environmental impact assessment processes required under Zambian law and in accordance with the best practice principles of sustainable development.

An Environmental Project Brief (EPB) was submitted to the Environmental Council of Zambia (ECZ), which is now known as the Zambia Environmental Management Agency (ZEMA), on 22 April 2010. The EPB was approved in a letter dated 28 May 2010.

Subsequently the Terms of Reference (ToR) for an Environmental Impact Assessment (EIA) was approved by ZEMA. An Environmental Impact Study (EIS) has since been completed in accordance with the approved ToR and submitted to ZEMA for approval.

An environmental baseline investigation of the Project site and its surroundings was completed during 2012. The purpose of the baseline assessment was to obtain a better understanding of the broader Project context in order to facilitate and expedite subsequent processes associated with the Project, along with the identification of any potential adverse parameters so that these can be addressed early in the Project planning. The Company continues to collect data to expand on the baseline already developed.

As a result of these work programs, the OPFS has incorporated the existing socio-economic and biophysical environments of and around the proposed Project site. The OPFS work has identified significant employment and related economic opportunities for the local population.

17. OPERATIONS

The Project is based on a full operations team located at the Project site with a support office based in Lusaka. A workforce of approximately 600 persons is envisaged, including mine contractor personnel.

There will be an emphasis on employing Zambian nationals and residents at all levels of the Project, with the minority of positions being occupied by non-Zambians only if the necessary skills cannot be sourced locally. There will also be a focus on utilising local suppliers and locally manufactured products wherever possible.

18. SALES AND MARKETING

Blackthorn Resources commissioned Base Metals Marketing Services Ltd (BMMS) to conduct a market study to examine the future market for concentrates and copper cathode, and to assess transport, treatment and refining charges. The BMMS report has been used as the basis for pricing cathode sales as well as deriving indicative terms for the purchase of supplementary concentrate feed for the process plant.

A key finding of the BMMS report is that the balance between forecast mine output and smelter capacity *"suggests that the output from current mining operations and those under construction will exceed domestic smelter capacity by the middle of the current decade. (The smelting capacities include also the Kansanshi smelter which is under construction and basically integrated with Kansanshi mine expansion/Trident project)."*

The outcomes of the BMMS study have been considered in the financial modelling for the Project.

19. PROJECT CAPITAL AND OPERATING COSTS

Project capital and operating costs were compiled by Lycopodium based on a Project scope and preliminary engineering developed both in-house and using quantities and costs supplied by other discipline expert consultants and contractors.

The capital (Table 6) and operating (Table 7) cost estimates are quoted in US dollars current in Q1 CY2014 and are to a ±25% level of accuracy.

Table 6. PROJECT CAPITAL COSTS

CAPITAL ITEM	Construction Capital (US$'000)
Construction Indirect Costs	26,682
Treatment Plant Costs	266,065
Reagents & Plant Services	27,340
Infrastructure	67,319
Mining	107,798
EPCM	58,754
Owners Project Costs	26,195
Owners Operations Costs	16,683
Contingency	83,481
Total Capital Cost	680,317

Table 7. PROJECT OPERATING COSTS

COST AREA	US$/t ROM	US$/lb Cu
Mining Operating Cost	$25.53	$0.58
Processing Cost*	$38.20	$0.86
Administration Cost**	$5.98	$0.13
Cash Operating Cost	**$69.71**	**$1.57**
Government and other Royalties	$10.53	$0.24
Total operating cash cost including royalties	**$80.24**	**$1.81**
Sustaining capital costs	$3.67	$0.08
All in cash cost	**$83.91**	**$1.89**

*including SX/EW
**Includes transport and export costs of cathode to market

20. RISK ANALYSIS

A risk analysis was undertaken during the preliminary PFS to identify, analyse and formulate Project risk mitigation plans.

The Project Risk Register will be revised on a continuing basis throughout development of the Project. It is anticipated that new risks and other previously identified risks will emerge at each 'new' analysis. This is an iterative process and will enable the correct actions to be assigned to enable the risk to be managed.

21. FINANCIAL ANALYSIS

Lycopodium has prepared a cash flow model for the Project.

All results are based on a "real" constant dollar basis. (i.e., costs have not been inflated). Input data has been used from a variety of sources, including previous Lycopodium work for the Project, external mining contractors, Blackthorn Resources and other members of the OPFS team.

The financial model is based on the OPFS strategy of the underground mining operations being contractor-operated, with Blackthorn Resources providing supervision and all other technical and management aspects of the Project. Financial and logic calculations within the model have been tested and independently reviewed by Corality Financial Group through development of a separate financial model and the reconciliation of outputs between models, given the same assumptions. No material differences have been identified.

Mine operating costs were developed from first principles with key physical inputs from the production schedule. These costs were benchmarked against current mining contractor rates and found to be reasonable. Non-mining operating costs were determined principally by Lycopodium, with contributions from Blackthorn Resources and other OPFS team members.

In parallel, a capital expenditure schedule was developed to create a total cash outflow schedule for the Project. Project revenue was determined using the quantities of copper cathode produced in the OPFS and sold at the associated sales price estimate. Copper sales prices, marketing and transportation charges were provided by Blackthorn Resources from commissioned studies and industry expert provided data.

Capital costs have been categorised as initial (construction) and sustaining capital. All capital costs, operating costs and revenues developed in the OPFS, as well as Government royalty (6%) and BHPB NSR royalty (2%), were inputs to the cash flow model.

The model shows the cash outflows for construction commencing in Year -2. The model considers cash flows from this point in time. Any exploration, feasibility and preconstruction expenses up to date of construction commencing are treated as sunk costs and thus not included in the Project model. These sunk costs are however included in the tax loss opening balance where they meet deductibility criteria in Zambia and are offset with Project revenue over the life of the mine. In addition, it has also been assumed all capital expenditure over the life of the mine will be deductible against taxable income from the mine in accordance with current tax guidelines in Zambia.

As per a standard prefeasibility study, the level of accuracy is quoted as ±25% for both capital and operating cost estimates. More detailed technical studies will increase the accuracy and confidence in the Project costs. This includes obtaining additional budget quotations from equipment suppliers, undertaking further detailed engineering design, and completing a more comprehensive testwork program.

The key outputs of the financial evaluation for life of mine are summarised in Table 8.

Table 8. KEY STATISTICS OF THE FINANCIAL EVALUATION

METRIC	STATISTIC
ROM Tonnes (Mt)	31.6
Head Grade (% Cu)	2.03
Contained Copper (t)	641,786***
Recovered Cu Metal Kitumba (t)	589,697
Recovered Cu Metal (Imported Con) (t)	47,394
Total Cu Metal Produced (t)	637,092
Average Cu per Annum (t)	58,000
NPV @ 8% Discount Rate (US$M)	461
Post-tax real IRR (%)	21
Construction capital (US$ ‘000)	680,317
Total LOM capital incl. sustaining and mine rehab (US$ ‘000)	796,223
Production Mine Life (Yr)	11
Mine Life (Total Yrs)	14
C1 Cash Cost (US$/lb Cu)*	1.57
All in Cash Cost (US$/lb Cu)**	1.89

*C1 Cash cost includes cash cost of mining, processing, treatment, refining and transport of Cu metal to market.

**All in Cash Cost is the total cash costs, including C1 plus royalties and sustaining capital cost

*** Life Of Mine production

22. PROJECT CASH FLOW

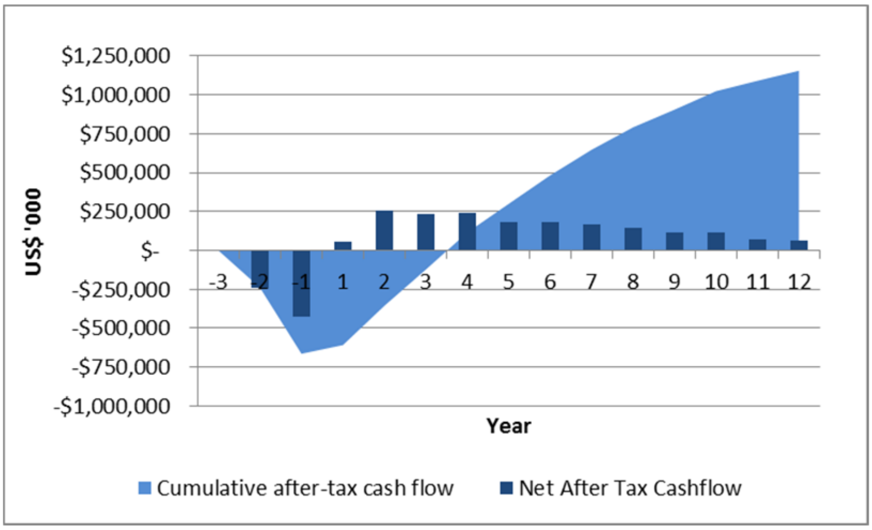


Figure 9: PROJECT CASH FLOWS (UNGEARED, POST TAX)

23. SENSITIVITIES

Blackthorn Resources has assessed the sensitivity of the Project NPV and IRR to the following parameters:

- Copper price
- Mining cost
- Processing cost
- Administration cost
- Capital cost, and
- Process recovery

This assessment demonstrates the Project is most sensitive to copper price.

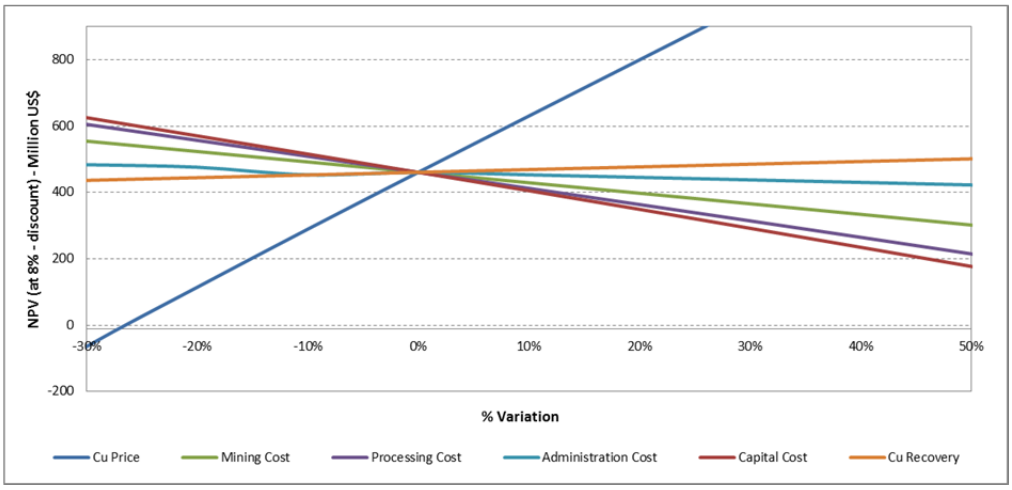


Figure 10: SENSITIVITY – PROJECT NPV AT A DISCOUNT RATE OF 8%

Table 9 shows the Project NPV at various discount rates and copper prices. The copper price required to produce a zero NPV_8 is US$2.58/lb. Consensus price data suggests that the probability of the Project moving into a negative NPV scenario is very low.

Table 9. PROJECT NPV AT ALTERNATIVE DISCOUNT RATES

DISCOUNT RATE	Post-tax NPV US$3.50 Cu		Post-tax NPV US$3.00 Cu	
	NPV (US$M)	IRR	NPV (US$M)	IRR
8% (Base Case)	461	21	215	15
10%	344		127	
Copper Price for NPV_8 zero	US$2.58			

24. COPPER PRICE

The Company has based its long term copper price assumption of US$3.50/lb on the Q1 2014 Wood Mackenzie Global Long Term Copper Outlook. Wood Mackenzie has highlighted slower global supply growth relative to demand from 2017, leading to a requirement for additional mine production and smelting capacity. With long term global demand expected to exceed base case production intentions, the result will lead to an increase in the long term copper price to around US$3.50/lb from late in the current decade. This price is expected to be sustained for at least a decade.

DATA SOURCES

STUDY AREA	CONSULTANT
Mineral Resource and Geology	MSA Group
Ore Reserve and Mining Plan	AMC Consultants Pty Ltd
Mining Cost Estimate	AMC Consultants Pty Ltd
Hydrogeology and Water Balance	AGES, RPS and Knight Piesold
Client Metallurgical Representative	Ken Baxter
Metallurgical Testwork	HRLtesting Brisbane
Process Plant Design	Lycopodium Minerals Perth
Plant Capital	Lycopodium Minerals Perth
Plant Operating Costs	Lycopodium Minerals Perth
Treatment and Refining	Lycopodium Minerals Perth
Infrastructure and Services	Lycopodium Minerals Perth
Environmental	AGES
Marketing	Base Metals Marketing Services Ltd (BMMS)
Tailings Storage Facility	Knight Piesold

COMPETENT PERSON STATEMENTS

ATTRIBUTION	The information in this report which relates to mining analysis and Ore Reserves for the Kitumba Project is based on information compiled by Mr Brad Watson, who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM). Mr Watson has twelve years' experience in resource evaluation, mine planning and operations and is a full-time employee of AMC Consultants Pty Ltd (AMC). Mr Watson by virtue of his education, experience and professional association is considered a Competent Person as defined by the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Watson has verified that relevant data disclosed herein reflects the mining outcomes of the Optimised PFS and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

ATTRIBUTION	The information in this report which relates to Mineral Resources at the Kitumba Project in Zambia is extracted from the report entitled 'Kitumba Mineral Resource Update' released to ASX on 16 December 2013 which is available on the ASX website at www.asx.com.au or the BTR website at www.blackthornresources.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

ATTRIBUTION	Mr Chris Waller B.App.Sc, MAusIMM(CP), Manager of Studies for Lycopodium Minerals Pty Ltd and Study Manager for the Optimised PFS has, on behalf of Lycopodium Minerals Pty Ltd, consented to the inclusion in the report of those matters prepared by Lycopodium relating to the process metallurgy, process plant and infrastructure design, capital cost estimate, plant and administration operating cost estimate and cash flow model outcomes.

This announcement includes certain "forward-looking statements". All statements other than statements of historical fact, included herein, including, without limitation, statements regarding future plans and objectives of the company, are forward-looking statements that involve various risks, assumptions, estimates and uncertainties. These statements reflect the current internal projections, expectations or beliefs of the company and are based on information currently available to the company. There can be no assurance that such statements will prove to be accurate, and actual results and future events could differ materially from those anticipated in such statements. All of the forward looking statements contained in this announcement are qualified by these cautionary statements and the risk factors described above.

An investment in the company is speculative due to the nature of the company's business. The ability of the company to carry out its growth initiatives as described in this announcement is dependent on the company obtaining additional capital. There is no assurance that the company will be able to successfully raise the capital required or to complete the growth initiatives described. Investors must rely upon the ability, expertise, judgment, discretion, integrity and good faith of the management of the company.

Appendix 1. JORC Code, 2012 Edition

Section 1. Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The Kitumba deposit was sampled using diamond drill holes. A total of 81 drill holes were drilled for a total of 45,587m. Holes were drilled at various inclinations from vertical through to 60 degrees, predominantly angled towards 090 at between 60 and 80 degrees • Diamond core only was used to sample the Kitumba deposit. Core was logged for lithology, regolith state, alteration, structure, density and magnetic susceptibility. Core was half split (HQ) or quarter split (PQ) and sampled following BTR protocols and QAQC procedures as per industry best practice • Sampled on nominal 1m intervals varied in order to respect geological boundaries in mineralised zone, 2m outside. • Sample is dried, crushed (~2mm), milled and 150g split taken for four acid digest followed by ICP-MS, ICP-OES or Fire Assay/AAS (Au) finish
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Standard tube diamond core only, HQ predominant and PQ for metallurgical sampling. Core is oriented using a spear (Phases 1-6) or Reflex ACT II (Phase 7)
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Core recoveries are logged, overall core recoveries are 96% • Core is reconstructed on angle iron for measurement against driller's blocks, orientation lines and recording of driller's breaks • Diamond core has high recoveries
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical*	• All core has been logged for geological (lithology, mineralisation, alteration) and geotechnical (alpha/beta angles, RQD, defect count) information, all data is stored in a database

Criteria	JORC Code explanation	Commentary
	studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Select holes have been logged using a down-hole acoustic and video televiewer for geotechnical information, all holes are logged and photographed • The total length of logged data for the Mumbwa project is 85,257m of which 45,587m has been used in the estimate
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All core is cut in half using purpose built core saws onsite, and half core (HQ and NQ size) collected for sampling, ensuring the same side of the core is consistently sampled. In the case PQ size core, quarter was cut and sampled. Field duplicates were submitted to monitor QC of sample preparation and laboratory assay precision • Samples were prepared at various laboratories during the history of the Project and crushed to 85% <2mm with a 1,200g subsample split (rotary and riffler) for pulverising to 85% <75µm. Regular sizing checks were undertaken and reported • Sample sizes are appropriate to the grain size of the material being sampled
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Samples were submitted to a four acid digest (sulphuric, nitric, perchloric and hydrofluoric) • QAQC procedures include; a chain of custody protocol, the systematic submittal of 20% QA/QC samples including field duplicates, field blanks and certified reference samples into the flow of samples submitted to the laboratory as well as re-assaying of the mineralised zones and submission of samples for umpire analysis by a second accredited laboratory
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Significant intersections are reported by MSA • A single twinned hole (S36-033 and S36-038) has been drilled and confirmed logging and geochemical results • Data entry and verification is undertaken by MSA following an established protocol, all data is stored in a digital database and regularly backed-up • No statistical adjustments to data have been applied

Criteria	JORC Code explanation	Commentary
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Hole collars have been surveyed by differential GPS, down hole surveys were collected every 6m (inclined holes) and 12m (vertical holes) using Reflex and Gyro instruments during different phases of the Project. Appropriate QC procedures were applied to verify down hole surveys and collar surveys • The grid system for Kitumba is UTM WGS84, zone 35 South • An airborne laser elevation survey was flown as part of the Falcon™ dataset acquired in 2006
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The nominal drill hole spacing varies between 20m and 40m in the high grade portion to between approximately 80m and 200m outside of this extending out to 200m x 200m on the margins • The grade and geological continuity within each domain is sufficient to report Mineral Resource and the classifications applied under the JORC Code (2012 Edition) • Samples have been composited to 2m
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Holes are predominantly drilled towards 090 at a 60-80 degrees dip to intersect sub vertical N-S oriented mineralisation. Holes have been drilled towards 180 and 270 confirming the sub-vertical nature of the deposit • No orientation based bias had been identified in the data to this point

Sample security	• *The measures taken to ensure sample security.*	• An unbroken sample chain of custody was implemented, as follows:
		  • Sample polyweave bags were sealed with cable ties
		  • Sample shipments examined on arrival at the laboratory and the sample dispatch form signed and returned with a confirmation of the security seals and the presence of all samples comprising each batch

Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Audits of the sample preparation laboratories at AH Knight in Kitwe and Intertek Genalysis in Chingola and an audit of the Intertek Genalysis laboratory in Johannesburg were conducted by the CP

Section 2. Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Kitumba is located entirely within the 100% BTR owned Mumbwa licence 8589-HQ-LPL • The exploration tenement is held in good standing, it is valid until 13 November 2014. The Company is in the process of preparing an application to convert the exploration licence to a mining licence
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Mumbwa project operated under joint venture with BHP Billiton from 2008-2011
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Kitumba deposit is recognised as having IOCG type characteristics; it is hosted in a hematite breccia complex within intrusives of the Hook Granitoid suite (Early Cambrian to Neoproterozoic). Mineralisation is supergene in nature (chalcocite, malachite, chalcosiderite, native copper) to 400+m, hypogene mineralisation consists primarily of chalcopyrite

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ◦ *easting and northing of the drill hole collar*
	  ◦ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ◦ *dip and azimuth of the hole*
	  ◦ *down hole length and interception depth*
	  ◦ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		• See Appendix 2

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be*	• Length-weighted average grades reported. No upper limit has been applied to copper grades in these exploration results • A cut-off grade of 0.25% Cu and a maximum internal dilution of 2m

Criteria	JORC Code explanation	Commentary
	stated. • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	(drilled width) are used as a guideline when delineating the drilled thickness intervals of mineralisation • All metal grades reported are single element
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• True-widths are not quoted, as the mineralised zone is associated with a sub-vertical north-south oriented zone of brecciation
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Plans and sections were included in the ASX Announcement 'Kitumba Mineral Resources Update' dated 16 December 2013. A copy of the ASX announcement is available on the Company's website at www.blackthornresources.com.au
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All results have been reported previously
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• There is no outstanding exploration data considered material that has not been previously reported or is not contained within this report
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Future drilling at Kitumba will focus on sample collection for metallurgy, sterilisation and geotechnical drilling to satisfy requirements for a "DFS". Exploration work will concentrate on satellite prospects surrounding Kitumba within the Mumbwa project area

Section 3. Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The database is managed by MSA • Data is loaded into “Datashed” and validated upon upload using database validation rules and visual inspection of data
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The competent person for the Mineral Resource Estimate has made two site visits the most recent of which was August 2013
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The confidence in the geological interpretation of the Kitumba deposit is considered good • Both mineralisation (leached, supergene, hypogene) and grade domaining (low, moderate, high) was used to constrain the data • The effect of removing the high grade domain and the use of “soft” and “semi-soft” boundaries were investigated and most appropriate method adopted • Intense brecciation, hydrothermal alteration and supergene enrichment has occurred independently of underlying geological controls • Faulting cuts off the deposit on the east
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The deposit extends approximately 500m along strike, 150-300m wide and begins from 180m below surface to over 500m at depth
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	• Grade estimation was completed using ordinary kriging using CAE Studio 3 software. Data was composited to two metres. Top cuts were applied to statistical outliers; >0.3 - <4% supergene domain - 10% Cu, >0.3 - <4% hypogene domain -7.5 % Cu, low grade supergene – 2.5 % Cu and low grade hypogene – 1.5% Cu. No constraints to number of samples per hole or octants used. No maximum number per borehole used due to the irregular drilling pattern crossing the mineralisation at many orientations. Search area was aligned to the variogram ellipse. • The December 2013 estimate includes data from additional drilling and interpretation to build on the April 2013 estimate which was calculated using first principles • No by-product recoveries were considered

Criteria	JORC Code explanation	Commentary
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Sulphur, Manganese and Uranium were estimated • Block models 40 mN, 20mE, 10 mRL • No SMU was considered, the current optimal mining method is sub-level caving • Bi-variate analysis was carried out to determine relationships between the attributes of interest. Relationships between correlated elements were preserved by aligning estimation parameters for related elements. • Semi-soft boundaries used that allowed selection of 6 m over each oxidation domain boundary. Semi soft boundary for 4% shell allowed selection of composites 4 m either side. • Block model was compared to drill hole data visually, statistically and by comparing average grades of the drillhole data and model in 20 m slices through the deposit vertically and in the X and Y planes. Deposit is undeveloped so no reconciliation data available
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages are estimated on a dry basis
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• There is a natural cut-off grade around 0.5% copper, the 1% cut-off was reported as it represents a mineable cut-off as shown in previous studies, 1.4% cut-off is reported for comparison purposes
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Underground mining methods are assumed for the Kitumba deposit. Sub-level open stoping and sub-level caving have been explored in previous studies, open pit mining was found to be unsuitable
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not*	• See section 4 "Metallurgical factors or assumptions"

Criteria	JORC Code explanation	Commentary
	always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• An Environmental Impact Statement was completed as part of the Prefeasibility Study and no adverse effects from possible mining operations were found
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• A total of 25,815 bulk density measurements were carried out on representative pieces of core using the Archimedes method of dry weight versus weight in water. These measurements are representative for 29,372m of core • A total of 85 density measurements were taken on 107m of core analysed by instrumental technique using a gas displacement pycnometer • A density model was generated using ordinary kriging interpolation and used for the tonnage estimation • Below the leached zone the porosity is low, sensitivity to porosity is low

Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*
	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*
		• The estimate was classified on the following basis;
		  ◦ Measured – Kriging Efficiency >0.5, PSlope >80%. Where high KE and PSlope along boreholes that are not connected then overwritten by Indicated
		  ◦ Indicated – Estimated with minimum 20 composites in first search. Only where confidence in grade shell interpretation good. Limited to 60 m along strike from last line of boreholes.
		  ◦ Inferred – Rest of >0.30% grade shell
		• The Mineral Resource estimate appropriately reflects the Competent Persons view of the deposit

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Results of the Mineral Resource have been reviewed by AMC Consultants Pty Ltd who concluded that the estimate has been prepared using accepted industry practice and has been classified in accordance with the JORC (2012) Code.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The estimate is influenced by the interpretation of mineralisation and grade domains. In the area classified as a Measured Resource, the control points are mostly between 20m and 40m apart and the interpretation is considered robust. In the area classified as Indicated Resources the control points are further apart (mostly between 80m and 120m apart) and the confidence in the geological interpretation is lower and therefore significant changes to local estimates may occur • The close drill hole spacing in the area classified as a Measured Resource is sufficient so that any variation in the estimate of the Measured Resource area due to additional data will be unlikely to significantly affect total economic viability • Despite the lower confidence in the Indicated area, the deposit is sufficiently well understood so that any changes are not expected to significantly change the total quantity and quality of the Indicated Mineral Resource • The Inferred Mineral Resources that are derived from extrapolation outside of the drill hole grid or informed by sparse drilling are considered to be high risk estimates that may change significantly with additional data. It cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated Mineral Resource as a result of continued exploration

Section 4. Estimation and Reporting of Ore Reserves.

(Criteria listed in section 1, and where relevant in section 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of Ore Reserves.*	• The Kitumba Phase 7 Mineral Resource estimate, announced by Blackthorn 16 December 2013, is the basis for the Ore Reserve estimate • The Mineral Resource estimate reported is inclusive of the Ore Reserve estimate
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Two AMC Consultants Pty Ltd representatives (A mining engineer and a geotechnical engineer) visited site in November 2013, and inspected the location of surface infrastructure and the drill core storage facility
Study Status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plane that is technically achievable and economically viable, and that Modifying Factors have been considered.*	• Blackthorn Resources, Lycopodium Minerals Pty Ltd and AMC Consultants Pty Ltd have undertaken a PFS for Kitumba
Cut-off Parameters	• *The basis of the cut-off grade)s) or quality parameters applied.*	• The Kitumba Ore Reserve estimate is based on a design cut-off grade of 1% copper, and a shut-off grade of 0.7% copper. Cut-off grades and shut-off grades have been estimated based on anticipated mining and processing costs, metallurgical recoveries and revenue factors
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility of Feasibility Study to convert Mineral Resources to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The Choice, nature and appropriateness of the selected mining method(s) and other mining parameters associated design issues such as ore-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (e.g. pit slopes, slope sizes, etc), grade control and pre-production drilling).* • *The major assumptions made and Mineral Resource model used*	• The Kitumba PFS outlines the methods and assumptions used to estimate Ore Reserves. The Ore Reserve estimate is based on preliminary mine design, sub-level caving (SLC) mixing algorithms, scheduling and cost estimation • SLC has been selected as the mining method for Kitumba. Access to the orebody is by twin declines, developed from a shallow boxcut on the surface. The geometry of the orebody is massive and lends itself to SLC • Geotechnical assessment has been undertaken to confirm ground support and re-enforcement requirements, the cavability of material overlaying the orebody, stand-off distances for infrastructure and

Criteria	JORC Code explanation	Commentary
	for pit and stope optimisation (if appropriate) • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	pillar integrity between draw points. • Allowances have been made for grade control drilling in cost estimates • The Mineral Resource model used to estimate Ore Reserves was "fkcmod03-12-13S8m.dm" • Mining dilution is estimated using the SLC mixing algorithm and constitutes 27% of the Ore Reserve • Mining recovery is estimated using the SLC mixing algorithm and is 77% of targeted ore tonnes • SLC draw points are designed on 14m centre spacings. • Inferred Mineral Resources are utilised in the study. Inferred Mineral Resources comprise less than 0.5% of production forecast by the study • Infrastructure required for the mining method includes high voltage power reticulation, mobile equipment maintenance facilities, dewatering infrastructure, ventilation fans and explosives storage facilities
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of the process to the style of the mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical demining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample of pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the Ore Reserve estimation been based on the appropriate mineralogy to meet the specification?*	• The proposed flowsheet has been designed to accommodate the variable mineralogy within the ore body over the life of mine. Fundamentally the process comprises a comminution circuit followed by froth flotation to yield separate flotation concentrate and tails streams. The concentrate is fed to a pressure oxidation (POX) autoclave to simultaneously leach the copper, and to generate sulphuric acid and heat. The autoclave discharge slurry is combined with the flotation tails in an atmospheric acid leaching circuit to extract the copper in the oxide and secondary sulphide copper minerals. The final leach liquor is separated from the barren leach solids in a counter-current decantation circuit to yield a pregnant leach solution (PLS) which is then fed to a solvent extraction (SX) circuit. The loaded strip liquor (rich electrolyte) is subsequently pumped to an electrowinning (EW) circuit to generate copper cathode. A facility is provided to enable supplementary sources of sulphur (either as chalcopyrite concentrate and/or elemental sulphur) to be added to the POX leaching circuit, thereby providing flexibility during low primary sulphide arisings from the ROM ore • Each of the metallurgical unit operations proposed for the Kitumba flowsheet is widely used on a commercial scale and well understood

Criteria	JORC Code explanation	Commentary
		both from a metallurgical and operability perspective • The metallurgical testwork to date has been of a batch nature, focussing on achieving maximum copper recoveries from the leaching circuit using a range of different temperatures, residence times, and slurry densities. The tests have been performed on different composite samples deemed representative of different periods within the mine life. Copper recoveries of >98% and ~80% have been consistently achieved from the POX leaching and atmospheric acid leaching circuits respectively, resulting in greater than 90% overall copper recovery • No specific allowances have been made for deleterious elements. Tests have indicated very low levels of water soluble copper. Elemental analysis of each of the Kitumba drill core samples revealed consistently low life of mine concentrations of uranium (~21ppm) while pockets of high concentrations of manganese increased the life of mine concentrations to approximately 0.7% • To date no pilot scale testwork has been undertaken, although a full pilot programme is proposed for the subsequent definitive feasibility study (DFS). The samples for the pilot testwork campaign will result from an extended drilling programme and will be carefully selected as to be representative of the Life of Mine and specific periods within • The copper within the Kitumba deposit is associated with a number of different oxide and primary and secondary sulphide minerals. Estimates have been made of the mineralogical composition for each year of the mine production schedule as a basis for input into a METSIM mass and energy balance, in order to predict the metallurgical response and to determine the anticipated reagent and utility requirements. These estimates are based on mineralogical data taken from the previous PFS. It is acknowledged that a more detailed understanding of the Kitumba deposit mineralogy on a year by year basis is needed in order to more firmly base the input data to the mass and energy balances for each year of mine production. This will be confirmed in the subsequent DFS
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of*	• A specialist consultant has investigated the feasibility of the Project from an environmental and social impact management perspective, and facilitated the environmental impact assessment processes required under Zambian law and in accordance with the principles of

Criteria	JORC Code explanation	Commentary
	approvals for process residue storage and waste dumps should be reported.	sustainable development • An Environmental Project Brief (EPB) was submitted to the Environmental Council of Zambia (ECZ) which is now known as the Zambia Environmental Management Agency (ZEMA) on 22 April 2010. The EPB was approved in a letter dated 28 May 2010. • Subsequently the Terms of Reference (ToR) for an Environmental Impact Assessment (EIA) was approved by ZEMA • The Environmental Impact Study (EIS) in accordance with the approved ToR has been completed and submitted and the authorisation process for the proposed mining activities in terms of the relevant environmental legislation is currently in progress • The underground mine and process plant will produce waste rock and process tailings on a continuing basis. The former will be stored on a waste rock dump (WRD) and the tailings managed within a tailings storage facility (TSF)

Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• The OPFS has determined the following:
		  • Daily operations will be supported by a total services infrastructure, including offices, stores and warehousing, laboratory and mine change rooms. Oxygen for the pressure oxidation autoclave will be provided by an on-site oxygen plant supplied and operated under a BOO contract
		  • Accommodation for the operations work force will be provided in a 600 room permanent village located adjacent to the process plant. This will be supplemented by contractor accommodation during construction
		  • Access to the plant, mine and accommodation village will be controlled by security check points. The plant and mine access will be via a common access road and security gate, with separate access and control for vehicles and pedestrians
		  • The site will be fully fenced with an appropriate level of fencing to prevent access of wild animals
		  • The site is accessed via 52 km of dirt road from Mumbwa. The road is generally in poor condition and will require upgrading to allow for construction traffic and ultimately operations traffic
		  • The Zambian government has recently announced its intention to upgrade the public portion of this road, and the OPFS assumes that this will be done at no cost to the Project and in

Criteria	JORC Code explanation	Commentary

		time for construction traffic
		• Power Supply:
		  • Blackthorn Resources is negotiating with ZESCO, the Zambian national electricity provider, for the provision of power from the grid to the Project. The basis for the OPFS is that the high voltage supply for the Kitumba Project will be sourced via a spur line off the proposed Northwest 330 kV power line interconnecting the Mumbwa substation and Kalumbila substation. This proposed new power line is part of the power supply for the First Quantum Sentinel project
		  • ZESCO have indicated that this main line will be completed prior to the proposed start of construction of the Kitumba Project

Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Mining capital costs are estimated from first principles based on equipment, labour, and development requirements indicated by the mine schedule. In addition mining capital costs are also based on ventilation, dewatering, electrical and other engineering study work • Mining operating costs are estimated from first principles based on equipment, labour, development and stoping requirements indicated by the mine schedule • Process capital costs have been estimated from preliminary engineering and Lycopodiums database of costs from similar projects in the region • Process operating costs have been derived from reagent consumption data (calculated from a series of mass and energy balances), estimated power consumptions, labour costs, maintenance, and analytical requirements • No deleterious elements have been identified and thus no allowances made • A long term copper price of US$3.50/lb has been adopted for the Project as advised by Blackthorn Resources, based on the Wood Mackenzie long term copper price forecast • The exchange rates used for estimating costs are current at the time of preparing the estimates (Q1 CY 2014) • Transport charges for materials to site have been derived from database information for the region. Charges for shipping copper cathode to assumed customers in Shanghai have been provided by

Criteria	JORC Code explanation	Commentary
		a specialist transport company (Antrak Logistics) based on export through the port of Dar es Salaam (Tanzania) • A government royalty of 6% applies. A private royalty of 2% applies.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• Head grades are estimated from detailed mine planning • A long term copper price of US$3.50/lb has been adopted for the Project as advised by Blackthorn Resources, based on the Wood Mackenzie long term copper price forecast • Pending pilot testwork production of copper cathode material, it has been assumed that Kitumba copper will attract LME cathode payment terms
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• It has been assumed that the Zambian Government will continue to adopt policies and pricing mechanisms that discourage the export of copper concentrates making concentrates readily available on the local market for supplementing run of mine ore • While a marketing study was commissioned for the PFS no discussions have been held with potential concentrate providers at this stage
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The IRR and NPV for the Project is calculated in a cash flow model prepared for the purpose • The valuation date is Jan 2016 (notional commencement of plant construction) • The NPV of the Project is estimated using a real post-tax discount rate of 8%.pa • The NPV of the Project is US$461M • The Project exhibits a positive NPV while the copper price remains above US$2.58/lb • A sensitivity analysis was conducted on a number of value drivers; mining operating costs, processing operating costs, administration costs, capital costs and metallurgical recovery. Using an 8% discount rate, a 50% deterioration in any one value driver results in a DCF greater than US$150M
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• The company has operated its exploration activities according to its Environmental Management Plan (EMP) and “Local Stakeholder Engagement” policy. Community and local and federal government

Criteria	JORC Code explanation	Commentary
		support for the Project is considered high
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• No naturally occurring hazards have been identified • The Project is 100% Blackthorn Resources controlled, with Glencore Xstrata holding a right to 20% of the offtake. BHP Billiton have retained a 2% production royalty • The Project currently operates under a Large-scale Prospecting Licence (LPL). The company plans to submit an application for a Large-scale Mining Licence (LML) immediately upon receipt of final OPFS documentation
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.*	• Mining tasks have been classified into Ore Reserves categories based on Mineral Resource classification. Tasks that consist of a majority of Measured Mineral Resources are classified as Proved Ore Reserves. Tasks that consist of a majority of Indicated Mineral Resources are classified as Probable Ore Reserves
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Ore Reserve estimate has not been audited or reviewed

Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*
	• *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are*
		• Factors that affect the global relative accuracy and confidence of the Ore Reserve estimate include:
		  • The Ore Reserve estimate is based on OPFS study work, and mining has not commenced. Consequently, it is not possible to compare the Ore Reserve estimate to historical production data and reconciliations
		  • The Ore Reserve estimate is based on the result of SLC mixing algorithms (which are appropriate for a prefeasibility study). Further more detailed estimation methods for dilution, ore loss and production forecasts, appropriate for more detailed studies, might produce different results
		  • The Ore Reserve estimate is based on the latest Mineral Resource estimate completed in December 2013. The Mineral Resource estimate might be updated with the results of future definition drilling, should any occur, which might affect the Ore

Criteria	JORC Code explanation	Commentary
	remaining areas of uncertainty at the current study stage. • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Reserve estimate

Appendix 2. Drill Holes

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Depth
KITDD_001	479439	8373929	1489	-90	0	0	231.72
KITDD_001-1	479439	8373929	1489	-90	0	170.72	329.72
KITDD_002	479441	8373771	1505	-90	0	0	178.50
KITDD_002-1	479441	8373771	1505	-90	0	126.5	555.85
KITDD_003	479386	8373738	1493	-85	270	0	602.65
KITDD_004	479373	8373844	1480	-90	0	0	597.49
KITDD_005	479073	8373849	1412	-65	90	0	620.65
KITDD_006	479076	8374040	1403	-65	90	0	725.36
KITDD_007	479365	8374156	1450	-90	0	0	548.50
KITDD_008	479046	8373796	1409	-70	90	0	881.14
KITDD_009	479141	8373888	1421	-90	0	0	639.10
KITDD_010	479405	8373944	1479	-90	0	0	620.10
KITDD_011	478933	8373793	1395	-70	90	0	437.50
KITDD_011-2	478933	8373793	1395	-70	90	295.52	781.52
KITDD_012	479555	8374049	1445	-90	0	0	394.60
KITDD_013	479022	8373991	1400	-70	90	0	645.60
KITDD_014	479067	8374156	1419	-90	0	0	627.30
KITDD_015	478852	8373984	1391	-70	90	0	692.65
KITDD_016	479044	8373888	1407	-90	0	0	601.20
KITDD_017	479018	8373626	1422	-70	100	0	572.30
KITDD_018	479133	8374343	1411	-70	90	0	617.49
KITDD_019	479069	8374089	1409	-70	90	0	632.50
KITDD_020	478688	8374204	1384	-90	0	0	452.44
KITDD_021	479529	8374809	1439	-75	100	0	621.30
KITDD_022	479794	8373453	1405	-90	0	0	476.35
KITDD_023	478921	8374347	1396	-80	270	0	659.24
KITDD_024	479148	8373883	1422	-60	90	0	449.65
KITDD_025	479116	8373842	1419	-81	90	0	530.64
KITDD_026	479043	8373884	1407	-68	90	0	557.55
KITDD_027	479092	8373885	1413	-60	90	0	539.90
KITDD_028	479047	8373884	1408	-60	90	0	562.40
KITDD_029	479096	8373914	1413	-80	90	0	419.70
KITDD_030	479119	8373842	1420	-68	90	0	575.75
KITDD_031	479166	8373916	1422	-80	90	0	539.60
KITDD_032	479141	8373912	1419	-80	90	0	581.55
KITDD_033	479160	8373990	1415	-70	90	0	527.50
KITDD_033A	479160	8373990	1414	-70	90	0	33.90
KITDD_034	479032	8374195	1420	-72	88	0	728.50
KITDD_035	479230	8373944	1433	-65	90	0	650.95
KITDD_036	479266	8373950	1441	-65	90	0	449.55
KITDD_037	479075	8373907	1410	-70	70	0	563.40
KITDD_038	478495	8373265	1368	-60	90	0	401.60
KITDD_039	478987	8374646	1394	-65	270	0	476.93
KITDD_039-1	478987	8374646	1394	-90	270	468	543.65
KITDD_040	478034	8373234	1317	-60	90	0	423.20
KR1_D	478734	8373964	1388	-60	100	0	250.45
S1_001	479473	8372216	1348	-90	0	0	499.15
S1_002	479500	8371750	1340	-90	0	0	500.60
S36_001	479181	8374069	1415	-70	90	0	697.40
S36_003	479130	8374643	1411	-70	90	0	432.00

Hole_ID	Easting	Northing	RL	Inclination	Azimuth	Start_Depth	Max_Depth
S36_004	479558	8374448	1399	-70	90	0	400.00
S36_005	479347	8374660	1426	-70	90	0	484.05
S36_006	479163	8374846	1417	-70	90	0	685.60
S36_007	479361	8374458	1422	-70	90	0	662.00
S36_008	479353	8374046	1454	-70	90	0	196.50
S36_009	479177	8374447	1408	-70	90	0	792.00
S36_010	478952	8374058	1403	-70	90	0	866.65
S36_011	479343	8373652	1493	-70	90	0	512.00
S36_012	479354	8373252	1490	-70	90	0	458.50
S36_013	479548	8374055	1447	-90	0	0	450.00
S36_013A	479553	8374058	1454	-70	270	0	412.50
S36_014	479133	8373642	1443	-70	90	0	594.00
S36_015	479305	8374060	1445	-70	90	0	351.50
S36_016	479159	8374250	1430	-70	90	0	438.50
S36_017	479159	8373850	1429	-70	90	0	500.50
S36_018	479260	8373850	1451	-70	90	0	332.00
S36_020	479250	8374252	1441	-70	90	0	220.00
S36_021	479349	8374249	1452	-70	90	0	403.00
S36_022	479370	8374823	1456	-70	90	0	851.50
S36_023	479319	8373950	1452	-70	270	0	483.05
S36_024	479246	8373742	1454	-90	0	0	583.48
S36_025	479414	8373949	1479	-65	270	0	532.32
S36_026	479266	8374158	1439	-60	0	0	614.82
S36_026-1	479266	8374158	1439	-90	0	510.4	614.82
S36_026-2	479266	8374158	1439	-90	0	614.82	707.20
S36_027	479153	8373739	1433	-90	0	0	509.00
S36_028	479164	8374157	1428	-90	0	0	524.46
S36_028-1	479164	8373156	1427	-90	0	524.46	986.30
S36_029	479303	8373440	1496	-70	270	0	600.80
S36_030	478946	8373744	1398	-80	90	0	506.50
S36_031	479035	8374617	1398	-60	325	0	500.20
S36_032	479289	8373896	1451	-90	0	0	500.50
S36_032-2	479289	8373896	1451	-90	0	500.5	586.20
S36_033	479235	8373891	1440	-90	0	0	463.36
S36_034	479319	8373950	1452	-90	0	0	500.55
S36_035	479235	8373888	1439	-70	180	0	500.20
S36_036	479219	8374129	1428	-70	180	0	653.54
S36_038	479236	8373896	1439	-90	0	0	653.55
ZMMUM0001	478863	8374853	1391	-60	90	0	1004.55
ZMMUM0004	479638	8373335	1444	-60	0	0	932.65
ZMMUM0005	478992	8373169	1415	-60	0	0	732.00