

SHAREHOLDER UPDATE

18th NOVEMBER 2019

PROCESSING STUDY CONFIRMS MINE POTENTIAL AT MT FLORA

Dear Shareholder,

The study by Core Metallurgy Pty Ltd on the processing options and potential operating and capital costs for a mine at Mt Flora has been completed. The study has confirmed and independently verified our assumptions on the viability of a mining operation at Mt Flora and the other mines and prospects in the Bundarra region. The study gives us confidence to start planning a resource development programme for the copper and silver mineralisation at Mt Flora. This programme will include 3D IP to map the massive sulphide veins along strike and down dip from the underground mines and drill holes drilled to date and provide a constraint on the eventual size of the resource at Mt Flora. These data will then be used to plan a pattern resource drilling programme, with the aim of estimating a resource that can be used to complete a pre-feasibility study on a mine at Mt Flora.

We are very excited by the processing review as it gives us more confidence in our assessments of the potential of developing a mine not only at Mt Flora but also at the other historic underground mines and prospects found by the historic miners in the Bundarra Region. None of the other mines in the Bundarra project area were included in the review and we can only see the scale of the project growing as exploration progresses.



Chalcopyrite veins intersected at 114 m from the Douchang vein that comprise the ore at Mt Flora.

STUDY HIGHLIGHTS

- A desktop study has been completed by Core Metallurgy Pty Ltd, using the most recent drill data and flotation test work results to perform an order-of magnitude assessment of processing and operating options for a mine at Mt Flora.
- The goal of the study was to produce indicative flowsheets and the associated capital and operating costs to subsequently evaluate the feasibility and economic viability of producing a copper concentrate via conventional open pit mining and processing methods from deposits in the Bundarra project area.
- The cost estimates provided within the review are of a preliminary nature and should have an expected accuracy range of 25% to 45%.
- Scoping test work to assess metallurgical processing options was conducted by Core in May and June 2019 and these data were used to constrain the review.
- Key assumptions include all mining will be from an open-pit, throughput rate will be 500,000 tonnes per annum of sulphide ore, a concentrate grade for copper of 24% and silver of 398 g/t Ag, concentrate filter cake delivered to Mt Isa by road transport and a locally based drive in/out workforce is available at Mackay or in the surrounding area.
- The study considered twelve processing options with the Base Case capital cost estimate for the supply and construction of a concentrator with a nominal capacity of 500,000 dry tonnes per annum to produce a saleable rougher copper concentrate is estimated at approximately A\$56.3 million.
- Order of magnitude operating costs for a greenfield EPCM and second-hand process plant, at A\$31-34 per tonne, were significantly lower compared to Builder Owner Operator (A\$47-51 per tonne) and Contract Crushing / Direct Shipped Ore (A\$65-89 per tonne) options.
- Due to the conceptual nature of this desktop study (including the use of indicative budget vendor quotations and factoring from reference estimates in Core databases) and the early stage of development of the Mt. Flora Project, the accuracy of the estimates generated is low.
- It is recommended that the next phase of work includes resource drilling that is followed by a pre-feasibility study (including test work, process engineering, estimating, and risk management activities) to refine the accuracy of the capital and operating cost estimates and enable a better assessment of the technoeconomic viability of the project.
- Duke is in discussion with Investors and are planning a pre-IPO capital raise in December 2019. All shareholders will have an opportunity to further invest in the fund raising. This will be followed by a second fund raise via an IPO and listing on the ASX in mid-2020.

PROCESSING REVIEW STUDY

A desktop study has been completed by Core Metallurgy Pty Ltd, using recent drill data and flotation test work results to perform an order-of magnitude assessment of a number of process flowsheets and operating models, including contracting. The goal of the study was to produce indicative flowsheets and the associated capital and operating costs to allow the evaluation of the feasibility and economic viability of producing a copper concentrate via conventional open pit mining and processing methods at Mt Flora and from other historic mines and prospects in the Bundarra project area.

Scoping test work to assess metallurgical processing options was completed by Core in May and June 2019 and these data were used to constrain the review. The scoping test work considered both leaching and flotation as means of copper recovery for various mineralogical domain samples but did not seek to fully optimise processing conditions and only assess the amenability of the samples to these processes.

The study is for the site processing facilities only and is based on the following key assumptions:

- All mining will be from an open-pit/quarry style mine and trucked to an appropriate Run of mine (ROM) pad.
- Throughput rate will be 500,000 dry tonnes per annum and comprises processing of primary sulphide ore only.
- A concentrate grade for copper of 24% and silver of 398 g/t Ag.
- Gold was not considered as the gold grade of the concentrates from the recent metallurgical test work was too low.
- Continuous operation with 365 operating days per annum (100% availability) and about 91.5% plant utilisation (total run time of 8,000 hours).
- Copper concentrate filter cake delivered to Mt Isa by road transport/ore delivered to Ernest Henry concentrator.
- QLD grid power has been assumed to be available at site and HV connection is provided into process substation by others.
- Water is supplied to the relevant process plant water tanks for distribution (includes raw, gland, potable and fire water services).
- A locally based drive in/out workforce is available at Mackay or in the surrounding area.

Conceptual level process engineering deliverables have been produced by Core to support the compilation of the capital and operating cost estimates and further evaluation of business cases under consideration by Duke. Ore sorting was considered as an option that could be installed in the crushing circuit. It was assumed that the ore sorter would process the screen oversize at the discharge of the primary crusher. Conceptually, up to 30% of the mass would be rejected and sent to a reject stockpile. The sorted ore would report to the secondary and tertiary crushing circuit.

The study considered twelve processing options with the Base Case capital cost estimate for the supply and construction of a concentrator with a nominal capacity of 500,000 dry tonnes per annum to produce a saleable rougher copper concentrate is estimated at approximately A\$56 million. This capital cost value is based on recent reference estimates in Core databases and budget vendor quotations adapted to reflect the recommended indicative flowsheet. The reference estimates are based on an EPCM-style contract arrangement (excludes ore sorting) and are inclusive of preliminary allowances for:

- EPCM labour, expenses, and fees.
- Temporary works and services.

- Commissioning expenses.
- Owner's costs.
- Laboratory.
- First fills.
- Commissioning spares.

Contingency Order of magnitude capital costs for a greenfield EPCM process plant (A\$53-36 million) were higher compared to the second-hand (A\$37-38 million) and Builder Owner Operator (A\$43-45 million) options. Contract crushing/ Direct Shipped Ore capital costs were significantly lower (A\$0.6-3.0 million). However, these options only produce crushed ore with limited revenue potential as opposed to producing a copper concentrate of much higher value.

Type	Ore Sorting	Flotation	\$A
EPCM	No	Yes	56,267,306
EPCM	Yes	Yes	53,305,858
Second-hand	No	Yes	38,483,527
Second-hand	Yes	Yes	37,122,709
Builder Owner Operator	No	Yes	45,000,000
Builder Owner Operator	Yes	Yes	43,052,700
Contract Crushing-DSO	No	No	598,064
Contract Crushing-DSO	Yes	No	2,700,764
Contract Crushing-EPCM	No	Yes	52,388,700
Contract Crushing-EPCM	Yes	Yes	50,374,481
Contract Crushing-Second Hand	No	Yes	31,013,277
Contract Crushing-Second Hand	Yes	Yes	30,922,846

Table 1. Capital Cost Estimate Summary

Order of magnitude operating costs for a greenfield EPCM and second-hand process plant (A\$31-34 per tonne) were significantly lower compared to the Builder Owner Operator (A\$47-51 per tonne), Contract Crushing / Direct Shipped Ore (A\$65-89 per tonne) options and hybrid contract crushing and EPCM/second-hand flotation plant (A\$37-40 per tonne) options.

Type	Ore Sorting	Flotation	Costs (A\$/year)	Costs (A\$/tonne)
EPCM	No	Yes	16,836,683	33.67
EPCM	Yes	Yes	15,503,015	31.01
Second-hand	No	Yes	16,836,683	33.67
Second-hand	Yes	Yes	15,503,015	31.01
Builder Owner Operator	No	Yes	25,653,400	51.31
Builder Owner Operator	Yes	Yes	23,438,060	46.88
Contract Crushing-DSO	No	No	44,375,000	88.75
Contract Crushing-DSO	Yes	No	32,725,000	65.45
Contract Crushing-EPCM	No	Yes	20,213,024	40.43
Contract Crushing-EPCM	Yes	Yes	18,677,713	37.36
Contract Crushing-Second Hand	No	Yes	20,213,024	40.43
Contract Crushing-Second Hand	Yes	Yes	18,677,713	37.36

Table 2. Operating Cost Estimate Summary.

An indicative cashflow model was prepared for each option. Revenue was calculated taking into consideration concentrate analysis, expected moisture, treatment costs and refining charges in Australia. Over 10 years, the second-hand plant, without and with ore sorting, are the processing options with the highest projected cumulative cashflow. These options are only marginally better than EPCM greenfield plant options, which does not have the risk of mechanical issues that second-hand machinery has.

Molybdenum and Cobalt in the concentrate are not payable metals under typical smelter contracts but silver was included in the analysis. Levels of Mo and Mo in the MF3 sample test were low and recovering these would not be technically nor financially attractive. Methods for extracting these metals from the concentrate (such as a hydrometallurgical pre-treatment step) could be evaluated at a later stage if the results from the current and future drilling programs are positive. Elements such as arsenic, bismuth, cadmium, fluorine, lead, mercury, nickel, cobalt, selenium and zinc are impurities in copper concentrates and subject to a penalty payable to a smelter. These are low in the recent test work concentrates.

Type	Sorting	Flotation	Cumulative Cashflow (A\$)
EPCM	No	Yes	382,478,823
EPCM	Yes	Yes	389,202,183
Second-hand	No	Yes	399,386,691
Second-hand	Yes	Yes	419,968,145
Builder Owner Operator	No	Yes	304,966,160
Builder Owner Operator	Yes	Yes	324,923,641
Contract Crushing-DSO	No	No	-288,148,926
Contract Crushing-DSO	Yes	No	-166,987,850
Contract Crushing-EPCM	No	Yes	354,431,947
Contract Crushing-EPCM	Yes	Yes	367,135,554
Contract Crushing-Second Hand	No	Yes	381,151,225
Contract Crushing-Second Hand	Yes	Yes	391,450,098

Table 3. Cumulative cash flow assuming a 10 year mine operation with copper concentrate grade of 24% and a silver concentrate grade of 398 g/t Ag.

Due to the conceptual nature of this desktop study, including the use of indicative budget vendor quotations and factoring from reference estimates in Core databases, and the early stage of development of the Mt. Flora Project, the accuracy of the estimates generated is low. The cost estimates provided within this document are of a preliminary nature and should have an expected accuracy range of 25% to 45%.

Additional test work is required at the next stage of project development to better define design criteria, which in turn will allow to determine the best flowsheet options to process the ore from Mt Flora and better refine the accuracy of cost estimates. This may include regrinding and cleaning to improve concentrate quality and reduce freight and treatment charge expenses. Further test work, including running pilot plant tests, should be undertaken to firm up design parameters based on assumptions, databases and preliminary test work results during later stages of project development.

The following recommendations for the next stage of project development that would form the basis of a pre-feasibility study include:

- Conduct variability test work on drill core composites that are representative of Mt. Flora geometallurgy and mine plan. This test work should include investigating flowsheet optimisation options, including optimal reagent consumptions, rougher concentrate regrind and the production

of a cleaner concentrate. This would define key process design criteria items to be used for process engineering design and capital and operating cost estimates.

- Conduct pilot test work at a larger scale before a PFS to further define key design criteria items that affect capital and operating costs and mitigate some of the risks that have been identified.
- Conduct filtration tests to establish residual moisture content in the concentrate and tailings streams.
- Develop preliminary process engineering deliverables (process design criteria, mass balance, process flow diagrams, Work Breakdown Structure (WBS), equipment sizing, equipment lists, etc.) based on test work results.
- Source budget quotations from vendors for major process equipment and packages.
- Prepare a direct capital cost estimate by WBS area using major process equipment costs and installation factors for other disciplines (e.g. civil, structural, electrical, instrumentation, piping, etc.).
- Identify preliminary site for tailings disposal (de-commissioned coal open-pit mine or for a conventional storage facility) and refine estimate based on proposed location and distance from plant site.
- Prepare an indirect capital cost estimate by defining owner's costs, EPCM, temporary works and services, commissioning, first fills, laboratory and commissioning spares costs.
- Prepare an operating cost estimate by defining calculating reagent, consumables and utilities (power, water, etc.) use from the mass balance, roster and labour requirements for the main plant and support areas, maintenance costs, insurance costs, laboratory consumables.
- Conduct a technical and project risk assessment to identify key risks and mitigation measures. A quantitative risk assessment could then be used to establish the required contingency for the capital cost estimate.
- Investigating the cost of second-hand plant and BOO options in greater focus and at a higher level of accuracy at a later stage of the project development and compare these costs against a greenfield plant.

CORPORATE

Duke is in discussion with several Investors and are planning a pre-IPO capital raise in December 2019. All shareholders will have an opportunity to invest further in the fund raising. Funds raised will used for listing costs and development of the assets held by the Company. This will be followed by a second fund raising via an IPO and listing on the ASX in mid-2020 with the aim of securing an additional 300 shareholders, which is an ASX requirement for spread.

Please contact us if you want to discuss more.



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