MCINTOSH PFS DELIVERS STRONG ECONOMIC AND TECHNICAL RESULTS

- Results from the McIntosh Pre-Feasibility Study (PFS) has exceeded expectations, demonstrating that the Project is economically attractive and viable with;
  - **A pre-tax $NPV_{8\%}$ of A$340M and a post-tax $NPV_{8\%}$ of A$235M.**
  - **IRR pre-tax of 29.6% and post-tax 25.3%; and**
  - **32.5-year mine life with the potential for substantial increases with further metallurgical test work and exploration.**
- PFS outcomes are underpinned by an Ore Reserve of 11.1 million tonnes grading 3.88% TGC, containing 432,101 tonnes graphite, all classified as Probable.
- Targeting annual processing of 380,000 tonnes of raw material to produce approximately 13,500 tonnes of flake and micronised graphite concentrate, with a purity of 95% total graphitic carbon (TGC).
  - Potential to increase annual concentrate production as project and customer relations mature.
- **Updated Mineral Resource Estimate (MRE) increased to 32.6Mt grading 4.25% TGC**, a 8% upgrade, with cutoff grade for TGC reduced of 2%. Cutoff grade based on metallurgical variability test work results performed as part of PFS.
- Product suite for fine flake size upstream and downstream qualifications identified, with initial target markets of lubricants, friction components, agriculture, and coatings.
- Expansion of the McIntosh graphite product suite to include spherical purified graphite (SPG) anode qualifications exist, with additional test work to be performed.
- **The McIntosh Graphite Project is the 4th Largest graphite resource in Australia, with a JORC compliant MRE of +30Mt.**
  - One of Australia's most advanced graphite projects, with over A$15 million spent on drilling and metallurgical test work to date.

Green Critical Minerals Ltd ("GCM" or "the Company") which holds an 80% interest in the McIntosh Graphite Project ('the Project'), located in Western Australia, is pleased to announce the positive outcomes of its Pre-Feasibility Study (PFS).

Green Critical Minerals' Managing Director, Clinton Booth, commented: *"We are extremely pleased with the strong results delivered from the Pre-Feasibility Study (PFS) at McIntosh, which demonstrates excellent economic and technical results. This represents a significant milestone in advancing McIntosh, with identified markets for its upstream product and the potential for integration into downstream opportunities, including our VHD Technology.*

"Graphite is recognised globally as a critical mineral, and recent U.S. policy announcements—particularly actions to reduce dependence on Chinese graphite imports—have sharpened the focus on secure, transparent supply chains. With McIntosh, GCM is advancing a project that is not only technically robust, but also strategically aligned with these shifting global dynamics.

"This work supports GCM's dual strategy: to become a vertically integrated supplier of traditional and advanced graphite products, and to deliver into global supply chains seeking ESG-compliant and geopolitically reliable sources of graphite. We look forward to progressing development pathways and engaging with offtake and investment partners to bring McIntosh into production.

"With our VHD Technology advancing at pace, and with these positive PFS results from McIntosh, GCM is well positioned for growth."

PFS HIGHLIGHTS

GCM intends to build a commercial demonstration facility producing approximately 13,500tpa of graphite concentrate comprising 6,075tpa of graphite concentrate and 7,425tpa of micronised graphite concentrate at a grade of 95% w/w Total Graphitic Carbon (TGC).

The PFS was originally conceived to achieve the following objectives:

- Entry into the existing natural flake graphite market for GCM graphite concentrate
- Establish customer certification of concentrate product
- Test the amenability of the concentrate for GCM's new and exciting VHD graphite technology – with the view to creating a vertically integrated process
- Produce sufficient volume of concentrate for downstream battery anode material test work
- Establish that the process design works at production levels and that production is viable on commercially available equipment.

GCM is pleased to advise that the outcomes of the PFS have not only achieved the outcomes stated above, but exceeded them in terms of the financial metrics, indicating that the Project is economically attractive and viable. The positive outcomes for production and financial physicals are shown below in Table 1 and 2.

There also exists significant potential to increase concentrate production in future years with little or no change to the current mining schedule. This represents a real upside to the operation and will be further optimised in future studies.

Table 1. Production Physicals for the McIntosh Graphite Project PFS

PRODUCTION PHYICALS	PFS Life of Mine	UNIT
Nameplate process throughput	380	Ktpa
Head Grade	3.65%	TGC
Life of Mine	32.50	Years
Total mineral resources	33.6	M Tonnes
Total ore reserves	11.1	M Tonnes
Nameplate graphite produced - micronised	7.4	Ktpa
Nameplate graphite produced - concentrate	6.1	Ktpa

Table 2. Financial Physicals for the McIntosh Graphite Project PFS

PROJECT FINANCIALS	PFS life of Mine	Unit
Gross revenue	3,196	A$M
Downstream operating expenses	(34)	A$M
Site operating expenses	(1,021)	A$M
Royalty	(160)	A$M
Operating margin (EBITDA)	1,981	A$M
Initial capital cost	(54)	A$M
Capitalised pre-production operating costs	(1)	A$M
Sustaining and closure	(57)	A$M
Total capital and sustaining capital	(112)	A$M
Tax payable	(560)	A$M
Project Cashflow - pre-Tax	1,868	A$M
Project Cashflow - post-Tax	1,307	A$M
Average sales price - micronised	1,711	A$/t
Average sales price - concentrate	4,705	A$/t
Total Average sales price	3,058	A$/t
C1 cost	2,381	A$/t
All-in-Sustaining-Cost	2,875	A$/t
Project NPV (post tax)	234	A$M
Project IRR (post tax)	25.3	%
Project payback period from production start	5.7	Years

For further information please contact:

Clinton Booth
Managing Director
enquiry@gcminerals.com.au
(08) 9388 0051

Stephanie Richardson / Cameron Gilenko
Sodali & Co
stephanie.richardson@sodali.com / cameron.gilenko@sodali.com
(08) 6160 4903

Authorisation

The provision of this announcement to the ASX has been authorised by the Board of directors of Green Critical Minerals Limited.

Competent Person Statement

Exploration Results and Mineral Resource Estimates

The Mineral Resource Estimates set out in this announcement are based on, and fairly represent, information and supporting documentation reviewed by Mr. David Eastman, a competent person. Mr. Eastman is employed full time by the company and is a Member of the Australian Institute of Geoscientists. Mr. Eastman has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to quality as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves: Mr. Eastman has consented to the inclusion of statements regarding the Mineral Resource Estimates set out in this announcement in the form and context that they appear. Further details about the Mineral Resource of the McIntosh Graphite Project deposits are available on the ASX announcements platform (www2.asx.com.au, Code: HXG, Date:5 April 2018, Title : Revised McIntosh Mineral Resource ~ Amended)

Ore Reserves

The information in this announcement that relates to Ore Reserves is based on information compiled by Mr Jim Moore, who is the Principal Engineer for Mine Planning Solutions. Mr Moore is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code)". Mr Moore consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Metallurgical test work outcomes

The information in this report that relates to the metallurgical activities are based on information compiled by Oliver Peters, who is a Member of the Professional Engineers of Ontario and the Principal Metallurgist and President of Metpro Management Inc. Oliver Peters has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Oliver Peters consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward Looking Statements

This announcement contains general information about GCM's activities current as at the date of the announcement. The information is provided in summary form and does not purport to be complete.

This release contains estimates and information concerning our industry and our business, including estimated market size and projected growth rates of the markets for our products. Unless otherwise expressly stated, we obtained this industry, business, market, and other information from reports, research surveys, studies and similar data prepared by third parties, industry, and general publications, government data and similar sources. This announcement also includes certain information and data that is derived from internal research. While we believe that our internal research is reliable, such research has not been verified by any third party. Estimates and information concerning our industry and our business involve a number of assumptions and limitations. Although we are responsible for all of the disclosure contained in this announcement and we believe the third-party market position, market opportunity and market size data included in this announcement are reliable, we have not independently verified the accuracy or completeness of this third-party data. Information that is based on projections, assumptions and estimates of our future performance and the future performance of the industry in which we operate is necessarily subject to a high degree of uncertainty and risk due to a variety of factors, which could cause results to differ materially from those expressed in these publications and reports.

EXECUTIVE SUMMARY

The objective of the McIntosh Graphite Project is to develop a facility to treat ore at a rate of ~380,000 Kt/a from the Emperor and Wahoo ore resources through a comminution and flotation beneficiation recovery process to produce up to 13,500 t/a of Graphite concentrate grading at >95% Total Graphitic Carbon (TGC).

The key outcomes of the study are:

- Overall project life of 32.5 years from commencement of mining and ore processing.
- Mine will be a conventional shallow open cut truck and shovel operation using contract mining.
- Tailings will be deposited in a conventional tailings storage facility (TSF), with waste material used to construct the TFS as mining progresses.
- Initial capital cost for the project is A$55.2 M, inclusive of pre-production costs. Key components of the initial capital are:
    - A$26.4 M direct cost for the process plant
    - A$6.8 M for TSF construction and mining
    - A$9.8 M for onsite infrastructure and common services
    - A$1.0 M for off-site infrastructure
    - A$10.2 M for indirect and Owners' costs
    - This includes 15.5% for project contingency. Capitalised pre-production costs include $0.7 M for pre-production mining and A$0.3 M for processing and administration (operational readiness and manning build-up).
- Using an average graphite price over life of mine of A$4,787/t and a discount rate of 8%, the financial analysis for the project indicated an after-tax project net present value (NPV) of A$234 M and with an internal rate of return (IRR) of 25.25%.
- C1 operating cost is A$2,381 /t graphite concentrate and the All In Sustaining Cost (AISC) is A$2,875 /t graphite concentrate.

PROJECT HISTORY

The McIntosh Graphite Project is being developed by GCM via its earn-in rights from the Binding Terms Sheet (BTS) between GCM and Hexagon Energy Materials Limited (now NH3 Clean Energy, NH3CE). Under the BTS, GCM has achieved its earn in right of 80% interest in the Graphite Mineral Rights only across NH3CE's McIntosh Project tenements[1]. The exploration tenements will remain wholly held/managed by NH3CE. The BTS allows for the parties to enter into an unincorporated Earn-In and Joint Venture Agreement (EIJVA), which includes terms for the party with the majority rights to be the EIJVA Manager and for the mining permit to be held by the EIJVA.

[1] See ASX Announcement dated 24 November 2024.

NH3CE holds 17 tenements covering 542 km^2 of ground in the East Kimberley of Western Australia known as the McIntosh Project. Between 2015 and 2019 NH3CE (initially as Lamboo Resources Limited which subsequently became NH3CE) focused solely on Graphite project development. Substantial drilling programs, metallurgical test work programs, market analysis and project commercial analysis were completed over this period, which has informed this stage of the project. Whilst GCM focuses on developing the McIntosh graphite resource, NH3CE will remain as the tenement owner and focus on exploring for Ni-Cu-PGEs at McIntosh[2].

A scoping-level study was complete by Wave International in 2024, assessing the economic viability of the Project, and determining a nominal production rate to be taken into the PFS. The scoping phase determined the Project to be financially feasible, determining that an operating point of 10,000 tpa or above was optimal after assessing an operating range of 5,000 to 10,000 tpa. In addition, it was determined that it would be financially optimal for a nominal 20% of sales to be a micronized product.

PROJECT DESCRIPTION

GCM is looking to develop an integrated mine and graphite concentrator at their McIntosh Graphite Project site, which contains a number of graphite mineral deposits and exploration targets, including the Emperor, Wahoo, Longtom, Barracuda, Marlin, Threadfin and Mahi-Mahi deposits. A map of the McIntosh tenements and mentioned graphite deposits is provided in Figure 1.

GCM propose to develop a graphite concentrator plant at the McIntosh site near the Ord River in Western Australia to produce a nominal 6,075 tpa of 95% TGC graphite concentrate and 7,425 tpa of micronized product. The Project has potential to expand the operation to an increased graphite concentrate production rate and to produce a spheronised graphite product.

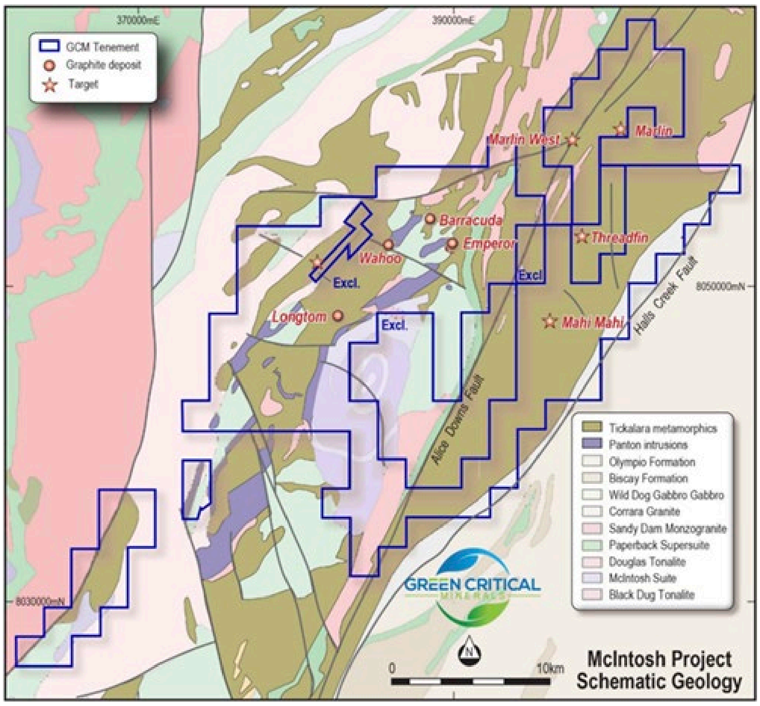


Figure1. McIntosh Graphite Project area showing deposits, resources and tenements

[2] ASX Announcement, Hexagon Energy Materials Ltd, 14 February 2022, Accessed at: https://hxgenergymaterials.com.au/wp-content/uploads/2022/02/Green-Critical-MineralsHexagon-Binding-Terms-Sheet-Earn-In-Agreement.pdf

The proposed GCM Mine and Concentrator site is located approximately 280km South of Wyndham, Western Australia. Access is via primary road infrastructure in the area which includes the Great Northern Highway which is a sealed road that connects the site to Wyndham to the North, and Halls Creek approximately 70km to the South. Kununurra, Halls Creek and Wyndham have regional airports for air access to the site.

The topography in the region is generally eroded mountainous/hill ranges with poor foot-access, with an elevation that varies between 350 and 450 m above sea level.

The site location is outlined in ***Figure 2*** below.

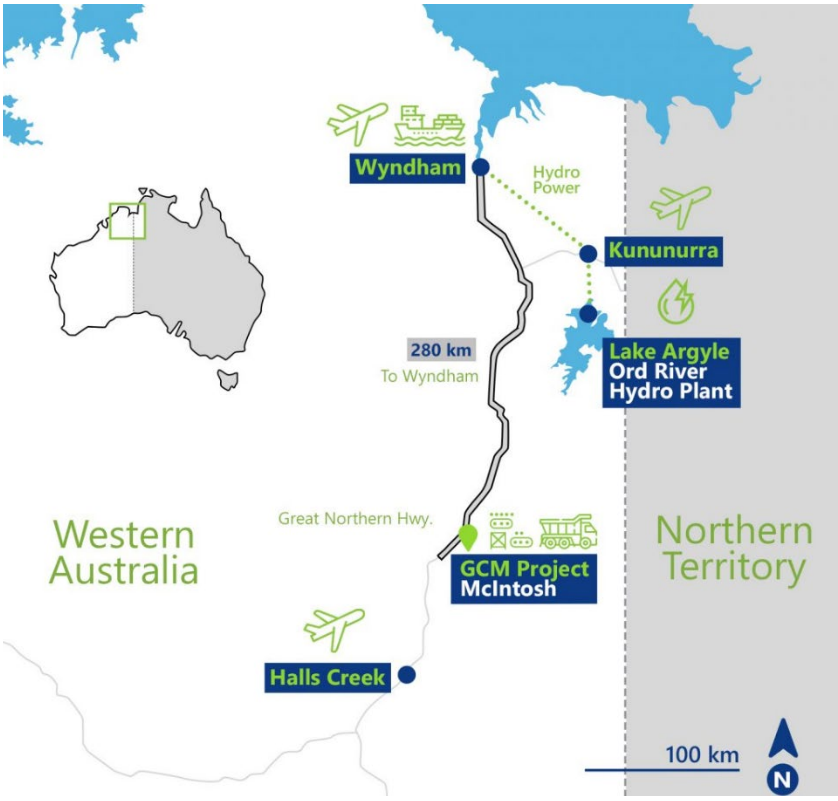


Figure 2. GCM Mine & Concentrator Site Location

SCOPE OF STUDY - GENERAL

The study assesses the production of graphite concentrate and micronized graphite from the McIntosh Graphite Project. The cost study has been undertaken in line with globally recognised standards including American Association of Cost Engineering (AACE). The scope of works entailed the delivery of a Class 4 level engineering cost study and associated documentation.

Process Design Criteria (PDC) has been informed by extensive prior metallurgical test work programs and this formed the basis of the study deliverables. Wave have undertaken process design, preliminary engineering design and layout of the facility to inform the Class 4 study as input to GCM's economic assessment of the operation.

The prefeasibility study has established a feasible mine plan, together with associated processing plant with sufficient engineering to present a capital cost estimate, operating cost estimate – both to Class 4 of the AACE Standard - and financial model showing the viability of the project to move to the next phase of development.

This Report addresses the financial aspects of the Project considering the demand forecasts and anticipated pricing, the resource to be mined, metallurgical performance and the size of plant to be built as well as the infrastructure and logistics associated with the Project.

The pre-feasibility study (PFS) included analysis of considerable laboratory test work to determine the nature of the ores to be mined as well as the unit processes to be used.

Overall, the Project comprises the construction and operation of a new open cut mine together with graphite concentrate and micronised graphite plants with associated infrastructure including administration facilities, workshop, supply warehouse/stores, fuel and reagent storage, amenities, laboratory, tailings and water management infrastructure.

A full mine closure plan will be developed and implemented in future studies in alignment with statutory requirements.

STUDY CONTRIBUTORS

The PFS chapters were produced through collaboration between Wave, GCM, and mining and environmental consultants.

Table 3 below acknowledges the contributions of individuals and companies relative to their field's expertise in the development of this PFS Report.

Table 3. Study Contributors

Chapter	Contributor	Area
Executive Summary	Wave International, Green Critical Minerals	All
Introduction and Project Description	Wave International	All
Marketing and Strategy	Lone Star Technical Minerals Green Critical Minerals	All
Tenements and Ownership	Green Critical Minerals	All
Legal and Policy	Green Critical Minerals	All
Geology and Mineral Resource	Green Critical Minerals Mine Planning Services	All
Mining and Ore Reserve	Mine Planning Services Minero Consulting	All
Metallurgy	Green Critical Minerals	All
Process Design and Engineering	Wave International	All
Tailings Management	Wave International	All
Non-Process Infrastructure	Wave International	All
Operations Management	Wave International	All

Chapter	Contributor	Area
Infrastructure and Logistics	Wave International	All
Permits, Approvals, Health, Safety, Environment and Community, Stakeholder Relations	Green Critical Minerals EMM Consulting	All
Project Implementation	Wave International	All
Capital Cost Estimate	Wave International Mine Planning Services	Capital Cost Estimate Mining Costs
Operating Cost Estimate	Wave International Mine Planning Services Minero Consulting	Operating Cost Estimate Mining Costs
Risk and Opportunity Management	Wave International Mine Planning Services	All Mining Risks & Opportunities
Financial Evaluation	Naust Capital	All
Forward Work Plan	Wave International Mine Planning Services	All Mining Forward Work Plan

MARKETING

General

In the overall spectrum of the graphite powder industry, the ability for a new traditional and / or downstream graphite powder producer to enter into well-established, global markets dominated by a large number of legacy graphite powder producers is challenging due to a number of factors. These factors include high capital requirements and, in many cases, high operating costs when compared to established natural or primary / secondary graphite powder operations in North America, Brazil, Asia-Pacific, and Europe. Additional barriers and factors for market entry by a new graphite powder producer are an application suitability assessment, target market assessment, graphite project / products metallurgical assessment, competition assessment by company / products produced, and an in depth understanding of target applications both technically and commercially. GCM has over the past few years been assessing and developing its McIntosh Graphite project, strategically located in Northern Western Australia to become a potential new supplier of high grade, high quality natural flake graphite to traditional upstream and downstream graphite powder markets.

Despite forecasts of hyper growth in the graphite industry driven by EV transition, growth has not materialised as forecast for the natural graphite industry as China is currently the only country that utilises natural graphite CSPG anode grades to fill the shortfall of anode graphite grades when production of primary synthetic graphite is limited. The main conductive additive globally and becoming more dominate in China for the secondary battery anode applications is primary synthetic graphite powder. Since mid-2022, primary synthetic graphite production has increased to meet global demand for lithium-ion battery growth by more than 150,000 Mt per annum which has put downward pressure on overall anode grade pricing and in many cases it is less expensive to produce primary synthetic graphite powders than natural graphite production / downstream CSPG anode grades. The current graphite powder supply / demand market is in equilibrium which means the overall supply for graphite powders meets current demand. Any shift of the supply curve due to an oversupply from a new natural graphite project without supporting macro demand evidence, has the potential to lead to a repeat of 2018 when Syrah Resources provided supply of ~ 180,000 Mt or ~ 30% new supply without the markets or applications to qualify and absorb the new supply – leading to a prolific decline in graphite powder pricing for medium and fine flake graphite ASTM mesh grades.

GCM is therefore planning a soft entry market strategy into the overall graphite powder industry with a manageable demonstration plant nameplate capacity of ~ 10,000 to 15,000 Mt with the potential for staged additional production modules of up to 20,000 Mt per module to produce high quality flake graphite, both upstream and downstream products targeting strategic markets and applications where small levels of new supply will not upset the market balance.

Product Strategy

The McIntosh natural graphite signature is classified as a fines deposit (≤ 100 Mesh) ready for either upstream or downstream processing for traditional ASTM Mesh Grades or micronised graphite products. GCM is initially planning on supplying to the market two product ranges, with a graphite purity range of 95% / +95% TGC. These will include an ASTM Mesh Grade concentrate products and a standard purity micronised products. GCM has plans to expand identified target products into high purity grades and potential future CSPG anode grades as part of the long-term strategy. Graphite powders are used in a wide range of markets and applications in recarburisers, refractories, and dry lubricants to aerospace coatings, industrial, automotive, medical device, and primary and secondary batteries. GCMs natural graphite products will be introduced to a number of traditional applications including pencil, friction, drilling fluids, and lubricant thread compounds with plans to introduce high purity (99.9% LOI) downstream grades to a range of applications including lubricants, battery, coatings, paints, aerospace, medical devices, and potentially future nuclear applications. If future lab tests conclude McIntosh Graphite can be purified to ≥ 99.9999% LOI and met EBC (equivalent boron content) limits (≤ 2 ppm), introductions to nuclear applications will be initiated in the future. Detailed market research by market group and application for specific price points for ASTM Mesh Grade graphite powders for upstream, STD Purity (95.0% LOI MIN) and micronised downstream natural flake graphite products were provided by Lone Star Tech Minerals-USA.

The Company intends to supply its natural graphite products to Australian domestic markets in the beginning of the project expanding to regional and global customers in the future. Customer introduction will be across a wide range of applications in multiple regions focusing initially on Australia with plans to expand to the Asia Pacific, North, and South America.

Table 4. McIntosh Graphite Signature – Target Upstream Carbon Purity Range

Product Range	Carbon Purity %	Method of Measure
1	95.0% / +95% LOI	Loss of Ignition (LOI)

Table 5. McIntosh Graphite Project – Target Upstream ASTM Mesh Grade Production

Product Category	Base Product	ASTM Mesh Grade
ASTM Mesh Grade - 1	Y	-100 Mesh (80% MIN PASS)
ASTM Mesh Grade – 2	Y	-150 Mesh (80% MIN PASS)
ASTM Mesh Grade – 3	N	+200 Mesh (100x200 / 80% MIN RET)
ASTM Mesh Grade – 4	N	-200 Mesh (60% MIN PASS)

Table 6. McIntosh Graphite Project – Target Upstream Micronisation Production

Product Category	Base Product
STD Purity D90-45µm	Y
STD Purity D90-25µm	Y
STD Purity D90 - 15µm	Y
STD Purity D90-10µm	Y

Average Sales Prices (ASP) / GCM PFS Pricing Assumptions

Price points for traditional ASTM Mesh Grade flake graphite products (purity range 95.0% / +95% LOI) are considerable higher depending on the region, supplier country, and application; average sales prices (ASP) for macrocrystalline ASTM Mesh Grades fine to medium flake graphite range from ~ US$ 985 Mt FOB to ~ US$ 1,305 Mt FOB.

It is important to note the average sales prices (ASP) GCM assumes for its graphite products are higher than Chinese based priced flake graphite products. Average sales prices (ASP) for natural graphite products can be derived one of two ways:

1. Assigning a price to a single grade / product averaging the price received for that grade from a wide range of applications.
2. Assigning a price to a particular application or market group averaging the price received for all advanced graphite powder products for that market group and / or application.

Average sales pricing (ASP) or median pricing is used for reference by GCM to create a fundamental understanding of traditional and advanced downstream graphite pricing potential and to develop product average price points for financial modelling. Downstream graphite pricing intelligence is not available on the open market as this level pricing is part of a customer's IP and no end user will share or disseminate any internal pricing information with a third-party marketing firm for publication. All pricing developed by Lone Star Tech Minerals is based on a large number of data points from long term contacts and relationships developed over decades across a wide range of markets, applications, and global organisations.

Price points for upstream ASTM Mesh Grade products (95.0% LOI MIN) for traditional applications range from ~US$ 925 Mt FOB Port to ~ US$ 1,305 Mt FOB Port. Downstream micronised STD Purity (95.0% LOI MIN) graphite products range from ~ US$ 1,500 MT FOB Port to ~ US$ 7,250 Mt FOB Port.

After intensive review and market analysis, including advice from Lone Star Technical Minerals, GCM has selected the following average sales prices for the financial modelling in this PFS.

1. **ASTM Mesh Grade concentrate US$ 1,112.**
2. **Standard Purity micronized product US$ 3,058.**

Graphite Market Summary – Market Balance

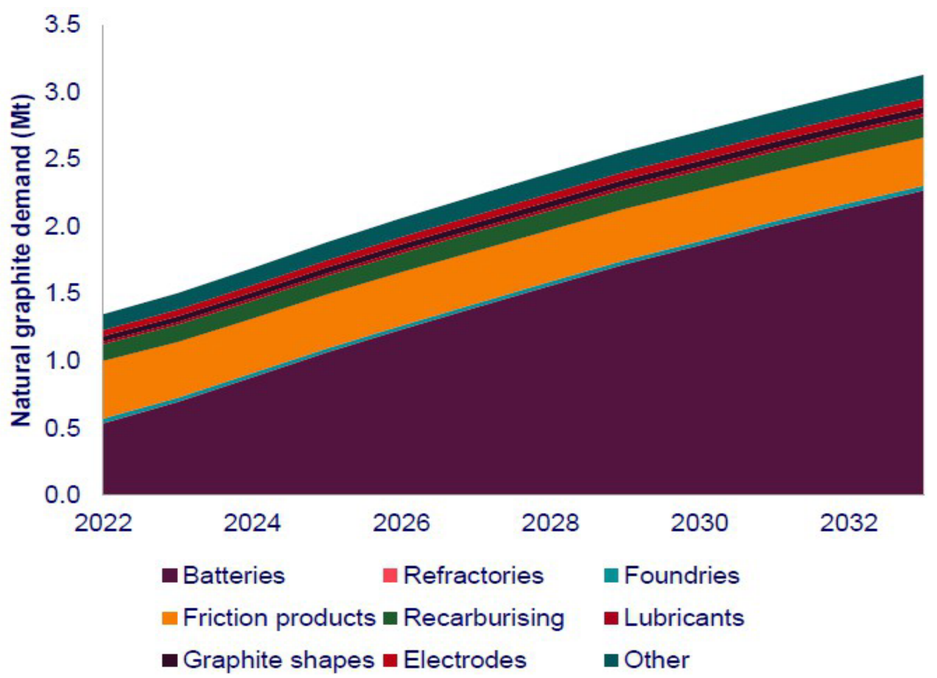


Figure 3. Global Estimated Global Graphite Demand / by Application (Wood Mackenzie - May 2024)

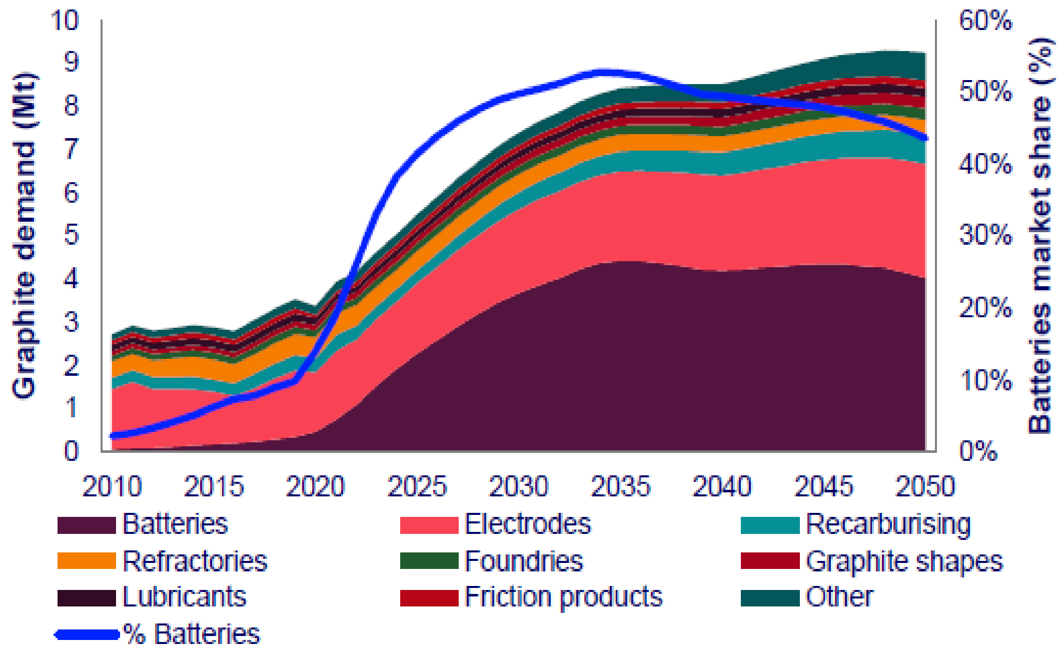


Figure 4. Forecast Consumption of Graphite Powders by Application - 2020-2050 (Wood Mackenzie – June 2024)

GEOLOGY AND MINERAL RESOURCE - GENERAL

The Mineral Resources utilised in this PFS were originally created by NH3CE and Mineral Resources and reviewed by Optiro Pty Ltd, a leading, independent resources and mining consultancy group in 2017. Some changes have been made since the review by Optiro, most notably a Mineral Resource Estimation update in 2018 that incorporated many of the recommendations made by Optiro. GCM has since further reviewed, amended and updated the Mineral Resources (see ASX announcement 1 July 2024) to incorporate newly acquired drilling and metallurgical data produced from its own work and analysis. An update to the Mineral Resource Estimation is included in this PFS study.

Regional Geology

The McIntosh Graphite Project graphite deposits occur as discrete horizons within the schist terrain of the Halls Creek Mobile Zone of Western Australia. The host stratigraphy is the Tickalara Metamorphics which extend for approximately 130 km along the western side of the Halls Creek Fault, a major NNE trending structure.

The McIntosh Graphite Project graphite deposits occur in graphitic schist units within these Tickalara Metamorphics, which are located within the broader Halls Creek Orogen (HCO) of Western Australia. The HCO is a complex Paleoproterozoic terrain divided into three zones; Western, Central and Eastern, comprising low to high grade metasedimentary and metavolcanic rocks, and voluminous granitic, mafic and mafic- ultramafic intrusions that collectively range in age from about 1910 Ma to 1790 Ma (Page et al. 1995). The Tickalara Metamorphics are found in the Central zone and consist of migmatitic, volcaniclastic turbidites, granodiorite/tonalite and intermediate/ mafic volcanics all metamorphosed to amphibolite facies and extend for approximately 130km along the western side of the Halls Creek Fault, a major NNE trending structure.

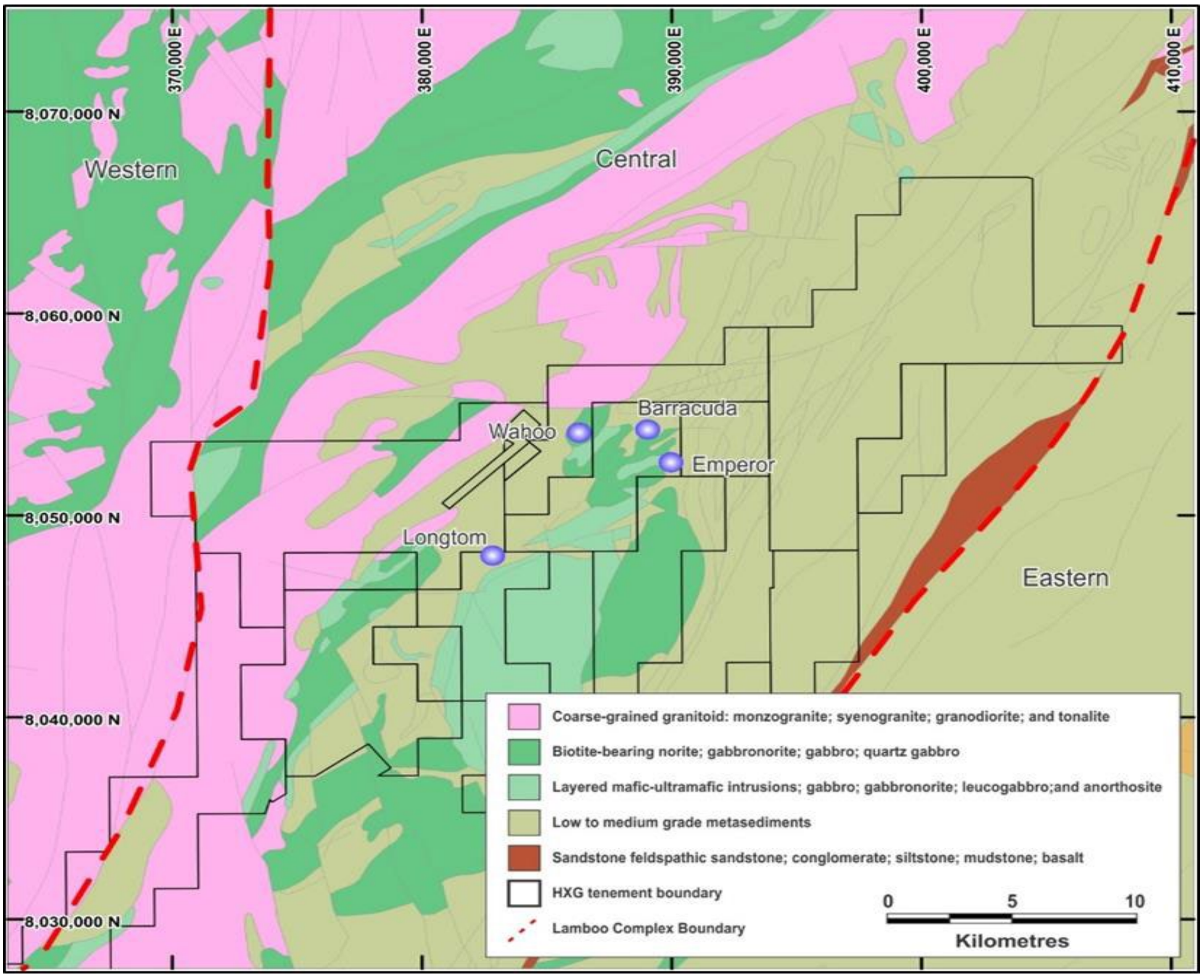


Figure 5. Location of McIntosh Mineral Resources and Reginal Geology

Deposit Geology - Emperor

Graphite at the Emperor deposit is hosted within a graphitic schist unit within a strongly metamorphosed meta-sedimentary sequence. Flake graphite mineralisation is associated with a regional scale fold hinge (anticline). The deposit area has subsequently had several mafic intrusions. Figure 6 shows a plan of the Emperor deposit with the locations of drill holes, resource outlines, locations of modelled EM plates and selected cross sections. Cross-sections detailing significant TGC % intercepts and the morphology of the graphite-bearing schist unit are shown figures 7 and 8.

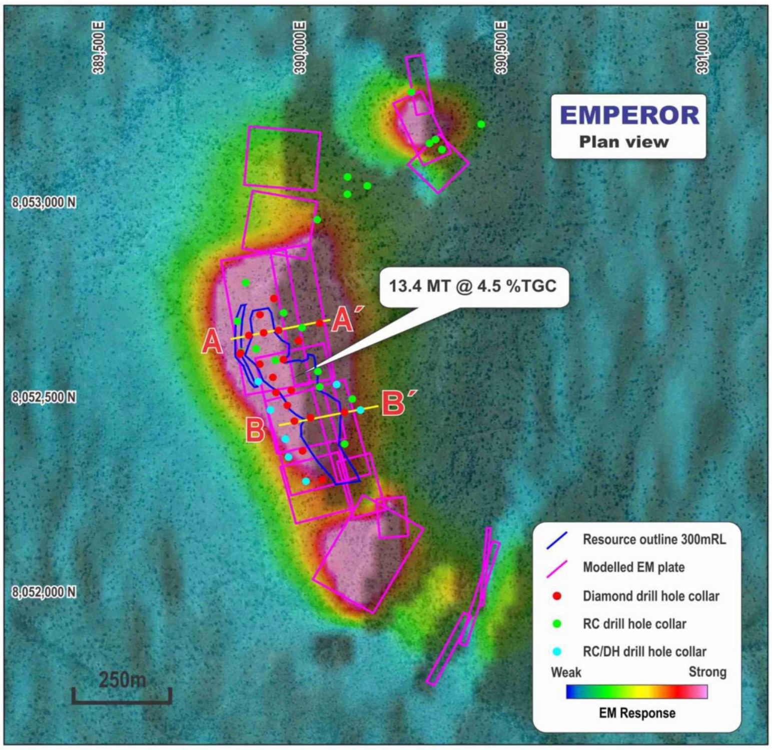


Figure 6. Plan view of the Emperor Deposit showing VTEM survey results, drill holes and cross section locations

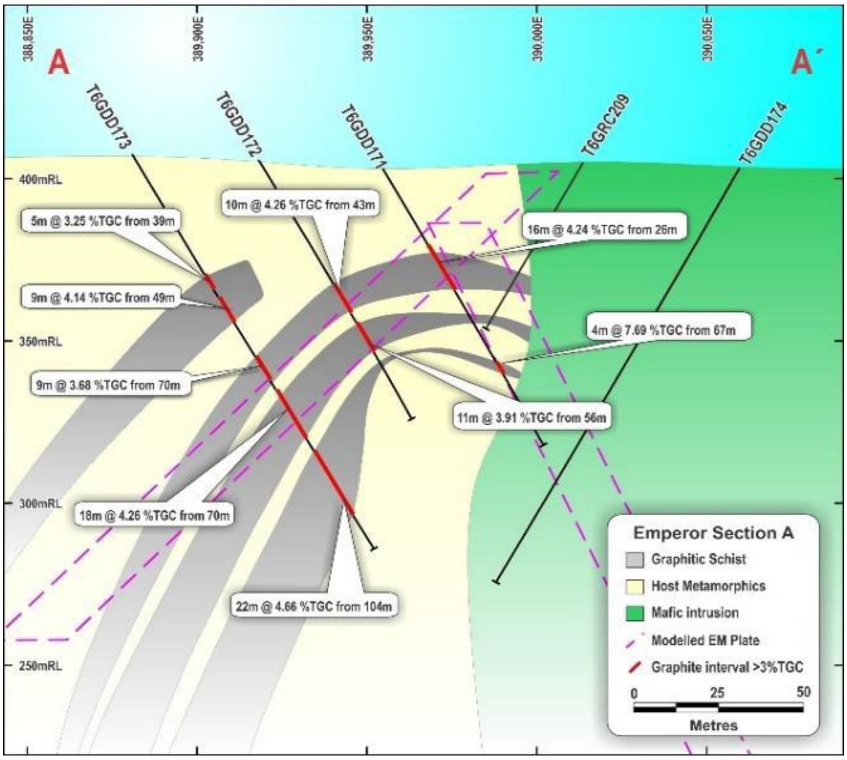


Figure 7. Cross-section A-A' through the Emperor deposit

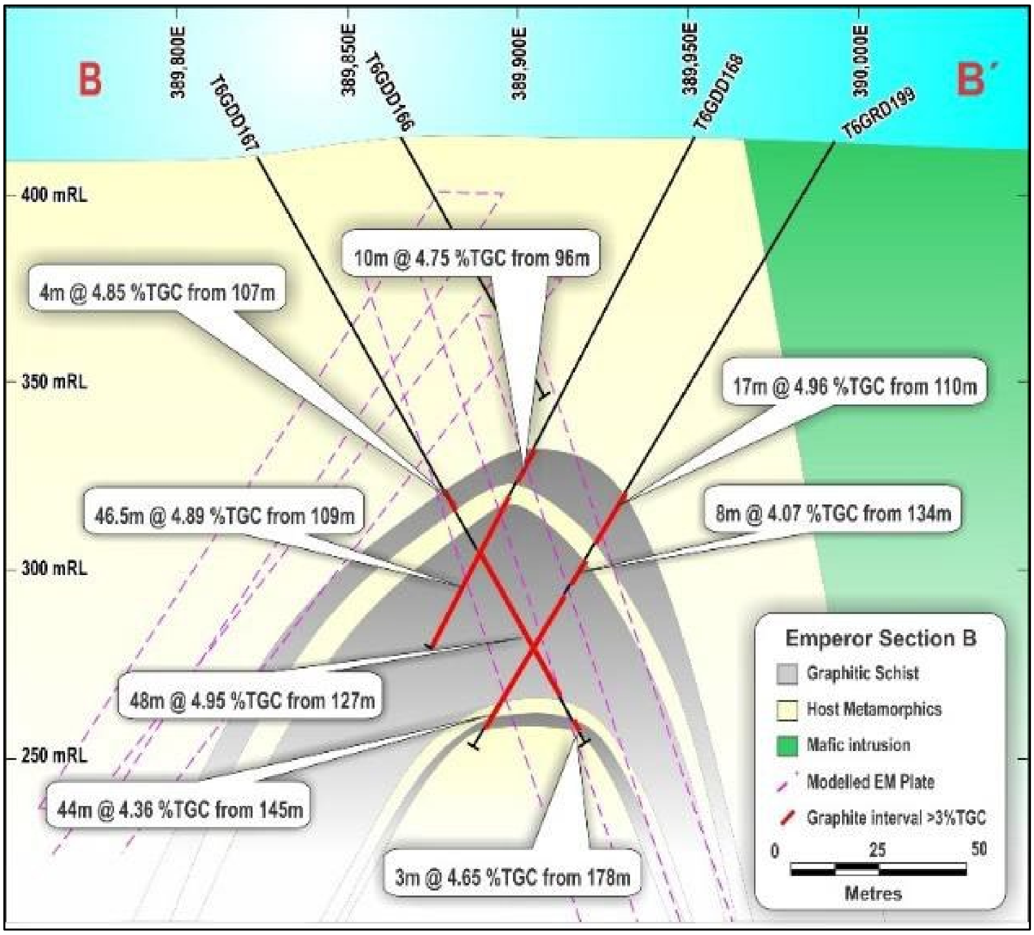


Figure 8. Cross-section B-B' through the Emperor deposit

Deposit Geology - Wahoo

Graphite mineralisation at Wahoo is hosted within a graphitic schist unit within a strongly metamorphosed meta-sedimentary sequence. The geology and mineralisation dips to the south-west at an angle of approximately 40 degrees A mafic intrusion cuts through the surrounding geology and mineralisation. Figure 9 shows the Wahoo deposit in plan view with drill holes, modelled EM plates, resource outlines and location of cross section A-A' overlain on late time channel EM image. Figure 10 shows a typical cross-section (A-A') of the Wahoo deposit with interpreted geology and significant intercepts detailed.

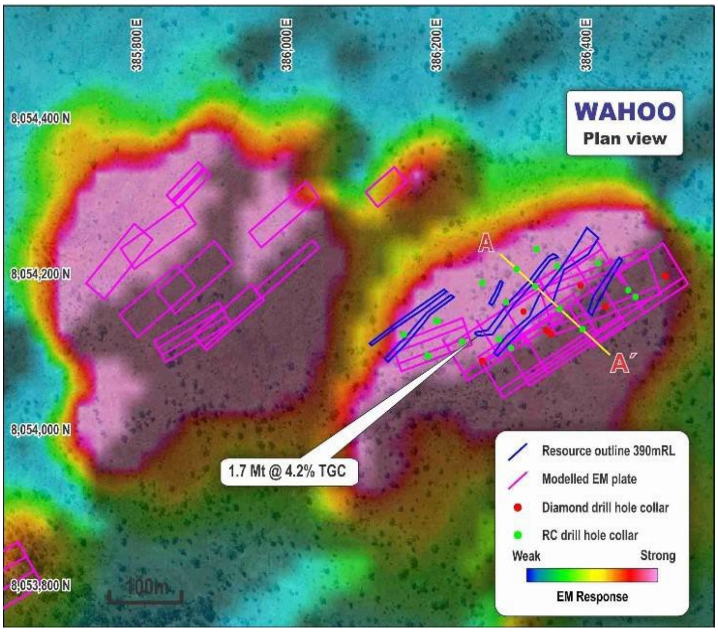


Figure 9. Plan view of the Wahoo Deposit showing VTEM survey results, drill holes and cross section location

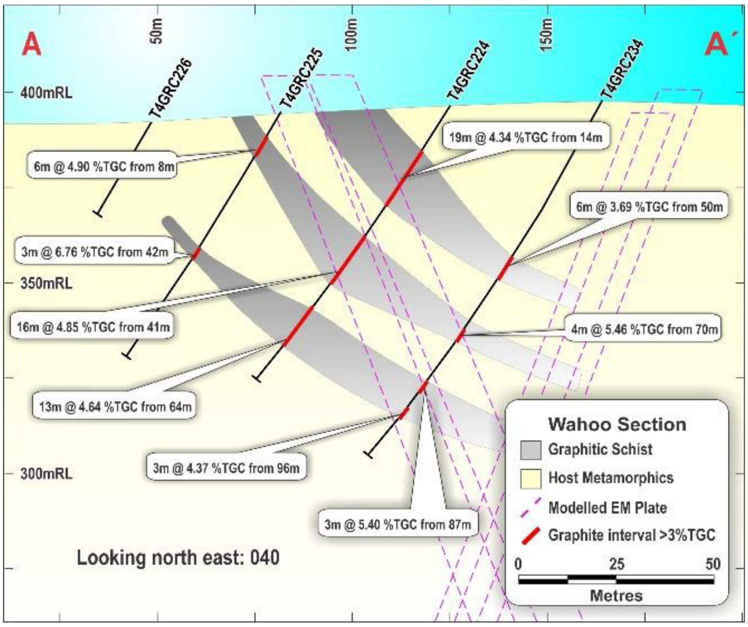


Figure 10. Cross-section A-A' through the Wahoo deposit

MINERAL RESOURCE ESTIMATE UPDATE

The Mineral Resource Update follows an extensive review of existing data, including detailed analysis of historical metallurgical test work programs and the recently concluded metallurgical test work program (see announcements dated 17 June 2024 and 19 June 2024) conducted on graphitic ore from the McIntosh area. Significantly, these studies have demonstrated that the lower head grade component from two of the tested deposits (Emperor and Wahoo) can produce a graphite concentrate with >95% TGC purity through conventional flotation processes.

This result has allowed the Mineral Resource Estimation cutoff grade for these two deposits to be lowered from 3% TGC to 2% TGC.

The encouraging results from the latest metallurgy variability test work program were obtained from an unoptimized process flow sheet and GCM is confident that further refinements to the flow sheet will produce more positive results.

Two of the McIntosh Graphite Project's five mineral resources were updated as part of this PFS. This section outlines methods and results for the estimations for only the deposits to be mined in this PFS, namely Wahoo and Emperor.

Estimation Methods

Ordinary Kriging (OK) was used to estimate Total Graphitic Carbon (TGC %) for the Emperor and Wahoo deposits. Estimation by the OK method was deemed appropriate based on the data density and production of robust semi-variograms.

The dry density was assigned for all resources based on water displacement technique from core sourced from Emperor and Wahoo deposits.

The resources were validated visually and statistically. Visual validation consisted of comparing raw assay grades with estimated grades. Statistical validations of OK estimated models included assessing conditional bias measures (slope of the regression and kriging efficiency) and all models were assessed by trend plots produced to compare the drilling data to estimated grades on slices throughout the resource by easting, northing and elevation.

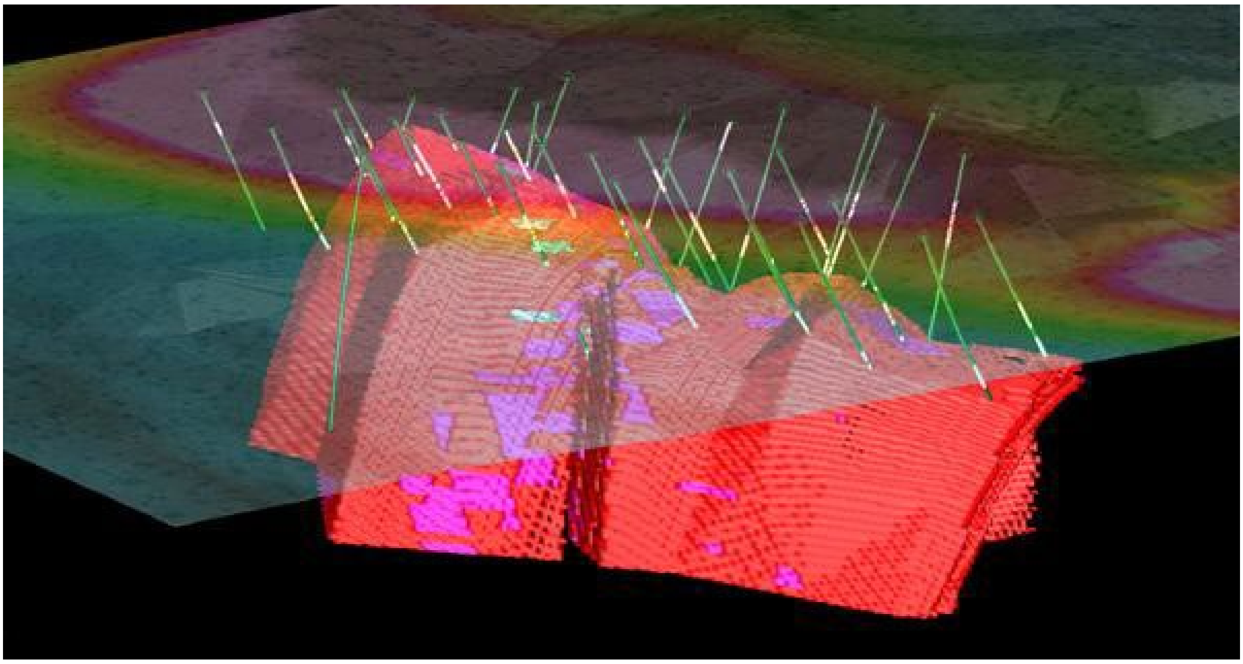


Figure 11. Emperor mineral resource estimate. Blocks coloured by estimated TGC% grade (0-3% Grey, 3-5% Red, >5% magenta)

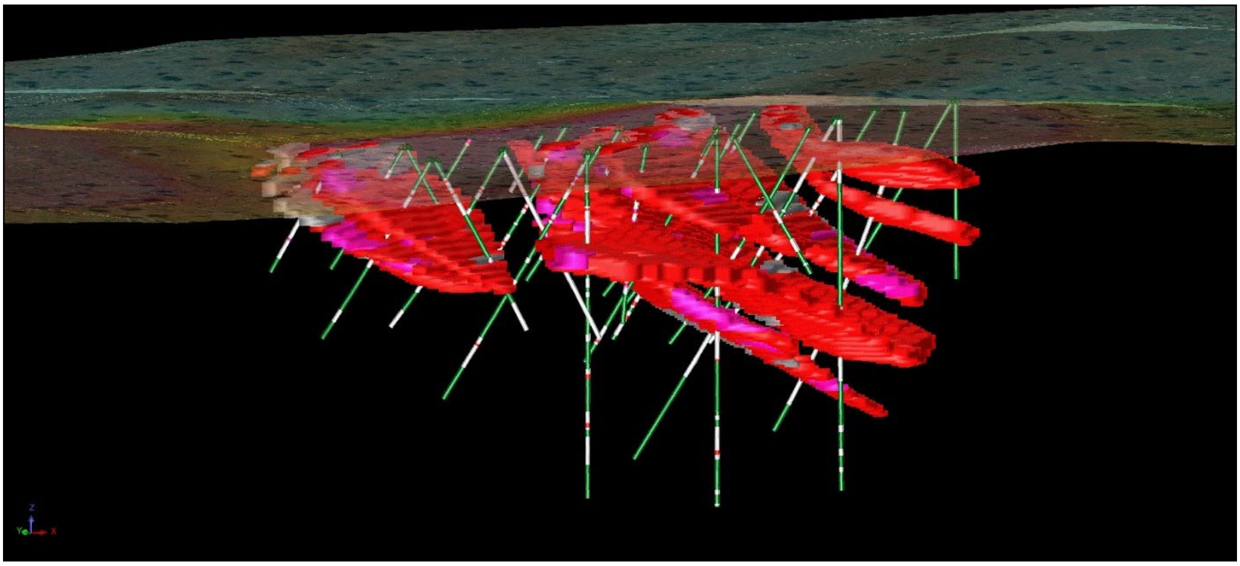


Figure 12. Wahoo mineral resource estimate. Blocks coloured by estimated TGC% grade (0-3% Grey, 3- 5% Red, >5% magenta)

Resource Dimensions and Open Mineralisation

The Emperor resource extends 520m North-West to South-East. The mineralisation follows the anticline of the hosting graphite schist units ranging in thickness between 5m and 70m. Mineralisation is open along strike and at depth along the fold limbs. Drilling conducted by GCM during 2023 confirmed this interpretation with all holes drilled below the modelled resource intersecting continuous mineralisation (see ASX announcement 1 November 2023). Whilst these new discoveries have insufficient data to be confidently modelled, they do indicate that the Emperor resource has the potential to substantially increase in size. GCM drill hole GCM23D003 is shown below in figure 13.

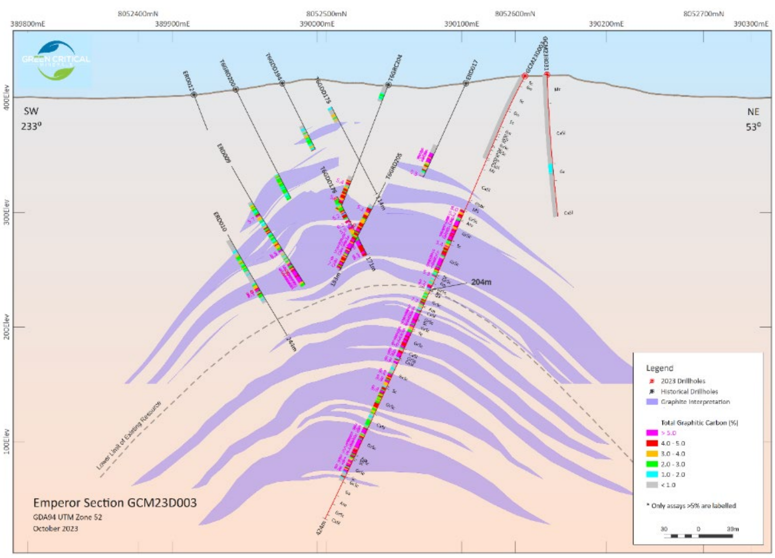


Figure 13. Cross section of GCMDD0003 through the Emperor Deposit showing upper (known) and recently discovered (lower) area of mineralisation

The Wahoo resource extends 300m West-South-West to East-North-East dipping to the South-East. The mineralisation follows the bedding of the hosting graphite schist units ranging in thickness between 5m and 15m. Mineralisation is open to the southwest.

Resource Classification

Mineral Resources were classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) as criteria. The results from metallurgical test work have been considered for Mineral Resource classification. The classification for each deposit considers all available data and quality of the estimate and reflects the Competent Person's view of the deposit. The likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications, possible product marketability and potentially favourable logistics to port.

Indicated Mineral Resources have been defined in the centre of the Emperor deposit where material was estimated in the first pass estimation and drill spacing is generally 40m by 40m. The Inferred Mineral Resource occurs in the northern and southern limits of the deposit where drilling data is sparser (to 40m by 80m) but is still sufficient to assume continuity of mineralisation. Confidence in the Mineral Resource in these areas is also derived from modelled plates from the VTEM survey completed over the area.

The Wahoo deposit has an Indicated Mineral Resource defined in the upper portion of the deposit where the drill spacing is approximately 40m by 40m. Inferred Mineral Resources have been defined where the drill spacing is greater than 40m by 40m but is still sufficient to assume geological continuity. This is based on the confidence in the drill spacing and the modelled plates from the VTEM survey that mineralisation is continuous throughout the resource.

After extensive metallurgical testing, both the Emperor and Wahoo deposits used in the PFS have a cut-off grade of 2% TGC applied. The remaining deposits have retained a cut-off grade of 3% TGC, that was originally applied.

Mineral Resource Tables

Table 7. Mineral Resource Estimation for McIntosh Graphite Project

Deposit	Resource Classification	Tonnes	%TGC
Emperor	Indicated	13,709,125	4.06
	Inferred	3,808,250	4.35
	Total	17,517,375	4.12
Wahoo	Indicated	2,101,719	3.42
	Inferred	-	-
	Total	2,101,719	3.42
Mahi Mahi	Indicated	-	-
	Inferred	6,349,547	4.20
	Total	6,349,547	4.20

Deposit	Resource Classification	Tonnes	%TGC
Longtom	Indicated	5,131,153	4.93
	Inferred	768,488	5.25
	Total	5,899,641	4.97
Barracuda	Indicated	720,225	4.40
	Inferred	-	-
	Total	720,225	4.40
All	Indicated	21,662,222	4.22
	Inferred	10,926,285	4.33
	Total	**32,588,507**	**4.25**

Exploration Targets

GCM has identified graphitic schist horizons and discrete deposit targets based on GSWA mapping and electromagnetic (EM) anomalism over a strike length in excess of 15 km within the project area, with potential for an additional 35 km strike length of graphite bearing material from lower order EM anomalies. In addition to the current Mineral Resources, GCM has estimated an Exploration Target of 111 to 157 million tonnes grading between 3.5 to 5% TGC – which provides the scope for significant increases in the current resource base underpinning this PFS (table 8 and ASX announcement 21 July 2023).

Future drilling will be planned to test existing resource target areas with the aim of increasing the overall resource base as well as raising the confidence within the existing Mineral Resource estimate.

Cautionary statement: The potential quantity and grade of the Exploration Targets is conceptual in nature, there has been insufficient exploration work to estimate a mineral resource and it is uncertain if further exploration will result in defining a mineral resource.

Table 8. Selected GCM exploration targets

Prospect	Tonnage Range (Million Tonnes)		Grade Range (% TGC)	
	Minimum	Maximum	Minimum	Maximum
Emperor*	60.0	80.0	3.5	5.0
Marlin	26.0	39.0	3.5	5.0
Marlin West/Sturgeon	10.0	15.0	3.5	5.0
Mahi Mahi	8.0	13.0	3.5	5.0

Prospect	Tonnage Range (Million Tonnes)		Grade Range (% TGC)	
	Minimum	**Maximum**	**Minimum**	**Maximum**
Threadfin	7.0	10.0	3.5	5.0
Total	**111.0**	**157.0**	**3.5**	**5.0**

*Inclusive of JORC reported mineral resource estimation.

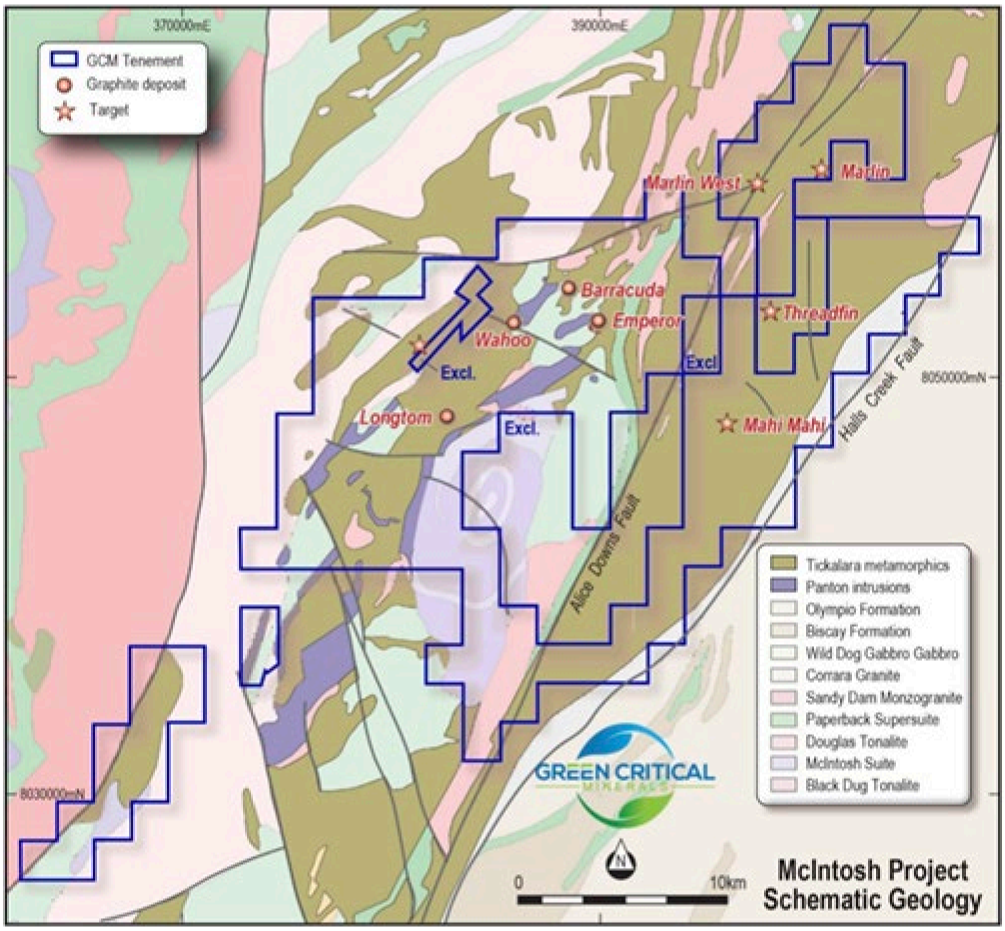


Figure 14. Selected Exploration Targets for the McIntosh Flake Graphite Project

MINING AND ORE RESERVE

Geotechnical

Comprehensive geotechnical studies were performed on the Emperor deposit by Terra Firma Australia for NH3CE in 2016/17. This included a site visit over 2 days with observations noted. One key observation was that NH3CE had engaged a diamond core logging geologist, so the standard of geotechnical logging was very high for the work done by NH3CE. Terra Firma noted that the historical core logging was not at a similar standard which posed them some challenges in working with the complete data set.

NH3CE made the decision to apply the Emperor slope parameters to the sub-ordinate deposits also. GCM acknowledges that there is a degree of risk in applying these same parameters to Wahoo so it is recommended that the initial mining at Wahoo is a small open pit that does not have any final walls so that geotechnical parameters can be confirmed prior to the mining of any final walls.

Regional setting

The NH3CE Graphite project is located along the eastern margin of the Lamboo Complex, a narrow belt of intensely deformed metamorphic and recycled igneous rock. Recognised as an arcuate tectonic contact, the Lamboo Complex in itself forms the nucleus of the surrounding Halls Creek Mobile Zone, which in turn hosts margins of significant crustal rupture and weakness (Survey of Western Australia (GSWA; Bulletin 106/107; 1969/1971). Figure 15 outlines the site location in relation to the Halls Creek Mobile Zone and neighbouring orogenic boundaries.

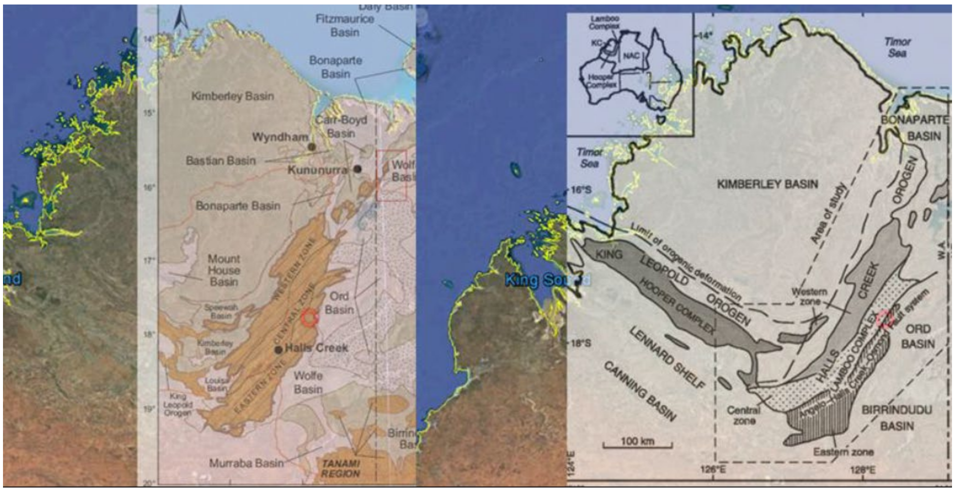


Figure 15. Site location (red) with respect to Orogenic architecture

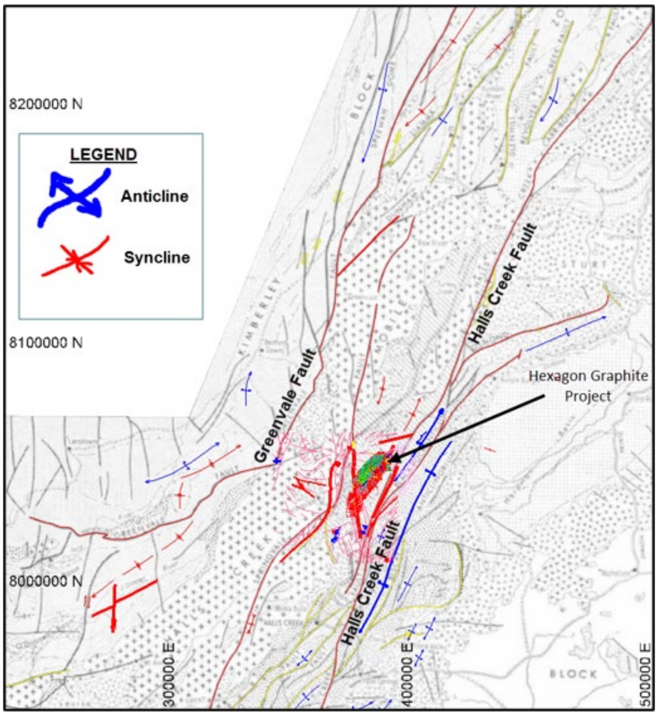


Figure 16. Regional structures

As shown in Figure 16, the deposit is situated between a number of anastomosing crustal features that dominate the terrain. The Halls Creek Fault to the east and the Greenvale Fault to the west define the margins of the Mobile Zone, with crustal deformation accommodated by strike-slip faulting and dominant 1st order folding. (Curvilinear NNE fold axes - Biscay Anticlinorium).

The structural features/faults at this scale are more likely to be a continuum of crustal deformation, as in the case of the Angelo – Halls Creek – Osmond Fault system. This significant structural corridor, one of the largest in northern Australia, is understood to accumulate moderate scales of tectonic stress and periodic rupture. A record of crustal compression and extension can be interpreted from the tortured metamorphic history, written into the local host rock. With this in mind the Kimberley, Ord and Birrindudu Basins, contain ancient evidence of the orogenic events shaping the landform and mineralisation potential. Tectonogenic events overprinting the project area are described by GSWA (S.T. De Vries, L. Pryer; Elsevier; 2008) and summarised in Figure 17.

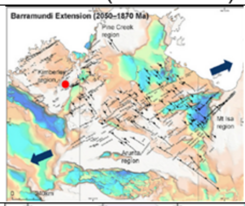
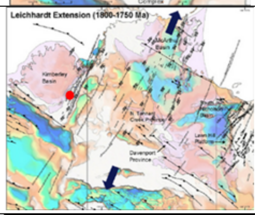
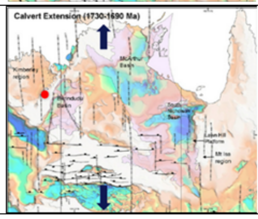
Event	**GSWA – Stress Direction** Site location (red marker)
Barramundi Extension *2050 – 1870 Ma* 	
Halls Creek Orogeny *1840-1805 Ma* 	
Leichhardt Extension *1800-1750 Ma* 	
Calvert Extension *1730-1690 Ma* 	

Figure 17. Interpreted orogenic development across the project area (after S.T. De Vries, L. Pryer; Elsevier; 2008)

Additional detail from the crustal architecture has been confirmed through the available geophysical data, specifically the regional VTEM surveys. Large scale dislocation patterns are recognised and appear related to recurrent vertical and lateral movements along existing crustal fabrics. These distributions have been presented in Figure 18 together with air photo interpreted (API) fault trends which largely dislocate the broken landmass.

A combination of moderate to high-strain crustal reactivation together with favourable source rocks (highly carbonaceous sediments) appear to have provided the ideal conditions for the flake graphite mineralisation locally targeted.

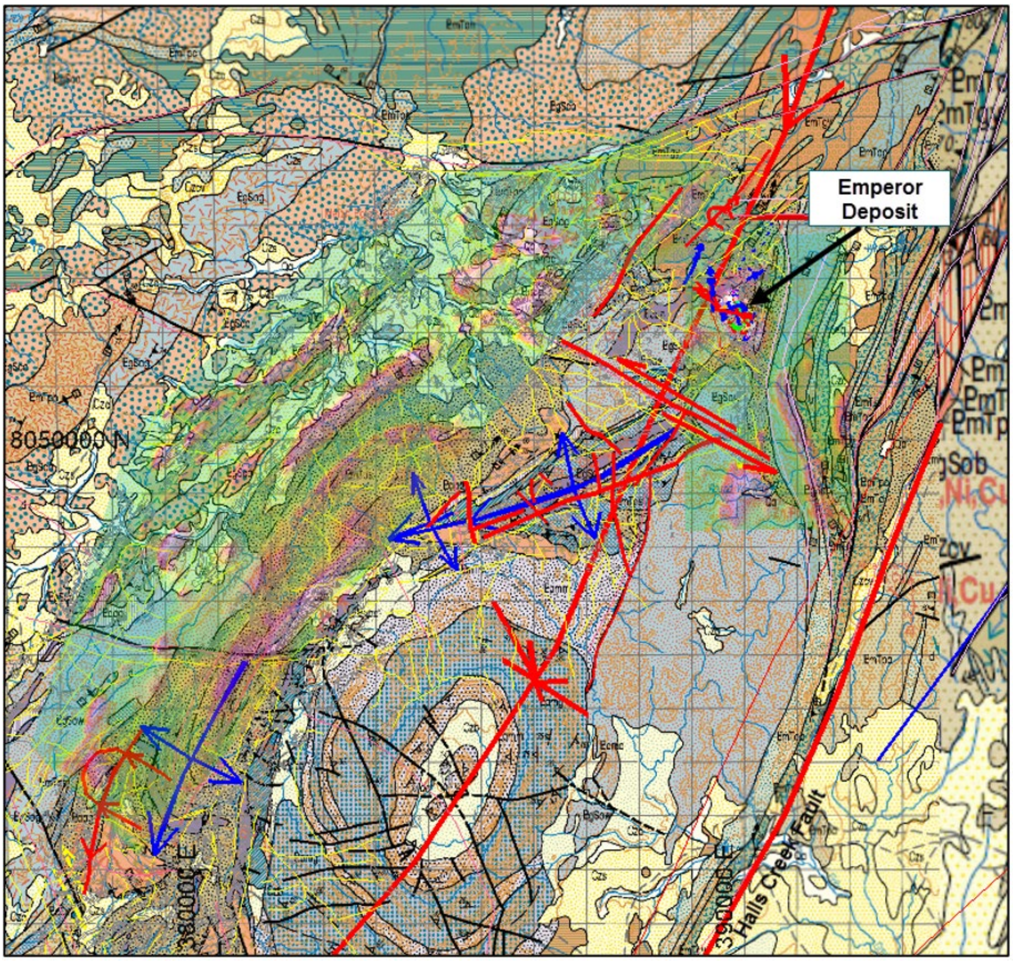


Figure 18. Large scale structural features– VTEM and API fault trends (yellow) (GSWA 1:250k surface geology map)

Deposit setting

The oldest rocks in the deposit area are geosynclinal sediments intensely folded and faulted (low to high metamorphism) along narrow deformation belts. Early poly-phase deformation is believed to have formed the Tickalara Metamorphics (host unit of the NH3CE Graphite resource) and it is also believed that the majority of igneous melt material intruded at this same time, largely occurred via intense deformation and anataxis - melting of the existing metamorphics in place. (GSWA; Bulletin 107, 1971).

Given the intense deformation in this area, there are likely to be more than two conduits/structural trends controlling the igneous intrusion(s) and mineralisation. As referenced above, shifting tectonic stresses over time have been recorded, with reactivated crustal shear playing a dominant role in the regional architecture. With this in mind, it is likely that structural features in the host rock have developed at predictable angles to the principal shear direction(s) dominating at those times.

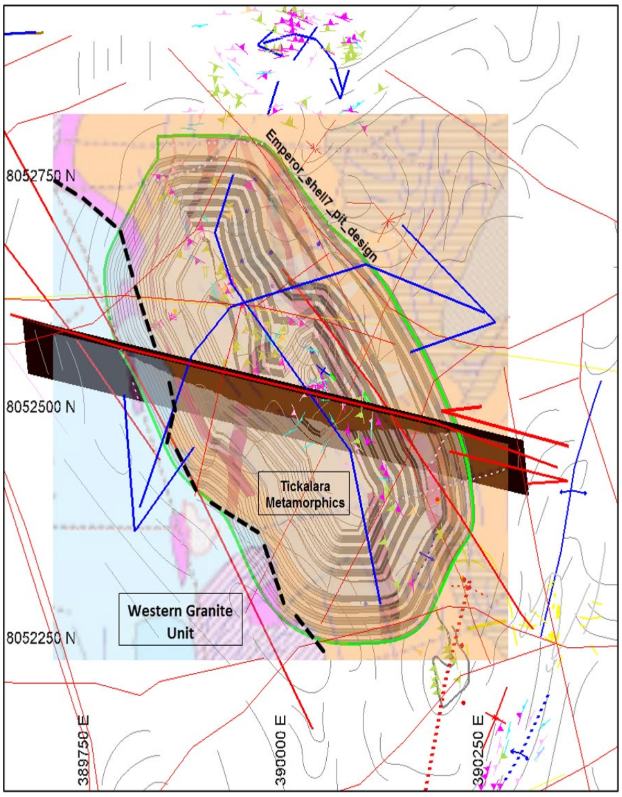


Figure 19. Surface geology – Emporer Deposit

Surface mapping at the deposit area has been carried out by NH3CE Resources field geologists and to date, have focussed exclusively on outcropping units associated with the orebody.

Geotechnical Study

Terra Firma undertook a detailed geotechnical study that included:

1. Collation of data.
2. Wall stability assessment.
3. Bench scale stability assessment.
4. In situ stress fields.
5. Hydrogeological conditions.

These led to a final outcome of recommended mine design parameters for the Emperor deposit.

Geotechnical Mine Design Parameters

Based on the structural controls described in the geotechnical report, the following PFS pit slope configurations are proffered.

West Wall

Bench Height	≤ 20m	(topographical surface down to 20~30m)
	20m	(below shallow weathered profile)
Bench Face Angle (BFA)	70˚	(controlled by flexural toppling potential)

Catch Berm Width	8m	(base of weathered/oxidised zone)
	6.5m	(remaining wall)
Interramp Angle (IRA)	52.6˚	(topographical surface to base of weath.)
	55.4˚	(remaining wall)

The design inputs above represent a base case configuration. Best case conditions, corresponding to an 80˚ bench face configuration and respective IRA 63.3˚ could be used if there is enough followup ground investigation to prove them.

East Wall

Bench Height	≤ 20m	(topographical surface down to 20~30m)
	20m	(below shallow weathered profile)
Bench Face Angle (BFA)	65˚	(to base of weathered/oxidised zone)
	70˚	
Catch Berm Width	8m	(base of weathered/oxidised zone)
	8m	(remaining wall)
Interramp Angle (IRA)	49.0˚	(topographical surface to base of weath.)
	52.6˚	(planar sliding along major structures)

The design inputs above represent a base/worst case configuration, with an overall slope angle (OSA) of 44˚ recommended. Due to the potential planar sliding controls that have been interpreted, interramp angles have been reduced to account for this uncertainty.

As with the west wall best case conditions, corresponding to an 80˚ bench face configuration and 7m catch berm width would result in an IRA 62.2˚. Final wall conditions will require improved certainty before best case configurations are used.

North Wall

Although stability analyses for the north wall indicate unfavourable conditions when overall slopes are steeper than 38˚, improved ground investigation(s) will be required to confirm the extent of these assumed conditions. Given the continued final wall / end wall uncertainty, an optimistic case configuration has been recommended, in lieu of completed field investigations yet to come.

Bench Height	≤ 20m	(topographical surface down to 20~30m)
	20m	(below shallow weathered profile)
Bench Face Angle (BFA)	70˚	(controlled by flexural toppling potential)
Catch Berm Width	8m	(base of weathered/oxidised zone)
	6.5m	(remaining wall)

Interramp Angle (IRA)	52.6˚	(topographical surface to base of weath.)
	55.4˚	(remaining wall)

South Wall

Similarly, the south wall conditions are not certain. With than in mind, an optimistic case configuration has been recommended.

Bench Height	≤ 20m	(topographical surface down to 20~30m)
	20m	(below shallow weathered profile)
Bench Face Angle (BFA)	70˚	(controlled by flexural toppling potential)
Catch Berm Width	8m	(base of weathered/oxidised zone)
	6.5m	(remaining wall)
Interramp Angle (IRA)	52.6˚	(topographical surface to base of weath.)
	55.4˚	(remaining wall)

Pit Slope Management

The key objectives for an effective Pit Slope Management Program can be summarised as:

1. To provide a safe efficient mining operation.
2. To manage risk.

Risk could be the result of either undue conservatism or optimism however both cases can represent a "risk" to the mine, for example:

1. Risk of unexpected ground conditions, pit wall instability or unsafe operating environment.
2. Too high expenditure on investigation programs.
3. Unnecessary conservatism with slope design.

As a summary, the technical elements of the recommended pit slope management program are listed below.

Slope Design - no slope design is fixed from its inception and should be continuously reviewed and amended as required throughout the life of the mine.

Geological and Geotechnical models - the geological and geotechnical models (including hydrogeology) are the basis for the slope design. They are however, simplifications of the natural world and do not encompass every geological variable at a site. Supplementary diamond drilling is required into and beyond final wall locations. Mapping of interim and final walls is recognised as the best way to verify the applicability of the design and to highlight model inconsistencies.

Controlled Blasting - based on the variable rock strengths, inherent structures, and likely water table interaction, blasting will be one of the principal controlling factors for retaining rock mass strength and overall slope stability. Typical controlled blasting techniques utilise small diameter blast holes detonated as a 'pre-shear' line within more competent/ massive rock or as a 'post-shear' line in friable or heavily fractured rock. This will be particularly important given the contrasting nature and strength of the deformed ground.

Drilling and blasting should be carried out with considerable care and accuracy. The damage from large production blasts in open pit mines can extend significantly (many tens of meters) behind the slope face.

If it is planned to utilise interim pit slopes or starter pit(s) at their Emperor deposit, then as with final walls, interim pit slopes should also incorporate some level of controlled blasting to maintain general safety and slope management. Due to the shorter operating life of interim walls and the eventual removal altogether, the degree to which controlled blasting is integrated can be varied. That said, interim faces are often the trial stages where optimal blast designs, initiation sequence and powder factor are tested with final pit walls in mind.

Pit Slope Monitoring – setup of a monitoring plan, training of staff and the purchase and storage of monitoring equipment ahead of schedule will benefit the site and may limit the consequences of overlooking unusual slope movements. Keeping in mind the Emperor Graphite project is currently in PFS status, there will be future opportunity to detail the necessary slope and piezometric monitoring likely to be required.

Abandonment Bund and Waste Dump Location

The sighting of abandonment bunds in Western Australia broadly follows empirical projections that have been effective in hard rock mines within the Kalgoorlie region. The current standards detail a 25˚ projection throughout weathered materials and 45˚ projections for fresh/unweathered profiles. As outlined within the DoIR guidelines, the bund is also required to be offset by 10m (standoff from projection) with final bund dimensions at least 5m high x 2m wide.

With regard to potential dump footprint(s) and related abandonment bunding at the Emperor deposit, TFA can confirm the industry standard is currently appropriate for the anticipated site conditions. The simplistic projections, as pictured in Figure below, result in an overall dump 'stand-off' up to 80m behind the proposed pit crest.

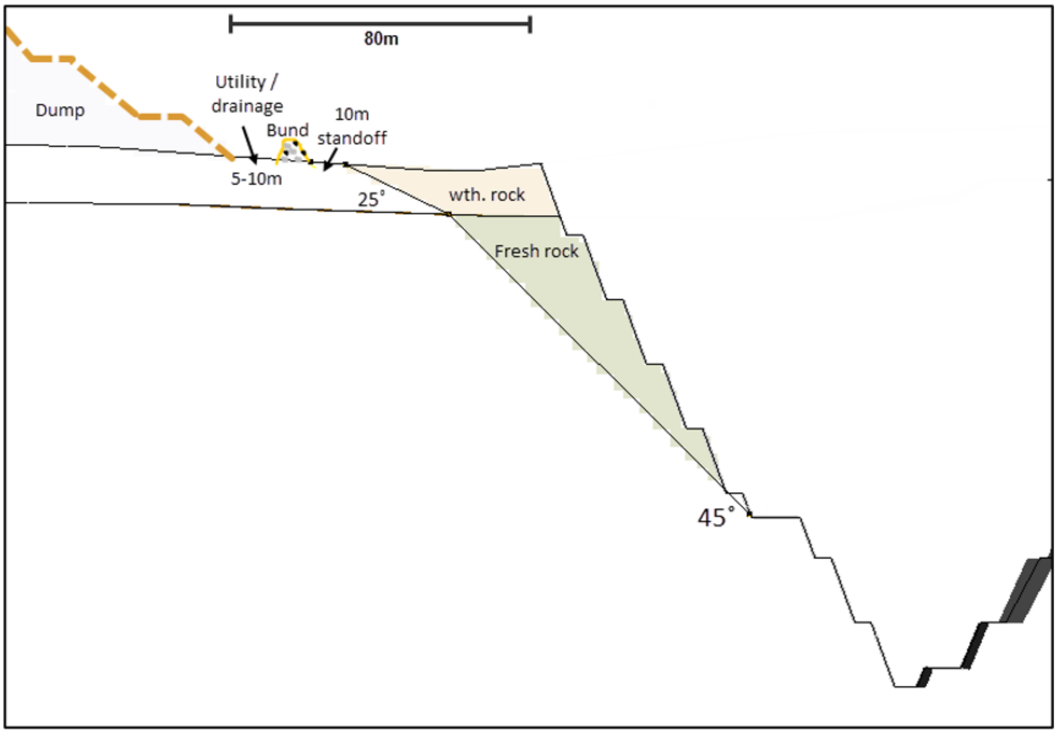


Figure 20. Example of bund location

Forward Works Plan

It should be noted that neither limit equilibrium analysis nor numerical modelling assessment have been attempted as part of this PFS geotechnical study. For such analyses to be meaningful in the future, rock strength and structural variability proximal to final walls will be required and deposit scale hydrogeological properties tested. With this in mind, it is highly recommended that the original PFS geotechnical drilling design be reviewed, in light of results from the single borehole T6GTD001, and remaining holes considered for completion as part of an extended PFS or advanced FS investigation.

Where possible, future geological drilling should also consider non-biased drill directions to the north, south and west in an attempt to capture oriented core and orebody knowledge from a broader range of compass perspectives. In addition, it is highly recommended that VTEM data (or similar) be collated at near surface scales, incorporating ground-based magnetic or low elevation aerial capture. This is likely to assist with improved definition of deposit scale structural features and likely persistence.

Mine Planning Models

For all ore reserves and resultant mining scheduling used in this PFS, the following parameters were used in their creation:

The resource models for Emperor and Wahoo both have different block sizes used for the estimation process.

Emperor the blocks are (y, x, z)	Parent 20 x 20 x 5	Child	5.0 x 2.5 x 1.25
Wahoo the blocks are (y, x, z)	Parent 20 x 10 x 2.5	Child	1.25 x 0.625 x 0.3125

This means that there are blocks as small as 16m^3 in Emperor and 0.25m^3 in Wahoo. With the proposal to use 125t excavators and 90t trucks it was decided that the minimum selective mining unit (SMU) for the site should be approximately 30m^3. Therefore, a regularised block size of 5.0 x 2.5 x 2.5 (y, x, z) was used resulting in blocks of 31.25m^3.

Emperor

With Emperor being a synclinal deposit there is significant scope for reblocking to have an impact. Two reblocking runs were done; 5 x 5 x 2.5 and 2.5 x 5 x 2.5. Both were positive but the metal loss for the one with wider x-direction blocks was 8% which was considered too high. The second version resulted in a reduction in ore tonnes of 5.7% and ore loss of 5.7%. The precise results using a 3% TGC cutoff are:

		RESOURCE	REBLOCKED MODEL
IND	FR	12,098,338t @ 4.28%	11,497,317t @ 4.28%
INF	FR	3,803,918t @ 4.35%	3,497,261t @ 4.35%

The result is satisfactory in terms of the JORC modifying factor for ore loss but there is no dilution within the result. To introduce dilution a block recovery factor is required. Using the old NH3CE pit as a guide and a cutoff of 3% TGC the factors required to get to 5% dilution as compared to the resource model would be 1.10 for ore and 0.977 for waste. With these block adjustment factors, it was required to adjust the block grades to balance the metal within the reblocked model. The required factor is 0.9 so the new variables in the regularised mine planning model are:

tgc_ok_rec	(tgc_ok x 0.90)	
s_ok_rec	(s_ok x 0.90)	
rec_block_vol	tgc_ok_rec <3 then 0.977	tgc_ok_rec >=3 then 1.10

The resultant planning model resource report is using the old NH3CE pit design and a cutoff grade of 3% TGC is:

IND	FR	11,652,445t @ 3.94%
INF	FR	3,529,169t @ 4.02%

The resultant dilution looks lower than 5% but that is because the dilution has also had the effect of dropping a portion of ore below cutoff grade so it is not reported.

Please note, since this work was completed the cutoff grade for the Emperor deposit was changed to 2% TGC, after the completion of a metallurgical grade variability test work program.

Wahoo

Wahoo is a model that has ore only within it and the estimation method is unclear with the grade variable named tgc_pct. With sub-cells to less than 0.25m3 there is a great need to regularise and there is an expectation that some blocks will be diluted greatly. The first step was to assign weathering codes and density to the waste so using the base of oxidation surface (box_012019) the non-mineralised blocks above this surface were assigned density of 2.65 and regolith of 1 with the blocks below the surface assigned density of 2.85 and regolith of 2.00.

Next, for compatibility with other models some variables were changed to integers. These are res_class .and regolith.

Various reblocking sizes were tried and the target model size of 5.0 x 2.5 x 2.5 resulted in a tonnage reduction of 22% and a metal loss of 23% when using a cutoff of 3% TGC. This indicates that a significant amount of the ore above 3% grade is contained in blocks that are very small and adjacent to waste so it is unlikely that the metal can be recovered at the grades stated.

The exact comparison is presented below:

		RESOURCE	**PLANNING MODEL**
IND	OX	148,406t @ 3.90%	105,201t @ 3.78%
	FR	1,147,487t @ 3.98%	908,166t @ 3.92%

As modifying factors there seems to be no dilution applied but the blocks that are presenting as ore are adequately diluted now. The recommendation was to proceed with this regularised model as the mine planning model with no further ore loss or dilution factors applied.

Open Pit Optimisation

Optimisation Inputs

Conventional open pit optimisation was used for each of the deposits. Mining costs were developed from first principals by Minero Consulting. Conservative processing costs, process recoveries, graphite price and royalty information were provided by Wave International and GCM.

1. Graphite concentrate price:

a. A$1,456/t 70% of total feed.

b. A$4,824/t for micronized product 30% of total feed.

c. A$2,466/t average.

2. Selling Costs:

a. $ 42.00/t of concentrate Transport from site to port.

b. $ 15.00/t of concentrate Port Handling charges.

c. $172.63/t of concentrate 7% Royalty.

d. $229.63/t of concentrate.

3. Process recoveries - 96.0%.

4. Processing costs:

a. $39.00/t of ore processed Process plant costs.

b. $1.25/t of ore processed G&A costs.

c. $40.25/t of ore processed.

5. Slopes:

a. As prescribed in the geotechnical report from Terra Firma.

6. Mining Costs:

a. Bench by bench rates were developed for ore and waste by Minero Consulting for both Emperor and Wahoo.

Optimisation Results and Shell Selection

With the low processing rates, the mine life of the Emperor deposit is very long, therefore is was decided that staged designs are required. Over many iterations it was found that there was no way to mine the satellite deposits in a way that allowed for the waste stripping at Emperor as well as providing the required ore feed to the plant. It was therefore decided to create a pre-strip pit in Emperor and to capitalise that waste for use in the TSF and other mine site infrastructure. Once this decision was made economic pits could be designed in Emperor that delivered the required quantities of ore to the process plant.

Emperor

Emperor has a 30m layer of waste that must be mined to get to ore so there are no very low revenue factor shells. Once the ore is encountered the value for the discounted best case (mining shell by shell) remains constant from revenue factor 0.78 to 2.0 … and likely beyond but the optimisation was only done to revenue factor 2. Worst case mining (selecting a shell and mining one bench at a time) loses value from revenue factor 0.74.

EMPEROR JAN25 - optimisation results							
Pit shell	Revenue factor	Rock kt	Ore kt	Waste kt	TGC %	Strip t/t	Recovered Tonnes Graphite
1	0.70	3,660	1,001	2,659	4.03	2.7	38,759
2	0.72	6,767	2,015	4,752	3.89	2.4	75,206
3	0.74	8,367	2,525	5,843	3.85	2.3	93,274
4	0.76	28,677	7,300	21,376	3.93	2.9	275,250
5	0.78	31,352	7,804	23,548	3.95	3.0	296,054
6	0.80	32,407	8,050	24,357	3.95	3.0	305,036
7	0.82	33,393	8,257	25,136	3.95	3.0	312,742
8	0.84	34,277	8,457	25,820	3.94	3.1	319,785
9	0.86	35,645	8,729	26,916	3.93	3.1	329,613
10	0.88	36,511	8,906	27,605	3.93	3.1	335,765
11	0.90	37,364	9,076	28,287	3.92	3.1	341,657
12	0.92	38,901	9,348	29,553	3.91	3.2	351,219
13	0.94	39,808	9,504	30,305	3.91	3.2	356,664
14	0.96	40,238	9,576	30,662	3.91	3.2	359,176
15	0.98	41,370	9,754	31,615	3.90	3.2	365,403
16	1.00	42,123	9,874	32,249	3.90	3.3	369,422
17	1.02	42,790	9,983	32,807	3.89	3.3	373,006
18	1.04	44,343	10,230	34,114	3.88	3.3	381,023
19	1.06	44,879	10,303	34,576	3.88	3.4	383,535
20	1.08	45,673	10,419	35,254	3.87	3.4	387,335
21	1.10	46,262	10,499	35,763	3.87	3.4	389,990
22	1.12	47,490	10,661	36,829	3.86	3.5	395,350

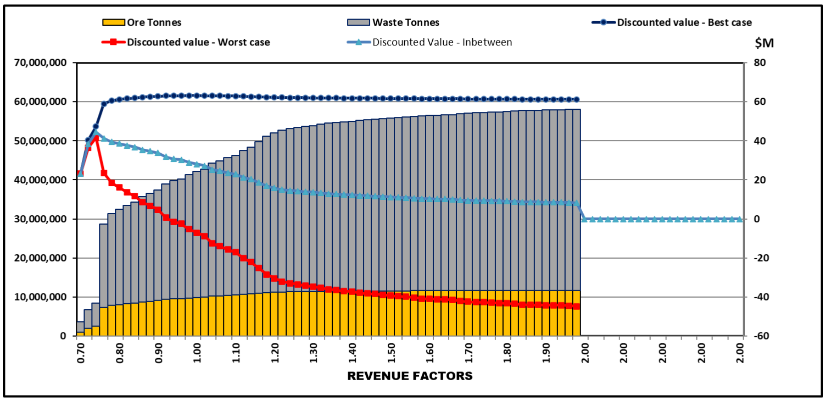


Figure 21. Emperor optimisation results

This means that if the initial stage is below revenue factor 0.75 and the remaining stages follow a best case mining system then almost any sized pit is practical. For this work the revenue factor 1 shell was used for the ultimate design but, as the sensitivity analysis shows there is no real penalty for not following the shell precisely.

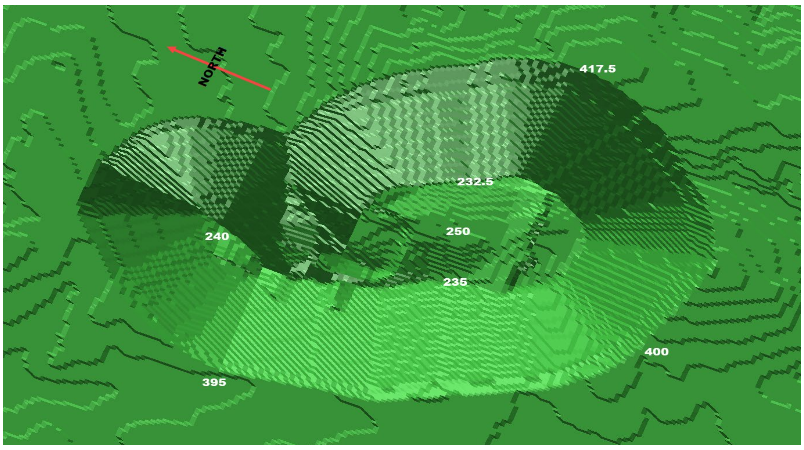


Figure 22. Emperor rev fact 1 shell

With the anticlinal structure of the mineralisation, the pit starts to drive down on each limb of the structure so that there is a higher part between the limbs that is not mined.

With the overall pit around 160m deep - it is quite a large pit.

Wahoo

Wahoo is a little more traditional in the shape of the optimisation chart but there is still no high grade, low revenue factor shells. This is considered acceptable, as the mining plan is not really looking for any and wants to use Wahoo as an early ore supply to support the opening up of Emperor.

WAHOO JAN25 - optimisation results							
Pit shell	Revenue factor	Rock kt	Ore kt	Waste kt	TGC %	Strip t/t	Recovered Tonnes Graphite
11	0.68	17	7	10	4.28	1.3	302
12	0.70	970	433	537	3.54	1.2	14,690
13	0.72	1,111	493	618	3.52	1.3	16,669
14	0.74	1,233	544	689	3.51	1.3	18,325
15	0.76	1,382	605	778	3.49	1.3	20,237
16	0.78	1,918	776	1,142	3.47	1.5	25,831
17	0.80	2,060	836	1,224	3.44	1.5	27,608
18	0.82	2,207	899	1,308	3.41	1.5	29,402
19	0.84	2,576	1,026	1,550	3.37	1.5	33,139
20	0.86	3,098	1,185	1,913	3.34	1.6	37,951
21	0.88	3,712	1,366	2,345	3.31	1.7	43,346
22	0.90	3,916	1,425	2,492	3.30	1.7	45,057
23	0.92	4,122	1,481	2,642	3.29	1.8	46,690
24	0.94	4,282	1,518	2,763	3.28	1.8	47,812
25	0.96	4,380	1,542	2,837	3.28	1.8	48,504
26	0.98	4,492	1,565	2,927	3.27	1.9	49,188
27	1.00	4,565	1,581	2,984	3.27	1.9	49,656
28	1.02	4,667	1,603	3,064	3.27	1.9	50,278
29	1.04	4,902	1,655	3,247	3.25	2.0	51,692
30	1.06	4,947	1,664	3,283	3.25	2.0	51,945

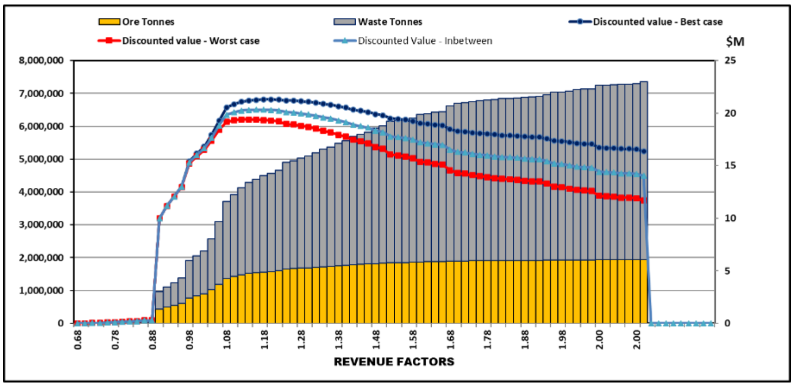


Figure 23. Wahoo optimisation results

There are target shells at revenue factors 0.78 and 0.88 that will be used within the staged design process, but the revenue factor 1 shell will be the primary target.

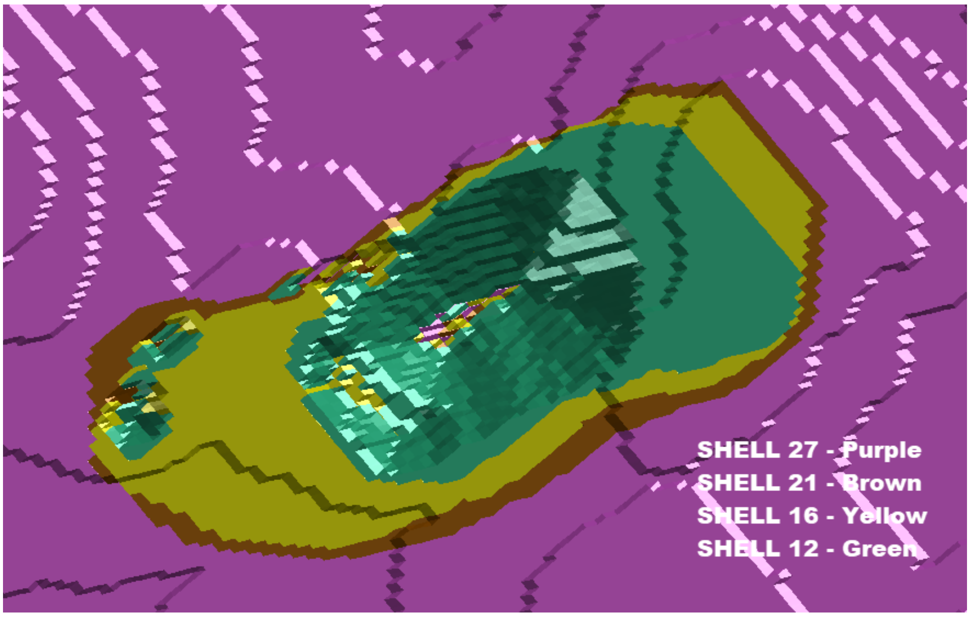


Figure 24. Wahoo optimisation shells

The four highlighted shells above, in figure 24, are shown graphically in the image above. As can be seen, there is a large change from the revenue 0.7 shell to all the others, but the final three are very similar in outline at the surface.

Optimisation Sensitivities

Optimisation sensitivity tables are shown below for revenue factor 1 pit shells looking at the impact on changes in mining costs, processing costs, slope changes and changes in price.

Table 9. Optimisation sensitivities for Emperor and Wahoo – (MCST = Unit Mining cost and PCST = Unit Processing cost)

	SENSITIVITY COMPARISONS: REV FACT 1 SHELLS. Indicated only. EMPEROR.					
	Rock kt	Ore kt	Waste kt	TGC %	Strip t/t	Recovered Tonnes Graphite
BASE CASE	42,123	9,874	32,249	3.90	3.27	1,187,719
SLOPES FLATTEN 05 DEGREES	45,519	9,646	35,873	3.90	3.72	1,160,325
SLOPES FLATTEN 10 DEGREES	48,260	9,235	39,025	3.90	4.23	1,111,207
SLOPES FLATTEN 15 DEGREES	49,891	8,545	41,347	3.89	4.84	1,026,451
SLOPES FLATTEN 20 DEGREES	52,167	7,829	44,338	3.89	5.66	939,151
PRICE DECREASE 10%	37,364	9,073	28,291	3.92	3.12	1,098,260
PRICE DECREASE 15%	34,969	8,590	26,379	3.94	3.07	1,043,975
PRICE DECREASE 20%	32,407	8,035	24,371	3.95	3.03	979,808
PRICE DECREASE 25%	11,361	3,330	8,031	3.84	2.41	394,986
MCST +10%	40,204	9,573	30,631	3.91	3.20	1,154,279
MCST +20%	38,742	9,333	29,409	3.91	3.15	1,126,826
MCST +30%	37,169	9,047	28,121	3.92	3.11	1,094,736
MCST +40%	35,693	8,775	26,919	3.93	3.07	1,063,060
PCST +10%	40,265	9,574	30,691	3.91	3.21	1,154,912
PCST +15%	39,431	9,426	30,004	3.91	3.18	1,138,733
PCST +20%	38,123	9,185	28,937	3.92	3.15	1,112,206
PCST +25%	37,557	9,082	28,475	3.93	3.14	1,100,585

	SENSITIVITY COMPARISONS: REV FACT 1 SHELLS. Indicated only. WAHOO.					
	Rock kt	Ore kt	Waste kt	TGC %	Strip t/t	Recovered Tonnes Graphite
BASE CASE	4,565	1,581	2,984	3.27	1.89	159,647
SLOPES FLATTEN 05 DEGREES	4,662	1,547	3,116	3.26	2.01	155,446
SLOPES FLATTEN 10 DEGREES	4,753	1,498	3,255	3.25	2.17	150,162
SLOPES FLATTEN 15 DEGREES	4,934	1,437	3,496	3.24	2.43	143,838
SLOPES FLATTEN 20 DEGREES	4,916	1,326	3,590	3.23	2.71	132,329
PRICE DECREASE 10%	3,916	1,350	2,566	3.37	1.90	140,476
PRICE DECREASE 15%	3,034	1,062	1,972	3.47	1.86	113,834
PRICE DECREASE 20%	2,060	745	1,316	3.61	1.77	82,878
PRICE DECREASE 25%	1,326	510	816	3.68	1.60	58,021
MCST +10%	4,384	1,549	2,835	3.27	1.83	156,351
MCST +20%	4,275	1,525	2,751	3.27	1.80	154,041
MCST +30%	4,052	1,472	2,580	3.28	1.75	148,936
MCST +40%	3,821	1,413	2,408	3.29	1.70	143,242
PCST +10%	4,325	1,457	2,868	3.35	1.97	150,497
PCST +15%	4,165	1,370	2,795	3.40	2.04	143,771
PCST +20%	3,902	1,276	2,626	3.44	2.06	135,552
PCST +25%	3,728	1,191	2,536	3.49	2.13	128,472

Emperor Sensitivities

The primary comparison is in terms of recovered graphite tonnes. Every single change in parameter results in some loss of metal.

With regard to price changes the drop in total metal comes with a commensurate drop in strip ratio so the impact is simply that the operations life is shortened - as long as the staged pits are being mined at the lower strip ratios. Therefore, it is suggested that price is not a determining factor for the initial project but that at regular intervals the price forecast will need to be looked at for the viability of ST03 and ST04 pits.

Mining costs and processing costs are parameters where the strip ratio matches the cost increase so that the final pit is reduced in size. This means that there is no issue with the first three stages, but that some optimisation and design work is required before committal to starting ST04. Simply proving up some inferred or changing the design to bring some more ore in could be enough to compensate an increase to the unit cost rate of mining and processing; even a 40% increase in the unit mining cost and a 25% increase in the unit processing cost.

Slopes are where the real issue is. A decrease in slope angle of 5 degrees reduces recovered graphite by 2.3% and increases the strip ratio by 14%. This is significant but likely to be manageable in that it would reduce profit but not necessarily change the project. Moving to a change of 10 degrees decreases graphite by 6.4% but increases the strip ratio by almost 30%. This would constitute a significant change to the project economics.

What is interesting is that, based on the cost inputs provided, a change in slopes of 20 degrees reduces recovered graphite by 21% and increases the strip ratio by 73% but still recovers 939kt of graphite and makes a profit. This is an optimisation model though and it is unlikely that the cashflow model agrees.

This means that slopes are the most important input to get right for Emperor and the significant work done by Terra Firma Australia on the Emperor deposit should give the required confidence in proceeding with the current staged designs.

Wahoo Sensitivities

Wahoo is a pit that will be mined in the first 4 years of the project life so longer-term analysis in not required. What the optimisation sensitivities show is that the current pit design should be optimised and designed with the latest information as close to the mining date as possible because 2 of the 4 parameters (mining cost and processing cost) having moderate impacts on the design with the loss graphite again matched by a reduction in final pit size.

Slopes have a significant impact, so it is highly recommended that a dedicated geotechnical program is done for Wahoo since it is a pit required to deliver ore to the plant while Emperor is being developed for primary production.

Reductions in price have the greatest impact and the impacts are great enough to reduce the size of the economic portion of the deposit to the point where it does not serve the purpose of aiding in the development of Emperor. If there is a real risk to price, then it would be recommended that staged pits are developed for Wahoo as well to aid in the development of Emperor.

Staged Pit Designs

The optimisation work shows that there are only minor gains in overall economics with different designs and with staging, but what the optimisations do not show is the early cashflow with the requirement to pre-strip waste from Emperor.

The design parameters used for the two pits are:

Fresh Rock		Upper 15m to 20m	
East wall	65°	East wall	60°
West Wall	70°	West wall	65°
North wall	65°	North wall	60°
South wall	65°	South wall	60°

Berms are 6m wide every 20m vertically.

With the schedule only using a single excavator for the life of the mine, there was no need to accommodate 2-way haulage for the ramps. They were all designed at 16m width expanding to 22m at berm intersections to all for 100t rigid body dump trucks to pass each other.

There are many opportunities for the operation to expand the plant size after Emperor ST01 and it is expected that the final stages will be redesigned in the early years of the project.

Table 10. Staged design quantities Emperor and Wahoo

EMPEROR	OXIDE ORE			FRESH ORE			TOTAL ORE			WASTE	
	BCM	Tonnes	TGC OK	BCM	Tonnes	TGC OK	BCM	Tonnes	TGC OK	BCM	Tonnes
EMP_ST00 VER02	0	0	0.00	221	626	2.64	221	626	2.64	547,731	1,432,853
EMP_ST01 VER02	0	0	0.00	232,438	657,798	3.99	232,438	657,798	3.99	827,283	2,307,008
EMP_ST02 VER01	0	0	0.00	283,814	803,192	3.53	283,814	803,192	3.53	1,341,535	3,629,594
EMP_ST03 VER02	0	0	0.00	810,423	2,293,497	4.27	810,423	2,293,497	4.27	2,883,707	7,951,679
EMP_ST04 VER01	0	0	0.00	2,062,563	5,837,052	3.91	2,062,563	5,837,052	3.91	5,844,513	16,161,916
TOTAL	0	0	0.00	3,389,459	9,592,165	3.97	3,389,459	9,592,165	3.97	11,444,769	31,483,050

CONTAINED GRAPHITE	STRIP RATIO
Tonnes	t/t
380,860	3.28

WAHOO	OXIDE ORE			FRESH ORE			TOTAL ORE			WASTE	
	BCM	Tonnes	TGC OK	BCM	Tonnes	TGC OK	BCM	Tonnes	TGC OK	BCM	Tonnes
WAHOO_ST01 VER01	64,625	171,938	3.24	301,312	858,262	3.31	365,937	1,030,200	3.30	988,750	2,685,863
WAHOO_ST02 VER01	6,219	16,396	3.06	170,875	486,952	3.44	177,094	503,348	3.43	459,218	1,285,794
TOTAL	70,844	188,334	3.23	472,187	1,345,214	3.36	543,031	1,533,548	3.34	1,447,968	3,971,657

CONTAINED GRAPHITE	STRIP RATIO
Tonnes	t/t
51,241	2.59

Emperor

Emperor ST00 - Prestrip

The image below of the Prestrip pit shows that it is a relatively small excavation only 15m deep but contains 550k bcm of rock of which 142k bcm is fresh waste and 394k bcm is oxide waste. The remaining 12k bcm is very low-grade ore that will probably be mined as mineralised waste and stockpiled separately.

This waste pit is a startup required to provide the waste for the building of the tailing's storage facility, general haul roads and other mine infrastructure. The design of the pre-strip Emperor pit is shown in the figure below.

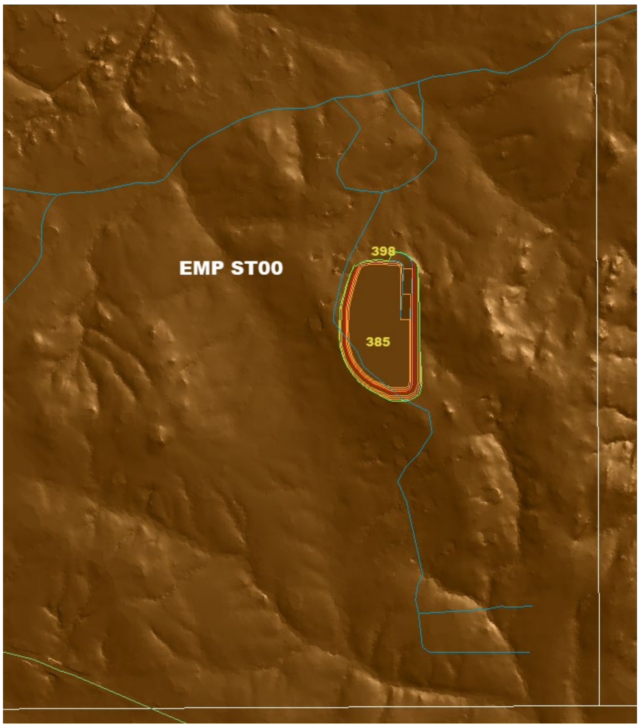


Figure 25. Emperor ST00

Emperor ST01

Emperor ST01 extends the prestrip pit down a further 40m to 345mRL. This pit mines a further 933k bcm of rock containing 5.81Mt of ore @ 3.91% TGC using a 2% cutoff. The pit contains also contains 600kt of inferred material.

A great deal of geotechnical knowledge should be obtained from this pit that will allow for some possible updates to the remainder of the staged designs.

This pit is 240m long and 120m wide so there is plenty of room for all parts of the mining cycle to occur safely.

Figure 26. Emperor ST01

Emperor ST02

The stage 2 pit cuts back at the west and south with none of the old ramps reused. To manage ore supply with the above/below mining issues it is expected that the Wahoo stages will need to be mined at the same time.

The pit gets to almost 400m in length at the surface so there is ample room for all parts of the mining cycle.

At almost 80m depth the pit is not small and, at the current mining rates, takes the schedule out to YR5.

This stage mines 4.4Mt of rock containing 800kt of ore at 3.5% TGC using a 2% cutoff.

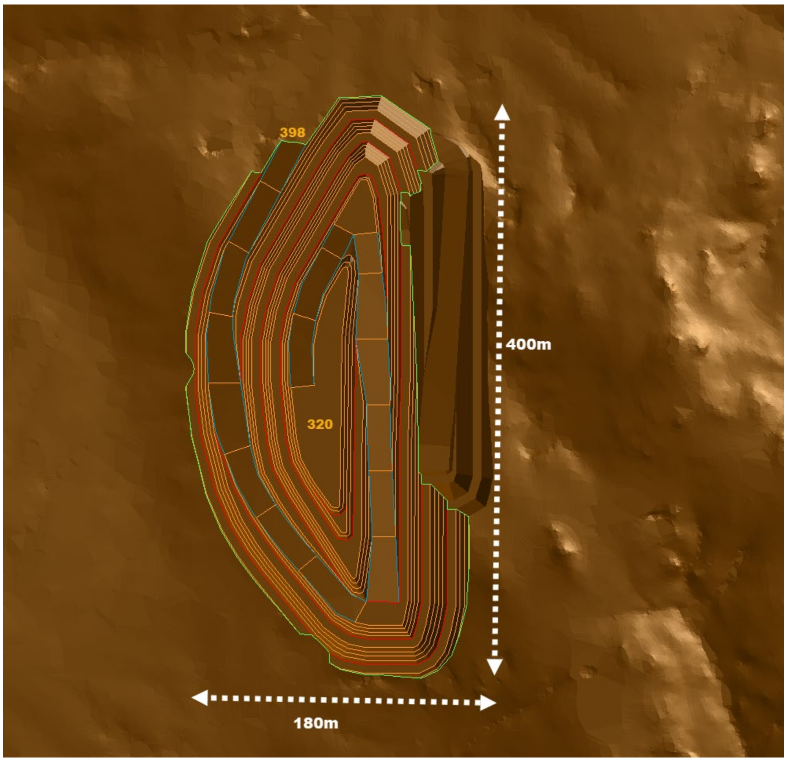


Figure 27. Emperor ST02

Emperor ST03

Emperor stage 3 cuts back the west wall predominantly and gets down another 50m deeper. At this stage the pit is getting to the base of the axis between the two limbs of the synclinal structure.

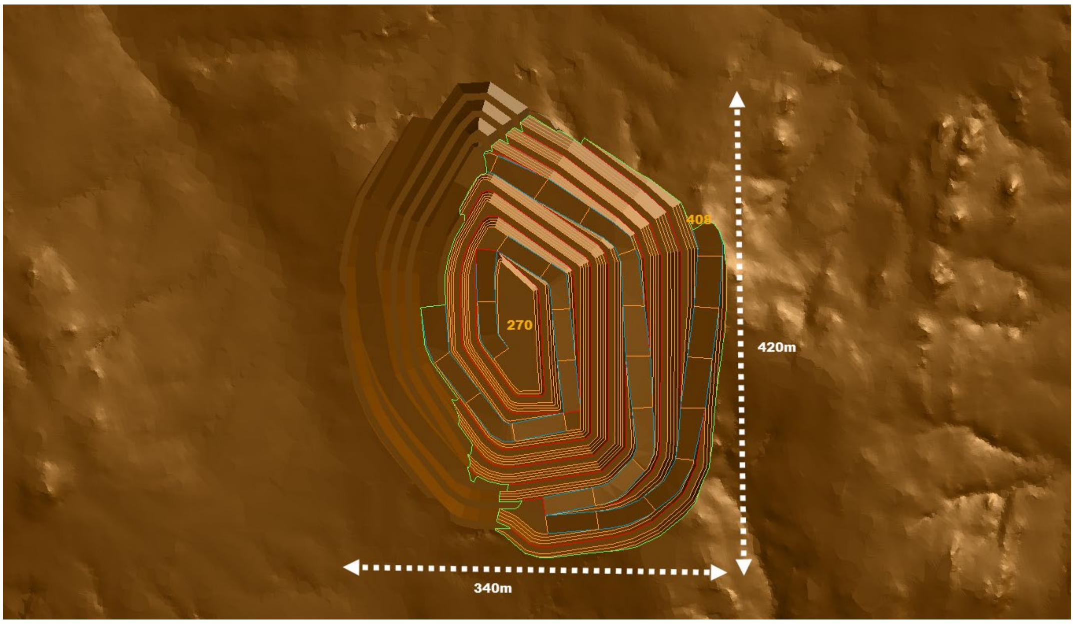


Figure 28. Emperor ST03

Only the NW part of the upper pit is final wall. The remainder will be cutback 1 more time.

Emperor ST03 will mine 10.2Mt of rock containing 2.3Mt of ore at 4.3% TGC.

Emperor ST04

The stage 4 pit has cutbacks on almost all walls.

This is the first pit that is oriented along the ore body; all previous stages were in a subset that did not need to be oriented along the strike of the orebody.

There are many opportunities to mine down on the left and right limbs and the optimisation will want to go down on these limbs if some of the inferred within the limbs is converted to indicated.

This final stage mined 22Mt of rock with 5.8Mt of ore at 3.9% TGC.

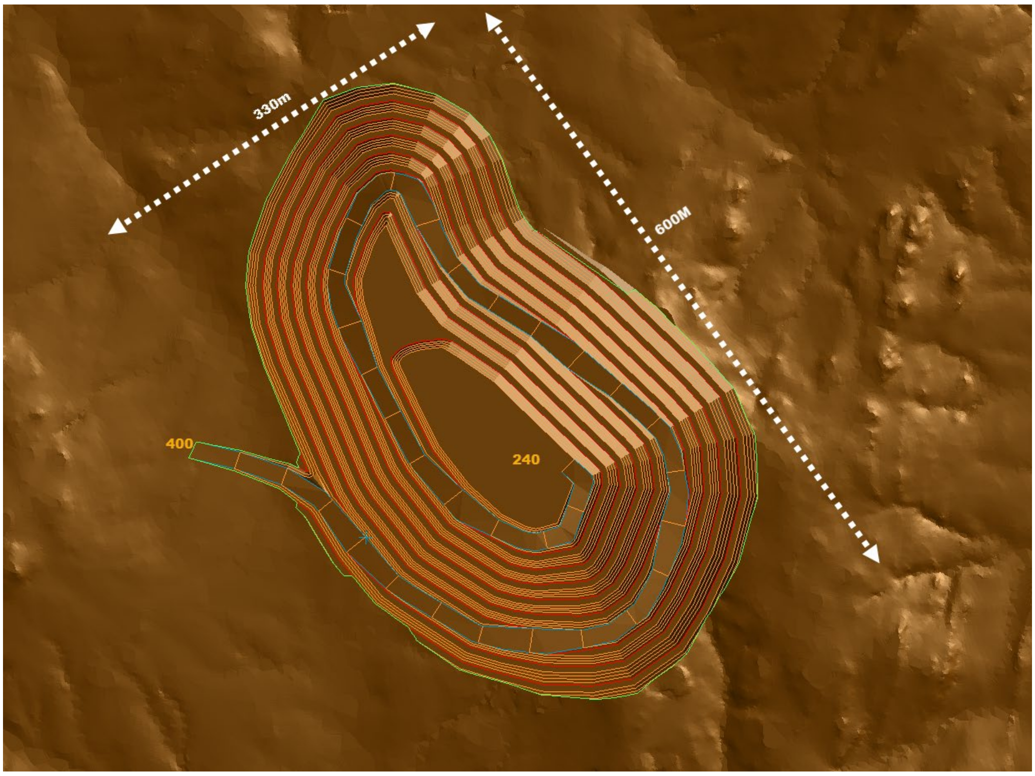


Figure 29. Emperor ST04

Wahoo

Wahoo is almost 4km NW of Emperor and will be mined at the same time as Emperor so a low loader will be needed to move the excavator and drills between the pits. Wahoo is needed to support the waste stripping at Emperor and provides high quality ore early in the mining schedule. It would be preferable to mine Wahoo as a single stage, but there was a need to defer some of the waste to meet ore supply needs.

Wahoo ST01 gets to 385mRL and then the 55m cutback to complete the pit is done and the pit extends to 315mRL. The total takes 6 years within the current schedule.

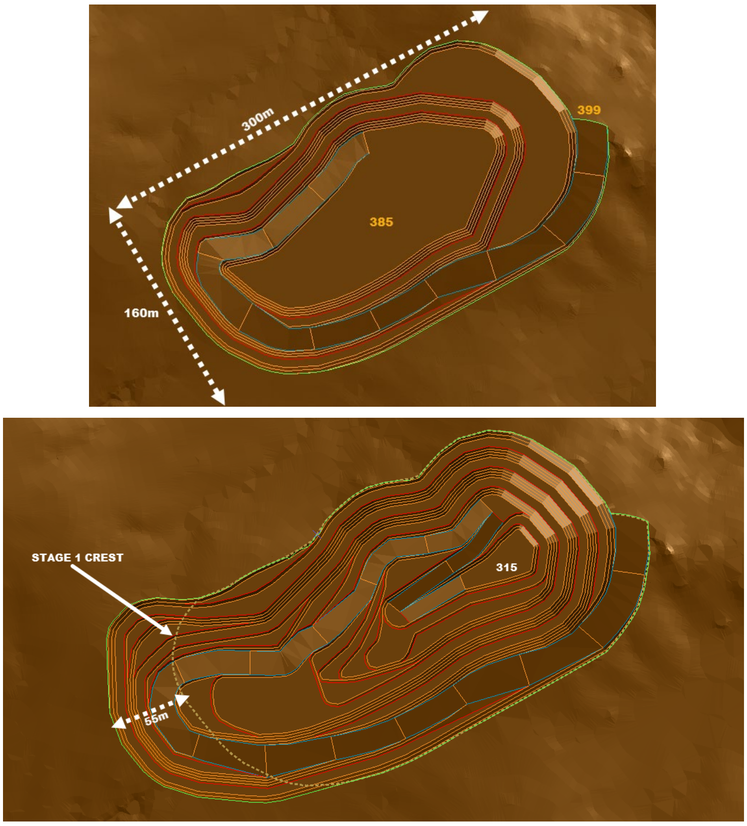


Figure 30. Wahoo ST01 and ST02

The combined Wahoo stages have a low strip ratio of 2.6 with 5.5Mtof rock mined containing 1.5Mt of ore at 3.3% TGC.

Mining and Processing Schedule

The mining schedule developed for the PFS was designed to have the process plant maintain a constant rate of production over the life of mine of approximately 380,000 tpa of ore processed to produce approximately 13,500 tpa of graphite concentrate. To achieve this, the mine production profile decreases over time as waste over burden is removed and ore strip ratios decrease, see figure 31 below. This presents a positive upside to future studies, as the potential exists to reverse this constraint and have mining rates constant over the life of mine. Mine scheduling and cost analysis work has commenced on this scenario, with preliminary results being positive. This work will continue with further studies.

Minesched scheduling software was used to create the schedule and all of the schedule charts nominally start in Jan 2026. This should be read as YR1 with the end of the schedule in 2057 being YR32.

Mining is using a single PC1250 excavator on dayshift only mining 6,500tpd. This mining rate drops off after EMP_ST03 is complete in YR14.

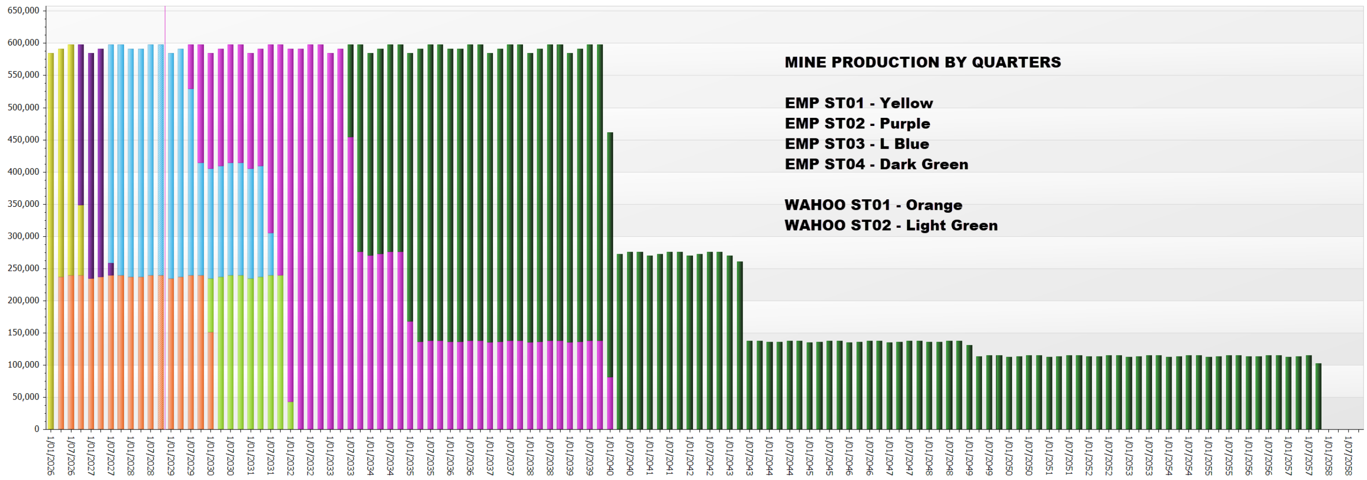


Figure 31. Mine Production by quarters

The ore mining from this schedule is very regular with only the start of YR06 relying solely on stockpiles. With approximately 32kt of ore required per month there is a need for around 100kt per quarter to be mined. But that does not take grade ranges and the target mill grades into account.

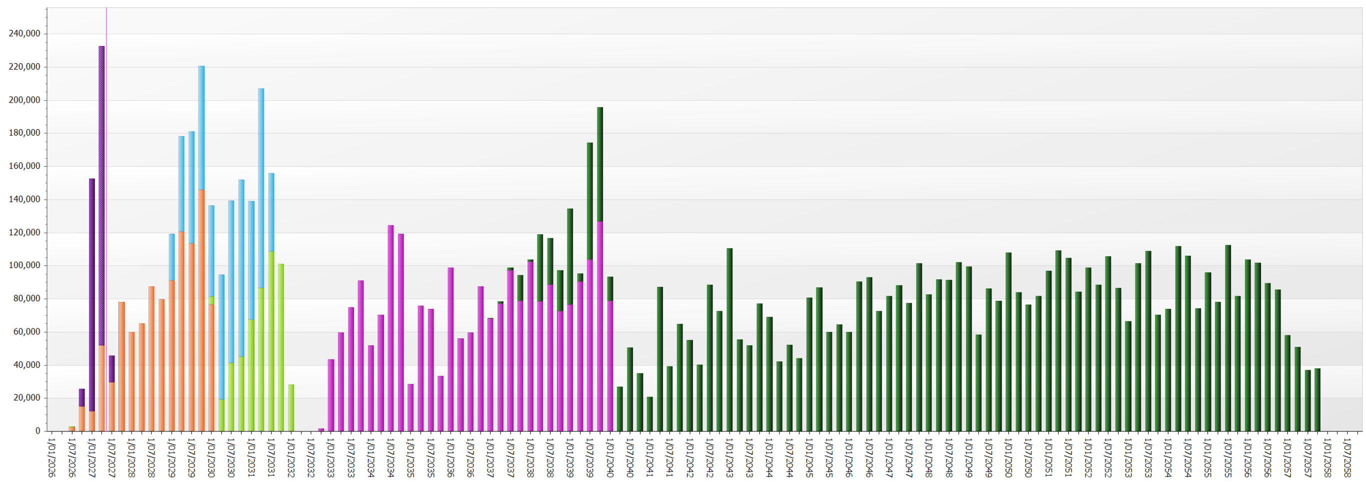


Figure 32. Ore mining by stage and by quarters

With the target head grade of 3.6% TGC for most of the schedule all HG ore is used as soon as it is mined resulting in VLG being left on stockpiles. As the grade comes up, this changes to be balanced until there is just HG and MG on stockpiles; at this time the head grade through the process plant must increase.

The processing chart below shows that the schedule can meet throughput and grade targets except for after YR23 when the head grade needs to increase.

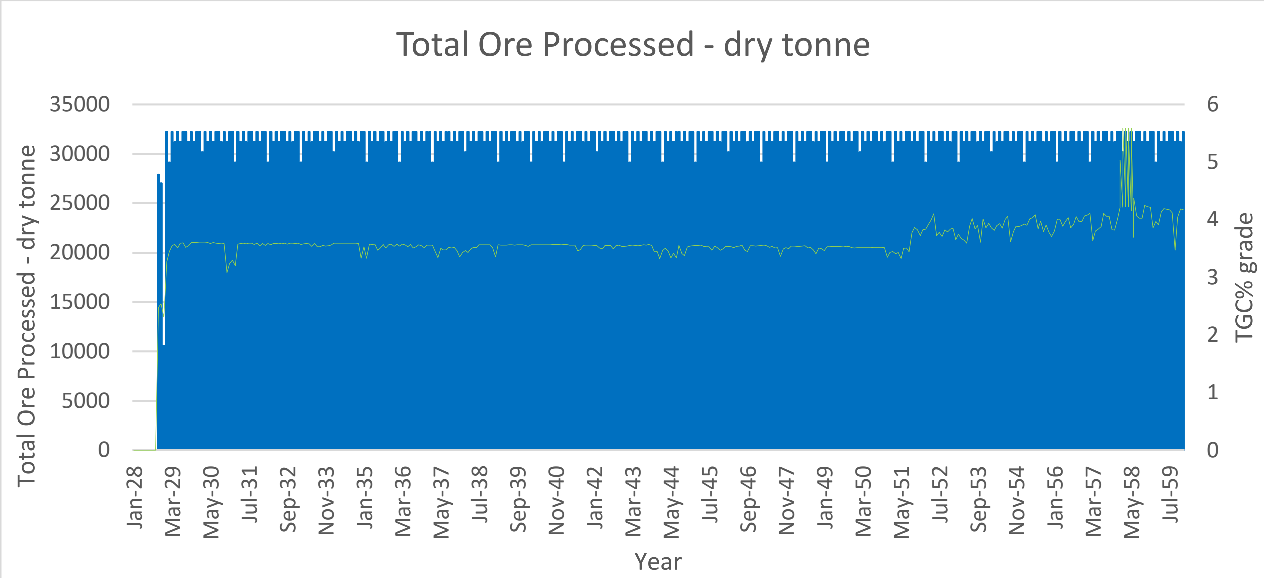


Figure 33. Processing tonnes and head grade

Mining Cost Modelling

Cost estimation was completed for both direct mining (open pit mining) as well as indirect costs (owners mining related). The overall basis for the mining cost estimation is:

1. Mining physicals as per the PFS-VER01 scenarios as developed by Mine Planning Services. This covered Wahoo Stages 1 and 2 as well as Emperor Stages 0 to 4.
2. Open pit costs reflecting a contract mining arrangement.
3. First principles modelling by Minero Consulting. The first principals modelling allowed flexibility to model multiple schedule/operating setup scenarios with allowance for contractor margin and offsite overheads.
4. Mining Owners overheads estimation. This was also done on a first principals basis, to include mine management and technical services.
5. Contract mining includes:
   a. Mobilisation and site establishment.
   b. Drill & blast of pit stage ore and waste.
   c. Load and haul of ore and waste to respective stockpiles.
   d. Demobilisation of contractor equipment.
6. Mining cost modelling excludes:
   a. Ore feed from the ROM pad to the crusher.
   b. Tailings dam works.
7. Equipment selection. The cost modelling was based on:
   a. Top hammer blasthole drills.
   b. 100 tonne class excavators loading 90 tonne payload ridged chassis dump trucks: Y1-Y14.

c. 65 tonne class excavators loading 45 tonne payload articulated dump trucks: Y15 onwards.

d. Ancillary equipment (dozing, grading, dust suppression) suited to the above.

8. Shift operating philosophy to align with the mining schedules:

a. Years 1-14: 14-7 shift roster, 12 hr shifts, single panel.

b. Years 14 onwards: 14-7 shift roster, 12-hour shifts, single panel. Ultimately transitioning to a one year mining campaign, followed by one year non mining, where processing draws off ROM ore stocks.

Figure 34 shows the setup of total material mining in bcms. Note the mining campaigns from 2045 onwards.

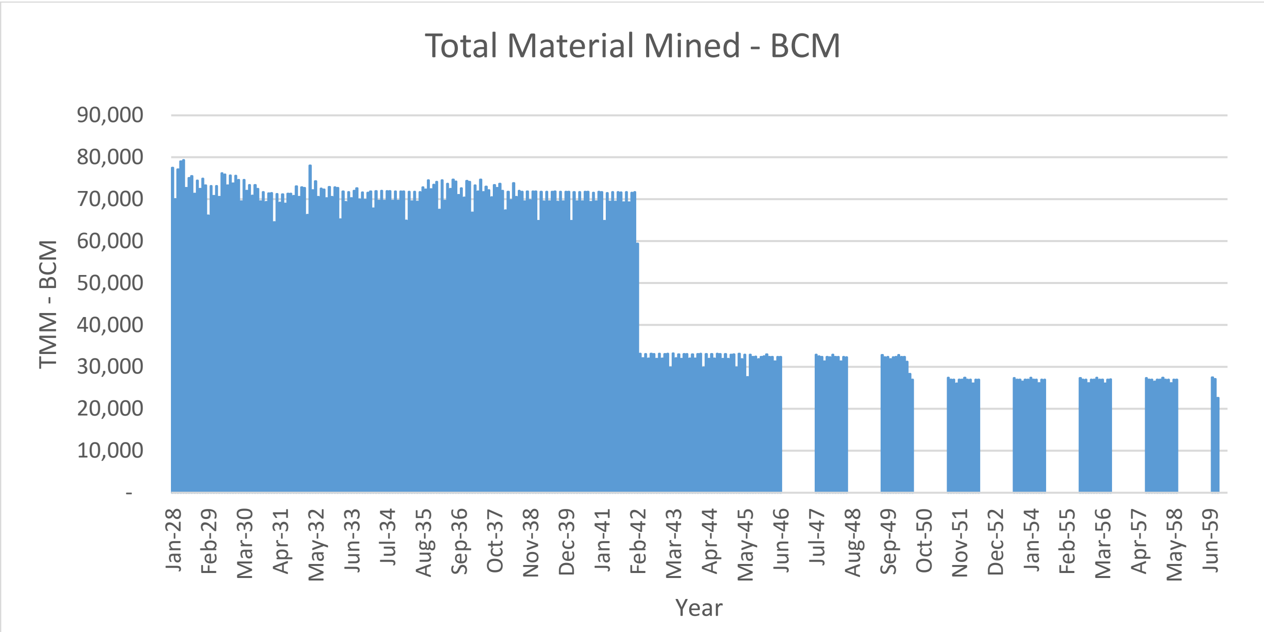
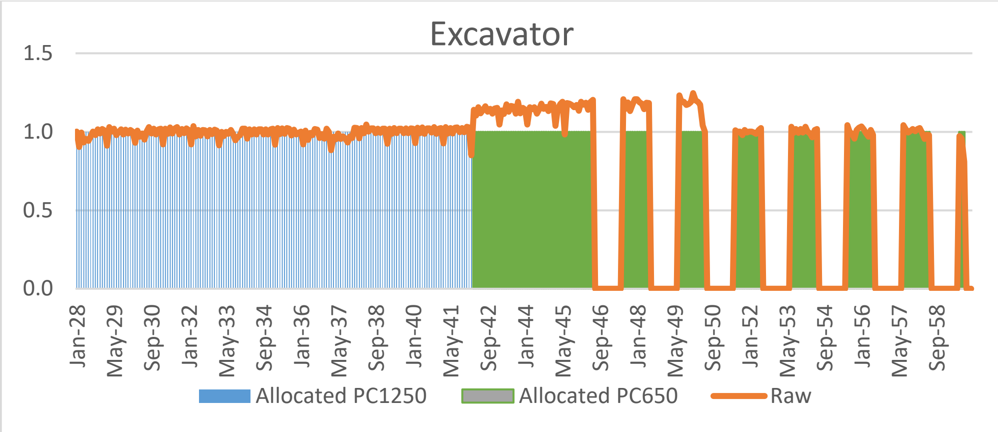


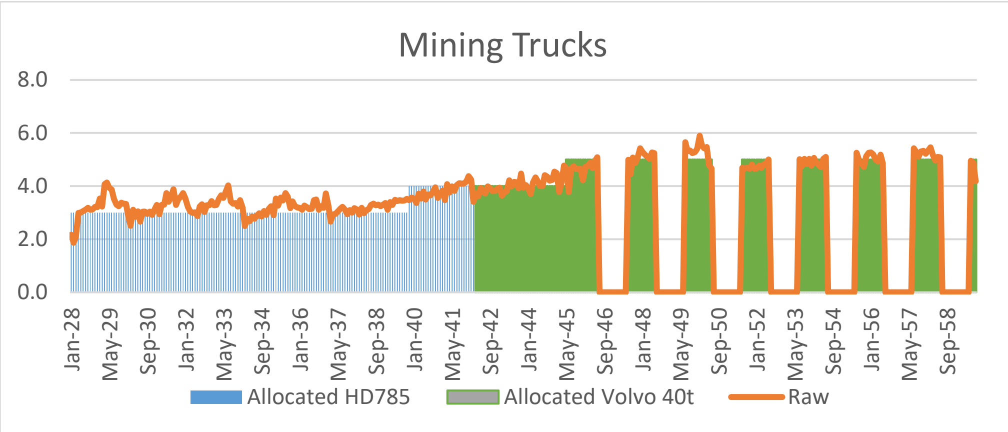
Figure 34. Total Material Mined: Mining Campaigns

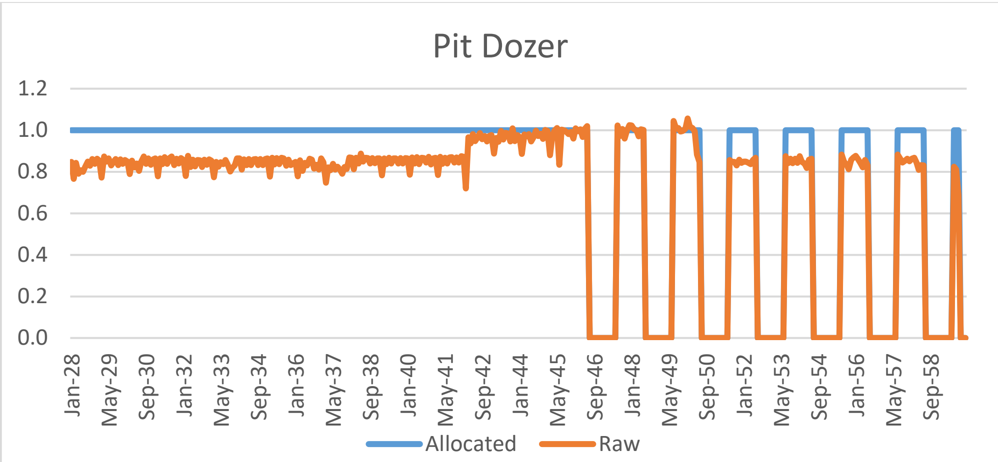
Output Physicals

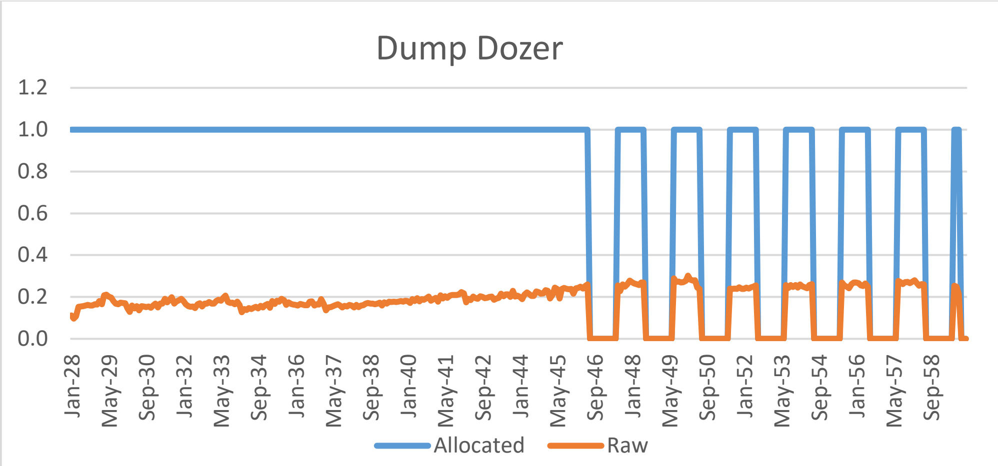
Key Mining Equipment Numbers

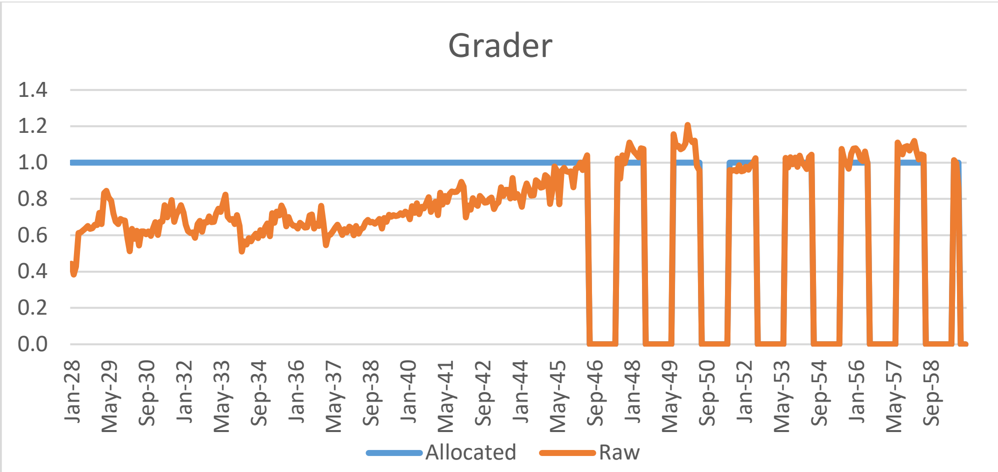
Figure 35 below shows key raw and allocated mining equipment based on the roster/shift setup, equipment productivity and available equipment annual hours.

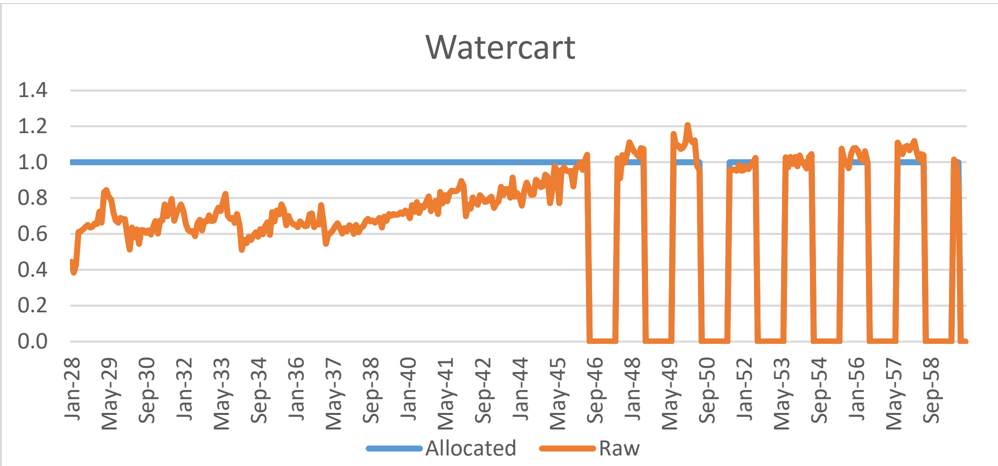

Excavator
1.5
1.0
0.5
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated PC1250
Allocated PC650
Raw


Mining Trucks
8.0
6.0
4.0
2.0
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated HD785
Allocated Volvo 40t
Raw


Pit Dozer
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated
Raw


Dump Dozer
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated
Raw


Grader
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated
Raw


Watercart
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Jan-28
May-29
Sep-30
Jan-32
May-33
Sep-34
Jan-36
May-37
Sep-38
Jan-40
May-41
Sep-42
Jan-44
May-45
Sep-46
Jan-48
May-49
Sep-50
Jan-52
May-53
Sep-54
Jan-56
May-57
Sep-58
Allocated
Raw

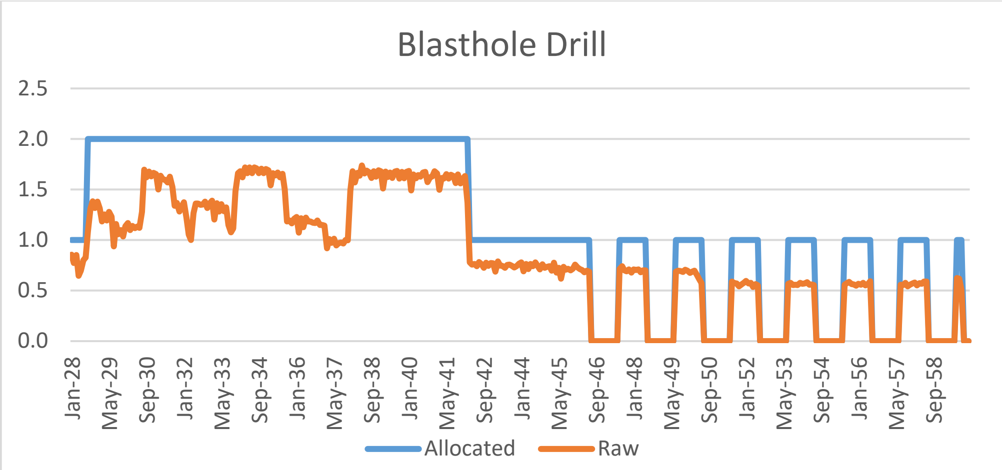


Figure 35. Mining equipment numbers by year

Additional Equipment Numbers

Table 11 provides the additional contractor equipment requirements.

Table 11. Support equipment allocation

Support equipment	No.
Service truck	1
Stemming loader	1
Drill truck	1
LV Drill & Blast	2
Tool Carrier	1
Coaster bus	1
LV Wagon	2
LV Tray backs	2
Light truck	1
Crane	1

Direct Mining Fuel

Figure 36 provides the estimated mining fuel based on the allocated fuel burn rates.

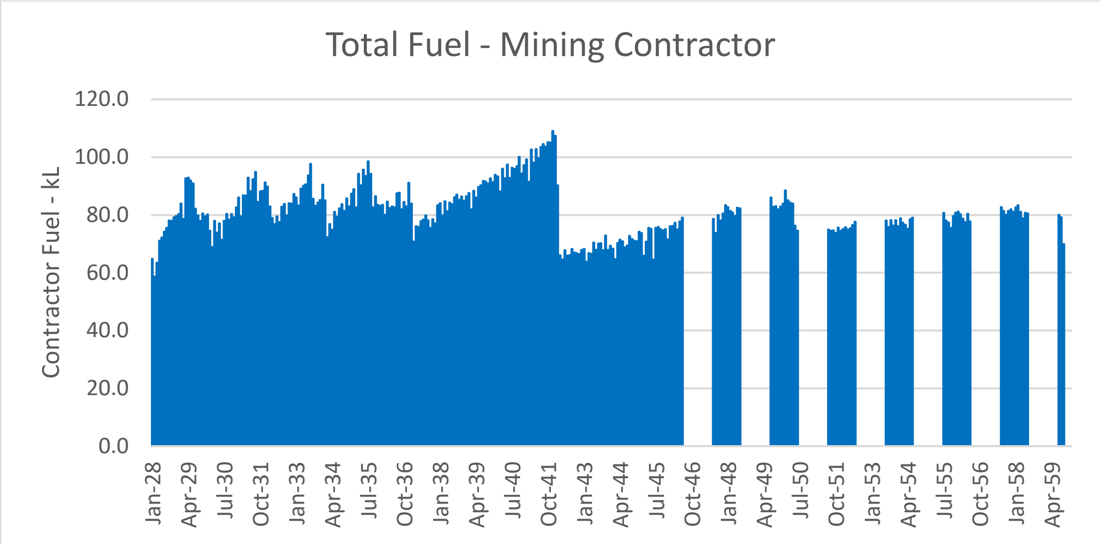


Figure 36. Mining Contractor Fuel

Mining Contractor Personnel

Based on the required equipment numbers and activities, allocated contractor numbers are summarised in table 12.

Table 12. Mining Contractor Personnel

Operators	Number
Excavator op	1
Truck drivers	3-5
Dozer/grader	1-2
Watercart	1
Driller	0.5-1
Shotfirer	0.5-1
Blastcrew	1
Maintenance	
LH Fitters	1
Drill Fitter	1
Shift Fitters	1-2
All Trades/Autoelect	1
Serviceman	1
Staff/Supervision	

Operators	Number
Project Manager/Supervisor	1
Safety & Training Officer	1

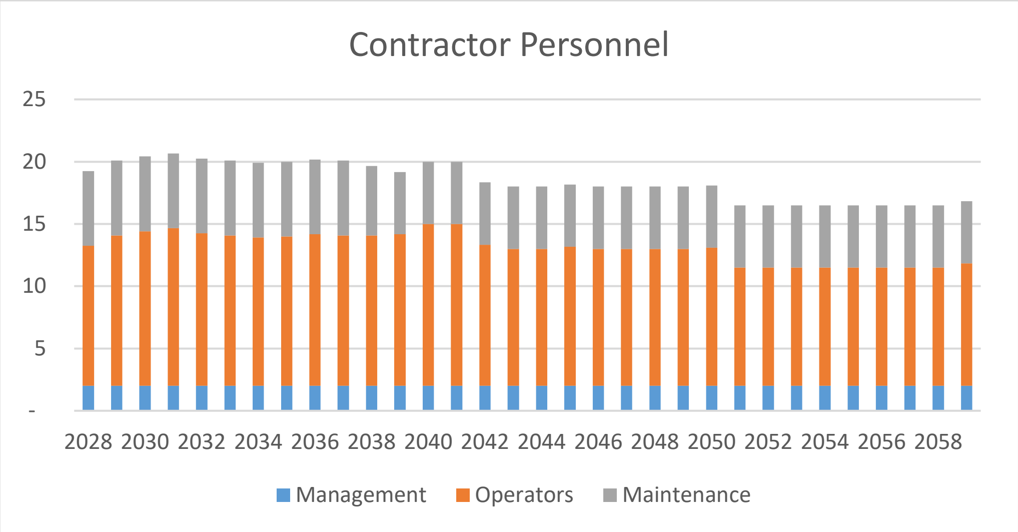


Figure 37. Contractor Personnel Numbers

Contractor Costs

Operating Costs

Contractor costs are based on current market rates for labour, plant operating, plant owning and mining consumables. Table 13 provides the cost basis.

Table 13. Mining Cost Driver Areas

Cost category	Comment
Operating Labour	Market rates $/hr + oncosts, operators and maintenance
Plant maintenance costs	Covers the following as equipment life average $/hr rates: Service parts Major components Bucket/tray/blade maintenance GET Lubrication Tyres Equipment damage Unscheduled maintenance

Cost category	Comment
Plant ownership	Based on the following as $/hr or $/mth: Plant purchase cost Equipment life Residual value Resultant periodic payment rate based on a finance and insurance rate,
Fuel	Quantities based on fuel burn rates. Cost based on $1.52/L net rate.
Drill consumables	Based on current drill consumables costs and estimated component lives. This covers: Drill rods Drill bits Shanks Drill oil
Blast consumables	Based on current industry rates. This covers: Explosives Detonators Boosters Surface connectors and lead in lines Collar pipe Stemming
Fixed cost personnel	Covers management and OH&S salaries as a fixed monthly cost
Operating overheads	Covers fixed monthly allowances for: Office Workshop General Mining Blasting
Additional	This covers: Contractor margin (12.5%), excluding fuel which is allocated as a client supply item. Contractor offsite overheads as a fixed monthly cost Dayworks allowance as 3% of variable costs

Figure 38 provides the total Contractor costs by year.

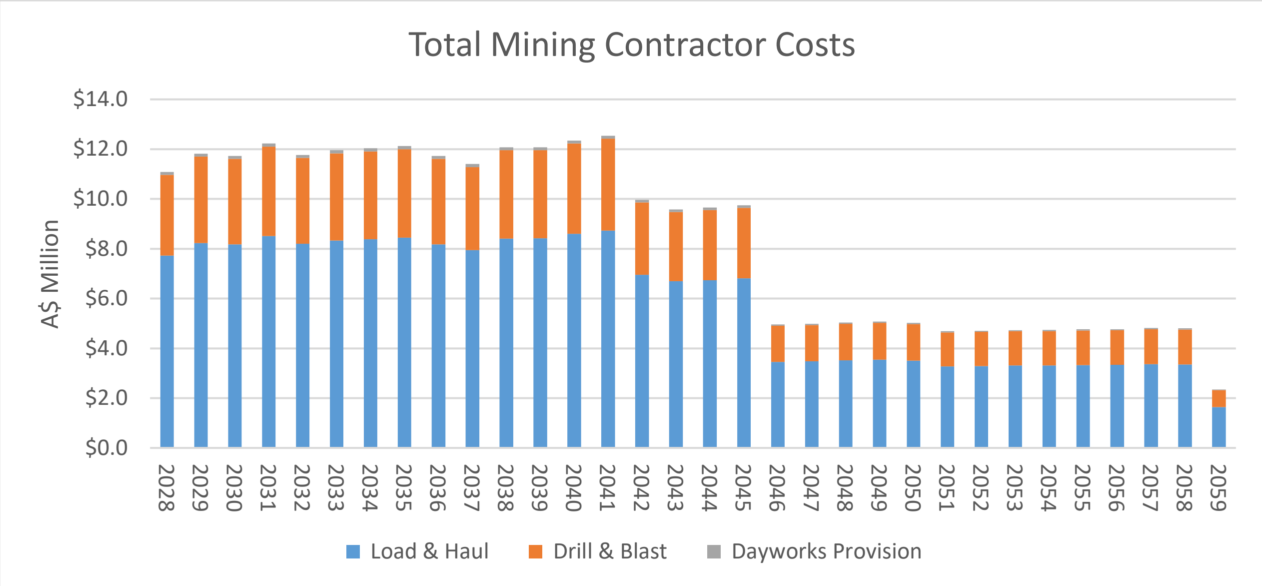


Figure 38. Total Mining Contractor Costs

Opportunities

The length of time that it takes to mine the Emperor deposit creates a range of opportunities. Most of these are around increasing production with an increase in plant size but there are also opportunities that should be explored in the execution phase. These include:

1. Change the mining schedule including the process grade targets to manage stockpiles to being a more manageable size.
2. Do some resource drilling that will indicate if the pit will drive down further on the synclinal limbs and to define where the waste dump limits are:
    a. Optimise the location of the Emperor dumps.
3. Look more closely at the staged designs to better manage above/below mining and minimum mining width in cutbacks; this applies particularly to the mining of ST04.

Ore Reserves

Based on the inputs and variables above, the mining schedule produces 443,435t of 95% TGC concentrate. The additional 6.8kt of concentrate is the result of inclusion of inferred material in the schedule. Most of this inferred is VLG material from the Emperor pit and represents 1.5% of the total ore mined.

Classification	Cut-Off TGC OK%	Tonnes kt	Grade TGC OK%	Mined Graphite Tonnes	95% graph concentrate Tonnes
EMPEROR	2.00%				
PROVED					
PROBABLE		9,592.2	3.97	380,860	384,869
SUB-TOTAL		**9,592.2**	**3.97**	**380,860**	**384,869**
WAHOO	2.00%				
PROVED					
PROBABLE		1,533.5	3.34	51,241	51,780
SUB-TOTAL		**1,533.5**	**3.34**	**51,241**	**51,780**
TOTAL		**11,125.7**	**3.88**	**432,101**	**436,649**

Emperor has 10% dilution for all ore blocks.
The recovered grade is the measured grade multiplied by 0.9. This manages the ore loss for Emperor.

Wahoo has the dilution and ore loss managed through the reblocking process.

Concentrate tonnes are at 95% grade and include the mill recovery of 96%.

The mining schedule includes some inferred that totals 6.5% of total ore tonnes. This is discussed in the PFS report and Table 1.

METALLURGY

Historical Test work

Test work on Graphitic Reverse Circulation Drill Chips – ALS Metallurgy

In March 2015, ALS Metallurgy conducted heavy liquid separation (HLS) tests on reverse circulation (RC) drill core chips. Two samples (T6GCRC124 and T6GRC093) were crushed to 100% passing 1 mm and screened at 250 microns, 106 microns, and 75 microns. Each size fraction was subjected to HLS testing at a density of 2.3 g/cm^3. The floats and sinks were submitted for total carbon and sulphur analysis as well as loss on ignition (LOI) at 375°C, 650°C, and 1,000°C.

The HLS tests yielded some upgrading with float products grading between 66% C(t) and 92% C(t). However, graphite losses to the sinks were high at 25.2% to 52.9%. No economic values for Au, Pt, Pd, Cu, Co, and Ni were identified in any of the size fractions.

Based on these results, gravity separation of the mineralized material is considered not viable.

Emperor and Wahoo Phase I Laboratory Program – ALS

A laboratory flotation program was completed between May 2015 and January 2016. A total of nine cleaner flotation tests were completed on samples from the Emperor (T6) and Wahoo (T4) deposits using a combination of flotation, gravity separation, and magnetic separation. A list of the drill core intervals that were used to prepare the Emperor flotation composite is provided in table 14 and a summary of the pertinent mass balance results is provided in table 15. No drill core intervals for the Wahoo flotation composite have been located.

Table 14. Emperor Composite Drill Hole and Sampling Intervals

Hole ID	Interval		
	From	To	Metres
T6GDD173	84	90	6
T6GDD173	119	126	7
T6GDD164	47	53	6
T6GDD164	62	66	4
T6GDD167	145	156	11
T6GDD167	158	170	12
T6GDD168	111	119	8

Emperor Phase I Laboratory Program – ALS

Table 15. Batch Cleaner Tests for Emperor (T6-1 to T6-9)

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
T6-1 Ro P100 = 600 microns Regrind #1 – 8 minutes Regrind #2 – 5 minutes 4 Cleaners Gravity Separation Magnetic Separation	Final Conc	5.59	96.7	78.1
	Gravity Tails	5.62	96.6	78.3
	4th Cleaner Conc	6.21	88.7	79.6
	3rd Cleaner Conc	6.71	83.9	81.3
	2nd Cleaner Conc	10.1	56.5	82.6
	1st Cleaner Conc	12.2	48.1	84.6
	Rougher Conc	40/6	16.00	93.8
	Rougher Trail	59.4	0.72	6.18
	Calculated Head	100.0	6.92	100.0
T6-2 Ro P100 = 600 microns 2 Cleaners Gravity Separation Magnetic Separation	Final Conc	0.99	75.7	11.2
	Gravity Tail	1.20	70.4	12.5
	2nd Cleaner Cond	2.01	48.7	14.6
	1st Cleaner Conc	2.71	51.0	20.5

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
	Rougher Conc	5.6	45.5	38.1
	Rougher Tail	94.4	4.41	61.9
	Calculated Head	100.0	6.72	100.0
T6-3 Ro P100 = 600 Microns Regrind #1 – 14 minutes Regrind # 2 – 6 Minutes 4 Cleaners Gravity Separation Magnetic Separation	Final Conc	5.93	94.7	82.7
	Gravity Tails	5.97	94.6	83.1
	4th Cleaner Conc	6.01	94.4	83.4
	3rd Cleaner Conc	6.61	90.8	83.3
	2nd Cleaner Conc	9.32	65.5	89.8
	1st Cleaner Conc	10.9	56.6	90.5
	Rougher Conc	39.0	16.1	92.2
	Rougher Tail	61.0	0.87	7.8
	Calculated Head	100.0	6.80	100.0
T6-4 Ro P100 = 106 microns Regrind #1 – 10 minutes Regrind #2 – 7 minutes 4 Cleaners Magnetic Separation	Final Conc	6.18	97.4	89.2
	4th Cleaner Conc	6.20	97.4	89.3
	3rd Cleaner Conc	6.54	95.9	92.8
	2nd Cleaner Conc	7.64	84.2	95.2
	1st Cleaner Conc	8.93	73.0	96.5
	Rougher Conc	21.2	31.1	97.6
	Rougher Tail	78.8	0.21	2.4
	Calculated Head	100.0	6.76	100.0
T6-5 Rougher & Cleaner Upgrading of T6-4 Concentrate	Final Conc	98.8	97.9	99.0
	Rougher Conc	99.3	97.9	99.5
	Rougher Tail	0.66	68.1	0.5
	Calculated Head	100.0	97.7	100.0
T6-6	5th Cleaner Conc	5.92	98.0	85.4
	4th Cleaner Conc	6.12	98.0	88.2

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
Ro P80 = 106 microns Regrind #1 – 16 minutes Regrind #2 – 10 minutes 5 Cleaners	3rd Cleaner Conc	6.47	97.0	92.3
	2nd Cleaner Conc	7.16	89.6	94.3
	1st Cleaner Conc	8.66	76.3	97.1
	Rougher Conc	21.9	30.4	97.9
	Rougher Tail	78.1	0.42	0.8
	Calculated Head	100.0	6.80	100.0
T6-7 Ro P80 = 75 microns Regrind #1 – 16 minutes Regrind #2 – 10 minutes 4 Cleaners	4th Cleaner Conc	5.86	98.0	85.9
	3rd Cleaner Conc	6.14	97.4	89.5
	2nd Cleaner Conc	6.80	91.1	92.6
	1st Cleaner Conc	7.97	81.3	96.9
	Rougher Conc	16.6	39.4	97.8
	Rougher Tail	83.4	0.18	2.2
	Calculated Head	100.0	6.68	100
T6-8 Rougher & Cleaner Upgrading of T6-6 Concentrate	Final Conc	82.5	98.7	83.1
	Rougher Conc	92.3	98.5	92.9
	Rougher Tail	7.66	90.9	7.1
	Calculated Head	100.0	97.9	100.0
T6-9 Rougher & Cleaner Upgrading T6-7 Concentrate	Final Conc	86.3	99.0	86.6
	Rougher Conc	95.4	98.9	95.7
	Rougher Tail	4.59	92.9	4.3
	Calculated Head	100.0	98.6	100.0

Test T6-1 employed a primary grind of P100 = 600 microns prior to rougher flotation followed by two stages of regrinding and four stages of cleaning. The 4th cleaner concentrate was subjected to gravity and magnetic separation. The final concentrate graded 96.7% C(t) at 78.1% open circuit graphite recovery. While magnetic separation did not result in meaningful upgrading, gravity separation improved the 4th cleaner concentrate grade from 88.7% C(t) to 96.6% C(t) at very small incremental graphite losses of 1.3%.

Test T6-2 simplified the flowsheet by eliminating the two regrind stages and 2 cleaner flotation stages before gravity and magnetic separation. A 75% kerosene dosage reduction in the rougher led to very high graphite losses to the rougher tailings of 61.9%, thus making it impossible to assess the cleaning circuit performance.

Test T6-3 was a repeat test of T6-1 with a 75% longer grind time in regrind mill #1 and 20% longer grind time in regrind mill #2. While the open circuit recovery increased slightly from 78.1% to 82.7%, the final concentrate grade decreased from 96.7% C(t) to 94.7% C(t). The concentrate grade gain of the gravity separation circuit was much lower in test T6-3 at only 0.2%.

Test T6-4 was a repeat of test T6-1 with the finer primary grind size of P80= 106 microns, slightly longer regrind times and elimination of the gravity separation circuit. The test produced the highest final concentrate grade of 97.4% C(t) at an open circuit graphite recovery of 89.2%. The magnetic separation did not produce any noticeable upgrading and was eliminated in all future tests. Gravity separation was already eliminated after test T6-3.

The final concentrate of test T6-4 was subjected to conditioning with sodium cyanide followed by rougher and cleaner flotation in test F6-5. The resulting concentrate grade improved by 0.5% to 97.9% C(t) at an open circuit graphite recovery of 99%.

The last two completed full cleaner tests, T6-6 and T6-7, employed primary grind sizes of P80 = 106 microns in test T6-6 and P80 = 75 microns in test T6-7. The two regrind times of 16 minutes and 10 minutes were identical in the two tests and T6-6 included a 5th cleaner stage. Both tests produced identical concentrate grades of 98.0% C(t) at almost identical open circuit graphite recoveries of 85.4 to 85.9%.

The concentrates of both tests were reground for 12 minutes, and the mill discharge was cleaned twice. The resulting concentrate grades were 98.7% C(t) in T6-8 and 99.0% C(t) in test T6-9. The open circuit recoveries were similar at 83.1% in test T6-8 and 86.6% in test T6-9.

The final concentrates of tests T6-1, T6-2, and T6-3 were submitted for a size fraction analysis. Only the results of tests T6-1 and T6-3 are presented since the final concentrate grade of T6-2 of 75.7% was too low to be considered a saleable concentrate. The results of the size fraction analysis on the T6-1 concentrate and sizing on the T6-3 concentrate is shown in table 16. No chemical analysis was completed on the size fractions of the T6-3 concentrate.

Table 16. Size Analysis of T6-1 and T6-3 Concentrates

Size (microns)	T6-1		T6-3
	% Mass	% C(t)	% Mass
+300	0.33	92.0	0.20
-300/+180	0.86	92.0	0.46
-80/+150	0.82	92.0	1.22
-150/+106	5.43	96.4	7.47
-106/+75	27.0	97.0	19.5
-75	65.5	96.0	71.2

Approximately, two third of the concentrate reported to the minus 75 microns size fraction and less than 3% was coarser than 150 microns. Despite the large number of small flakes, the Emperor ore responded very well and produced grades of at least 96% C(t) in all size fractions smaller than 150 microns.

The Emperor composite was subjected to seven 16 kg bulk flotation tests to produce a larger quantity of concentrate. The test conditions were similar to T6-6 with adjusted grind times to allow for the larger sample size and only 4 stages of cleaning. The results of the bulk cleaner flotation tests are summarized in table 17. The 4th cleaner concentrates of tests BT6-1 to BT6-4 were upgraded further by two stages of regrind and four stages of cleaner flotation to improve the overall concentrate grade to 97-98% C(t). The bulk concentrate totalled a mass of 6.5 kg at a combined grade of 97.6% C(t).

Table 17. Bulk Concentrate Production (BT6-1 to BT6-11)

Sample	Test	Con Weight, kg	Grade, C %	Recovery, %
Ore	BT6-1	1.0	95.5	94.0
Ore	BT6-2	1.0	95.6	92.5
Ore	BT6-3	1.0	95.7	92.5
Ore	BT6-4	1.1	95.4	93.4
Ore	BT6-5	1.0	96.4	89.3
Ore	BT6-6	0.9	96.9	88.4
Ore	BT6-7	1.0	96.4	90.7
BT6-1 Conc	BT6-8	0.9	98.4	95.0
BT6-2 Conc	BT6-9	0.9	98.3	95.1
BT6-3 Conc	BT6-10	0.9	98.4	91.7
BT6-4 Conc	BT6-11	0.9	98.4	90.1
Combined Conc		6.5	97.6	91.4

The results of a size fraction analysis on the combined concentrate are presented in table 18. Although over 90% of the concentrate mass reported to the minus 150 microns size fraction, only 9.3% was smaller than 20 microns. All size fractions graded at least 96.3% C(t) and the +20 micron products graded consistently between 97.3% C(t) and 97.8% C(t).

Table 18. Size Fraction Analysis of BT6 Bulk Concentrate

Size (Microns)	BT6	
	% Mass	% C(t)
-300/+150	0.88	97.3
-150/+75	16.6	97.4
-75/+53	26.2	97.8

-53/+20	46.9	97.4
-20	9.33	96.3

A sub-sample of the bulk concentrate was subjected to sequential HCL and HF leach tests to determine its amenability to purification using acids. The HCL leach improved the grade to 98.5% C(t) and the HF leach further increased the grade to 99.7% C(t). No optimization of the leach conditions was conducted.

Wahoo Phase I Laboratory Program – ALS

ALS completed a total of 8 cleaner flotation tests on a composite from the Wahoo mineralization in parallel with the initial Emperor program. The conditions of the test series were almost identical to the Emperor test series. A summary of the mass balances of the 8 flotation tests on the Wahoo mineralization is presented in table 19.

Table 19. Batch Cleaner Tests for Wahoo (T4-1 to T4-8)

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
T4-1 Ro P100 = 600 microns Regrind #1 – 8 minutes SMM Regrind #2 – 5 minutes SMM 4 Cleaners Gravity Separation Magnetic Separation	Final Conc	4.73	97.5	80.4
	Gravity Tails	4.77	97.1	80.8
	4th Cleaner Conc	5.73	84.5	84.4
	3rd Cleaner Conc	6.12	81.5	86.9
	2nd Cleaner Conc	8.05	62.7	87.9
	1st Cleaner Conc	10.21	50.9	90.5
	Rougher Conc	30.29	18.0	95.3
	Rougher Trail	69.71	0.39	4.74
	Calculated Head	100.0	5.74	100.0
T64-2 Ro P100 = 600 microns 2 Cleaners Gravity Separation Magnetic Separation	Final Conc	2.05	73.7	26.0
	Gravity Tail	2.54	67.6	29.6
	2nd Cleaner Cond	4.21	50	36.3
	1st Cleaner Conc	5.63	45.9	44.5
	Rougher Conc	8.45	37.7	55.0
	Rougher Tail	91.5	5.8	100
	Calculated Head	100	6.72	100
T4-3	Final Conc	5.01	95.8	83.8
	Gravity Tails	5.05	95.7	84.4

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
Ro P100 = 600 Microns Regrind #1 – 10 minutes Rod Regrind # 2 – 5 Minutes SMM 4 Cleaners Gravity Separation Magnetic Separation	4th Cleaner Conc	5.1	95.5	85.1
	3rd Cleaner Conc	5.47	93.7	89.6
	2nd Cleaner Conc	6.56	79.2	90.8
	1st Cleaner Conc	7.68	68.3	91.6
	Rougher Conc	29.56	18.0	93.0
	Rougher Tail	70.4	0.57	7.0
	Calculated Head	100.0	5.72	100.0
T4-4 Ro P100 = 106 microns Regrind #1 – 7 minutes Rod Regrind #2 – 6 minutes SMM 4 Cleaners Magnetic Separation	Final Conc	5.34	98.1	92.4
	4th Cleaner Conc	5.35	98.0	92.6
	3rd Cleaner Conc	5.53	97.3	95.0
	2nd Cleaner Conc	6.01	90.9	96.4
	1st Cleaner Conc	6.94	79.9	97.8
	Rougher Conc	14.7	37.9	98.2
	Rougher Tail	85.3	0.12	1.8
	Calculated Head	100.0	5.67	100.0
T4-5 Rougher & Cleaner Upgrading of T4-4 Concentrate	Final Conc	99.0	98.5	92.4
	Rougher Conc	99.5	98.4	99.6
	Rougher Tail	0.47	81.6	0.4
	Calculated Head	100.0	98.3	100.0
T4-6 Ro P80 = 106 microns Regrind #1 – 12 minutes Rod Regrind #2 – 9 minutes SMM 5 Cleaners	5th Cleaner Conc	4.94	98.3	86.8
	4th Cleaner Conc	5.12	98.2	89.9
	3rd Cleaner Conc	5.36	97.9	93.7
	2nd Cleaner Conc	5.61	94.7	95.0
	1st Cleaner Conc	6.45	84.2	97.1
	Rougher Conc	14.23	38.4	97.7
	Rougher Tail	85.8	0.15	2.3

Test	Product	Mass (%)	Grade % C(t)	Distribution % C(t)
	Calculated Head	100.0	5.6	100.0
T4-7 Ro P80 = 75 microns Regrind #1 – 12 minutes Rod Regrind #2 – 9 minutes SMM 4 Cleaners	4th Cleaner Conc	5.15	98.0	87.8
	3rd Cleaner Conc	5.39	97.6	91.6
	2nd Cleaner Conc	5.76	93.8	94.1
	1st Cleaner Conc	6.40	87.0	96.9
	Rougher Conc	12.05	46.6	97.7
	Rougher Tail	87.9	0.15	2.3
	Calculated Head	100.0	5.75	100.0
T4-8 Rougher & Cleaner Upgrading of T4-6 Concentrate	4th Cleaner Conc	79.5	99.1	80.2
	4th Cleaner Conc	84.1	99.1	80.2
	2nd Cleaner Conc	86.7	98.9	87.3
	1st Cleaner Conc	94.2	98.8	94.8
	1st Cleaner Tail	5.78	88.4	5.2
	Calculated Head	100.0	98.2	100.0

Test T4-1 employed a primary grind of P_{100} = 600 microns prior to rougher flotation followed by two stages of regrinding and four stages of cleaning. The 4th cleaner concentrate was subjected to gravity and magnetic separation. The final concentrate graded 97.5% C(t) at 80.4% open circuit recovery (Emperor T6-1: 96.7% C(t) at 78.1% open circuit graphite recovery). While magnetic separation did not result in meaningful upgrading, gravity separation improved the 4th cleaner concentrate grade from 84.5% C(t) to 97.1% C(t) at moderate incremental graphite losses of 3.6%.

Test T4-2 simplified the flowsheet by eliminating the two regrind stages and 2 cleaner flotation stages before gravity and magnetic separation. A 75% kerosene dosage reduction in the rougher led to very high graphite losses to the rougher tailings of 45%, thus making it impossible to assess the cleaning circuit performance. This is consistent with the Emperor response, which produced even higher rougher tailings losses of 61.9%.

Test T4-3 was a repeat test of T4-1 with a 25% longer grind time in both regrind mills. While the open circuit recovery increased slightly from 80.4% to 83.8% (Emperor: 78.1% to 82.7%), the final concentrate grade decreased from 97.5% C(t) to 95.8% C(t) (Emperor: 96.7% C(t) to 94.7% C(t)). The gravity circuit only contributed 0.1% to the grade gain. Although the numbers were slightly different, the lower grade, improved recovery, and ineffective gravity separation were observed for the Emperor composite.

Test T4-4 was a repeat of test T4-1 with the finer primary grind size of P_{80}= 106 microns, slightly shorter primary regrind, longer secondary regrind, and elimination of the gravity separation circuit. The test produced the highest final concentrate grade of 98.1% C(t) (Emperor: 97.4% C(t)) at an open circuit graphite recovery of 92.4% (Emperor: 89.2%). The magnetic separation did not produce any noticeable upgrading and was eliminated in all future tests. Gravity separation was already eliminated after test T4-3.

The final concentrate of test T4-4 was subjected to conditioning with sodium cyanide followed by rougher and cleaner flotation in test F4-5. The resulting concentrate grade improved by 1.0% to 99.1% C(t) at an open circuit graphite recovery of 99%. In comparison, the concentrate grade of the comparable Emperor test improved by 0.5% to 97.9% C(t) at an open circuit graphite recovery of 99%

The last two completed full cleaner tests, T4-6 and T4-7, employed primary grind sizes of P_{80} = 106 microns in test T4-6 and P_{80} = 75 microns in test T4-7. The two regrind times of 16 minutes and 10 minutes were identical in the two tests and T4-6 included a 5th cleaner stage. Test T4-6 produced a final concentrate grade of 98.3% C(t) and test T4-7 and only slight lower grade of 83.0% C(t) at open circuit recoveries of approximately 87%. For the Emperor composite, both tests produced identical concentrate grades of 98.0% C(t) at almost identical recoveries of 85.4 to 85.9%.

The concentrates of test T4-6 were reground in two stages of stirred media milling followed by cleaner flotation. The resulting concentrate grade were 99.1% C(t) at 80.2% stage recovery. The tests on the Emperor material only included one stage of milling so that a direct comparison is not possible.

The final concentrates of tests T4-1, T4-2, and T4-3 were submitted for a size fraction analysis. Only the results of tests T4-1 and T4-3 are presented since the final concentrate grade of T4-2 of 73.7% was too low to be considered a saleable concentrate. The results of the size fraction analysis on the T4-1 concentrate and sizing on the T4-3 concentrate is shown in table 20. No chemical analysis was completed on the size fractions of the T6-3 concentrate.

Table 20. Size Analysis of T4-1 and T4-3 Concentrates

Size (microns)	T4-1		T4-3
	% Mass	% C(t)	% Mass
+300	0.23	92.0	0.09
-300/+180	1.50	92.0	0.96
-80/+150	1.94	92.0	2.51
-150/+106	10.8	96.6	12.7
-106/+75	30.5	97.5	28.3
-75	55.1	97.7	55.5
Combined	100.0	97.3	100.0

Approximately, 55% of the concentrate reported to the minus 75 microns size fraction and less than 4% was coarser than 150 microns. Despite the large amount of small flakes, the Wahoo ore responded very well and produced grades of at least 96% C(t) in all size fractions smaller than 150 microns.

Overall, Emperor and Wahoo samples responded almost identical when subjected to the same conditions. Both deposits achieved high final concentrate grades at good open circuit recoveries. The final concentrate from the Wahoo mineralization yielded a 10% lower recovery into the minus 75 micron size fraction, although the amount of plus 150 microns material remained almost unchanged.

The Wahoo composite was subjected to four 16 kg bulk flotation tests to produce a larger quantity of concentrate. The test conditions were similar to T4-6 with adjusted grind times to allow for the larger sample size and only 4 stages of cleaning. The results of the bulk cleaner flotation tests are summarized in table 21. The bulk concentrate totalled a mass of 3.3 kg at a combined grade of 97.1 C(t).

Table 21. Bulk Concentrate Production (BT4-1 to BT4)

Sample	Test	Con Weight, kg	Grade, C %	Recovery, %
Ore	BT4-1	0.8	96.9	89.0
Ore	BT4-2	0.8	97.0	89.6
Ore	BT4-3	0.8	97.2	89.3
Ore	BT4-4	0.8	97.2	89.3
Combined Conc		3.3	97.1	89.3

The results of a size fraction analysis on the combined concentrate are presented in table 22. Although over 99% of the concentrate mass reported to the minus 150 microns size fraction, only 5.5% was smaller than 20 microns. All size fractions graded at least 96.2% C(t).

Table 22. Size Fraction Analysis of BT4 Bulk Concentrate

Size (Microns)	BT4	
	% Mass	% C(t)
+300	0.44	97.0
-300/+150	0.52	97.0
-150/+75	31.9	96.8
-75/+53	19.3	97.3
-53/+20	42.4	97.6
-20	5.47	96.2

A sub-sample of the bulk concentrate was subjected to sequential HCL and HF leach tests to determine its amenability to purification using acids. The HCL leach improved the grade to 98.3% C(t) and the HF leach further increased the grade to 99.7% C(t). No optimization of the leach conditions was conducted. Both, the Emperor and Wahoo concentrates responded comparably to the acid leach conditions with final purified concentrate grades over 99.5% C(t).

Emperor - Bulk Sample Pilot Plant – ALS

From January 2017 to July 2017, ALS conducted a pilot plant to produce a bulk graphite concentrate. A total of 444 samples weighing 2.3 tonnes were stage-crushed to P_{100} = 3.35 mm, blended and processed. The composite graded 4.77 C(g) and 4.18% total S. Silica was the most abundant gangue mineral at a grade of 55.0% SiO_2. A breakdown of the samples used in the pilot plant campaign is presented in table 23.

Table 23. Pilot Plant Feed Composition

Hole ID	Interval (m)	No. of Samples	Mass (kg)
T6GDD164	47-144	48	236.1
T6GDD165	55-122	38	241.9
T6GDD167	123-181	46	170.3
T6GDD168	96-155.53	50	236.3
T6GDD171	27-52	12	64.9
T6GDD173	72-126	24	100.3
T6GDD176	87-148	31	214.4
T6GDD192	38-78	30	184.9
T6GDD193	57-198	107	605.5
T6GDD194	177-179	38	210.9
T6GDD195	50-77	20	113.6
			2,379

The pilot plant composite produced a Bond ball mill grindability work index of 14.8 kWh/t at the standard screen aperture of 150 microns.

The crushed ore was subjected to closed circuit ball mill grinding using a 0.74 m ID x 0.90 m EGL ball mill and a 28" Kason vibrating screen with a 180 microns screen deck. The grinding circuit discharge gradually increased from 69% passing 106 microns to 75% passing 106 microns over the two days the grinding circuit was piloted.

The rougher/scavenger flotation recovered 22.1% of the mass into a rougher concentrate grading 21.9% C(t) and a total carbon recovery of 98.1%. The nominal rougher/scavenger flotation cell residence time was 35 minutes. And the 1st cleaner residence time was 80 minutes. The long cleaner retention time was the result of cell size availability rather than metallurgical requirements. These results were in line with laboratory flotation results, which achieved a rougher concentrate grading 26.4% C(t) at 94.8% total carbon recovery.

Kerosene was added as the collector and methyl isobutyl carbinol (MIBC) was the chosen frother. Further, sodium silicate was introduced as a gangue depressant/dispersant. The combined reagent dosages into the rougher, scavenger, and 1st cleaner was 94 g/t kerosene, 96 g/t MIBC, and 1,022 g/t sodium silicate, respectively.

The rougher scavenger concentrate was upgraded in a 1st cleaner stage operating in closed circuit. The final 1st cleaner concentrate was dewatered in a filter press and placed into 45-gallon drums. After the campaign, the wet cake was homogenized and split into 5 kg charges for batch cleaner work. The flowsheet is presented in figure 39.

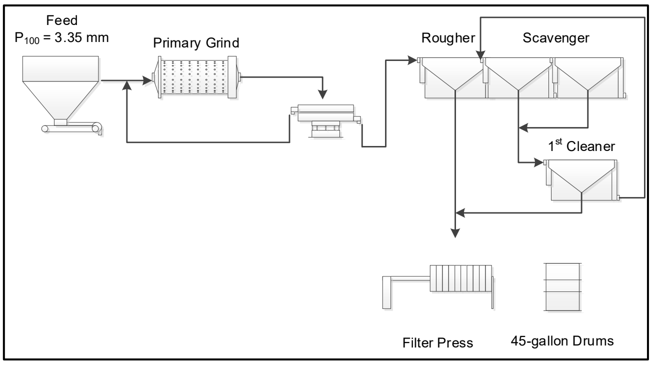


Figure 39. Primary Pilot Plant Circuit

A total of eight 60 kg cleaner flotation tests were completed to upgrade the 1st cleaner concentrate. Seven of the cleaner tests comprised 9 stages of cleaning and the eighths test used only 7th cleaner stages. The flowsheet that was employed in the tests is depicted in Figure 40. All tests with 9 cleaner stages achieved a grade of over 96% LOI and 95.1% C(t). Considering the open circuit operation of the cleaning circuit, the recovery of 95.1% to 96.7% was very good.

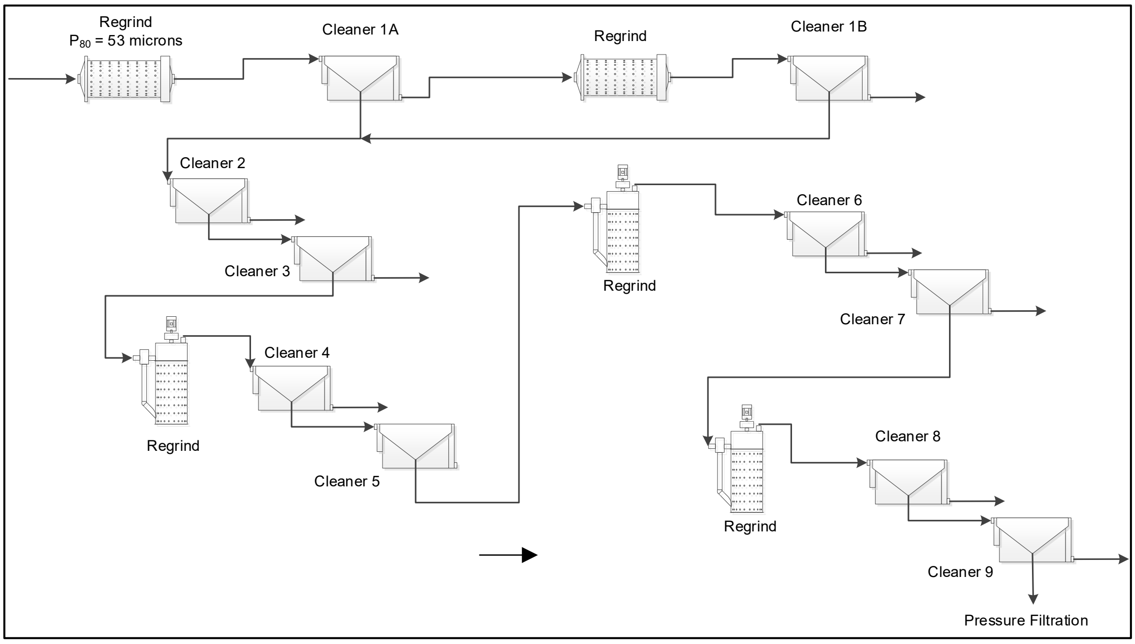


Figure 40. Bulk Cleaner Flotation Flowsheet

All cleaner stages were conducted using 130L flotation cells, which resulted in relatively long residence times of 16 to 22 minutes. The regrind times and reagents dosages for the eight runs are summarized in table 24. Note that MIBC was replaced with POLYFROTH H27, which is an alcohol ether frother with more stability compared to MIBC.

Table 24. Bulk Cleaner Flotation Conditions

Test No.	Regrind Times (min)	Kerosene (g/t)	H27 (g/t)
DP 817	12' / 18' / 18' / 18' / 20'	202	668
DP 818	18' / 18' / 18' / 18' / 20'	206	534
DP 819	18' / 18' / 30' / 30' / 20'	231	492
DP 820	18' / 18' / 50' / 50'	207	380
DP 821	18' / 18' / 30' / 30' / 20'	231	506
DP 822	18' / 18' / 30' / 30' / 20'	202	448
DP 823	18' / 18' / 30' / 30' / 20'	202	504
DP 824	18' / 18' / 30' / 30' / 20'	206	500

A summary of the metallurgical results for the eight runs is presented in table 25. A total of 95.0 kg of graphite concentrate was produced at an average grade of 96.6% LOI and an average graphite recovery of 95.9%.

Table 25. Cleaner Flotation Results

Test No.	Product	Mass (kg)	Mass (%)	LOI 425/1000	Graphite Rec (%)
DP817	9th Clnr Conc	10.7	4.18	96.6	95.4
DP818	9th Clnr Conc	11.3	4.42	96.6	95.6
DP819	9th Clnr Conc	12.3	4.53	96.7	96.2
DP820	7th Clnr Conc	14.2	5.20	95.4	96.7
DP821	9th Clnr Conc	11.4	4.30	96.8	95.1
DP822	9th Clnr Conc	12.3	4.54	96.8	95.8
DP823	9th Clnr Conc	12.9	4.93	96.7	96.4
DP824	9th Clnr Conc	9.92	4.56	96.8	95.8
Sum or Average		95.0	4.58	96.6	95.9

Sizing of the selected concentrate samples has been summarized in table 26. The product size ranged between P_{80} = 71 microns and P_{80} = 92 microns. Interestingly, the additional regrinding stages did not result in a size reduction of the flakes and the final concentrate of three tests with the additional grinding step were the coarsest product at P_{80} = 92 microns.

Table 26. Concentrate Sizing

Test No.	Product	Concentrate P80 (microns)
DP818	2nd Cleaner Conc	71
DP817 A	3rd Cleaner Conc	74
DP817 A	4th Cleaner Conc	93
DP817 A	5th Cleaner Conc	64
Dp817 B	5th Cleaner Conc	75
DP818	7th Cleaner Conc	77
DP819	7th Cleaner Conc	84
DP819 – DP821	DP819 & DP821 9 CC + DP820 7CC	92

The results of a size-by-size analysis of a 25 kg bulk concentrate sample that was shipped to a potential customer are presented in table 27. The bulk concentrate sample, which yielded a P_{80} = 91 microns, was obtained by combining the concentrate of DP819 9CC1 and 9CC2, DP820 7CC2 and DP821 9CC1 and 9CC2.

Table 27. Size-by-Size Analysis of Bulk Graphite Concentrate

Size (mm)	Mass (%)	LOI 425/1,000 (%)
0.150	0.97	92.3
0.106	8.46	96.1
0.075	21.7	96.2
0.053	24.4	96.6
0.038	20.2	96.6
0.020	11.1	96.1
-0.020	13.2	93.8
Total	100.0	96.0

SGS – Process Optimization Program (2023)

In 2023, SGS Lakefield was contracted to perform flowsheet development work on drill core samples from the Emperor project in Australia. The primary objective of the test program was to develop a flowsheet and conditions that produce a graphite concentrate with a grade of at least 95% C(t) while minimizing flake degradation.

SGS performed work on samples from drill holes GCM ERD007 and GCM ERD019. The samples were shipped as separate drill core intervals in 19 pails. The total mass of the shipment was approximately 430 kg.

The content of each pail was crushed to nominal ¾", homogenized, and 4.5 kg were extracted from each of the 19 pails. The balance of the material was combined to generate a Master composite. After blending of the Master composite, samples were split out for comminution testing and the balance was stage-crushed to -6 mesh, homogenized and split into 2 kg test charges.

Five 4.5 kg sub-samples of the drill core intervals were stage-crushed to -6 mesh, blended, and split into 2 kg test charges.

Head Analysis

The results of the carbon speciation, sulphur, and specific gravity analysis of the Master composite and five variability samples are presented in Table 28. Graphitic carbon concentrations ranged between 3.05% C(g) and 5.84% C(g) for the selected drill core intervals and the Master composite graded 4.15% C(g). Concentrations of organic and carbonate carbon were low in all samples. The sulphur grades were relatively high at 3.27% S to 7.36% S, which suggests acid generating tailings unless a separate sulphide concentrate is generated.

The results of the ICP-OES analysis on the six samples are presented in table 29. Aluminium, calcium, iron, potassium, magnesium, and sodium were the most abundant elements in the McIntosh samples. Concentrations of deleterious elements such as arsenic and cadmium were low in all samples. Titanium oxide concentrations were also elevated, thus suggesting the potential presence of rutile.

Table 28. Carbon Speciation, Sulphur and Specific Gravity Analysis

Method / Element		Master Composite	007 Top	007 Mid	007 Bottom	019 Top	019 Bottom
Leco							
Total S	%	4.74	5.48	7.36	6.20	3.97	3.27
Total C	%	4.29	3.29	5.79	4.39	5.03	3.97
Graphite C	%	4.16	3.05	5.84	4.38	4.99	3.93
Coulometry							
TOC	%	< 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Co3	%	0.10	0.11	0.06	0.11	0.11	0.10
Pycnometer							
SG		2.88	2.91	2.95	2.94	2.85	2.79

Table 29. ICP Analysis

Method / Element		Master Composite	007 Top	007 Mid	007 Bottom	019 Top	019 Bottom
ICP-OES, Strong Acid Fusion							
Ag	g/t	< 2	< 2	< 2	< 2	< 2	< 2
Al	g/t	76,300	72,800	70,900	76,700	79,000	68,200
As	g/t	< 30	< 30	< 30	< 30	< 30	< 30
Ba	g/t	483	447	405	296	423	294
Be	g/t	1.48	1.64	1.6	1.73	2.04	1.28
Bi	g/t	< 20	< 20	< 20	< 20	< 20	< 20
Ca	g/t	12,100	13,800	5,660	18,100	11,100	18,300
Cd	g/t	< 2	3	2	< 2	< 2	< 2
Co	g/t	31	33	41	36	27	21
Cr	g/t	187	194	175	164	176	217
Cu	g/t	134	130	161	153	156	128

Method / Element		Master Composite	007 Top	007 Mid	007 Bottom	019 Top	019 Bottom
Fe	g/t	91,300	108,000	141,000	112,000	77,000	64,800
K	g/t	34,600	33,000	36,400	26,800	43,200	16,900
Li	g/t	23	19	20	24	26	16
Mg	g/t	15,300	14,900	13,000	16,000	16,200	10,600
Mn	g/t	312	360	278	308	316	245
Mo	g/t	18	16	22	21	15	20
Na	g/t	11,000	11,900	7,040	14,700	8,750	20,700
Ni	g/t	100	105	141	120	80	67
P	g/t	243	293	205	206	300	79
Pb	g/t	28	31	35	29	33	23
Sb	g/t	< 10	< 10	< 10	< 10	< 10	< 10
Se	g/t	< 30	< 30	< 30	< 30	< 30	< 30
Sn	g/t	< 20	< 20	< 20	< 20	< 20	< 20
Sr	g/t	118	162	77.7	128	74.9	181
To	g/t	3,700	2,970	3,410	4,410	3,890	1,960
Tl	g/t	< 30	< 30	< 30	< 30	< 30	< 30
V	g/t	231	219	278	280	223	179
Y	g/t	11.3	11.8	9.9	8.2	11.1	4.8
Zn	g/t	168	472	318	208	149	63

Comminution Tests

Comminution testing was completed on the Master Composite. The scope of work included Bond abrasion, rod mill, and ball mill grindability tests as well as SMC testing. The results of the four tests are summarized in table 30. The SMC results place the Master composite into the soft to medium category in terms of resistance to impact breakage and predicted AG/SAG mill specific energy requirements.

The results of the SGS Bond abrasion test were noticeably different for the Master composite at 0.365 compared to 0.0199 and 0.102 for the Oxide and Fresh composites, respectively that were tested at ALS. In contrast, the Bond rod mill grindability index of 12.0 kWh/t for the Master composite was 3.3 to 5.0 kWh/t lower compared to the Oxide and Fresh composites. This value and the Bond ball mill work index of 14.2 kWht/t was more in line with other graphite projects.

Table 30. Comminution Test Results for Master Composite

SMC			Bond Abrasion Index Ai	Bond Rod Will Work Index (kWh/t)	Bond Ball Will Work Index (kWh/t)
A*b	t_a	SCSE (kWh/t)			
60.2	0.56	8.38	0.365	12.0	14.2

Rougher and Cleaner Flotation

A total of three flash/rougher and four cleaner flotation tests were carried out on the Master composite. The objective of the flash/rougher flotation tests was to maximize graphite recovery while minimizing the risk of flake degradation.

Test F1 treated the minus 6 mesh material in a flash flotation stage followed by a regrind and rougher flotation. The approach of recovering any partially liberated flake at a crush size of 3.35 mm before any grinding minimizes the risk of flake degradation. The grinding step followed by rougher flotation will then liberate and recover most of the remaining graphite flakes that were locked at the coarser size, thus maximizing overall recovery. Test F2 employed a brief primary grind prior to flash flotation followed by a second grind and rougher flotation, while test F3 eliminated the flash flotation stage and the mill discharge was subjected to rougher flotation only.

All three tests produced very high graphite recoveries of at least 97%. Tests F1 and F2 yielded almost identical total carbon recoveries of 98.4% and 98.5% and intermediate concentrate grades of 12.4% and 13.6% C(t). The low upgrading ration of 3:1 suggests that the McIntosh flakes to not liberate well during the primary comminution process.

Given that the conditions of test F1 were the most conservative from a point of view of flake preservation, processing the minus 3.35 mm feed in a flash flotation stage followed by a regrind to approximately P_{80} = 250 micron and rougher flotation was employed in the following cleaner flotation tests.

Table 31. Summary of Mass Balances of Flash/Rougher Tests (F1 to F3)

Test	Product	Weight %	Assays, % C(t,g)	% Distribution C(t)
F1 Flash, Grind & Ro	Flash	10.6	26.2	59.4
	Flash + Ro Conc	37.1	12.4	98.5
	Ro Tail	62.9	0.06	1.5
	Head (calc)	100.0	4.66	100.0
F2	Flash	16.2	5.36	16.0
	Flash + Ro Conc	39.4	13.6	98.4

Test	Product	Weight %	Assays, % C(t,g)	% Distribution C(t)
Grind, Flash, Grind, Ro	Ro Tail	60.6	0.10	1.6
	Head (calc)	100.0	5.44	100.0
F3 Grind, Ro	Ro Conc	39.5	10.5	97.0
	Ro Tail	60.5	0.16	3.0
	Head (Calc.)	100.0	4.27	100.0

Please note: C (g).

In the first three cleaner tests, F4 to F6, the combined flash and rougher flotation concentrate was subjected to grinding in a polishing mill followed by three stages of cleaner flotation. The polishing grind time was varied between 40 minutes, 30 minutes, and 20 minutes in tests F4, F5, and F6, respectively. Polishing produces the lowest specific energy input of all grinding technologies, thus minimizing the risk of flake degradation.

The fourth and last cleaner test, F7, employed four short polishing stages of 3 minutes followed by cleaner flotation after each grinding stage.

A summary of the mass balance results of the four tests is provided in Table 32. The 3rd cleaner concentrate grade of tests F4 to F6 ranged between 45.4% C(t) and 64.5% C(t) and Test F7 produced a 9th cleaner concentrate grade of 49.3% C(t). These grades are significantly lower compared to other graphite projects. Typically, a primary cleaning circuit as evaluated in tests F4 to F6 produces concentrate grades of 85% to 95% C(t). A final graphite concentrate is then generated through a secondary cleaning circuit.

Table 32. Summary of Mass Balances of Cleaner Tests (F4 to F7)

Test	Product	Weight %	Assays, % C(t,g)	% Distribution C (t)
F4 40 min Polish	3rd Clnr Conc	7.1	64.5	90.8
	2nd Clnr Conc	8.1	56.8	91.1
	1st Clnr Conc	11.2	41.2	92.2
	Rougher Conc	40.8	12.2	98.8
	Rougher Tails	59.2	0.10	1.2
	Head (calc)	100.0	5.03	100.0
F5 30 min Polish	3rd Clnr Conc	10.7	46.6	97.6
	2nd Clnr Conc	11.7	42.9	97.7
	1st Clnr Conc	14.5	34.7	98.0
	Rougher Conc	39.8	12.7	98.4

Test	Product	Weight %	Assays, % C(t,g)	% Distribution C (t)
	Rougher Tails	60.2	0.14	1.6
	Head (calc)	100.0	5.13	100.0
F6 20 min Polish	3rd Clnr Conc	10.7	45.4	98.0
	2nd Clnr Conc	11.7	41.8	98.1
	1st Clnr Conc	14.5	33.7	98.2
	Rougher Conc	39.8	12.3	98.5
	Rougher Tails	60.2	0.12	1.5
	Head (calc)	100.0	4.98	100.0
F7 4 x 3 min Polish	9th Clnr Conc	7.3	49.3	85.0
	8th Clnr Conc	7.8	46.9	86.1
	7th Clnr Conc	8.6	46.9	87.2
	6th Clnr Conc	10.6	35.5	88.5
	5th Clnr Conc	12.2	31.5	90.1
	4th Clnr Conc	14.7	26.3	90.7
	3rd Clnr Conc	16.1	24.0	91.5
	2nd Clnr Conc	24.5	16.1	93.1
	1st Clnr Conc	29.6	13.6	95.2
	Rougher Conc	39.4	10.4	96.9
	Rougher Tails	60.6	0.22	3.1
	Head (calc)	100.0	4.24	100.0

Please note: C(g).

The 3rd cleaner concentrate of tests F4 to F6 and the 9th cleaner concentrate of test F7 were submitted for a size fraction analysis to determine the size distribution of the concentrates. The mass recovery into the different size fractions and the associated total carbon grades are presented in Figure 41 and Figure 42, respectively.

Test F4 with the longest polishing time of 40 minutes yielded the lowest mass recovery into the +150 microns size fractions. The differences in mass recovery between 20 minutes and 30 minutes were only minor. Test F7 with four stages of 3 minutes of polishing followed by cleaner flotation yielded the second lowest mass recovery into the plus 300 micron size fraction, but the highest mass recovery into the plus 180 microns and plus 150 microns products.

While a high mass recovery into the larger size fraction is beneficial, it's only of value if the associated total carbon grades are high. The grade profiles that are depicted in Figure 43 reveal low total carbon grades of all size fractions. Only one size fraction exceeded a grade of 60% C(t) and all plus 150 micron products graded 36.2% C(t) or less.

The shorter polishing times produced the lowest concentrate grades of 4.1% C(t) to 24.6% C(t), which suggests that the larger particles are not large flakes but gangue particles with smaller flakes attached to them. This is consistent with the results obtained in the historic test programs.

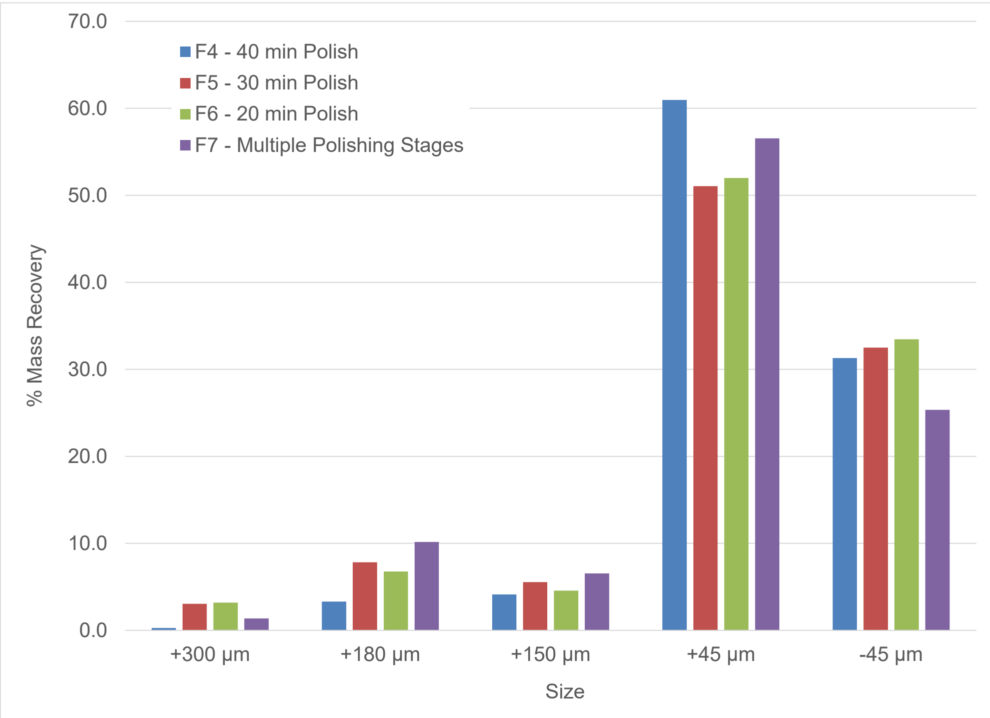


Figure 41. Mass Recovery into Size Fractions of Concentrates (F4 to F7)

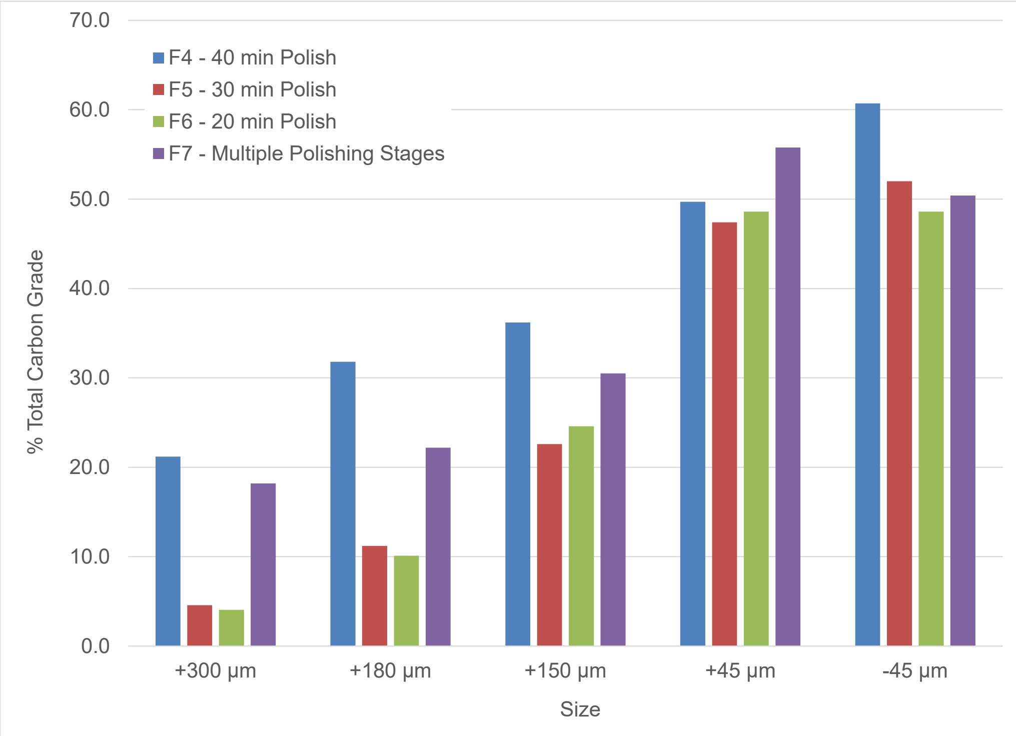


Figure 42. Total Carbon Grades of Size Fractions of Concentrates (F4 to F7)

Although only limited test work was carried out on the Master composite, relevant conclusions can be drawn from these results.

The flash and rougher flotation performance of the material was very good, with high graphite recovery into the flash concentrate at a feed size of P_{100} = 3.35 mm. Most of the remaining graphite was recovered in the rougher flotation stage after a regrind of the flash flotation concentrate to P_{80} ~ 250 microns. The total carbon recovery into the flash and rougher concentrate was over 98%, which places the McIntosh material into the top quartile of its peers.

The primary cleaner tests that were performed on the combined flash and rougher concentrates were consistent with a cleaner circuit design that minimizes flake degradation. This cleaning circuit employed polishing with ½" ceramic media in a mill without lifters operating at reduced speed. This approach ensures that the media only cascades inside the mill to prevent the impact damage associated with a cataracting mill operation. Polishing is very effective in removing the gangue particles from the surface of graphite flakes but achieves poor liberation if graphite and gangue are closely intercalated. Most graphite mineralization will produce intermediate cleaner concentrates of 85-95% C(t) after a single stage polishing and three stages of cleaner flotation. In contrast, the McIntosh mineralization produced concentrate grades between 41% C(t) and 51% C(t) based on the size fraction analysis results. The low grade of the intermediate concentrate of the primary cleaning tests led to the conclusion that graphite is more intergrown with gangue minerals, which will require an intensive high-shear grinding regime to liberate the gangue minerals and graphite flakes, which is achieved with stirred media mills.

Further, the very low grades of the coarsest size fractions indicate that these larger particles are predominantly gangue minerals with small graphite flakes attached to them.

The last cleaner flotation test evaluated a multi-stage polishing approach with very short grinding times between cleaner flotation. While this would not be a practicable approach for a commercial operation, it was carried out to determine if extremely low specific energy inputs between cleaner flotation would help to improve concentrate grade while preserving a coarser product size. This strategy improved the overall results slightly, but grades were still very low and mass recovery into the coarser products was only marginally higher.

In parallel to the flotation test work conducted at SGS, Volt Carbon Technologies (Volt) initiated upgrading work using air classification. In a discussion with Volt after the primary cleaner tests results were obtained, it became apparent that they were also not able to identify larger flakes in the sample. Volt has performed testing on multiple graphite projects and has developed a good understanding how initial air classification performance relates to graphite flake distribution.

With the SGS test results available, GCM conducted another review of the historic metallurgical data to compare the previous results with the most current information. The results of these historic test work programs agree well with the initial findings of the SGS work. All data led to the same conclusion that most of the McIntosh graphite flake were smaller than 150 microns.

Based on the results obtained by SGS, a flowsheet optimization program was initiated at ALS Perth with a focus on using stirred media mills in the regrind applications.

Flowsheet Development Program – ALS (2023/2024)

Between October 2023 and May 2024, ALS conducted flotation work on samples from drill hole GCM23D003. The metallurgical test work aimed to finalize the proposed McIntosh flowsheet and to determining the flake size distribution and product purity.

Sample Preparation

At the sample preparation lab, two composites representing the upper or known Emperor resource (128 m to 204 m downhole) and the lower extension (204 m to 388 m) were created using drill hole GCM23D003. Each meter of drill core interval was processed as follows:

1. Stage crush to 80% passing 3.35mm followed by 50:50 splitting of the sample.
2. ~2.25kg added to the bulk composite #1 (Upper drill core intervals) or #2 (Lower drill core intervals).
3. ~2.25kg was sent to the LM5 pulveriser for sample geochemistry.

The two bulk composites were shipped to ALS Balcatta for testing and a summary of the pertinent information is provided in table 33.

Table 33. Composite Information

Composite	From (m)	To (m)	Interval (m)	Estimated Mass (kg)
Composite 1	128	204	76	342
Composite 2	204	388	184	828

A representative sub-sample was extracted from each composite and submitted for chemical analysis. The results of the head analysis are presented in table 34.

Table 34. Head Assay Summary

Composite	LOI 425 (%)	S (%)	SiO_2 (%)	Fe (%)	Al (%)
Composite 1	3.69	3.50	58.0	6.62	7.52
Composite 2	3.33	4.32	55.2	8.10	7.32

Flotation Testing

Open circuit cleaner flotation tests were performed on the blended composite and the two sub-composites. Tests, BF2608 and BF2609, subjected the two composites to flash and rougher flotation and grind sizes of P_{100} = 710 microns and P_{100} = 310 microns, respectively. The combined flash and rougher concentrate were subjected to three stages of stirred media grinding followed by cleaner flotation after each grinding stage. The pertinent results of the two tests are summarized in table 35. The two composites produced a similar metallurgical response with concentrate grades of 96.5% C(t) for Composite 1 and 97.0% C(t) for Composite 2. The open circuit graphite recovery was almost identical and very high at 97.2 to 97.9%.

Table 35. Cleaner Tests with 3 SMM Stages (Composite 1 and Composite 2)

Test	Product	Weight %	Assays (%)		Distribution (%)	
			C(t)	NC425	C(t)	NC425
BF 2608 3 SMM Stages Comp 1	6th Clr Conc	4.1	97.1	96.5	96.7	97.9
	5th Clnr Conc	4.1	96.4	95.8	96.7	97.9
	4th Clnr Conc	4.1	96.0	95.4	96.8	97.9
	3rd Clnr Conc	4.2	93.7	93.0	96.9	98.1
	2nd Clnr Conc	5.1	77.8	77.3	97.2	98.3
	1st Clnr Conc	8.9	44.7	44.4	97.5	98.6
	Rougher & Scavenger Conc	32.4	12.4	12.3	98.0	99.0
	Scavenger Tails	67.6	0.12	0.06	2.0	1.0
	Head (Calculated)	100.0	4.10	4.02	100.0	100.0
BF 2609 3 SMM Stages	6th Clr Conc	3.6	97.6	97.0	96.5	97.2
	5th Clnr Conc	3.6	97.6	97.0	96.5	97.2
	4th Clnr Conc	3.6	97.4	96.7	96.5	97.3
	3rd Clnr Conc	3.7	95.1	94.4	96.8	97.5

Test	Product	Weight %	Assays (%)		Distribution (%)	
			C(t)	NC425	C(t)	NC425
Comp 2	2nd Clnr Conc	4.5	78.6	78.0	97.3	98.1
	1st Clnr Conc	8.7	41.1	40.8	97.7	98.5
	Rougher & Scavenger Conc	34.5	10.4	10.3	98.4	98.9
	Scavenger Tails	65.5	0.09	0.06	1.6	1.1
	Head (Calculated)	100.0	3.64	3.59	100.0	100.0

Detailed Concentrate Analysis

The final concentrates of tests BF2608 and BF2609 were submitted for a concentrate analysis to quantify the most abundant contaminants in the concentrates. The results of the analysis are shown in table 36.

Table 36. Concentrate ICP Scan

Element	Unit	BF2608	BF2609
C(t)	%	97.1	97.6
Al	g/t	3,160	2,800
Fe	g/t	5,720	4,220
K	g/t	800	1,200
Mg	g/t	1,200	960
Na	g/t	960	240
S	%	0.44	0.26
SiO2	%	1.40	1.00

Comminution Testing – ALS (August 2024)

Comminution testing was conducted on an Oxide and a Fresh Composite 2. The Oxide Composite was generated from 16 individual oxidized drill core intervals and the Fresh Composite comprised 22 separate drill core intervals.

Table 37. Sample intervals for oxidised composite

Hole ID	Interval		
	From	To	Weight (kg)
T1GDD089	4	5	0.35
T1GDD089	8	9	1.71
T1GDD089	15	16	1.27
T1GDD241	10	11	2.18
T1GDD241	14	15	2.23
T1GDD241	16	17	2.22
T5GDD245	12	13	2.53
T5GDD245	15	16	2.54
T5GDD245	17	18	1.42
WDD020	6	7	4.25
WDD020	8	9	4.23
WDD020	10	11	4.44
WDD020	12	13	1.57
MMDD018	13	14	2.26
MMDD018	18	19	2.43
MMDD018	15	16	1.40
Total			**37.03**

Table 38. Sample intervals for fresh composite

Hole ID	Interval		
	From	To	Weight (kg)
T1GDD089	17	18	1.28
T1GDD089	22	23	1.35
T1GDD089	37	38	1.67

Hole ID	Interval		
	From	To	Weight (kg)
T1GDD089	39	40	1.70
T1GDD089	45	46	1.54
T1GDD241	29	30	2.28
T1GDD241	41	42	3.45
T1GDD241	48	49	3.41
T1GRD084	87	88	0.71
T1GRD084	98	99	1.21
T1GRD084	116	117	0.78
T5GDD245	21	22	2.55
T5GDD245	24	25	2.80
WDD020	36	37	8.00
WDD020	46	47	8.03
WDD020	51	52	7.34
WDD025	20	21	5.39
WDD025	29	30	7.48
WDD025	44	45	7.23
MMDD018	21	22	3.44
MMDD018	26	27	3.74
Total			**75.36**

The scope of work included Bond abrasion and rod mill grindability tests as well as SMC testing. The results of the three tests are summarized in table 39. The SMC results place the McIntosh mineralization into the very soft category in terms of resistance to impact breakage and predicted AG/SAG mill specific energy requirements.

The Oxide mineralization displayed a very low abrasivity and even the fresh mineralization was only weakly abrasive.

The Bond comminution tests produced high rod mill work indices compared to most other graphite projects.

Table 39. Comminution Test Results for Oxide and Fresh Composite

Composite	SMC			Bond Abrasion Index Ai	Bond Rod Will Work Index (kWh/t)
	A*b	t_a	SCSE (kWh/t)		
Fresh	92.5	0.95	7.01	0.1002	17.0
Oxide	166.8	1.92	6.25	0.0199	15.3

PROCESS DESIGN AND ENGINEERING

General

This chapter provides an overview of the engineering design criteria used to guide the design of both the concentrator and the refinery.

Design Criteria

Process Design Criteria (PDC) was developed, informed by extensive prior metallurgical test work.

Key design criteria are summarised in table 40.

Table 40. Concentrator Process Design Criteria

Parameter	Units	Value
Ore Characteristics		
Material Type	-	Natural Graphite Ore
Total Graphitic Carbon (TGC) Content	%	3.52
Moisture Content	%	3.00
Graphite Concentrate Product		
TGC Content	%	95.00
Particle Size Distribution		
P100	µm	300
P80	µm	123
P50	µm	67
P20	µm	39
Micronised Product		
TGC Content	%	95.00

Parameter	Units	Value
Particle Size Distribution		
P100	µm	45
Operational Summary		
Life of Mine	Years	33
Crushing Operational Availability	%	35
Crushing Operating Hours	Hours pa	3,066
Grinding & Wet Plant Operational Availability	%	85
Grinding & Wet Plant Operating Hours	Hours pa	7,446
Plant Feed Rate – Nominal	dtpa	379,600
Graphite Concentrate Production Rate – Nominal	dtpa	6,075
Micronised Product Production Rate – Nominal	dtpa	7,425
Recoveries		
Overall TGC Recovery	%	96.00

Process Description

The Block Flow Diagram of the process can be seen in figure 43 below.

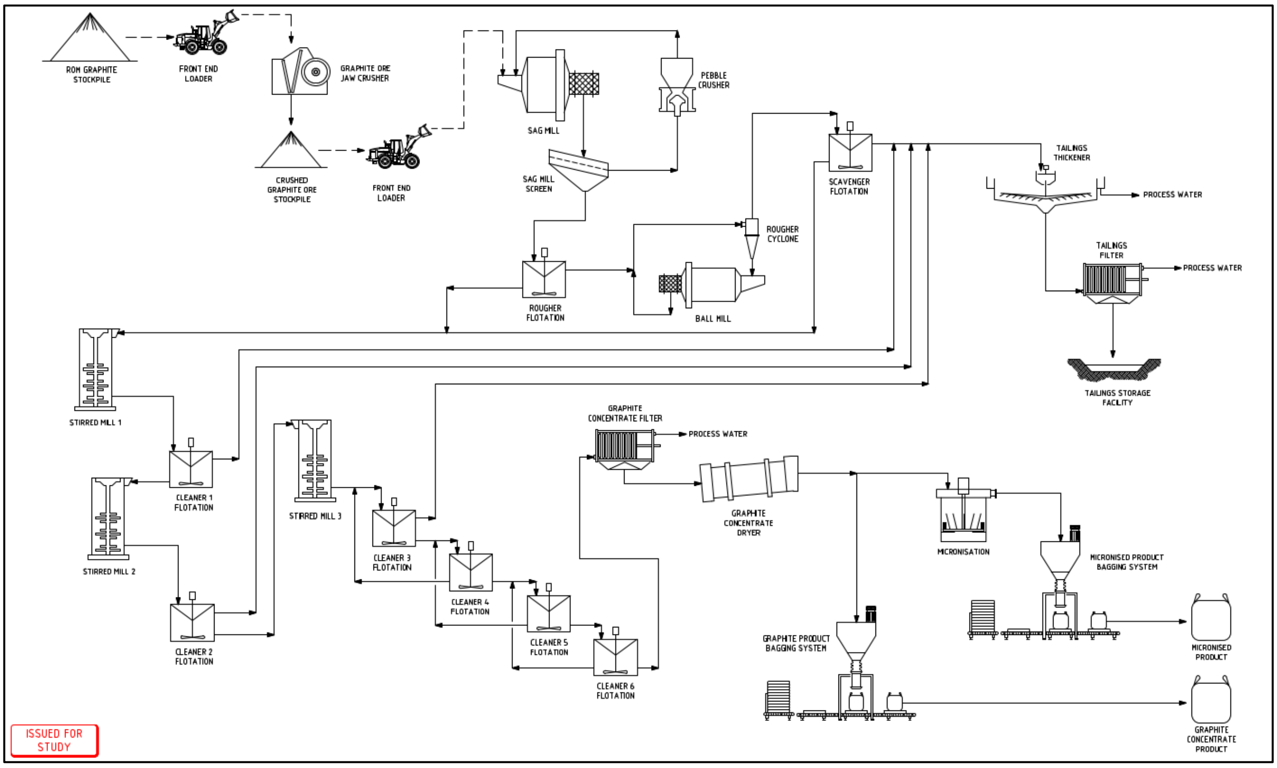


Figure 43. Block Flow Diagram for McIntosh Graphite Project Process Plant

The McIntosh ore is fed from the ROM Stockpile to the crushing circuit, where the size of the ore is reduced in a Primary Jaw Crusher, prior to feeding the Milling Circuit. The crushed ore is then milled in a closed circuit consisting of a SAG mill and pebble crusher prior to feeding the flotation circuit.

The crushed ore slurry passes through a series of flotation cells, in which gangue material is liberated via milling, and then removed through flotation in order to upgrade the graphite concentrate grade. The Rougher Flotation tails are fed to the Ball Milling and Classification circuit, in which the material is reduced in size in a closed circuit with a size classification cyclone prior to feeding the Scavenger Flotation Circuit. The tails are floated in the Scavenger Flotation Cells to scavenge any remaining graphite, with the concentrate feeding Cleaner 1 flotation, and the tails being sent to the tails dewatering circuit.

The flotation circuit concentrate product is dewatered in a thickener and filter before being dried to a moisture of >0.3% w/w, prior to bagging and dispatch of the graphite concentrate product and micronised product.

The tails of the Scavenger, Cleaner 1, Cleaner 2 and Cleaner 3 circuits are fed to the tailings dewatering circuit, in which the tails are thickened before being pumped to the Tailings Storage Facility.

Crushing – Area

The ore is first crushed prior to entering the grinding circuit. The following section of this process description should be read in conjunction with the following reference PFDs.

ROM & Primary Sizing

Ore is reclaimed from the ROM stockpile by an FEL and is loaded into the ROM Feed Bin. A 560 mm aperture static grizzly located above the ROM Feed Bin scalps oversized material. Oversize material is returned to the ROM stockpile for further breakage.

The Grizzly Vibrating Feeder withdraws the ore from the ROM Feed Bin at a controlled rate. The Grizzly Vibrating Feeder scalps ore at an 75mm size, with the +75 material discharging to the Primary Jaw Crusher which operates with a Closed Side Setting of 75mm.

The -75mm material from the Grizzly Vibrating Feeder and the crushed oversized material from the Primary Jaw Crusher are discharged to the Primary Discharge Conveyor. The Primary Discharge Conveyor conveys this material to the Crushed Ore Storage Bin. The Primary Discharge Conveyor is equipped with a Weightometer and tramp magnet for to monitor and control the feed to the Crushed Ore Storage Bin.

Crushed Ore Handling

Crushed ore is fed to the Crushed Ore Storage Bin alongside raw water to achieve the required moisture content. The crushed ore is discharged from the Crushed Ore Storage Bin onto the Milling Feed Conveyor, which conveys the material to the SAG Mill for further sizing. The Crushed Ore Storage Bin has the ability to discharge onto the ground when full in order to stockpile the crushed ore when downstream operations cease or reduce production. This stockpiles' crushed ore can be reclaimed with a FEL and fed back into the process.

Grinding – Area

The crushed ore is milled in a closed circuit consisting of a SAG mill and pebble crusher to liberate the graphite prior to feeding the flotation circuit.

SAG Milling

The crushed ore is discharged from the Milling Feed Conveyor into the SAG Mill, where a P80 of 2mm is targeted. Process water is added in the launder of the SAG Mill to achieve a pulp density of 70%. The milled ore gravitates into the SAG Mill Discharge Hopper, from which it is pumped up to the SAG Mill Screen.

Screening & Pebble Crushing

The milled ore is discharged to the SAG Mill Screen, which screens the material at 710microns, with the oversized material being discharged to the SAG Mill O/S Conveyor, and the undersized material is discharged to the SAG Mill U/S Discharge Hopper. The undersized material flows via gravity to the rougher Flotation Conditioning Tank, whilst the oversized material undergoes further sizing. The oversized material is conveyed to the Pebble Crusher Storage Bin, which feeds the Pebble Crusher via the Pebble Crusher Vibrating Feeder.

Flotation & Regrind

The sized graphite ore passes through a series of flotation stages, in which the graphite is selectively floated away from the gangue material. The graphite concentrate produced from each stage is subjected to a series of regrinding and cleaning flotation stages to liberate any additional gangue material present. The aim of the graphite flotation circuit is to produce 95% TGC graphite concentrate for market.

Rougher Flotation

The undersized material from the SAG Mill Screen is pumped to the Rougher Conditioning Tank, an agitated tank into which flotation reagents and process water is added to achieve the required pulp density prior to rougher flotation. Sump contents from the flotation area are also returned to this conditioning tank. The target pulp density of the rougher feed is 31.4% w/w. The conditioned slurry is pumped by the Rougher Feed Pump to the Rougher Flotation Cells feed box. Blower air is delivered to the flotation cell header for dispersion and distribution through each cell.

Rougher concentrate overflows from the lips of the Rougher flotation cells and gravitates to the Stirred Mill 1 Feed Hopper for preparation for Cleaner 1 Flotation. Rougher tailings discharge from the Rougher tails box and gravitates to the Rougher Tails Discharge Hopper and are pumped by the Rougher Tails Discharge Pump to the Ball Mill Discharge Hopper.

Ball Milling & Classification

Rougher tailings discharge to the Rougher Tails Discharge Hopper, before being pumped to the Ball Mill Discharge Hopper. The tailings are pumped to the Ball Mill Cyclone Cluster, from which the overflow is discharged to the Scavenger Flotation Conditioning Tank, and the underflow is discharged to the Ball Mill for further milling. The milled material is returned to the Ball Mill Discharge Hopper, from which it can recirculate through the Ball Mill Cyclone Cluster to ensure the required F80 is achieved before progressing into the Scavenger Flotation stage.

Scavenger Flotation

The overflow from the Ball Mill Cyclone Cluster is conditioned with flotation reagents in the agitated Scavenger Conditioning Tank. The slurry is pumped to the Scavenger Flotation Cells feed box. Blower air is delivered to the flotation cell header for dispersion and distribution through each cell.

The scavenger concentrate overflows from the lips of the Scavenger Flotation cells and gravitates to the Stirred Mill 1 Feed Hopper for preparation for Cleaner 1 Flotation. Scavenger tailings discharging from the Scavenger tails box gravitate to the Scavenger Tails Hopper and is pumped by the Scavenger Tails Pump to the Tails Thickener Feed Box.

Cleaner 1 Flotation

The Rougher and Scavenger Concentrate is discharged to the Stirred Mill 1 Feed Hopper, with the slurry being dewatered in the Stirred mill 1 cyclone with the underflow reporting to the Stirred Mill 1 to be ground, before gravitating to the Stirred Mill 1 Discharge Hopper. From the discharge hopper the milled slurry is pumped to the Cleaner 1 Conditioning Tank, where additional dilution water, and flotation reagents are dosed prior to flotation. The target Cleaner 1 feed pulp density is 10.9% w/w. The conditioned slurry is pumped to the cleaner flotation cells, where target graphite particles are floated and separated from gangue material.

Blower air is delivered to the flotation cell header for dispersion and distribution through each cell. Cleaner 1 tailings discharge from the Cleaner 1 tails box and gravitates to the Cleaner 1 Tails Hopper and are pumped by the Cleaner 1 Tails Pump to the Tails Thickener Feed Box. The Cleaner 1 concentrate overflows from the lips of the Cleaner 1 cells and gravitates to the Stirred Mill 2 Feed Hopper.

Cleaner 2 Flotation

The Cleaner 1 Concentrate is discharged to the Stirred Mill 2 Feed Hopper, with the slurry being dewatered in the Stirred mill 2 cyclone with the underflow reporting to the Stirred Mill 2 to be ground, before gravitating to the Stirred Mill 2 Discharge Hopper. From the discharge hopper the milled slurry is pumped to the Cleaner 2 Conditioning Tank, where additional dilution water, and flotation reagents are dosed prior to flotation. The target Cleaner 2 feed pulp density is 5.5% w/w. The conditioned slurry is pumped to the cleaner flotation cells, where target graphite particles are floated and separated from gangue material.

Cleaner 2 tailings discharge from the Cleaner 2 tails box and gravitates to the Cleaner 2 Tails Hopper and pumped by the Cleaner 2 Tails Pump to the Tails Thickener Feed Box. The Cleaner 2 concentrate overflows from the Cleaner 2 cells and gravitates to the Stirred Mill 3 Feed Hopper. Any spills in the Cleaner 1 and Cleaner 2 areas are collected in the Cleaner 1 and 2 Flotation Area Sump and are pumped to the Rougher Conditioning Tank for reintroduction to the process.

Cleaner 3 Flotation

The Cleaner 2 Concentrate is discharged to the Stirred Mill 3 Feed Hopper, with the slurry being dewatered in the Stirred mill 3 cyclone with the underflow reporting to the Stirred Mill 3 to be ground, before gravitating to the Stirred Mill 3 Discharge Hopper. From the discharge hopper the milled slurry is pumped to the Cleaner 3 Conditioning Tank, where Cleaner 4 Tails are pumped along with additional dilution water, and flotation reagents are dosed prior to flotation. The target Cleaner 3 feed pulp density is 5.8% w/w. The conditioned slurry is pumped to the Cleaner 3 flotation cells, where the graphite particles are floated and separated from the gangue particles.

Cleaner 3 tailings discharge from the Cleaner 3 tails box and gravitates to the Cleaner 3 Tails Hopper and pumped by the Cleaner 3 Tails Pump to the Tails Thickener Feed Box. The Cleaner 3 concentrate overflows from the lips of the Cleaner 3 cells and gravitates to the Stirred Mill 4 Feed Hopper.

Cleaner 4 Flotation

The Cleaner 3 Concentrate and Cleaner 5 Tails are discharged to Cleaner 4 Conditioning Tank, where dilution water is added to achieve the target feed pulp density and flotation reagents are dosed prior to flotation. The target Cleaner 4 feed pulp density is 6.0% w/w. The conditioned slurry is pumped to the cleaner flotation cells, where target graphite particles are floated and separated from gangue material.

Cleaner 4 tailings discharge from the Cleaner 4 tails box and gravitates to the Cleaner 4 Tails Hopper and are pumped by the Cleaner 4 Tails Pump to Cleaner 3 Conditioning Tank. The Cleaner 4 concentrate overflows from the lips of the Cleaner 4 cells with assistance from a froth paddle and gravitates to the Cleaner 5 Conditioning Tank. Any spills in the Cleaner 3 and Cleaner 4 areas are collected in the Cleaner 3 and 4 Flotation Area Sump and are pumped to the Rougher Conditioning Tank for reintroduction to the process.

Cleaner 5 Flotation

The Cleaner 4 Concentrate and Cleaner 6 Tails are discharged to the Cleaner 5 Conditioning Tank, where additional dilution water is added to achieve the target feed pulp density, and flotation reagents are dosed prior to flotation. The target Cleaner 5 feed pulp density is 6.5% w/w. The conditioned slurry is pumped to the cleaner flotation cells, where target graphite particles are floated and separated from gangue material.

Cleaner 5 tailings discharge from the Cleaner 5 tails box and gravitates to the Cleaner 5 Tails Hopper and pumped by the Cleaner 5 Tails Pump to Cleaner 4 Conditioning Tank. The Cleaner 5 concentrate overflows from the lips of the Cleaner 5 cells with assistance from a froth paddle and gravitates to the Cleaner 6 Conditioning Tank.

Cleaner 6 Flotation

The Cleaner 5 Concentrate is discharged to the Cleaner 6 Conditioning Tank, where additional dilution water is added to achieve the target feed pulp density, and flotation reagents are dosed prior to flotation. The target Cleaner 6 feed pulp density is 4.9% w/w. The conditioned slurry is pumped to the cleaner flotation cells, where target graphite particles are floated and separated from gangue material.

Cleaner 6 tailings discharge from the Cleaner 6 tails box and gravitates to the Cleaner 6 Tailings Hopper and pumped by the Cleaner 6 Tailings Pump to Cleaner 5 Conditioning Tank. The Cleaner 6 concentrate overflows from the lips of the Cleaner 6 cells with assistance from a froth paddle and gravitates to the Graphite Concentrate Filter Feed Tank. Any spills in the Cleaner 5 and Cleaner 6 areas are collected in the Cleaner 5 and 6 Flotation Area Sump and are pumped to the Rougher Conditioning Tank for reintroduction to the process.

Concentrate Handling

In the concentrate handling area, the floated cleaner 6 concentrate is dewatered in a filter and dried in rotary dryer, prior to bagging in preparation for dispatch.

Concentrate Dewatering

The Cleaner 6 graphite concentrate is discharged to the Graphite Filter Thickener where the overflow will report to the process water tank and the thickened underflow solids will be pumped to the Graphite Filter Feed Tank. The filter feed tank acts as a buffer before the membrane filter press, with the thickened slurry being pumped into the Graphite Concentrate Filter by the Graphite Filter Feed Pump. The Graphite Concentrate cake formed in the filter unit is discharged at 85% w/w solids prior to drying. The filtrate flows to the Graphite Concentrate Filtrate Tank, before being pumped to the Concentrate Filter Thickener.

The filter cake is discharged to the Graphite Concentrate Discharge Feeder, from which it is conveyed to the Graphite Concentrate Dryer Buffer Bin. In the case of a halt or reduction in process downstream, the Graphite Concentrate can be discharged to and stored in a bunker from the buffer bin, from which it can be reclaimed using a FEL to the Graphite Concentrate Reclaim Feeder, which feeds the Graphite Concentrate Dryer Feed Conveyor. Graphite Concentrate is fed to the Graphite Concentrate Dryer Feed Hopper from the Buffer Bin via a screw conveyor.

Concentrate Drying

The Graphite Concentrate Rotary Dryer is heated electrically (or by diesel) and is fed from the Feed Hopper via a screw feeder. The rotary dryer reduces the moisture of the concentrate from 15% down to <0.3% w/w. The Rotary Dryer discharges to a Graphite Concentrate Dryer Cyclone, in which off-gases are separated from the Graphite Concentrate, which reports to the product hopper via a double flapper valve.

The off-gas discharges to a Graphite Concentrate Dryer Dust Collector, before being discharged to atmosphere via the Graphite Concentrate Dryer Stack. Any accumulated dust from the Dust Collector is returned to the Product Hopper via a rotary valve. The graphite concentrate is then pneumatically conveyed from the Product Hopper to either the Graphite Concentrate Storage Bin or Micronisation Feed Bin as per production requirements.

Concentrate Bagging

A nominal 80% of the dried graphite concentrate product is pneumatically conveyed to the Graphite Concentrate Storage Bin. The Graphite Concentrate is discharged to the Bagging Station vendor package via a rotary valve, where the product is bagged in preparation for offtake.

Micronisation

A nominal 55% of the dried graphite concentrate is rerouted to the Micronisation Feed Bin from the Product Hopper via the Graphite Concentrate Pneumatic Conveyor. The Graphite Concentrate is fed to the Micronisation Vendor Package via a rotary valve and pneumatic conveyor. The micronised product is then discharged to the Micronised Product Storage Bin, which feeds the Micronised Product Bagging Station vendor package where the micronised product is bagged in preparation for offtake.

Tailings Dewatering

In the tailings dewatering area, the tails from the Scavenger, Cleaner 1, Cleaner 2 and Cleaner 3 flotation circuits are dewatered and stored.

Tailings Thickening

The Scavenger tailings, Cleaner 1 tailings, Cleaner 2 tailings and Cleaner 3 tailings are received by the Tailings Thickener Feed Box, which then gravity flows into the Tailings Thickener, which is a high-rate thickener. Flocculant is dosed via the Tails Flocculant Mixer to the feed box to assist with settling of the solids and production of a relatively clean overflow.

Thickened tails are pumped by the Tails Thickener Underflow Pump to the Tailings Storage Facility. The density of the thickener underflow stream is expected to be 60.0% w/w solids. The Tailings Thickener decant overflows into the thickener launder and gravitates to the Process Water Tank.

Tailings Filtration & Handling

The option to further dewater the thickener tails in a filter and storing the tailings as dry stack is being investigated. The following process description is provided for this option.

The thickened tails are discharged from the Tails thickener U/F Pump to the Tails Filter Feed Tank, from which the tails are pumped to the Tails Filter. The Tails Filter is a plate and frame filter which serves to reduce the tails pulp density from 60.0% to 85% w/w solids to allow for dry stack storage. The tails filter cake is discharged to the Tails Filter Discharge Feeder, from which the Tailings Conveyor transports it to the Tailings Stockpile. The filtrate is discharged to the Tails Filtrate Tank, from which it is pumped to the Process Water Tank for reuse in the process. Once dried, the tails can be trucked from the Tailings Stockpile to the Dry Stack Tailings Disposal on-site.

Plot Plan

The extract of the plant layout based on the flowsheet and equipment selection for the concentrator plant is shown below.

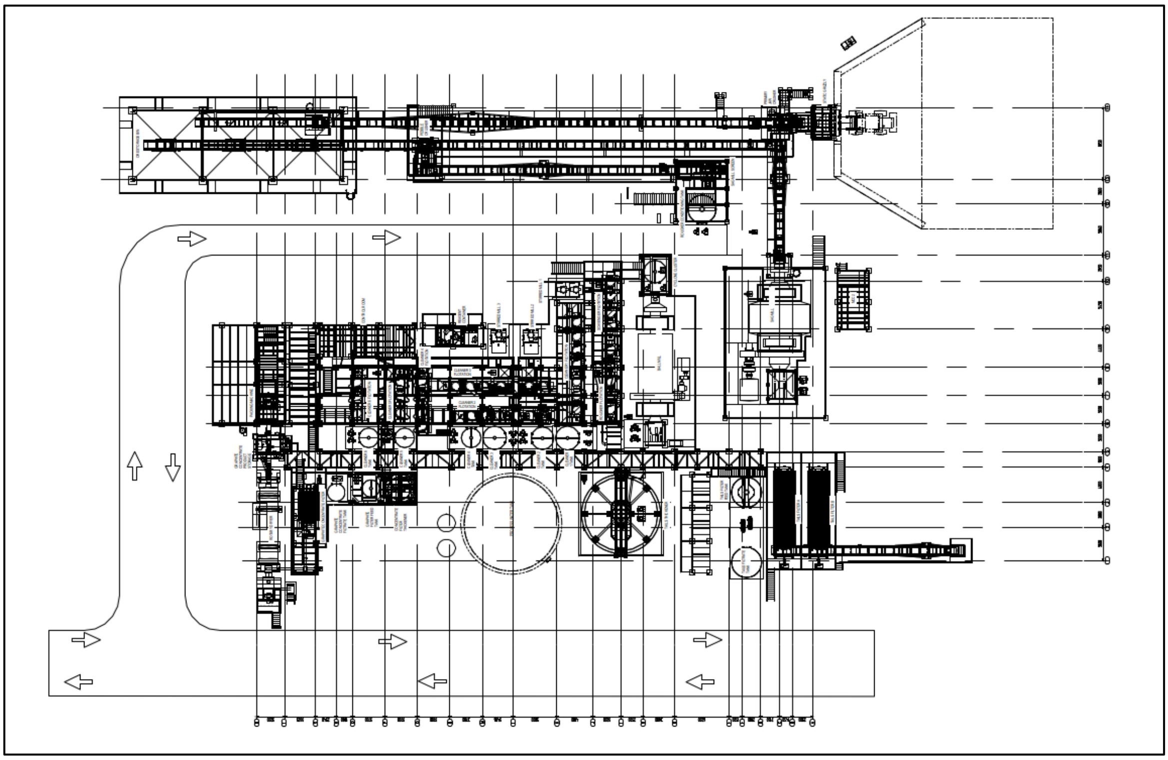


Figure 44. Process Plant Layout

NON-PROCESS INFRASTRUCTURE

General - Design Criteria and Specifications

The design standards applied to the McIntosh Graphite Project are as follows:

1. Civil Design Basis.
2. Process Design Criteria.
3. Electrical Design Criteria.
4. Specifications include:
   a. Wave Standard Specifications for Earthworks.
   b. Wave Standard Specifications for Water Storage Dams.
   c. Wave Standard Specifications for Drainage.
   d. Wave Standard Specifications for Synthetic Liners.
   e. Wave Standard Specifications for Protective Coatings.
   f. Wave Standard Specifications for Mechanical Equipment.

Non-Process Infrastructure Design Criteria

Non-Process Infrastructure will be located centrally on the mine site within a mining infrastructure area comprising a large hardstand. Individual parts of the hardstand will be designed to varying depths to accommodate the structures and vehicles being used in the area.

Roads

Roads will be developed to facilitate access to the McIntosh site from existing roadways as well as within the site to access the various facilities. Refer table 41 and Figure 45 below. The greatest risk to site access for the McIntosh Graphite Project appears to be loss of access via the haul road from the process plant to the Great Northern Highway at Reedy Creek, during significant rainfall events.

Roads required for the project are detailed in table 41 below.

Table 41. Road Descriptions

Road	Description
Mine Access Road (existing)	The Mine Access Road is an off-site light vehicle road connecting Great Northern Highway to the mine site. This is an existing unsealed two-lane two-way road approximately 16 km long. All traffic coming to site will travel via this road.
LV Access Road RSR01	LV Access Road RSR01 is an on-site light vehicle road connecting the Mine Access Road to Process Plant Area. This is an unsealed two-lane two-way road approximately 0.70km long.
LV Access Road RSR02 & RSR04	LV Access Road RSR02 is an on-site light vehicle road connecting the LV Access Road RSR02 to HV Access Road RSR10/11 and the Mining Contractors area. This is an unsealed two-lane two-way road approximately 0.77km long.
LV Access Road RSR03	LV Access Road RSR03 is an on-site light vehicle road connecting the LV Access Road RSR02 to the Haul Road RSR11. This is an unsealed two-lane two-way road approximately 0.13km long.
Haul Road – RSR10	HV Access Road is a heavy vehicle/light vehicle haul road connecting the ROM/Process Plant Pad to the Main Haul Road and Haul Road RSR11. This is an unsealed two-lane two-way road approximately 0.32km long. The typical section of this haul road is 26m in width inclusive of 1m shoulders on each side.
Haul Road - RSR11	HV Access Road is an on-site access road connecting to haul road RSR10 and the MIA Pad. This is an unsealed two-lane two-way road approximately 0.18km long. The typical section of this haul road is 26m in width inclusive of 1m shoulders on each side.
Haul Road - Emperor to Wahoo Pit (Main Haul Road)	This Main haul road connects the Emperor Pit and Wahoo Pit to the MIA, Process Plant, Pit Dewatering Dam, and the Explosives Pad and Magazine. The haul road is 4.16km long. The typical section of this haul road is 26m in width inclusive of 1m shoulders on each side.
Haul Road - TSF Access	This haul road connects the Tailings Storage Facility (TSF) to the Main Haul Road. This haul road is 0.36km long. The typical section of this haul road is 26m in width inclusive of 1m shoulders on each side.

Road	Description
Haul Road - Explosives Access	This haul road connects the Explosives Pad and Magazine to the Main Haul Road. This haul road is 0.84km long. The typical section of this haul road is 26m in width inclusive of 1m shoulders on each side.

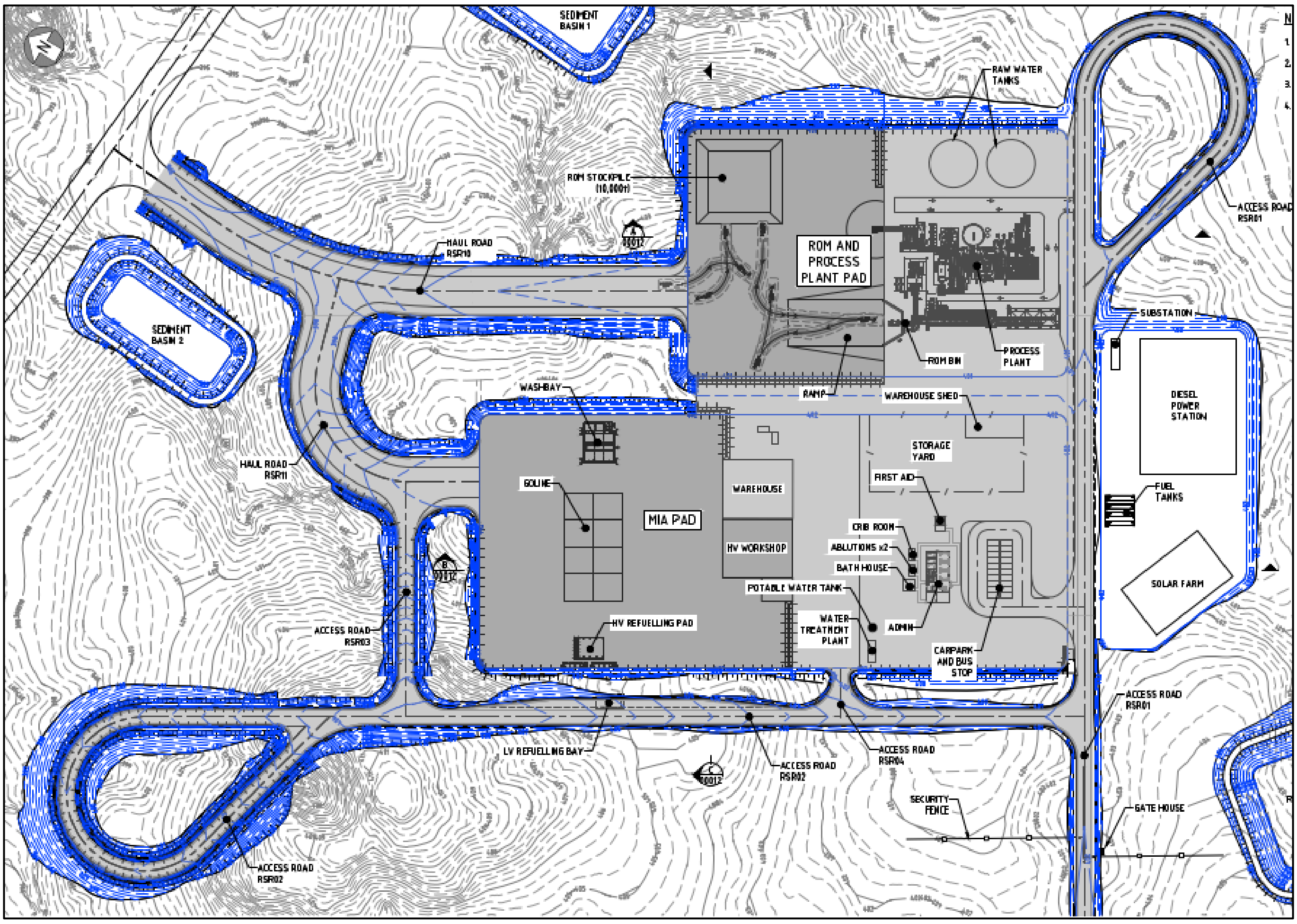


Figure 45. Site Road Infrastructure

Mine Industrial Area

The mine industrial area is approximately 7 hectares in size and includes the following infrastructure designed to meet the site demands:

1. Rom Pad.
2. Process Plant.
3. Mining Facilities.
4. Administration buildings offices, communications room, first aid facility, meeting and training rooms, security check-in and Induction facility.
5. Services reticulation including potable water, raw water, fire water, sewage, power, communications and effluent disposal area.

ROM Pad

An earthworks pad of approximately 1.3 hectares in size will be provided to accommodate 10,000t of ore in a single stockpile, stacked 4 m high, adjacent to the ROM feed bin. The pad will comprise an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a sedimentation basin. The design vehicles for the hardstand include Komatsu HD785 90t rear dump trucks and Komatsu PC1250.

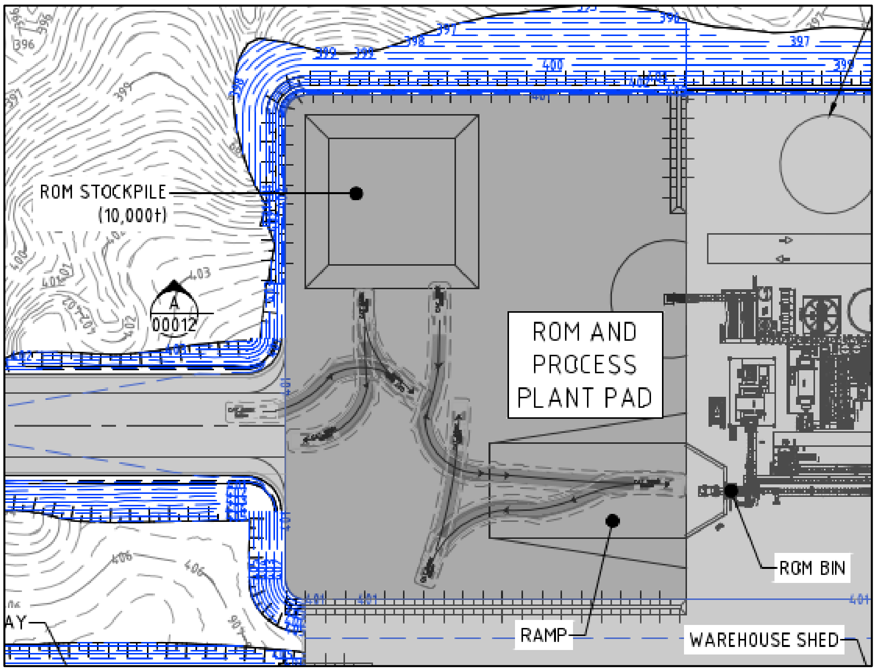


Figure 46. ROM Pad Area Layout

Process Plant

The Process Plant Pad is approximately 0.6 hectares in size and will comprise an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a sedimentation basin. The design vehicle used for the sizing of the hardstand area was a Semi-trailer.

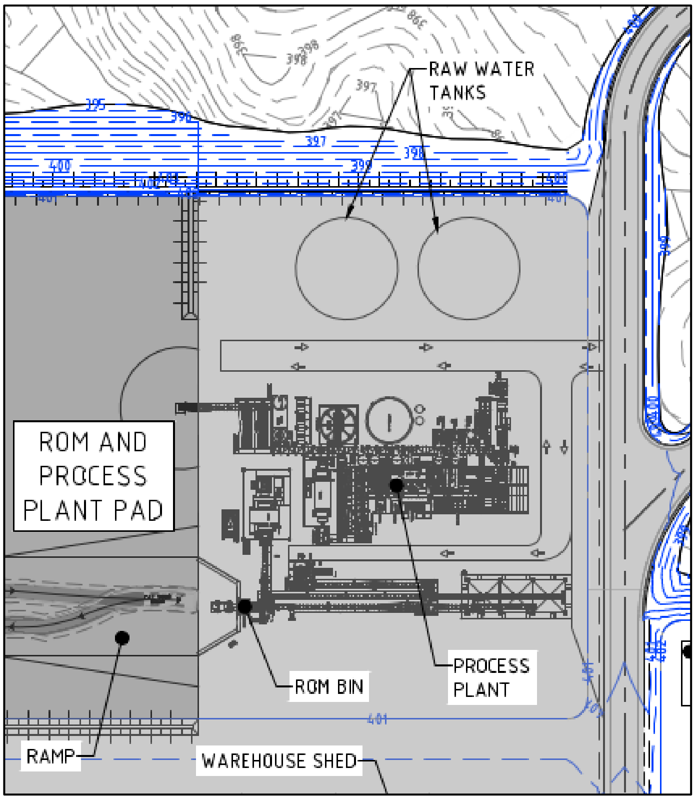


Figure 47. Plant Infrastructure Area Layout

Mining Facilities Area

The Mining Facilities Pad is approximately 2.6 hectares in size and includes the following infrastructure designed to accommodate the following facilities:

1. HV Workshop.
2. Warehouse.
3. Warehouse Shed.
4. Storage and Laydown Yard.
5. Fuel and lube facility.
6. Vehicle washdown facilities.
7. HV Parking.
8. Office building and ablutions.

The pad will comprise an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a sedimentation basin.

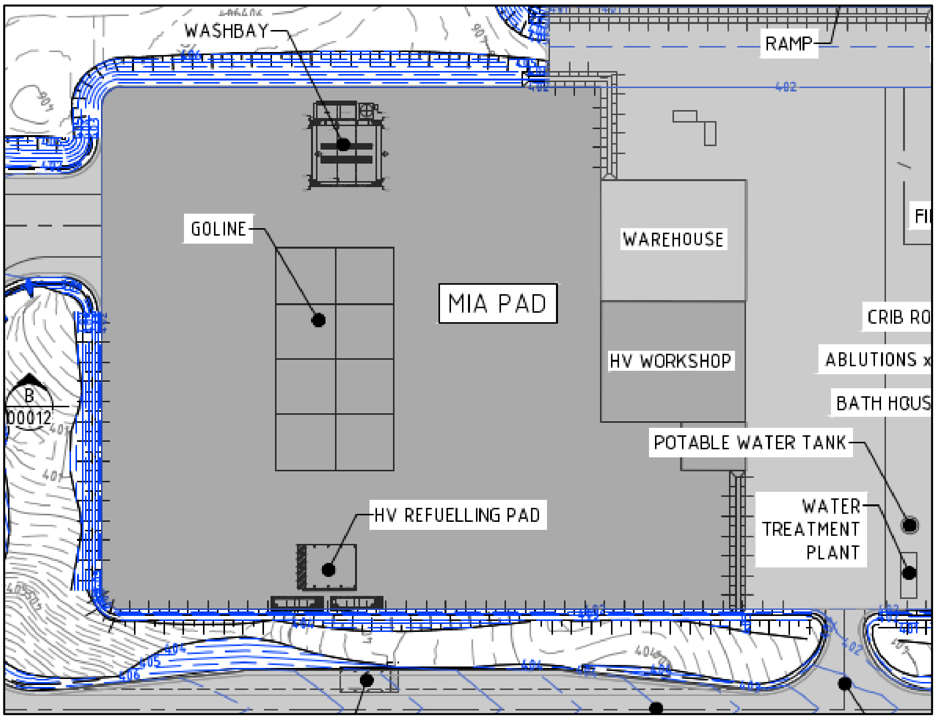


Figure 48. Mining Contractor's Area Layout

HV/MV Workshop

The proposed HV/MV workshop will serve as a maintenance area for mine spec vehicles and equipment for site. The workshop shall consist of a one-bay dome sheltered workshop capable of accommodating wheel loaders.

The workshop will be an igloo workshop with proprietary roof supported by double stacked 40-foot containers abutting on a concrete slab (17 x 50 x 0.3m).

The containers will be used for both offices and storage of parts and tools.

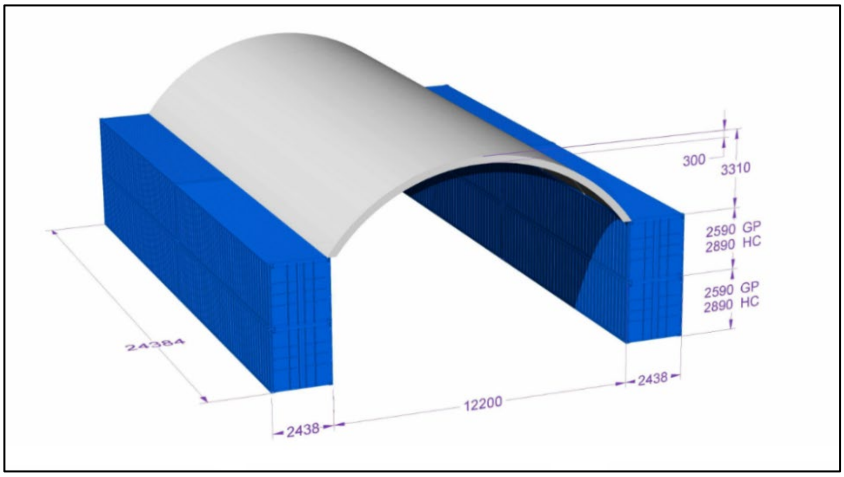


Figure 49. HV Workshop Structure (Single Double Stacked Arrangement Shown)

Fuel and Lube Facilities

The fuel facility will consist of Trans Tank diesel storage tanks and a bunded refuelling slab. A site fuel truck will service remote generators and mobile equipment located around the operations.

The image below shows a typical arrangement of the Trans Tanks.

Figure 50. Trans Tanks

Vehicle Washdown Facility

A washdown facility is proposed for the MIA area to facilitate cleaning of vehicles prior to maintenance activities, the wash down will include a sump for capture of oily water.

Figure 51. Example Photos of Typical Washdown Facilities

Administration Area

The Administration Pad is approximately 0.6 hectares in size and includes the following infrastructure designed to meet the site demands:

1. Administration building
2. Car and bus parking
3. Crib Room
4. Male and female ablutions
5. Emergency vehicle parking
6. First aid room

The Administration area will comprise of an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a mine water management pond.

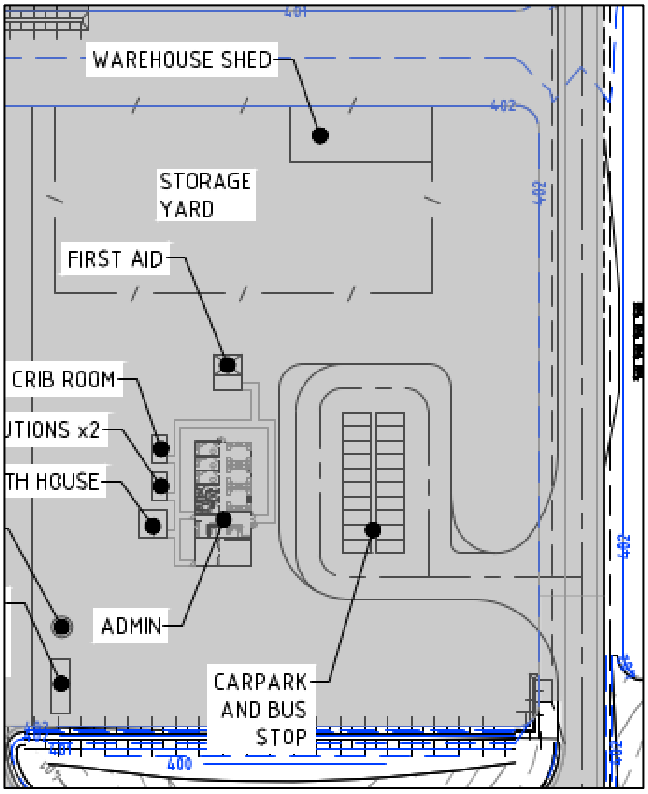


Figure 52. Administration Area Layout

Diesel Power Station

The Diesel Power Station requires a 0.4ha pad. The pad will comprise an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a sedimentation basin.

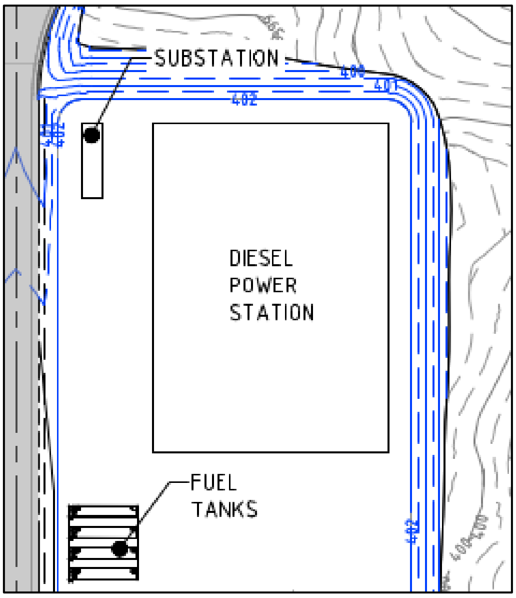


Figure 53. Diesel Power Station's Area Layout

Solar Farm

The Solar Farm requires a 0.15ha pad. The pad will comprise an unsealed gravel pavement. Open drains will be provided to capture and divert surface water runoff from the pad to a sedimentation basin.

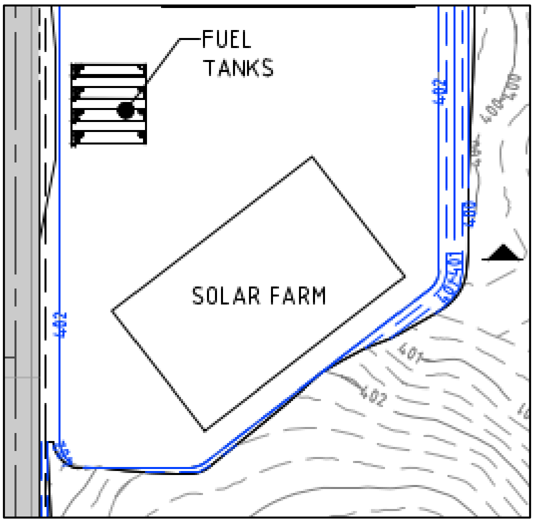


Figure 54. Solar Farm's Area Layout

Utilities

Power Supply and Reticulation

A dedicated diesel fired hybrid microgrid power supply systems will be provided. This system provides the lowest cost of electricity ($/kWh) and greater flexibility to demand variability.

Raw Water

Raw water will be supplied to site from an existing bore located at the decommissioned Copernicus Minesite. The required flow rate is approximately 21 L/s.

The 2 x 1.1 ML water tanks will be provided on the Process Plant Pad to store raw water. This will accommodate 24hr water demand plus fire water reserve at the process plant.

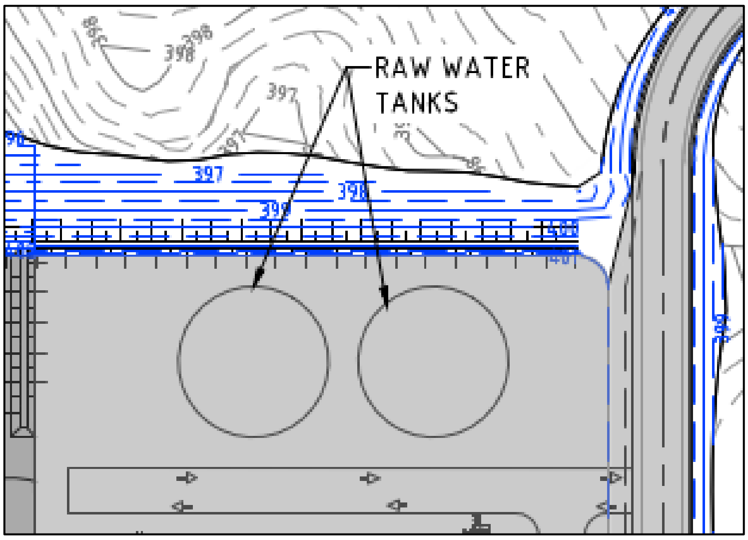


Figure 55. Raw Water Tank's Layout Area

Potable Water

A package water treatment plant will be installed to supply potable water for the site. The treatment plant will have a treatment capacity 15,000 L/day. Feed water will be sourced from the proposed site bore. A 40kL potable water tank will also be provided to ensure 3 days worth of storage.

Figure 56. Example Image of Containerised Water Treatment Facilities

Sewer

A wastewater (sewage) treatment plant will be installed adjacent to the accommodation village. It will be a Membrane Bioreactor (MBR) type treatment plant with 15,000 L/day treatment capacity. Treated water from the facility will be dispersed over a designated irrigation area. Solid waste will be trucked to an off-site regulated waste treatment facility.

Waste Management

Waste disposal facilities shall be provided on site for solid industrial and domestic waste. Waste oils, laboratory waste and contaminated water shall be removed from site in containers for disposal or refining at an approved disposal facility.

Surface Water Management

Water Source & Strategy

Water supply to the site will serve a range of demands the project will have throughout its life, these will include:

1. Construction Water
2. Dust Suppression of HV and LV roads
3. Process water supply
4. Mining operations
5. Potable water for accommodation space
6. Firefighting water

The primary source of the raw water for the aforementioned uses will arise from the available bore water located at Copernicus mine. Raw water will be fed to the Raw Water Dam from several bore fields. Each bore water drawdown point will utilise an overland HDPE pipeline system to transport bore water directly to the raw water dam.

The total water usage of the mine and plant is approximately 2,902 ML per year.

The dams on site will service this demand, with the raw water dam feeding the process plant and RO plant. All other dams will ultimately discharge into the process water dam.

Sediment Basins

Two sediment basins have been allowed for in this Preferability Study as follows:

1. Sediment Basin 1 – This basin captures surface runoff from the eastern side of the mine infrastructure area. Overflow from this basin will discharge via overland flow to the creek downstream. Stored water will be pumped to the Pit Dewatering Dam for reuse.

2. Sediment Basin 2 – This basin captures surface runoff from the westerns side of the mine infrastructure area. Overflow from this basin will discharge via overland flow to the creek downstream. Stored water will be pumped to the Pit Dewatering Dam for reuse.

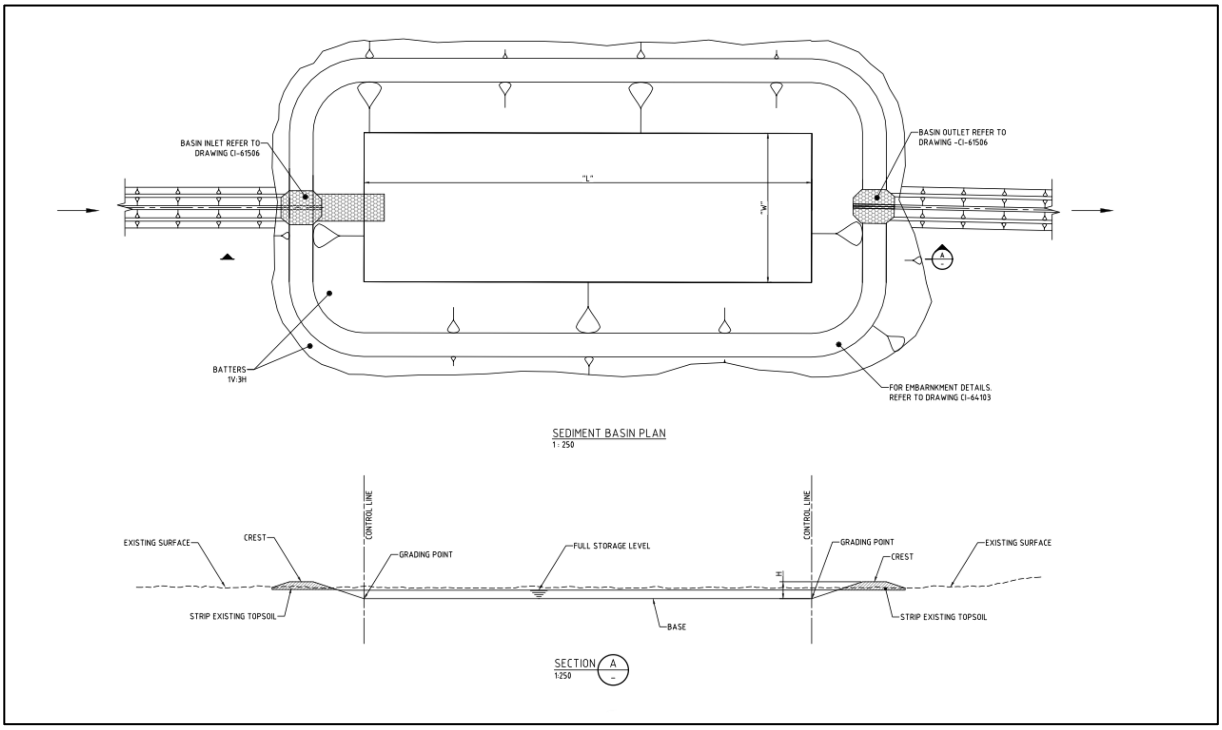


Figure 57. Sediment Basin Plan

Pit Dewatering Dam

A Pit Dewatering Dam has been provided to store surface water runoff collected in the opencut pits. This water will be preferentially used for site dust suppression and process water makeup purposes. Preliminary assessment indicates that the required storage capacity of the Pit Dewatering Dam will be 100 ML. Water balance modelling is required in the next phase of design to confirm this size as part of the site wide water network.

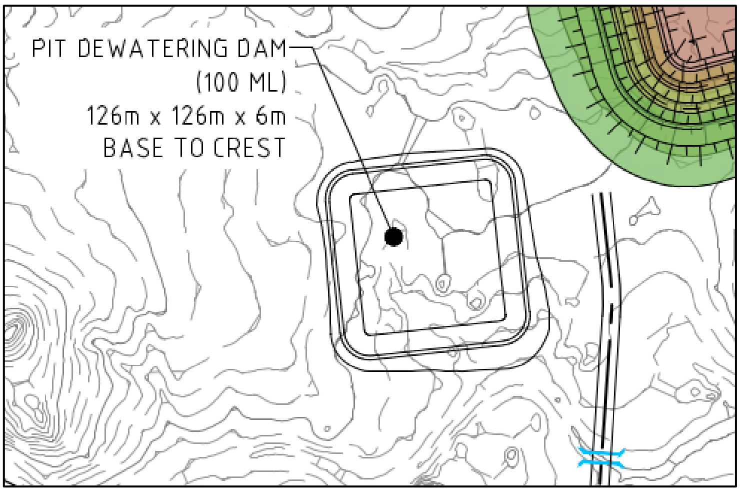


Figure 58. Sediment Basin Plan

Raw Water Dam

A 13 ML Raw Water dam will be provided to accommodate 7 days bore water supply to operations.

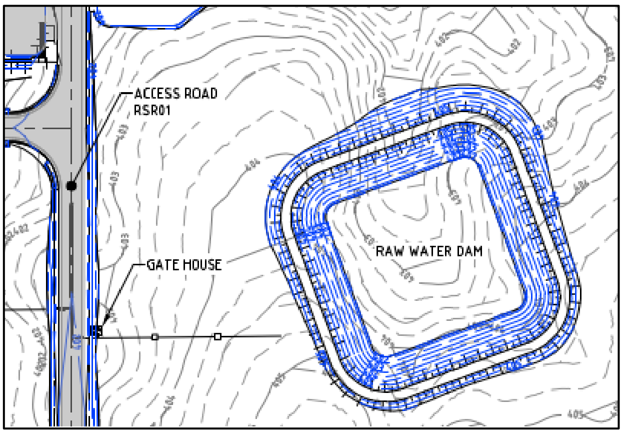


Figure 59. Sediment Basin Plan

OPERATIONS MANAGEMENT

Operating Philosophy

The McIntosh Graphite Project is a 'greenfields' project and will operate around the clock 24 hours per day, seven days per week.

GCM will develop the Project as an owner-operator for the processing of ore and use specialist contractors for mining and camp management. The operation will conform to design criteria and the mining schedule will be predetermined to match financial modelling.

The mining contractor will assume responsibility for all mining-related operations, including drilling, blasting, and haulage. GCM will focus on geology, surveying, and grade control, ensuring that the extracted ore meets processing requirements and supports optimized plant performance. Mining activities will be closely monitored to ensure the operation aligns with environmental, safety, and regulatory requirements.

The processing plant will be designed for 24/7 operation, maximizing production efficiency. Maintenance will be structured around planned shutdowns, preventative activities, and condition monitoring to reduce unplanned downtime and enhance overall equipment effectiveness. Advanced process control systems will be implemented to improve plant stability and optimize metallurgical performance.

The Mine operating philosophy is as follows:

1. Process plant is based on an owner/ operator model with the plant being operated and maintained by GCM.
2. Mining operations consisting of grade control drilling, drill and blast, load and haul activities will be performed by a specialist mining contractor. The contractor will provide all mining equipment and carryout all maintenance of its mining fleet along with supervision, operators and trades. The roster will be nominal 2 weeks on and 1 week off rotation with no coverage required during the week off for scale reasons.
3. GCM's designated Site Senior Executive (SSE) holds statutory responsibility, ensuring regulatory compliance and operational integrity.
4. A Quarry Manager will be appointed to oversee safe and effective extraction activities in alignment with regulatory requirements.
5. Mining workforce follows a 2:1 roster, ensuring efficient workforce rotation while balancing fatigue management and operational demands.
6. Accommodation will be provided via a motelling agreement with the Savannah Mine Site (30km away), eliminating the need for dedicated camp infrastructure.
7. GCM will provide meals, accommodation and Fly-in Fly-out (FIFO) flights to all personnel and contractors.
8. Fixed plant maintenance will be performed by a combination of in-house personnel and specialized contractors to ensure efficiency and cost-effectiveness.

1. Graphite concentrate & micronized product will be transported 280 km to Wyndham Port for export and customer delivery.

Plant Production Schedule

Nominal flow rates refer to the throughput rates that operate under the Process Design Criteria. If the process slows down - the equipment, while being available and used, is not considered efficient and therefore this should be recorded. Nominal feed rate is calculated by the following formula:

$$Nominal\ Feed\ Rate\ (tonnes\ per\ hour) = \frac{Total\ Annual\ Feed\ (tonnes)}{Annual\ Operating\ Hours\ (hours)}$$

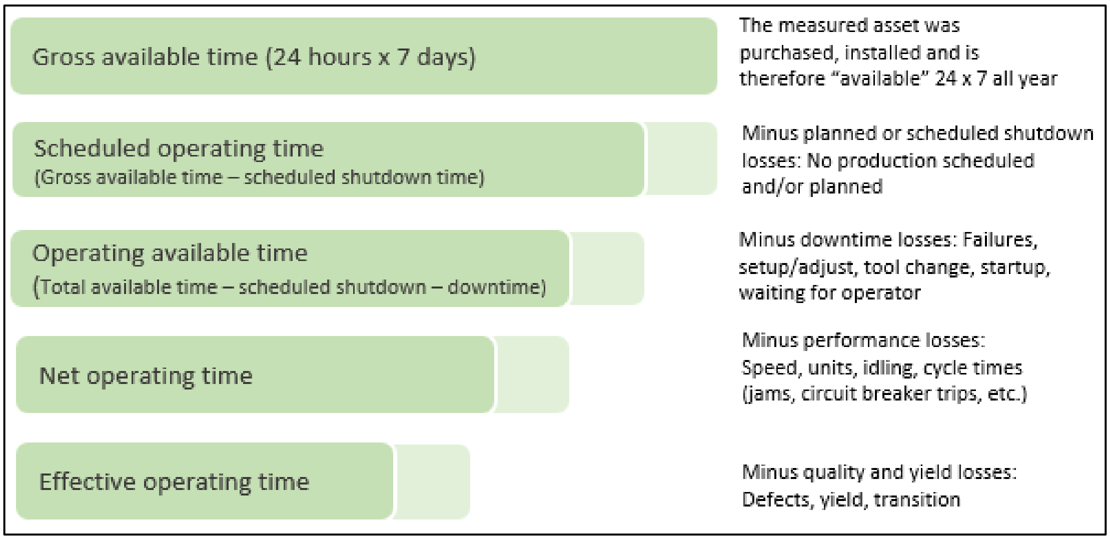


Figure 60. Overall Equipment Effectiveness Definition

Notes:

1. *Gross available time accounts for the maximum amount of time existing e.g., year = 365 days.*
2. *Scheduled operating time is the period of time the equipment or process is available in an operational state for production, minus the planned downtime.*
3. *Operating available time is the actual time the process plant operates.*
4. *Downtime is the amount of time the process plant does not operate according to schedule.*

Shift Rosters and Workforce Structure

Shift rosters are configured as industry standard and will comply with the Company's Fatigue Management Plan(s) while maximising the efficiency of the workforce, equipment and processing facilities.

These roster selections were made based on a detailed analysis of several alternatives and will continue to be monitored to ensure the selected rosters meet company objectives.

Factors considered included:

1. The remoteness of the site
2. Safety and fatigue management
3. Site coverage to allow continuous production
4. Requirements to attract and retain a skilled workforce

Due to the remote location of the site, the rosters align with enabling a Fly-In Fly-Out style workforce. Employees will fly to Kununurra, WA, before traveling via bus transport to the site.

The site-based workforce is distributed over five categories:

1. Mining Workers – 2:1-day roster for the mining workforce with no coverage on the off week.
2. Plant Day Worker – working a 8:6-day roster of 12-hour days with coverage during the off days.

3. Day Worker – working a 8:6-day roster of 12-hour days without coverage during the off days. These positions will often be back-to-back with similar positions.
4. Plant Shift Worker – working a 2:1-day night roster of 12-hour days with 24-hour coverage utilising three shift blocks to maintain continuous operations.

Contractor – subject to contractor's task, variable rosters to be considered in line with above rosters in similar work activities.

Flights

The key factors considered in establishing the aviation strategy included:

1. The remoteness of the mine site
2. Location and size of existing airports/aerodromes
3. Suitability of sites in close proximity to the mine site to construct a dedicated airstrip
4. Types and sizes of readily available aircraft
5. Minimising travel time to the places of work
6. Minimising lost production on shift change days
7. Flight costs
8. Use of commercial scheduled services of charter services

Based on a detailed analysis of the above factors, the use of commercial flight services from Perth to Kununurra airport was selected as the preferred aviation option.

Accommodation

Given the size of the operation, it was deemed that building a specific camp for the McIntosh Graphite Project would be uneconomic. As such, it was decided that, for the purpose of this PFS, it will be assumed that a motelling arrangement can be agreed upon with the nearby Savannah Mine, which was put into care and maintenance in 2024. The Savannah Mine Site and associated camp is approximately 30km north of the McIntosh Graphite Project and is accessible via the Great Northern Highway.

PERMITS, APPROVALS, HEALTH, SAFETY, ENVIRONMENT AND COMMUNITY, STAKEHOLDER RELATIONS

General

As part of the PFS, GCM had environmental consultancy group EMM review all previous environmental and heritage studies completed at the McIntosh Graphite Project by NH3CE and provide a report documenting validity of data and highlighting gaps and potential follow up works required to gain necessary approvals. The report also provided a recommended approval pathway and associated timelines. Excerpts of this report are included below, with the full report included in the PFS report.

A range of environmental baseline surveys have previously been undertaken across the site by between 2013 and 2018. These studies were required to support environmental assessments for the proposed NH3CE McIntosh Project, which initially consisted of three open pits with a total footprint of approximately 600 hectares (ha) and mining of approximately 1.8 million tonnes per annum (Mtpa) of flake graphite, or 2.0 Mtpa of raw graphite and a full-scale production facility with a target output of 1.8 Mtpa. The surveys completed by NH3CE included:

1. Terrestrial flora and fauna (including invertebrates)
2. Subterranean fauna
3. Targeted bat assessment
4. Targeted Gouldian Finch
5. Short-ranged endemic invertebrate fauna
6. Hydrology

Baseline studies were conducted in 2013/2014 and 2016/2017 focusing on Long Tom, Wahoo, Barracuda, and Emperor deposits. This PFS by GCM will use these studies to identify what approvals path is the most appropriate for the McIntosh Graphite Project and what further studies might be required in the future.

Permits and Approvals

This section outlines all environmental permits and approvals that typically apply to mining activities in Western Australia. Section 5 maps out those approvals likely to apply to the McIntosh Graphite Project based on the background information available.

Western Australian Environmental Protection Act 1986

Part IV – Environmental Referral and Assessment

Any proposal that has the potential to have a significant environmental impact requires referral and potentially an assessment under the Western Australia Environmental Protection Act 1986 (the EP Act).

The WA EPA considers the proposal and decides whether it requires formal environmental impact assessment (EIA) and, if so, at what level. In carrying out its assessment, the WA EPA considers the object and principles of the EP Act, the environmental objectives for any relevant environmental factors, and the environmental significance of the proposal or scheme. The assessment process is shown in Figure 61.

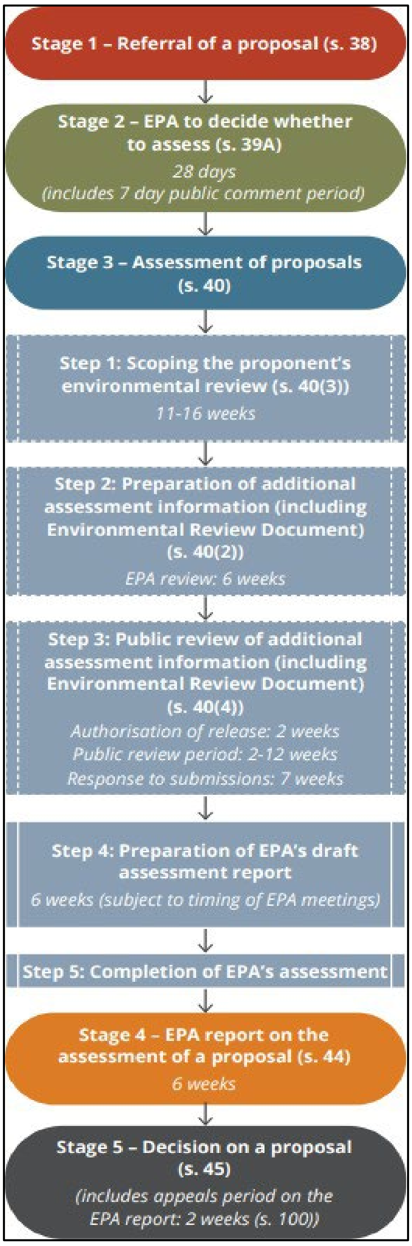


Figure 61. EP Act Part IV process stages and minimum target timeframes

Prescribed Premises

The Department for Environment and Water (DWER) regulate certain premises through a works approval and licensing process to prevent, control, abate and mitigate pollution or environmental harm, under Part V of the EP Act. Industrial premises with potential to cause emissions and discharges to air, land or water are known as 'prescribed premises' and trigger the requirement for a Works Approval and grant of an Operating Licence.

These prescribed premises categories are outlined in Schedule 1 of the Environmental Protection Regulations 1987. The EP Act requires a works approval to be obtained before constructing a prescribed premises and makes it an offence to cause an emission or discharge unless a licence or registration is held for the prescribed premises.

Each category of premises has a production or design capacity trigger which determines whether a Works Approval or licence is required.

A Works Approval is required prior to the construction or demolition of a premises that includes prescribed activities. The Works Approval application discusses the management of proposed discharges, and a Compliance Document is authored once construction is completed to state the infrastructure was constructed (or decommissioned) in the manner discussed in the Works Approval and detail any alterations. The Compliance Document is provided to DWER and the licensing process (to operate the premises at full capacity or amend the existing Licence) is initiated.

Approval must be received prior to undertaking any works, except for specified site preparation works (works subject to obtaining a native vegetation clearing permit, where applicable, or applying for clearing under the works approval). Typical prescribed premises include (with production or design trigger thresholds):

1. Processing or beneficiation of metallic or non-metallic ore – 50,000 tonnes per annum (tpa)
2. Mine dewatering - 50,000 tpa
3. Electric power generation - 10 megawatts or more in aggregate (using a fuel other than natural gas)
4. Fuel burning - in aggregate 500 kilograms or more per hour (fuel with a sulphur content of 0.25% or more)
5. Sewage facility - more than 20 but less than 100 cubic metres per day
6. Putrescible landfill site - more than 20 but less than 5,000 tonnes per year

DWER's target timeframes for determination of applications are 60 business days for a licence or works approvals.

Native Vegetation Clearing Permit

Under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004, clearing that is the result of carrying out prospecting or exploration under an authority granted under the Mining Act is exempt from requiring a Native Vegetation Clearing Permit.

This exemption does not apply to clearing of native vegetation in Environmentally Sensitive Areas (ESAs), which are areas of native vegetation that are specially protected due to their landscape, vegetation, or wildlife values. It is an offence to clear native vegetation within an ESA without a clearing permit.

A clearing permit is also required if the land on which clearing is proposed has any areas not covered by:

Either mineral tenure granted under one of the Mining Act:

1. A State Agreement Act.

2. A crown lease issued pursuant to a State Agreement Act.

If the clearing is not eligible for an exemption under the EP Act or Environmental Protection (Clearing of Native Vegetation) Regulations 2004, then the proponent must obtain a native vegetation clearing permit.

Where an application meets these triggers and may need to be supported by additional information, applicants are encouraged to consult with the Department prior to submission in order to determine information requirements.

DEMIRS has a target of completing 80% of assessments within 60 business days. All targets are subject to the provision of sufficient information being supplied on lodgement to assess the application.

Western Australian Mining Act (1978)

Mining Proposal

The Mining Act requires a tenement holder to obtain and have approved an environmental assessment (a Mining Proposal), prior to undertaking any mining operations on a lease granted under the Mining Act. It is also a condition of all tenements that ground disturbing activity cannot occur unless it is approved via a relevant Mining Proposal (or Programme of Work for exploration or prospecting activities). DEMIRS provides guidance (Statutory Guidelines for Mining Proposals) which mandate the form and content of information required in a Mining Proposal. The typical process pathway for assessment of a Mining Proposal is shown in Figure 62.

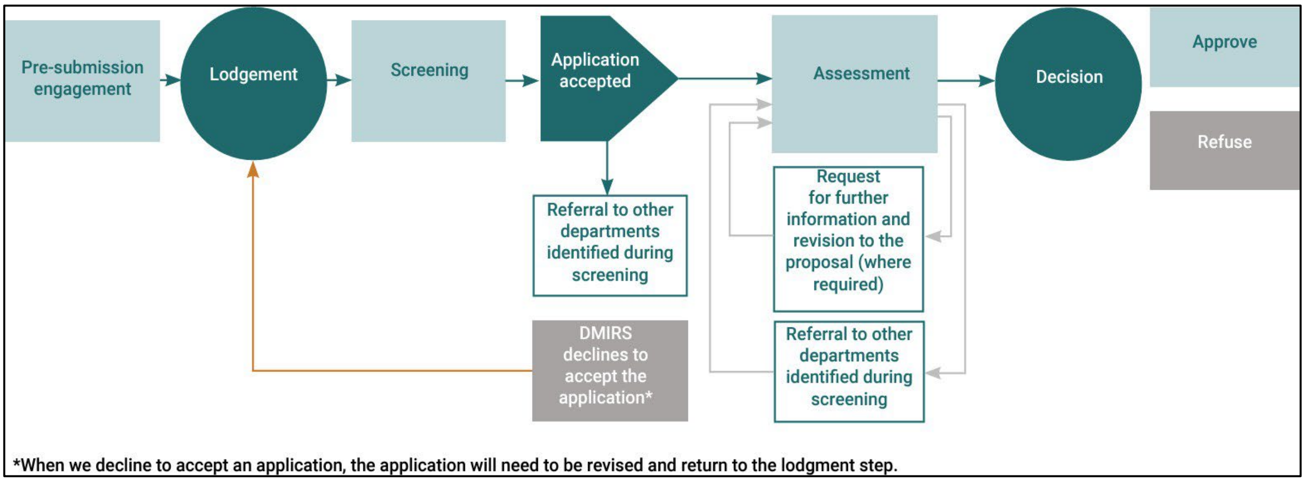


Figure 62. Mining Proposal Process (DEMIRS)

To submit a Mining Proposal, the proponent must either have relevant primary tenure (a mining lease) granted under the Mining Act or the Mining Proposal is submitted in support of a mining lease application (instead of a statement on the mineralisation of the area) under section 74(1) (ca) of the Act.

In addition to the outlining the proposal description, legislative framework and stakeholder engagement, the Mining Proposal needs to address:

1. Climate
2. Landscape
3. Materials characterisation

4. Biodiversity
5. Hydrology
6. Heritage
7. Environmental threats
8. Environmental risk assessment
9. Environmental outcomes, performance criteria and monitoring
10. Environmental management system
11. Mine closure plan

DEMIRS has a target of 80% of Mining Proposal applications to be determined within 30 business days, subject to provision of sufficient information being supplied on lodgement. If the proposal is being assessed under Part IV of the EP Act, DEMIRS will parallel process the Mining Proposal assessment. DEMIRS however cannot decide on an application until either the Minister for Environment sends notification that decision-making authorities may exercise their decision-making powers, or the WA EPA decides not to assess the proposal. This requirement is currently the subject of proposed amendments to the EP Act to enable parallel decision making.

DEMIRS will also parallel process applications but withhold its decision where:

1. The tenement conditions require consultation and agreement with any other agency.
2. Consent or clearance must be sought under the Aboriginal Heritage Act 1972 (WA) when there is an impact to a heritage site.
3. The Minister must consent to entry to reserves or other restricted lands.
4. A mining lease application sent with the Mining Proposal has not yet been granted.

Mining Lease

Pursuant to section 74(1)(ca) mining lease applications must be accompanied by one of the following three types of documentation:

1. A Mining Proposal completed in accordance with the Mining Proposal Guidelines published by the department.
2. A statement of mining operations and a mineralisation report that has been prepared by a qualified person (For more information about mineralisation report and accompanying checklist).
3. A statement of mining operations and a resource report that complies with the JORC Code and that has been made to the Australian Securities Exchange Ltd (Tell me more about resource report).

Western Australian Rights in Water and Irrigation Act 1914

The Rights in Water and Irrigation Act 1914 (RIWI Act) and regulations govern rights in relation to natural surface water and groundwater including water bore construction and water monitoring, water abstraction and water use. DWER issues several types of water licences and permits.

5C Licence (To Take)

A 5C licence allows the licence holder to 'take' water from a watercourse, wetland or underground source for uses including:

1. Abstraction of artesian (confined) groundwater in ALL locations of the state.
2. Abstraction of non-artesian (shallow unconfined) groundwater in proclaimed areas of the state.
3. Abstraction of surface water in proclaimed areas of the state.

26D License (To Construct / Alter)

A 26D licence allows the licence holder to construct or alter wells. This may include exploratory, monitoring or production bores.

A 26D licence authorises the take of groundwater for hydro investigation and sampling purposes only. You need a 5C licence to take water for any other purpose. DWER gives no guarantee that it would issue 5C licence with an associated 26D licence.

Bed and Banks Permit

When granted, a permit authorises you to interfere with or obstruct the beds and banks of a watercourse or wetland.

Exemptions

Some activities do not require a licence or permit. Exemptions include:

1. Monitoring well
2. Short term dewatering

A bed and bank permit is not required when works occur on mining tenure and does not involve the diversion or take of water.

DWER has a target timeframe for water licence approval under the RIWI Act of 65 business days (low risk application), 75 business days (medium risk application) and 95 business days (high risk application). All targets are subject to the provision of sufficient information being supplied on lodgement to assess the application.

Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act

The EPBC Act protects nine matters of national environmental significance (MNES), as well as Commonwealth land, Commonwealth heritage places overseas, and all actions by Australian Government agencies. The nine matters are:

1. Declared world heritage properties
2. National heritage places
3. Wetlands of international importance (listed under the Ramsar Convention)
4. Listed threatened species and listed ecological communities
5. Listed migratory species (protected under international agreements)
6. Commonwealth marine areas
7. Great Barrier Reef Marine Park

8. Nuclear actions (including uranium mines)
9. Water resources (concerning coal seam gas and large coal mining development)

Should a project potentially impact a MNES it should be referred to the Department of Climate Change, Energy, Environment and Water (DCCEEW) to determine whether the project needs to be assessed. The referral is typically accompanied with supporting information addressing the potential Matters.

Primary Approvals

Based on the available information including previous studies and assuming above water table mining only for this stage of mining, the lack of potential significant environmental impact triggers suggests an assessment under the EP Act may not be required for the McIntosh Graphite Project. However, if mining were to intersect the water table, this may increase the risk of the project triggering assessment under Part IV of the EP Act due to the potential risk of impacts to subterranean fauna. This decision would need to be revised in light of further site investigations.

The primary environmental approval is likely to be a Mining Proposal under the Mining Act. A range of studies will be required to support the Mining Proposal. Table 42 outlines the information and indicative level of technical studies required and that will be undertaken by GCM. This is planned to be reviewed as greater project definition is available and pre-referral consultation with DEMIRS.

It has been assumed that project description and specifications will progressively be available from pre-feasibility (PFS) and detailed feasibility studies (DFS). A high-level project description will be required to initiate primary approvals. Targeted specifications including disturbance footprint for pits and associated infrastructure including access roads, pit depth and operational parameters will be required as inputs to the Mining Proposal.

Table 42. Mining Proposal supporting studies to be undertaken by GCM

Task	Scope
Climate	Desktop data review.
Landscape	Desktop review and specifications from PFS/DFS.
Materials Characterisation	From PFS/DFS. Will need to include characterisation of any wastes and tailings and proposed management strategies.
Biodiversity	Updating earlier species lists for conservation status currency. Targeted baseline field assessment across disturbance footprint and surrounds. Includes if required based on regulator consultation: 1. Subterranean fauna (if below water table mining proposed). 2. EPBC Self-Assessment against Significant Assessment Guidelines.
Hydrology	Surface water and groundwater assessment using data from PFS/DFS. Assumes some additional groundwater numerical or conceptual modelling may be required.
Heritage	Clearance surveys for exploration drilling and across disturbance footprint. Cultural heritage management plan. Cultural Heritage Surveys across deposits and proposed infrastructure hub, access roads and other infrastructure.

Task	Scope
Environmental Threats	Desktop noise and air quality assessment, climate change/GHG assessment
Environmental Risk Assessment	Desktop assessment from above studies and PFS/DFS. Includes workshop/s with proponent and engineering teams.
Environmental outcomes, performance criteria and monitoring	Impact assessment and mitigation. Environmental Management Plan.
Environmental Management System	Outline requirements that would sit in a project/corporate EMS.
Mine Closure Plan	Conceptual Mine Closure Plan – informed by PFS/DFS.
Stakeholder consultation	Preparation of stakeholder engagement strategy.

Secondary Approvals

GCM expects that there will potentially be other approvals/permits required under the Mining Act and EP Act to enable site investigations. Typically, a project might require:

1. An approved PoW under the Mining Act to undertake drilling activity for resource definition including clearing of vegetation.
2. Native Vegetation Clearing Permit to undertake vegetation clearing for other activities like construction of access roads and laydown areas outside the PoW scope.
3. Water supply permits to establish water supply bores for site investigations and/or operation.
4. Some minor permits if crossing of defined waterways is required.

GCM expects that these permits and their appropriate approval pathways will become more apparent at the completion of the PFS and subsequent further feasibility studies.

Approval Timeline

To support the mining lease application or prior to mining activity, approval of a Mining Proposal will be required. Subject to confirmation from DEMIRs, only targeted additional biodiversity studies may be needed to support the assessment. The Proposal will also require sufficient project design information so will have dependencies on output from PFS and DFS technical reports.

Timing of any additional baseline studies and the supporting assessment report will be tied to key design milestones to focus field activities and to understand impacting activities.

The target assessment timeframe for the DEMIR is 30 business days. The indicative approvals pathway and timeframe is provided in Figure 63.

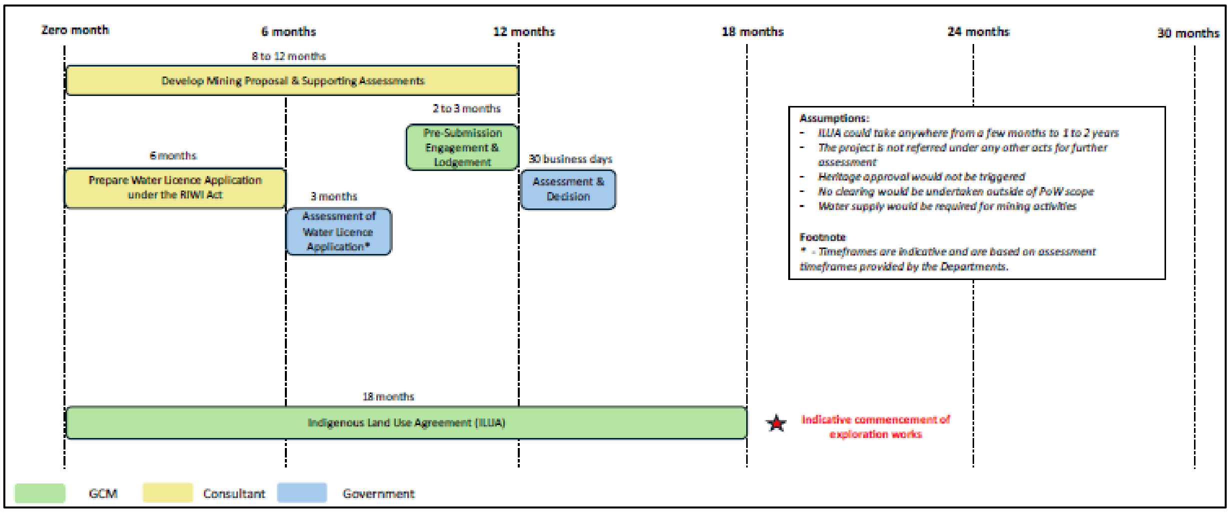


Figure 63. Indicative approvals timeframe for Mining Lease Approval

Mine Closure

GCM will be working with the DMP to implement an appropriate Environmental Management Plan and Closure Plan for the risks and issues identified through the assessment process.

At this point the Company considers that the project has a long-term future i.e. greater than twenty years. Notwithstanding that, as the mining of individual deposits is completed, full rehabilitation will be undertaken progressively. Ultimately, closure will involve sealing and capping the tailings storage facility, removal of all plant and equipment and rehabilitation of all disturbed areas leaving just minimal access to complete and monitor the rehabilitation works.

Next Steps

The approvals pathway detailed in previous sections has been developed in isolation of any new site investigations or a detailed project development schedule. The pathway will likely evolve along with greater project clarity and as GCM progresses project development.

Suggested potential next steps may include:

1. GCM to develop a high-level project description to enable consultation with key stakeholders and regulators.
2. GCM to initiate engagement with the Malarngowem People to progress an Indigenous Land Use Agreement and exploration clearance surveys.
3. Pre-referral meeting with DEMIRS in Perth to confirm approval expectations and identify issues/constraints.
4. GCM to outline a potential development plan on which to base a more detailed approvals plan which can step out approval tasks and allow scoping of likely technical support studies.
5. Review the existing biodiversity reports to check the current protection status of species identified in their approval referral. This will in turn assist in scoping biodiversity baseline studies and discussions with regulators. Along with other data sources, this could form the basis of a self-assessment against the EPBC Act Significant impact guidelines.

6. If an exploration strategy is required, permitting and approvals can be prepared and submitted to meet exploration requirements.

Health, Safety and Environment

Health and Safety

The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) carries prime responsibility for regulating mining, petroleum and geothermal industries and dangerous goods in Western Australia, including the collection of royalties and ensuring safety, health and environmental standards are consistent with relevant state and Commonwealth legislation, regulations and policies.

There are two pieces of legislation that define the standards of occupational safety and health for Western Australian mining operations:

1. Work Health and Safety Act 2020 (WHS Act)
2. Work Health and Safety (Mines) Regulations 2022

The "Work Health and Safety Act 2020" (The Act) sets objectives to promote and improve occupational safety and health for people who work in mining operations in W.A., including exploration projects.

The "Work Health and Safety (Mines) Regulations" (The Regulations) provide more specific requirements for a range of activities.

There are a number of regulations, codes and standards that need to be considered when fully developing the project health and safety policies, procedures and plans. These are referenced below.

GCM Health and Safety Policy

GCM is a safety conscious company committed to operating in a manner that will ensure that the highest, practical standards of occupational health and safety are maintained at all of its operations.

GCM personnel will ensure that all of their activities are carried out in the manner required by the appropriate legislation and standards, and that a healthy and safe workplace is maintained. This will be achieved by all personnel, to the extent that their responsibilities require, participating in:

1. Ongoing training and supervision
2. Ongoing accident prevention awareness and hazard control
3. Safe operating procedures
4. Wearing protective clothing and equipment
5. Maintaining facilities for immediate care of employees

All GCM personnel share the responsibility of ensuring the safe wellbeing of all persons in the workplace. This will be achieved by:

1. Adhering to safe work practices, instructions, rules and statutory regulations
2. Performing all tasks in a safe manner
3. Ensuring that no-one is allowed to work in an unsafe/unhealthy situation or in an unsafe manner

4. Isolating all dangerous situations and promptly reporting all accidents or incidents, unsafe practices and conditions

5. Co-operating with fellow workers to ensure that everyone's responsibilities are fulfilled

The company's full health, safety and environment procedures and policies are included as in the PFS report.

GCM Environmental Management

There are two key aspects specific to the McIntosh Graphite Project impacting the formulation of GCM's Environmental Management Plan:

1. Cyclonic rain events and management of water run-off to reduce erosion and sediment loading

2. Containment of potentially acid forming (PAF) material to prevent acid rock drainage from waste rock dumps

In the McIntosh Graphite Project area over 80% of the average rainfall occurs between December and March, generally associated with short intense down pours. The recorded maximum single daily event to date is 200 mm. The site layout has been designed to comply with standard flood mitigation and drainage design for an average recurrence level of five years, consistent with the requirements of this part of Australia. The objective is to protect infrastructure, maintain road access, prevent any contaminated run-off and minimise erosion and sediment loading into drainages from site excavations.

GCM has recognised the PAF nature of some portions of the waste lithologies as indicated by some assay data and geological logging. As part of the PFS, GCM has made provision in its capital cost estimates to line the base of the waste rock dumps with an impermeable liner proportional to the preliminary conservative estimates of the volume of PAF waste material likely to be mined. Additional operating costs have also been allocated for any rehandling or other site works. In the FS process GCM will have more detailed data on the actual volumes of PAF material and plans to utilise a mix of open pit back filling and specifically designed encapsulating waste dumps as are employed on many other mining sites.

Community and Stakeholder Relations

Community Engagement and Consultation Strategy

In order to satisfy the requirements of a mining proposal for approval by the DEMIRS, the Company must demonstrate that sufficient community and stakeholder engagement has been undertaken through the principles of stakeholder engagement. The principles of stakeholder engagement are communication, transparency, collaboration, inclusiveness and integrity.

Stakeholder engagement is a continuous process that must be conducted throughout the life of mine – from planning to mine through to relinquishment. GSM has been exploring and evaluating the McIntosh Flake Graphite Project for a number of years with the support of local stakeholders identified through formal and informal interactions. This creates a sound platform from which develop more detailed discussions around proposed mine developments and potential impacts on the relevant stakeholders to arrive at operational or commercial solutions to those impacts, where they are adverse and material. A compilation of current stakeholders is presented in Table 43. Note this is specific to the McIntosh Graphite Project, not GCM.

The Company is very respectful of all stakeholder claims and expectations. In particular it is operating on land claimed by the Malarngowem Traditional Owners and will be making various commitments to that group and others as part of a Land Use Agreement process. It is expected that a Community Relations consultant will be engaged to ensure that expectations and obligations are being met in a fair, responsible and collaborative manner. As well, this role will oversee the broader regional stakeholder issues such as liaising with local Shire Councils, pastoralists and other community groups. GCM has already been in discussions with such consultants, and they have provided liaisons between GCM and the landowners to facilitate recent rehabilitation works at the McIntosh Graphite Project.

Table 43. Key stakeholders identified for the McIntosh Graphite Project.

Key Stakeholders	Relationship or Association
Malarngowen Traditional Owner Group	Claim group for the land covered by the Project
Warmun	Residence of the claim group and closest town to the Project. The Great Northern Hwy runs through the town
Springvale Station	The Project is located on Alice Downs Station, managed by Yeeda Australia Rangeland Meat Company
Panoramic Resources	Owns the Savannah Nickel Mine approximately 40km north of the Project
Wyndham Port	Closest Port to the Project and proposed location for concentrate exports
Shire of Wyndham – East Kimberley	Highway access and Port is within the Shire boundary
Department of Mines and Petroleum Western Australia	Mining Act 1978 (WA)
Department of Water	Administering the Rights in Water and Irrigation Act 1914, Metropolitan Water Supply Sewerage and Drainage Act 1909, Country Areas Water Supply, Act 1947, Waterways Conservation Act 1976, Water Agencies (Powers) Act 1984 and Water Services Act 2012
Environmental Protection Authority	Part IV of the Environmental Protection Act 1986
Department of Biodiversity, Conservation and Attractions Formerly Department of Parks and Wildlife	Administering the Wildlife Conservation Act 1950 and the Conservation and Land Management Act 1984
Department of Environment Regulation	Administers the works approvals and licences (or registration) required for the construction and operation of all prescribed premises under Part V of the EP Act
Kimberley Land Council	Peak Indigenous body in the Kimberley region working with Aboriginal people to secure native title recognition, conduct conservation and land management activities and develop cultural business enterprises
NH3CE Employees and Contractors	Paid employees working for NH3CE or its contractors/Service providers

Key Stakeholders	Relationship or Association
Residents on the main roads on which Concentrate haulage will occur (Wyndham Town)	Potential impact of increased truck movements through the town on a 24-hour basis
Main Roads WA	Haulage along the Great Northern Highway

PROJECT IMPLEMENTATION

Project Objectives

The key project and business objectives are to:

1. Achieve zero harm to people and minimise harm to the environment in delivering the project.
2. Minimise overall project cost, maximise value and deliver the project within budget.
3. Complete the works within the approved schedule.
4. Maximise value and financial return to investors.
5. Conform to regulatory and statutory requirements, including Green Critical Minerals corporate requirements.
6. Develop and maintain good relationships with Government agencies, key stakeholders, and local communities.
7. Seek to actively engage the local/regional workforce and contractors wherever feasible to do so.
8. Utilise available technological IP to minimise project and schedule risk.
9. Produce Graphite Concentrate and Micronised Graphite Concentrate product.

Development Strategy

Mining and refinery projects are developed in phases with each stage defining the project with a respective increase in detail. A summary of these project phases is provided below:

1. Scoping Study: 2-5% Engineering, +/- 35% Cost Estimates, Desktop with limited field/lab test work.
2. Pre-feasibility Study: 10-30% Engineering, +/- 25% Cost Estimates, Preliminary field work / proof of concept in lab.
3. Bridging phase works: Close out decision-making process, refining project scope for BFS, closing out PFS testwork program, identifying works that can be completed prior to BFS.
4. Bankable Feasibility Study: 50-60% Engineering, +/- 15% Cost Estimates, Detailed Field and Lab Work.
5. Execution: 100% Engineering, Control Budget, Final Piloting and Field Studies.
6. Operation: Engineering support to operations, ramp up and removing bottleneck.

The Project is currently at the PFS stage.

Project Delivery Structure

The project delivery is expected to be structured around major contractor packages (CP's). Each package area will consist of either single major contractor or multiple smaller contracts utilising various contracting styles. An example of this is outlined below.

1. CP0 – Owner's team and projects
2. CP1 – Process Plant Equipment
3. CP2 – Civil Site Development
4. CP3 – Concrete Contractor
5. CP4 – Structural, Mechanical and Piping
6. CP5 – Electrical, instrumentation and control installation contractor

Contracting Strategy

GCM's contracting strategy will be based on the following risk profile for the Project:

1. Reduced interface risk
2. Maximum available capital cost protection, and competitive capital cost
3. Reduction of construction and commissioning risks
4. Visibility and ability to influence outcomes
5. Minimise schedule interruptions and delays

Planned Contracting Methodology

Based on the scale of project, GCM's risk profile and generally utilised contracting strategies presented above, the following is proposed:

1. An EPCM is engaged for the DFS work – process plant definition is undertaken to enable firm modular equipment vendor bids.
2. GCM engage an equipment vendor to supply a modular graphite plant.
3. Equipment vendor supplies, assembles and fully FAT tests the modular plant at their site prior to shipping.
4. An early works contract package will be awarded for bulk earthworks to enable establishment of water management structures and process plant civil platforms while the plant design is progressing.
5. SMP and EI&C contracts are implemented to install the modular plant onto the previously laid foundations with support from the equipment vendor.

Project Execution

Site Management Early Works

Interfaces occurring between the Owner, government authorities and contractors shall be managed by the EPCM. The actual day-to-day site work management and deliveries of plant, equipment as well as construction materials is the responsibility of the EPCM and its contractors with oversite provided by GCM for any material issues that occur.

The early works may include:

1. Site access construction
2. Site and site security establishment
3. Earthworks and buried services
4. Tie-ins of service supply
5. Concrete works
6. NPI and process buildings

General Site Management

On mobilisation of contractors, the EPCM will manage interfaces covering Owner-provided scope, government authorities and all contractors. Further, the EPCM will monitor and report on:

1. The contractor's progress during manufacturing/fabrication and site construction.

   Quality assurance of the contractor's manufactured, delivered and installed works - including the enforcement of corrective actions.

SMP and E&IC Management

The concrete works and the installation of the majority of any prefabricated buildings will be undertaken prior to the SMP contractor mobilising to site so that office and administration facilities will be available. The EPCM will supervise the Structural, Mechanical and Piping (SMP) works, as well as the electrical and instrumentation/control works (E&IC).

Modularisation will be utilised for the process plant. Internal piping, cabling and connection to internal electrical outlets are to be preinstalled within individual modules; and the external connections between module interface points will be made after installation. Once piping is installed and pressure tested, insulation will be installed where required.

Installation of plant lighting, cabling and instrumentation shall then be undertaken.

Commissioning and Ramp Up

Upon mechanical completion of a designated plant area and the completion of that section's installation scope, the Commissioning Manager will take over responsibility for the designated plant area from the EPCM's Project Manager.

The Commissioning Manager and commissioning team comprising specialist commissioning personnel and future GCM plant operators, supported by the contractors and vendors will confirm that all components and/or parts are installed and tied into power, water and all other required services. Tie-ins required for dry commissioning are to be completed and signed off. Upon approval by the Commissioning Manager the wet commissioning may commence with water lines, compressed air piping and steam piping to be pressurised section by section.

During dry commissioning all checks will be undertaken as defined by the commissioning procedures and signed off per formal check lists.

On completion of dry commissioning and availability of the raw feed material, the wet commissioning process will commence area by area until all plant areas are running. Fine tuning of the instrumentation and automation of the plant will be conducted throughout this process. Based on experience gained from other chemical plants, it is anticipated that the wet commissioning will take up to three months from dry commissioning for all units and components.

Project Execution Plan

In future study phases a Project Execution Plan (PEP) will be progressively developed and updated as more complete information becomes available. The PEP shall comprise and refer to project-related documentation required by the project manager and the project team to administer and deliver the project to the requirements defined in the Scope of Works.

Project Implementation Schedule

Summary

A preliminary project implementation schedule has been developed for the implementation of the project from the completion of this PFS through to execution. The overall purpose of the project implementation schedule is to identify critical path items and understand realistic timeframes required to bring the project into production. A summary of the key milestones is shown below in table 44.

Table 44 – Key Milestones

Project Milestone	**Target Date**
PFS Completion	June 2025 - Completed
DFS Completion	November 2026
Environmental Impact Statement and Mining Proposal Approved	November 2026
Indigenous Land Use Agreement (ILUA) Completion	November 2026
Financial Close – FID	December 2026
Detailed Design Completion	February 2027
Fabrication Commencement	March 2027
Construction Commencement	June 2027
Commissioning Commencement	December 2027
Production Ramp up Commencement	February 2028
Project Finish	June 2028

The project implementation schedule will be driven by the approvals process, off take discussions and completion of the DFS.

Basis of Schedule

The schedule developed during the PFS was developed in Microsoft Project using the critical path method (CPM). It integrates the various stages of the project, (including DFS and detailed design), procurement, fabrication, construction, pre-commissioning, and start-up) through the logical sequencing tasks. The schedule was developed in accordance with the Wave Schedule Requirement.

A project execution schedule was developed to Level 2/3 and is to be used as a masterplan for management of further works (and to be expanded during the next phase).

CAPITAL COST ESTIMATE (CAPEX)

General

The purpose of this document is to communicate to stakeholders the assumptions, inclusions, exclusions, and basis for the build-up of rates for the Class 4 capital cost estimate established as part of the McIntosh Graphite Project PFS. The Class 4 estimate is provided to a nominal ±25% level of accuracy in accordance with American Association of Cost Engineers (AACE) guidelines.

Estimate Summary

All costs have been estimated using a cost structure developed for labour and materials in accordance with the project Work Breakdown Structure (WBS). All estimate items are assigned an area code and discipline code.

Table 45. Capital Cost Estimate

Description	Direct Field Manhours	Supply Costs (A$M)	Installation Costs (A$M)	Indirect / Other Costs (A$M)	Total Costs (A$M)
Direct Field Costs	**8,900**	$33.5	**$4.1**		**$37.6**
Earthworks	-	$11.0	$-		$11.0
Concrete	2,180	$1.1	$0.7		$1.9
Buildings / Architectural	380	$1.2	$0.0		$1.2
Structural Steelwork	1,750	$1.4	$0.6		$2.0
Mechanical Equipment	1,840	$14.6	$1.1		$15.7
Piping & Valves	1,290	$1.3	$0.6		$1.9
Electrical	1,180	$2.1	$0.6		$2.8
Controls and Instrumentation	280	$0.8	$0.4		$1.2

Description	Direct Field Manhours	Supply Costs (A$M)	Installation Costs (A$M)	Indirect / Other Costs (A$M)	Total Costs (A$M)
Indirect / Other Field Costs				**$4.3**	**$4.3**
Home Office Costs				**$4.9**	**$4.9**
EPCM - including Commissioning (Labour and Expenses)				$3.0	$3.0
Owners Costs				$1.3	$1.3
Insurances				$0.7	$0.7
Total Capital Cost (Excluding Contingency)					**$46.9**
Contingency					$7.3
Total Capital Cost					**$54.2**

Basis of Estimate

Base Date

The CAPEX base date is Q1 2025, with costs estimated in the Opex presented in Australian dollars (A$) unless otherwise noted.

Classification Of Estimate

Wave classifies the capital cost estimate as a Class 4, in accordance with AACE guidelines. Key attributes of the estimate are as follows:

1. Study description – preliminary feasibility study level.
2. Expected accuracy range -15% to -30%, +20% to +50%, typically +/-25%.
3. Expected contingency range 15% to 50%.
4. Level of definition is minimal, generally based on other operations or in-house databases.
5. Typical estimating methodologies include factored models, judgment or analogy, stochastic methods.

Wave classifies the estimate as a class 4, +/-25%. The class 4 estimate aligns with a prefeasibility study, in accordance with industry standard front-end-loading frameworks.

Exclusions

The following items are NOT included in the capital cost estimate:

1. Pre-FID costs

2. Operating Costs post commissioning (including ramp-up)
3. Pre-production labour
4. Deferred and sustaining capital
5. Escalation
6. Foreign exchange provisions
7. Interest during construction
8. Approval, permitting and licensing fees
9. Management reserves (Provision for scope change)
10. Financing costs, Interim and Capitalised interest, funding costs, etc
11. Non-cash provisions such as depreciation
12. All Duties and Taxes (including import duties)
13. Mobile Equipment (assumed to be OPEX)

Summary of the Estimate Method Basis

The general estimating philosophy that was utilized to determine the direct field cost and the indirect cost were a combination of Stochastic (factoring) and Analogy (like for like) and Deterministic (measurement) estimating techniques.

The estimate was based solely upon the PFDs and a priced mechanical equipment list (MEL) as determined by the conceptual design. A Class 4 estimate such as this, where factors are used to determine capital cost based on the mechanical equipment value, is highly dependent on the accuracy of the priced mechanical equipment list (both in terms of price and content). All attempts have been made to include sufficient equipment and allowances as expected by the layout and similar plants.

The following key criteria was used for preparing the CAPEX estimate for each flowsheet:

1. Mechanical equipment costs were based on a priced MEL and sourced from vendor quotation for major equipment and internal database for secondary and minor equipment.
2. Direct field costs were determined using adjusted database factors to suit each process area. Factors were applied and adjusted based on Level 2 WBS areas.
3. Indirect costs were determined using adjusted wave database factors and where consistent across each flowsheet.

The following summarises the estimate method and basis adopted for this project phase.

Equipment Costs

Equipment costs for all major equipment items are based on budget quotes received from vendors, or In-house database has been used for process equipment for pricing and factored to suit the nominated size where vendor pricing is not available. Allowances have been used for minor equipment items.

Equipment quotations are input into the estimate in their source currency (the currency expected to be used in the purchase order or contract) and converted to A$ by applying the project exchange rates.

The Mechanical Equipment installation is factored as a typical percentage of supply in line with industry norms.

Bulk Materials Costs

Remaining disciplines are estimated by applying preliminary MTO's obtained from the vendors and in-house norms.

The disciplines and their estimating method are tabulated in table 46 below.

Table 46. Estimating Cost by Discipline

Discipline	Estimate Method
Direct Costs	
Earthworks	Apply Preliminary MTO's
Concrete	Factored from Mechanicals
Structural Steel	Equipment vendor included & Factored from Mechanicals
Bulk Mechanical and Platework	Equipment costs for all major equipment items are based on budget quotes received from vendors. In-house database used if budget prices could not be obtained in time.
Piping and Valves	Equipment vendor included & Factored from Mechanicals
Electrical	Equipment vendor included & Factored from Mechanicals, HV database pricing
Instrumentation and Controls	Equipment vendor included & Factored from Mechanicals
Indirect Costs	Factored
Other Costs	Factored
Contingency	Factored

Estimate Development

The capital cost estimate is a bottom-up estimate (which means that the work is broken down into discipline components with an estimate of cost assigned to each component) as far as practically possible - generated from preliminary design data, market information, industry norms and typical estimating factors.

Earthworks

Bulk earthworks costs are based on preliminary MTO's using civil 3D modelling software (12D). The 12D model calculates earthworks volumes utilising the existing topography and proposed design levels. Bulk earthworks quantities are net quantities with no allowance for over excavation, over filling, trench batters, bulking or consolidation.

Allowance for clearing and grubbing has been made for all areas subject to earthworks based on areas determined from the 12d Model.

It is assumed that general fill, structural fill, and pavement fill will be sourced from local borrow pits.

Earthworks rates were obtained from recent vendor budget pricing for similar projects.

Concrete

Concrete is factored as a % of the mechanical supply costs, the % was adjusted for the different process areas to suit the mechanical equipment. These costs were then separated based on a typical 70% / 30% split between supply and installation.

Structural

Structural steel costs are factored as a % of the mechanical supply costs, the % was adjusted for the different process areas to suit the mechanical equipment. These costs were then separated based on a typical 70% / 30% split between supply and installation.

Buildings

Buildings are sized on an area (m^2) basis determined from preliminary sketches. These areas are then priced based on typical m^2 rates.

Mechanical Equipment and Platework

The Mechanical Equipment List (MEL), generated from PFD's, is used as the basis for pricing individual mechanical equipment items. Sizing of mechanical items and associated platework items were based on the preliminary Project Mass Balance.

The MEL was priced using preliminary vendor quotations for major equipment items, with prices from recent similar projects or In-House database used for similar minor equipment.

The McIntosh process plant lends itself to modular design and supply of the entire process plant which was undertaken for this project.

Piping and Valves

The equipment vendor provided budgetary pricing for piping and valves.

A nominal factor was also applied for additional Piping and Valve costs factored as a % of the mechanical supply cost. These costs were then separated based on a typical 70% / 30% split between supply and installation.

Electrical Equipment, Instrumentation and Control Systems

The equipment vendor provided budgetary pricing for piping and valves.

A nominal factor was also applied for additional Electrical; Controls and Instrumentation costs are factored as a % of the mechanical supply costs. These costs were then separated based on a typical 70% / 30% split between supply and installation.

Freight Costs

The delivery of mechanical equipment and discipline bulk items were factored at 6% of the supply cost due to the port delivery cost to Wyndham being included within the EPCM budget.

Construction and Installation All-In Rates Build-Up

Contractors 'distributables' include all items and components that are **not** included in the Direct Labour Rate such as:

1. Indirect manual labour (store persons, peggy, cleaner, vehicles and other Owner construction equipment maintenance persons etc.).
2. Supervisors, 1/10 supervisor to labour ratio.
3. Construction Equipment including craneage.
4. Mobilisation and Demobilisation.
5. Small tools, Construction Consumables for all disciplines, these will include welding consumables and gas for SMP work only.
6. Project Off-Site and Onsite Contractors Facilities, and their running costs.
7. Scaffolding hire and installing/dismantling personnel.
8. Construction and Project Management.
9. Contactor's over-heads, fees, insurances, and profit.
10. Return flights cost for rostered work shifts for workforce and management.
11. Camp accommodation and messing for the workforce and management.

Items that are **excluded** from the Contractors 'distributables' are:

1. Fuel storage, distribution system and supply to different contractors onsite.

Commissioning Spares and First Fills

The capital cost estimate includes Mechanical and Electrical commissioning spares, based on % of the discipline supply costs.

A first fill provision, calculated as % of Mechanical and % of Electrical supply costs, are included in the capital cost estimate.

EPCM

The capital cost estimate is based on an EPCM contracting methodology.

The EPCM labour component is factored as a % of total Direct and Indirect cost elements.

External Consultants and Vendor Support

An allowance for External Consultants, calculated as % of direct costs, has been made in the CCE.

Vendor Support is intended to cover supervision labour and expenses for specialist equipment required during the construction and commissioning period.

Project Insurances

The following insurance costs, calculated as % of project costs, are included in the capital cost estimate:

1. Construction / Contracts Works Insurance

2. Delay in Start-up Insurance
3. Public and Products Liability Insurance

Owners Costs

Owners Costs are allowed for at a % of direct costs. These costs include all owners team labour and expenses required for project implementation.

Pre-production Labour Costs have been excluded from the estimate.

Escalation

No provision has been made for an escalation in the capital cost estimate.

Working and Sustaining Capital

The capital cost estimate makes no provision for working or sustaining capital.

Contingency

The Contingency Provision is an allowance added to a base cost estimate to provide for costs which cannot be estimated due to inadequate information or detail, but which are known to be implicit in the scope. Changes in concept, scope or production rates which depart from those on which the estimate has been based require a new estimate. These changes are not allowed for in the contingency provision.

The contingency allowed for in the capital estimate is a deterministic % of the total cost based on the maturity of Engineering and Scope. No quantity, price accuracy and or @-risk simulations were performed.

The contingency for the PFS was completed from a weighted average contingency percentage applied to each specific discipline in the estimate.

OPERATING COST ESTIMATE (OPEX)

General

The summary of the OPEX is presented in table 47. The operating cost estimate (OPEX) chapter contains data taken directly from the operating cost estimate model and represents a steady state operations scenario for McIntosh Graphite Project. The following categories are used to distinguish operating costs:

1. Labour
2. Flights And Accommodation
3. Power
4. Fuel
5. Maintenance
6. Reagents And Consumables
7. Equipment Hire
8. Product Transport
9. Contract/General Expenses

The following sections summarise the operating costs, for further detail refer to the Operating Cost Estimate worksheets.

Estimate Summary

A summary of the contribution of the major cost areas to the overall OPEX for the McIntosh Graphite Project is presented in table 47.

Table 47. Annual Summary of Operating Costs

Cost Centre	%	A$M/y	A$/t Ghp Con	A$/t Ore
Mining	35%	11.06	823	30
Labour	18%	5.66	421	16
Flights and Accommodation	7%	2.18	162	6
Power	13%	4.08	304	11
Diesel	14%	4.39	327	12
Natural Gas	0%	0.00	0	0
Maintenance	2%	0.77	57	2
Reagents and Consumables	4%	1.15	85	3
Equipment Hire	1%	0.34	25	1
Product Transport	3%	1.04	78	3
Contract/General Expenses	3%	0.83	62	2
Total	**100%**	**31.99**	**2,381**	**88**

Accuracy

The pre-feasibility study Operating Cost Estimate (Opex) was developed as a "bottom-up" estimate. All significant and measurable items are listed; however, smaller items are factored as per industry practice. The level of effort for each of the

line items meet a Class 4 estimate as defined by AusIMM which is analogous to a Class 4 classification as defined American Association of Cost Engineers (AACE) based on accuracy.

The estimate may be considered as +/-25%.

Basis of Estimate

Base Date

The Opex base date is Q1 2025, with costs estimated in the Opex presented in Australian dollars (A$) unless otherwise noted.

Exclusions

The following cost items may be included in the financial model, as applicable, but are not included in the Operating Cost

Estimate:

1. Goods and services taxes
2. Sustaining capital
3. Escalation
4. Foreign exchange provisions (gains/losses)
5. Force majeure or other major risk events
6. Unexpected changes in supply, market and site conditions

Inputs

Mining

The mining Opex cost were based on figures obtained from Mining Schedule Report provided by GCM. Quantities over Life of Mine were averaged over LOM years to obtain an annual number. The quantities were then multiplied by rates provided from the mining study.

Reagents and Consumables

Annual reagent consumption was taken from the mass balance for each reagent required. Database pricing was used for each reagent, including an allowance for delivery to site.

Most of the reagents are readily available commercial bulk reagents and can be purchased competitively worldwide.

Maintenance

The maintenance cost was built up using a factor of 2% to 3.4% applied across equipment supply costs calculated in the capital cost estimate. These factors have been taken from past plant operating experience.

Power

The Mechanical Equipment List was used to generate a load list, from which the power and fuel usage costs were derived.

Site power requirements calculated for the year based on a load list, this was then split between diesel generation (Thermal) and solar generation based on database proposals for similar scale thermal hybrid plants.

Equipment

The process plant equipment and light vehicles will be hire-purchased. This is typical of many mine sites. Figures are based on benchmark numbers that Wave utilises.

Labour

An organisational chart was developed with GCM and the wages were sought from the Wave database. The staffing inclusive of mining contractor personnel was used to derive flight and accommodation costs. The workforce is made up of various categories, working through different rosters based on role. Due to the remote location, the majority of the workforce are on 8:6 and 2:1 rosters. Contractor rosters are independent of the GCM Organisation chart and are based on typical rosters expected.

Salaries are based on database rates with the following local on-cost factors applied to the salaries. Note that the Superannuation value is based on changes to West Australian superannuation policy to be implemented from July 2025.

Table 48. Labour On-cost Factors

Item	Units	Value
Superannuation	%	12.0
Payroll Tax	%	5.5
Workers Comp	%	1.8
Annual Leave and Sick Leave	%	10.0
TOTAL	**%**	**29.3**

Flights and Accommodation

For the purposes of this estimate it has been assumed that staff will be split between FIFO and locally based DIDO. It is anticipated that commercial flights will be being employed to transport Perth based workers to Kununurra.

The personnel flight requirements were calculated based on the agreed manning roster. The roster dictates weekly flights, and the size of the operations including messing arrangements based on roster panels.

The costs of flights from Perth to site were based on estimates by a range of carriers who can provide a suitable service, proportioned between low, shoulder and high flight seasons.

Motel accommodation arrangements have been assumed at the nearby Savannah camp which includes a messing allowance and provision of services.

Transport and Logistics

Logistics Costs for the Project represent the excepted cost of transporting product produced on trucked shipping containers to the nearest port ~280km from site.

Fuel

Diesel will be used in diesel generators for plant power supply and in mobile plant equipment. The mining fleet diesel cost are included in the mining unit rate. As diesel will be used for mining, a federal excise of A$0.48 per Litre was deducted from the benchmark diesel pricing, freight was added for transport of diesel to site.

Table 49. Diesel Cost Build-up

Diesel Buildup	Units	Value
Diesel TGP Price	A$/Litre	1.50
Less Diesel Fuel Rebate	A$/Litre	(0.48)
Freight	A$/Litre	0.115
Discount	%	-
Diesel Base commodity cost (Net, less excise)	**A$/Litre**	**1.14**

Mobile plant diesel consumption was based on estimated consumption of the mobile plant and an expected utilisation factor on site.

General and Administration

Anticipated expenses for general consumables were sourced from previous studies and the Wave database considering similar scope and scale of project.

FINANCIAL EVALUATION

Evaluation Summary

The project economics section provides a comprehensive analysis of the financial viability of the Project based on a range of economic, operational, and financial assumptions. Based on the assumptions utilised, the expected post-tax net present value (NPV) of the Project is A$ 235M, and the internal rate of return (IRR) is 25.3%. The payback period is expected to be 5.7 years from start of production. Project financial outcomes are very sensitive to movements in price and exchange rates, and inflation assumptions.

Assumptions and Methodology

Pricing

The Project is expected to produce two products:

- **Micronised graphite** is known for its fine particle size, making it suitable for high-precision applications such as lubricants, batteries, and advanced composite materials. A separate grinding circuit will be required to produce the micronized product which has been built into the OPEX.
- **Graphite flake concentrate** is used in a variety of applications including refractories, foundries, fire retardants and insulation

Both products have relatively opaque markets, and so the prices for each have been estimated by a professional with knowledge of the relevant market dynamics. The prices estimated average US$4,360 for micronized graphite and US$1,586 for graphite flake concentrate over the LOM. The table below shows the prices estimated over time, on a real 2025 basis.

		2024	2025	2026	2027	2028
Micronised Graphite	USD/t (real)	3,058	3,058	3,058	3,058	3,058
Average Graphite flake concentrate	USD/t (real)	1,112	1,112	1,112	1,112	1,112

Figure 64. Product Price Estimates

Exchange Rate

The economic analysis assumes a fixed exchange rate of 0.65 US cents per 1.00 A$, reflecting current market conditions.

Discount Rate

A discount rate of 8.00% is applied to nominal cash flows, which is appropriate given the project's risk profile and industry norms. The same rate has been applied for both pre- and post- tax analysis, in keeping with industry norms.

Escalation and Inflation

The cash flows are calculated on a nominal basis, using a 2% annual escalation rate for both A$ and US$ cashflows.

Evaluation Detail

Physicals

The project will mine a total of 44,373 kt of material over the LOM, including 32,361 kt of waste and 12,012 kt of ore at an average mined grade of 3.65%, with a strip ratio of 2.69. The Project expects a recovery rate of 96%. The final products will be 95% Total Graphite Carbon (TGC), resulting in 443 kt of products.

The Project will process the contained graphite into two forms: higher-priced micronized graphite for use in batteries and lower-priced graphite concentrate. Over the LOM, it is expected that 55% of the product will be micronized graphite, whilst 45% will be graphite concentrate.

		LOM	Annual
Total Material Mined	kt	44,373	1,365
Total Waste Mined	kt	32,361	996
Total Ore Mined	kt	12,012	370
Strip ratio	x	2.69x	2.69x
Ore processed	kt	12,012	370
Ore Grade	%	95%	
Recovery	%	96%	
Final product	kt	443	13.6

Figure 65. LOM Physicals

Mining

Mining has been priced on an owner-miner basis. Mining begins with pre-production prior to plant construction. 56kt of ore is mined during pre-production, along with 2,307kt of waste. Early years of mining produce greater quantities of ore, with an average of 560kt being mined during each of the first 5 years of full run-rate production. Later in mine life, ore mining rates are closer to processing rates at ~350kt p.a. Mining continues until Production Year 32 when the currently established Resource is exhausted (noting that the deposits remain open and there are additional resource deposits available, so mining may be able to continue past this point).

Strip ratios are generally highest in the first ~17 years at an average of 4.5, with a much lower average strip ratio of 2.2 from that point forward. At this point the mining operation will be scaled back to match the lower total material movement requirements.

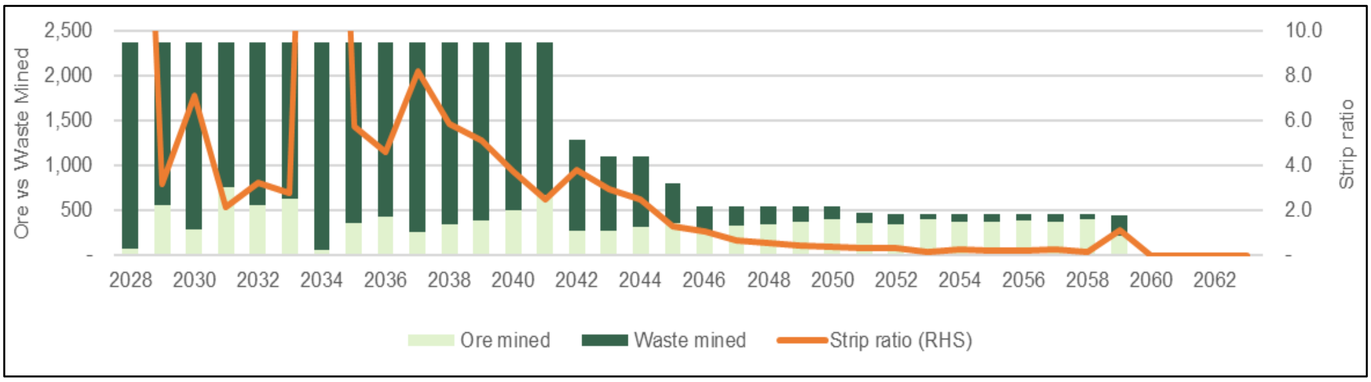


Figure 66. Ore & Waste Mined and Strip Ratio

Processing

The processing facility is designed to produce two types of graphite products:

1. **Micronised Graphite:** This product will account for 55% of the total graphite output.
2. **Graphite Flake Concentrate:** This product will account for the remaining 45% of the total output.

The mill will process 380kt per annum at a head grade of ~3.5% graphite, with stockpiles of 1-2 years processing feed employed to enable consistent feed into the plant. The 45:55 product split is assumed to be consistent in all producing years.

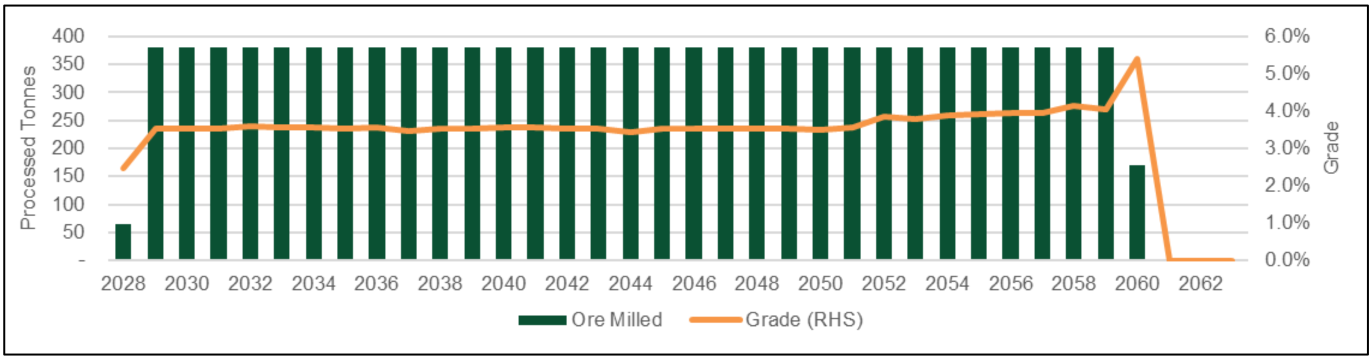


Figure 67. Processed Tonnes (kt) vs Grade Processed (%)

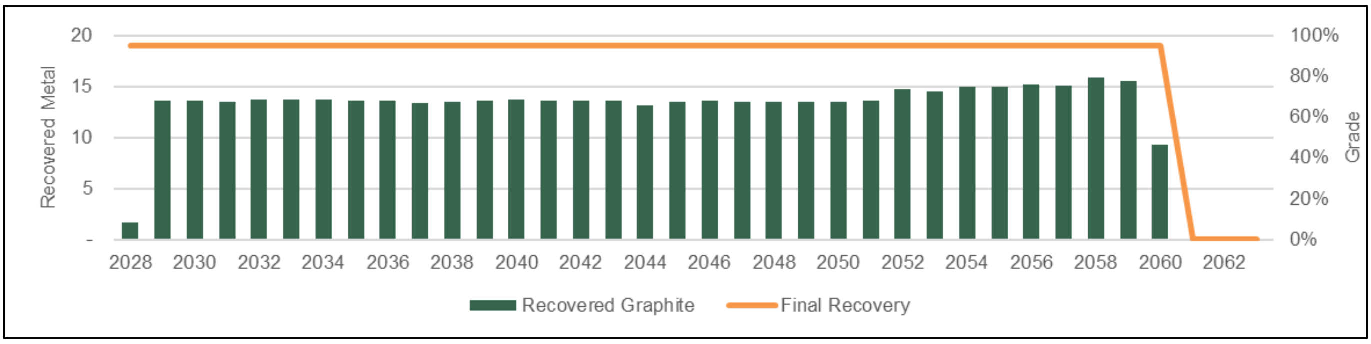


Figure 68. Recovered Metal (kt) and Recovery (%)

Taxes and Royalties

Taxes have been estimated as 30% of Profit Before Tax. Total tax payments amount to A$ 560M.

Royalties are calculated based on 5% of product revenue, per current legislation. This results in total royalty payments to the Western Australian Government of A$ 160M.

Working Capital – C1

As usual for a mining project, working capital flows out of the project early in its life and returns to the project towards the end of mine life. The maximum total outflow of working capital is A$ 2.34M, which occurs in Year 2 of operation.

Construction Capital – C2

Construction capital is entirely related to initial build of the Project, with all expenditure incurred during the six month construction period. Construction capital has been estimated by Wave International based on industry experience of previous similar projects and a first principles cost build-up. The underlying construction capital estimate is A$ 47.8M. The figures shown in the table below include 15.5% contingency on all items, resulting in a total estimate including contingency of A$ 55.2M.

Capex incl Contingency		
Mining	AUD '000 nominal	-
Process Plant	AUD '000 nominal	26,484
Tailings Storage Facility	AUD '000 nominal	6,870
Common Services	AUD '000 nominal	2,570
On-site Infrastructure	AUD '000 nominal	7,362
Off-site Infrastructure	AUD '000 nominal	1,015
Pre-production Costs	AUD '000 nominal	749
Owners / Indirect costs	AUD '000 nominal	10,198
Total	AUD '000 nominal	**55,248**

Figure 69. Project Construction Capital Costs

Sustaining Capital – C3

Sustaining capital has been assumed to cost 2% of installed capital base per annum, in line with industry norms. This amounts to A$ 1.13M in the first year. The expenditure each year escalates, amounting to a total of A$ 52.0M over the LOM.

Closure and Rehabilitation – C4

Closure and rehabilitation costs are estimated at A$ 5.77M, ensuring that the site returns to a satisfactory environmental state post-mining.

Residual Value – C5

No residual value has been assumed for this study.

Exclusions

This study is at a PFS level of certainty and as such the level of detail is limited and simplifying assumptions have been made, however there are no intentional exclusions of major revenue, capex or opex items.

Project Evaluation

Cashflow Forecast

The project anticipates generating significant cashflows, with a total revenue forecast of A$ 3.20B over the LOM (net of Government Royalties). After LOM Opex of A$ 1.06B and tax payments of A$ 0.56B, remaining Operating Cashflow is projected to be A$ 1.42B. Project construction capex amounts to A$ 55.2M and sustaining capital expenditure is expected to be A$ 52.0M. Net free cashflow is thus projected to be A$ 1.31B.

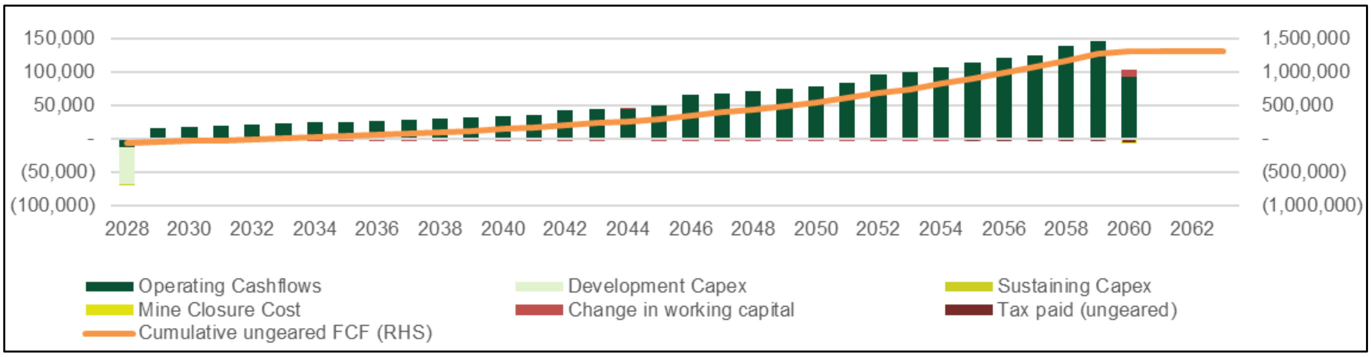


Figure 70. Project Free Cash Flow

Financial Return

The financial analysis shows a pre-tax $NPV_{8\%}$ of A$ 340M and a post-tax $NPV_{8\%}$ of A$ 235M. The IRRs are impressive at 29.6% pre-tax and 25.3% post-tax, with payback periods of 5.0 and 5.7 years, respectively.

Sensitivity Analysis

Simple single variable sensitivity analysis has been conducted. For simplicity each variable has been altered by 10%, both up and down, with the exception of inflation. For inflation the Base case is 2% (as above). The High Inflation case is 3% inflation, whilst the No Inflation case is 0% inflation.

Predictably, price has a significant influence on Project NPV. Opex is less influential, and Capex has a very limited impact. Due to the long life of the project inflation has a comparatively large impact on NPV (although note that technically the cost of capital should be adjusted to account for inflation, which has not been done in this simple analysis). The full results are shown in the table that follows:

Sensitivity Table

Case	NPV	Change vs Base
Base case	234,915	-
Price + 10%	290,608	55,693
Price - 10%	179,157	(55,758)
OPEX + 10%	208,473	(26,442)
OPEX - 10%	261,301	26,386
CAPEX + 10%	229,131	(5,784)
CAPEX - 10%	240,700	5,784
High Inflation	394,857	159,942
No Inflation	64,731	(170,184)
FX + 10%	290,608	55,693
FX - 10%	179,157	(55,758)

Figure 71. Sensitivity Table

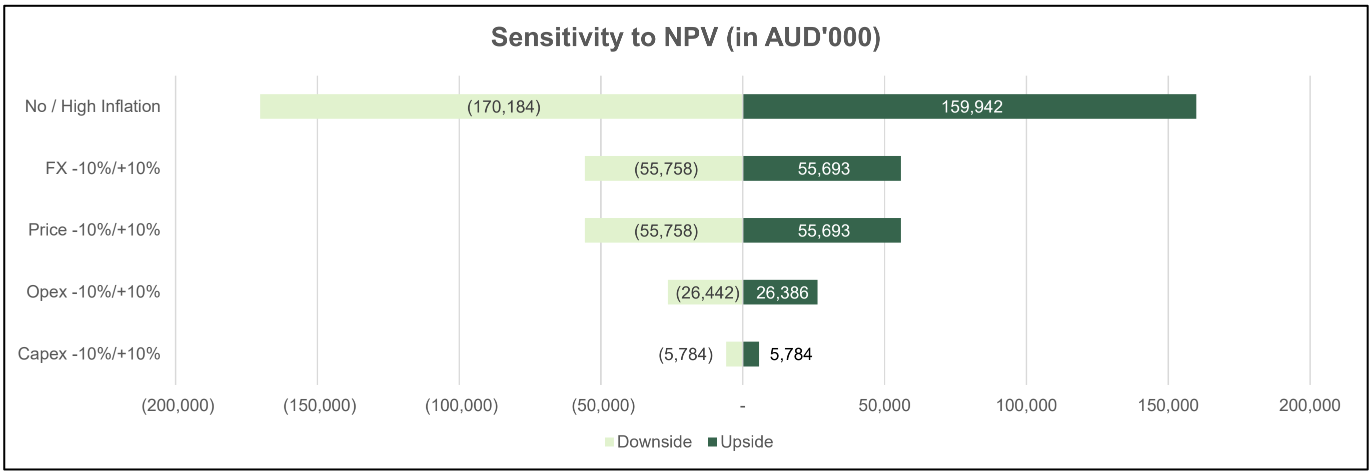


Figure 72. Sensitivity Table and Chart

RISK AND OPPORTUNITY

Summary

This Chapter seeks to identify a list of Project Risks and Opportunities, to rank them and to suggest mitigation strategies for identified risks.

To help to identify, quantify and manage risks, a risk review was undertaken during the study.

At the workshop and subsequent to it, risks associated with various areas of the Project were identified and addressed through team discussion and interaction.

The outcome of the risk review process is the development of the Project Risk Register, which is included as Appendix M in the final PFS report. Opportunities were also identified in this process, which are recorded as opportunities in the Project Risk Register.

As well as addressing identified risks in this Chapter, Project risks are also discussed where necessary throughout the Report.

Risk Assessment Process

The Project has utilised formal risk and opportunity processes for the identification and management of all Project-related risks and opportunities. The objective of these processes is to identify and manage Project risks and opportunities so that the defined Project success factors (safety, cost, schedule and quality targets) can be achieved. The identified risks and mitigation actions (as well as opportunities) will be used to inform overall Project development decisions and Project execution.

Although different functional, technical and project stage risks and opportunities exist - the basic process adopted to identify and manage these risks and opportunities has followed the same overarching methodology. The process adopted has been based broadly on the international standard AS/NZS 31000:2009, 'Risk Management- Principles and Guidelines' and has involved the following steps:

1. Risks and opportunities were identified in a facilitated brainstorming session involving key stakeholders in the Project.
2. The risks were evaluated, analysed, and prioritised into broad categories (e.g., high, medium and low) based on the likelihood of a risk occurring and the consequences if it were to occur.
3. The critical risks were assessed and addressed.
4. Opportunities were also identified where additional benefits which could be realised.

The overarching risk matrix used for the Study (refer table 50, the associated likelihood criteria refer table 51 and consequence levels refer table 52) have underpinned the risk assessment process. The risks identified in the above process are addressed by the strategy and mitigating section found in the Risk Register in Appendix M of the final PFS report.

Table 50. Risk Matrix

		1 - Negligible	2 - Minor	3 - Moderate	4 - Significant	5 - Major
	DESCRIPTOR	1	2	3	4	5
5 - Event will occur	5	5 MEDIUM	10 HIGH	15 HIGH	20 EXTREME	25 EXTREME
4 - Event almost certain to occur	4	4 MEDIUM	8 MEDIUM	12 HIGH	16 HIGH	20 EXTREME
3 - Event may occur	3	3 LOW	6 MEDIUM	9 MEDIUM	12 HIGH	15 HIGH
2 - Event not likely to occur	2	2 LOW	4 LOW	6 MEDIUM	8 MEDIUM	10 HIGH
1 - Event rarely occurs	1	1 LOW	2 LOW	3 LOW	4 MEDIUM	5 MEDIUM

Table 51. Risk Likelihood Criteria

Likelihood		Indicators		
Descriptor	Rating	Description	Probability	Frequency
Event will occur	5	The event is expected to occur in most circumstances	> 90%	At least once per month
Event almost certain to occur	4	The event will probably occur in most circumstances	76 - 90%	At least once a year
Event may occur	3	The event should occur at some time	26 - 75%	At least once in 5 years
Event not likely to occur	2	The event could occur at some time	11 - 25%	At least once in 25 years
Event rarely occurs	1	The event may only occur in exceptional circumstances	<10%	Less than once in 25 years

**Note: Probability and frequency are not intended to correlate, select the indicator which best suits the event.*

Table 52. Risk Consequence Levels

Consequence		Indicators						
Descriptor	Rating	Financial (AUD)	Production	OHS	Environment	Stakeholder	Reputation	Legal
Negligible	1	(<0.5%) < 150k Opex < 225k Capex	The impact can be dealt with by on-site routine operations.	No medical treatment required	Limited damage to minimal area of low significance.	Low-level repairable damage to commonplace structures.	Public concern restricted to local complaints.	Technical breach of legal obligations without penalties or damage claims.
Minor	2	(0.5%-5%) 150kM - 1.5M Opex 225kM - 2.25M Capex	Impact would impact on production targets in the first year.	First aid - no disabling impact	Minor effects on biological or physical environment.	Minor medium-term social impacts on social population. Mostly repairable.	Minor, adverse local public or media attention and complaints.	Breach of legal obligations resulting in minor penalties or damage claims.
Moderate	3	(5%-15%) 1.5M - 4.5M Opex 2.25M - 6.75M Capex	Impact would impact on production targets over multiple years.	Medically treated injury with no permanent impact.	Moderate, short term effects but not affecting ecosystem function.	Ongoing social issues. Permanent damage to items of cultural significance.	Attention from media and/or heightened concern by local community. criticism by NGOs.	Breach of legal obligations resulting in moderate penalties or damage claims.
Significant	4	(15%-30%) 4.5M - 9M Opex 6.75M - 13.5M Capex	Impact would impact on production targets over the life of mine.	Permanent disabling injury.	Serious medium term environmental effects.	Ongoing serious social issues. Permanent damage to items of cultural significance.	Significant adverse national media/public/NGO attention.	Breach of legal obligations resulting in significant penalties or damage claims.
Major	5	(>30%) > 9M Opex >13.5M Capex	Impact would impact would go beyond the ability to manage and will threaten the survival of the company.	Fatality or multiple serious (permanent) disabling injuries that are life threatening.	Very serious, long environmental impairment of ecosystem function.	Very serious widespread social impacts. Irreparable damage to highly valued items.	Serious public or media outcry (international coverage).	Breach of legal obligations resulting in major penalties or damage claims, or prosecution of the Company.

Risks were identified either during the risk review or on an on-going basis.

A qualitative risk analysis was conducted for identified risks. Participants in the risk review agreed on the identified risks which were recorded in the Risk Register and the following actions were applied to each risk:

1. Nominations of current controls incorporated during the PFS.
2. Allocation of additional controls that will be required in the next phases of the Project.
3. Nominating associated likelihood and consequence rankings using the Project defined risk criteria.

Once analysed, the residual risks were given a risk rating which determined their corresponding priority ranking and which determines the urgency of response or action required. A Priority ranking was assigned as follows: High (Risk Rating > 9), Medium (5 < Risk Rating < 8) and Low (Risk Rating < 4).

The Hierarchy of Controls (current/additional) for each risk resulted in the following broad category groupings, which have been ordered from most effective to least effective, they include:

1. Elimination – Eliminating a specific threat, usually by eliminating the cause. The project management team can never eliminate all risk, but specific risk events can often be eliminated (e.g., physically removing a hazard through design).
2. Substitution – This involves replacing the risk or hazard with another process or design element with the intent of reducing the overall risk to the activity (e.g. reducing supply chain risk by moving fabrication onshore).
3. Isolation – This involves isolating the affected parties to the potential risk or hazard (e.g. isolating rotating equipment with a guard).
4. Engineering – Engineering control involve the reduction of the risk or hazard via the use of an engineering method. Replacing equipment, including a mechanical device, or process, or changing the work environment to separate workers from a hazard.
5. Administrative – Involves a set or procedures and/or processes to mitigate the risk or hazard.
6. PPE – Equipping workers with the necessary protective equipment designed to reduce the risk and severity of injuries.

Once all risk have been appropriately categorised, the action and control method can more easily be defined.

The risk treatment process is conducted in parallel with consideration of other risk management activities such as HAZOP, emergency procedure development, and construction risk assessments.

Risk Matrix

Out of the risk review session, several project risks were identified, and suitable controls were suggested as mitigation to said risks. The top 10 risks are presented in table 53. The residual risk ranking results from successfully adopting the control stated in the table. It is noted that there may be additional risks outside the scope of the PFS work, and these risks should be identified and assessed in future phases of work.

Table 53. Selected Key Project Risks – Top Ten

#	Risk	Consequence	Consequence Rating	Likelihood Rating	Risk Ranking	Control	Residual Risk Ranking
1	Plant output is not as per PFS design within the current McNulty Curve allocation	- Reduced revenue - Increased reagent consumptions (hence increased operating cost)	4 - Significant	3 - Event may occur	**12**	- Metallurgical test work program / benchmarking. - Engagement of commissioning team early to identify and risks in commissioning, start up and operation - Well understood graphite concentration flowsheet	**8**
2	Final product specifications not met	Reduced revenue (discount from prevailing price)	4 - Significant	3 - Event may occur	**12**	- Market report from reputable industry analyst - Off take agreement executed to support FID	**8**

#	Risk	Consequence	Consequence Rating	Likelihood Rating	Risk Ranking	Control	Residual Risk Ranking
3	Revenue not achieved.	Lower revenue, lower NPV	4 - Significant	3 - Event may occur	**12**	- Current test work and nominal Specification - Market pricing forecast - Off take agreement executed to support FID	**8**
4	Lower overall mine production than forecast from PFS	Lower revenue, lower NPV	4 - Significant	3 - Event may occur	**12**	- Mining study - Mining productivity currently not required in off week, potential to ramp up	**8**
5	Project takes longer to ramp up than expected	Increased working capital, delayed revenue, reduced NPV	4 - Significant	3 - Event may occur	**12**	-Financial model assumptions / sensitivities - Startup operations planning -Experienced commissioning team	**8**
6	Process design is not sufficient to deal with ore body characteristics.	Product specification is unable to be achieved at target recoveries; increased opex per product tonne	4 - Significant	3 - Event may occur	**12**	- PFS test work and geological investigations.	**8**
7	Capital cost not as per PFS estimate	Additional funding required; reduction in NPV, exceed ability to meet capital funding requirement	4 - Significant	3 - Event may occur	**12**	- Contingency has been built in, accounting for escalation - Specification for process plant includes specification	**8**
8	Operating cost not as per PFS estimate	Lower margins, lower NPV	4 - Significant	3 - Event may occur	**12**	Class 4 OPEX estimate	**8**
9	Plant availability does not meet expectation.	Inadequate buffer storage, potential reduced production and therefore lower revenue	4 - Significant	3 - Event may occur	**12**	- Industry standard concentrator availabilities	**8**
10	Schedule and cost overrun	Additional funding required; reduction in NPV, exceed ability to meet capital funding requirement	4 - Significant	3 - Event may occur	**12**	- Early EPCM engagement with competitive bid	**8**

**Note: Additional detail on controls and consequence description can be found in the risk register.*

FORWARD WORK PLAN

General

This chapter describes the forward work plan for further engineering, commercial and legal works that have been identified during the PFS Study, and future opportunities for cost savings and/or risk reduction to be conducted prior to or during the execution of the project and when in operation.

Marketing

Table 54. Marketing Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
Customer validation	Produce marketing samples and provide to potential customers for validation purposes.	Achieve customer feedback and / or acceptance of material. Enter into MOU's for supply of material and negotiate pricing basis.	1	Ongoing work activity. MOU's (non-binding) targeted to be signed prior to completion of DFS.

Geology and Mineral Resource

Table 55. Geology and Resource Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
DFS drilling	Drilling program to resource classification	Increase resource confidence levels to support more advanced feasibility investigation	3	
Geotechnical and geophysical program to define structural controls of deposit for DFS	Geotechnical drilling and improved geophysical surveys completed in order to constrain geological and resource modelling and improve confidence	Detailed Geotech to support mine design to DFS level	2	
Exploration drilling campaign	Drilling program to increase resource	Increase resource levels to support life of mine	1	

Mining and Ore Reserve

Table 56. Mining and Ore Reserve Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
DFS drilling	Drilling program to improve resource classification	Increase resource confidence levels to support more advanced feasibility investigation	2	
Metallurgical test work	Metallurgical testwork on remaining deposits	Increase reserve by proving processing upgrade of other deposits	1	

Metallurgy

Table 57. Concentrator Metallurgy Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
Geometallurgy / variability for mine optimisation	Undertake bench scale test work on individual increments across ore body, and varied compositing regimes based on grade / geological classifications. Current composites include all material to be processed life of mine.	To develop a geometallurgical model and increase accuracy of operational performance over time. Potentially identify higher performing zones for processing in early years of production.	2	
Ore sorting test work	Undertake bench scale test work on properties of ore to determine ore sorting capabilities	Identify ore sorting regime that can reduce volume and increase grade of ore presenting to processing plant	1	Some test work has been undertaken previously. Build on this examining EM response of ore

Process Design and Engineering

Table 58. Process Design and Engineering Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
Commence DFS works to progress engineering	Progress engineering to Class 3 definitive level	Improve engineering definition	1	
Engage with vendors and receive firm bids for modular equipment supply	Generate vendor package from DFS design and engage with selected modular equipment vendors through a competitive process.	Provide additional suety on supply cost for process plant	2	

Tailings Management

Table 59. Tailings Management Forward Work Plan

Activity	Description	Target Outcome	Priority	Additional Comments
Alternative Style of TSF	Undertake desktop investigation into alternate methodologies (e.g. integrated waste landform)	Reduce construction costs	2	

Activity	Description	Target Outcome	Priority	Additional Comments
Geotechnical Investigations	Geotechnical investigations for construction materials, insitu materials and tailings materials. Refer Tailing chapter for further information.	Verify assumptions and construction materials.	1	

Summary of Mineral Resource Estimate Reporting Criteria for the Emperor and Wahoo deposits

As per ASX Listing Rules 5.8 and the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Mineral Resource is detailed below.

Emperor and Wahoo deposits Mineral Resource Estimate

The estimates were created by Hexagon Energy Materials Limited (HEX) (now NH3 Clean Energy Limited (NH3). Subsequently, all mineral resource estimates have been reviewed by Mr. David Eastman who is a full-time employee of Green Critical Minerals.

Geology and Geological Interpretation

The McIntosh Graphite Project is located in the East Kimberley region of Western Australia approximately 75km northeast of Halls Creek. The graphite mineralisation occurs as graphitic schist horizons within the high-grade metamorphic terrain of the Halls Creek Mobile Zone of Western Australia. The host stratigraphy is the Tickalara Metamorphics which extend for approximately 130 km along the western side of the major Halls Creek Fault. The metamorphic rocks reach granulite metamorphic facies under conditions of high-temperature and high pressure although the metamorphic grade in the McIntosh Graphite Project area appears to be largely upper amphibolite facies. The stratigraphy is variably folded generally around NNW to NNE trending fold-axes.

The mineralisation has been described as a series of stacked graphitic schist horizons hosted within amphibolite facies that have been deformed into an anticlinal structure.

Sampling and Sub-sampling

The samples were collected via reverse circulation and diamond drilling. Drill holes were down-hole sampled at 1m intervals. The RC sub samples were generated using a rotary-splitter. Diamond drilling was run in the form of a HQ3 diamond tail on the end of an RC drill hole for one hole and continuous HQ3 diamond for a second hole. The core was collected for geotechnical and metallurgical characterisation test work. Core was quarter sampled at 1m downhole intervals for geochemical analysis. All samples were dried, crushed and pulverised to achieve 85% passing 75µm.

Duplicate and standards analysis were completed and no issues identified with sampling reliability.

Sample Analysis Method

Samples were analysed by several well credentialed commercial laboratories experienced in determining total graphic carbon content utilising a LECO furnace, an industry standard technique. Appropriate QA/QC checks were undertaken and no issues identified.
Dry density was assigned a value of 2.70 t/m3 (fresh) and 2.40 t/m3 (oxide) based on core samples sent to Actlabs and UltraTrace Laboratories.
Details of drilling, including comprehensive reporting of assay results and intersection for all drill holes used in the resource have been previously reported, with the 2018 results reported to ASX 27 February 2019 and 2024 results reported to ASX 1 July 2024.

The majority of the analytical test work was completed by ALS commercial laboratories in Perth, Brisbane, Vancouver and Ireland for Total Graphitic Carbon (TGC) analysis.

Drilling Techniques and hole spacing

Drilling at the Emperor and Wahoo deposits has occurred over several phases between 2012 to 2023 with both Reverse Circulation (RC) and Diamond drilling techniques utilised. The most recent drilling was completed in 2023 at the Emperor deposit, though this information has not been used to inform this mineral resource estimation update. All drilling data has been reported previous by both NH3 Energy and GCM.

Drill data specific for each deposit:

- At Emperor the drill spacing is on an approximate 40 metre by 40 metre grid throughout most of the deposit. The graphitic schist horizon has been interpreted as an anticlinalfold striking in SSE orientation.
- At Wahoo the drill spacing is on an approximate 40 metre by 20 metre grid across the deposit, the graphitic schist units are interpreted as the west limb of a syncline feature striking north-east.

Estimation Methodology

A consistent estimation methodology was generally applied across the deposits as outlined below. Mineralisation wireframes were interpreted using a nominal 3% TGC cut-off grade. Internal dilution, base of oxidation, mafic intrusive bodies were all modelled as discrete domains. Graphite grades and sulphur content were estimated by Ordinary Kriging (OK) within the mineralised domain. The parameters for the OK and finalisation of the estimates were determined by statistical analysis to investigate low correlation variances, domain boundary conditions, fresh to oxide transitions, grade interpolation distances, variogram ranges, parent block and sub-cell sizes, constraints used for volume model, variable search orientation, sample numbers utilised to inform cells, discretisation and data/estimation validation. As well, the estimated TGC block model grades were visually validated against the input drill hole data, comparisons were carried out against the drill hole data and by northing, easting and elevation slices. The estimation methodology used was ordinary kriging (OK). Block model dimensions used are 40m (east) by 40m (north) by 5m (elevation) with sub-blocking down to 5m (east) by 10m (north) by 1.25m (elevation). Block size was based on kriging neighbourhood analysis. The estimation was constrained using a soft 3% TGC cut-off grade to delineate the mineralisation/waste boundary from the resource drillhole dataset. Detailed statistical investigations have been completed on the captured estimation data set. This includes exploration data analysis and grade estimation trials. No top-cutting of composite grades was implemented. The estimation employed a three-pass search strategy. An inverse distance cubed estimate was run to provide an independent check on the OK model. Both models were globally similar.

Resource Classification

Mineral Resources are classified on the basis of confidence in geological and grade continuity based on the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency). Across the two deposits:

- No Measured Mineral Resources are defined.
- Indicated resources are defined in those portions of the deposit where there is sufficient drill density (approximately 25 metres by 50 metres or 40 metres by 40 metres spacing) to assume continuity of mineralisation between sections.
- Inferred material is generally defined in the lower or more peripheral sections of the deposits where drill spacing may be up to 200 metres along strike, but is still sufficient to assume continuity of mineralisation. Confidence for the resource in these areas is also informed from the VTEM survey completed over the areas.

Cut-off Grade

A cut-off grade of 2% TGC was used for the stated Mineral Resource estimate for the Emperor and Wahoo deposits. The cut-off grade was determined by a dedicated metallurgical grade variability test work program is in line with the standardised parameters used to generate the open pit shell. The remaining deposits at the McIntosh Graphite Project had a cutoff grade of 3% TGC applied, which was used in all previously reported Mineral Resource Estimates.

Mining Method Selection

It is assumed that extraction will be by open pit mining and that the mineralisation is economic to exploit to currently modelled depths.

Processing Method

Multiple generations of metallurgical test work have been undertaken on the McIntosh Graphite Project graphitic ore to arrive at the preliminary process flowsheet for a 6-stage floatation processing circuit. Extensive additional metallurgical test work was completed during FY24 to confirm mineralisation compatibility of deposits in the McIntosh Graphite Project area with the existing flowsheet. This test work was used to confirm the suitability of a variety of flow sheet optimisations and to define an appropriate cutoff grade based on metallurgical test work.

Material Modifying Factors

No assumptions about minimum mining widths or dilution have been made as these are not seen as material at this stage.

Eventual Economic Extraction

It is the view of the Competent Persons that at the time of estimation there are no known issues that could materially impact on the reasonable prospects for eventual extraction of the Mineral Resources.

List of attachments

Appendix 1: JORC Table 1 Emperor Resource Estimate

Appendix 2: JORC Table 1 Wahoo Resource Estimate

Appendix 3: JORC Table 1 section 4 Wahoo and Emperor Ore Reverses

***Appendix 1*: JORC Code, 2012 Edition - Table 1 for the Emperor Resource Estimate – From February 2019 and amended February 2025**

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 mineralization 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 mineralization types (eg submarine nodules) may warrant disclosure of detailed information*	**Drilling information from HEX and MRL campaigns** **1. Reverse Circulation** • RC drilling used high pressure air and a cyclone with a rotary splitter. • Samples were collected at one-metre intervals. • All graphitic intervals were submitted for analyses. • Duplicate and standards analysis were completed and no issues identified with sampling reliability. • Samples were sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane, Vancouver and Ireland for Total Graphitic Carbon (TGC) analyses. • All samples were pulverised to better than 85% passing 75µm with a 10g aliquot taken for assay. • Sampling was guided by Hexagon and MRL's protocols and QA/QC procedures. • RC drilling samples of 3 to 5kg weight were shipped to the laboratory in plastic bags; samples were pulverised and milled for assay. **2. Diamond Drilling** • HQ_3 drill core samples were collected at one-metre intervals. • All graphitic intervals were submitted for analyses. • Core samples were quarter split by ALS using a diamond bladed saw and sent to the ALS laboratory in Perth for assay preparation and then sent to Nagrom laboratories in Perth for Total Graphitic Carbon (TGC) analyses. • All samples were pulverised to better than 85% passing 75µm with a 10g aliquot taken for assay. • Duplicate samples, CRM standards and blank material (washed quartz sand) were used during the drill programs. Duplicates collected after each 50 samples. Standards were inserted for samples ending in

Criteria	JORC Code Explanation	Commentary
		*00,*20,*40,*60 and *80 and blanks for samples ending in *01,*21,*41,*61 and *81. Sampling was guided by Hexagon and MRL's protocols and QA/QC procedures. **Drilling information from GCM campaigns** • Diamond Drilling (DD) and Reverse Circulation (RC) drilling at the McIntosh Graphite Project was supervised, and samples were collected by, geologists from APEX Geoscience Australia Pty Ltd, which is an independent geological consultancy. • For RC samples were collected in four metre composites, unless visible graphite was observed, in which case one-metre intervals of approximately 2-3 kg were collected, from a rig-mounted cone splitter. • For DD samples will be collected at one metre intervals down the hole. • Samples from the drilling will be submitted to ALS laboratory in Perth, WA, for sample preparation and analysis, with graphitic carbon determined by digesting the sample in n 50% HCl to evolve carbonate as CO2. Residue is filtered, washed, dried and then roasted at 425C. The roasted residue is analysed for carbon by oxidation, induction furnace and infrared spectroscopy (ALS code C-IR18) and total carbon and sulfur analysis by induction IR (ME-IR08).
Drilling Techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	**Drilling information from HEX and MRL campaigns** **1. Reverse Circulation** • From 2012 to 2018 a total of 24 RC holes have been completed for 2,686 metres. • All RC drilling was completed with face sampling hammers and collected through a cyclone. Sample recovery was estimated as a percentage of the expected sample, sample state recorded (dry, moist or wet), samples tested with 10:1 HCl acid for carbonates and graphite surface float. • In 2017 drilling was completed by Egan drilling using an X400 drill rig and United Drilling Services using a DE840 drill rig. • In 2018 drilling was completed by Mt Magnet Drilling using a Hydco 1300 drill rig. **2. Diamond Drilling**

Criteria	JORC Code Explanation	Commentary
		• RC pre-collars were drilled in preparation for HQ3 diamond tails, for a total of 3,289.8m from 29 holes. • A total of 41 diamond holes for 5,167.9 metres has been completed between 2012 and 2018 • HQ3 core was collected using a 1.5m or 3m core barrel depending on ground conditions. • Drilling was completed by Terra Drilling using a Hanjin Powerstar 7000 track mounted rig and Mt Magnet Drilling using a Hydco 650 drill rig. • Core orientation was recorded using a Reflex EZ Shot instrument. **Drilling information from GCM campaigns** • The RC drilling was conducted by Red Rock Drilling of South Boulder WA, using a Hydco 40 350/1050 truck mounted rig with a Merc 6X6 air truck. This drill uses a modern face sampling hammer with inner- tube and sample hose delivery to cyclone-cone splitter sample assembly. RC drilling used a 5 ½ inch face sampling hammer with a 4-inch rod string. • The DD drilling was conducted by DDH1 of Canning Vale WA, using a Sandvik DE880 truck mounted drill rig. All diamond core was HQ in size.
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.*	**1. RC Drilling** • A face sampling hammer was used to reduce contamination at the face. • 1m drill chip samples, weighing between 3-5kg were collected in sequentially numbered bags. • Split samples were recovered from a cyclone and rig-mounted cone splitter. The sample recovery and physical state were recorded. • Every interval drilled is represented in an industry standard chip tray that provides a check for sample continuity down hole. **2. Diamond drilling** • Core recoveries were measured for each run between core blocks and measurements recorded. • Sample recovery and sample condition were recorded for all drilling. Sample recovery has been determined to be good for the holes completed thus far.

Criteria	JORC Code Explanation	Commentary
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	**Information from HEX and MRL campaigns** • All RC and diamond drilling was logged for geology in the field by qualified geologists. Lithological and mineralogical data was recorded for all drill holes using a coding system developed specifically for the Project. Primary and secondary lithologies are recorded in addition to texture, structure, colour, grain size, alteration type and intensity, estimates of mineral quantities, graphite intensity and sample recovery. The oxidation zone is also recorded. • No adjustments have been made to any assay data • Geological logging is qualitative in nature. • Diamond drill logging also recorded recovery, structure and geotechnical data. • Diamond core was orientated using the Reflex orientation tool. • All core was orientated and marked up in preparation for cutting. • Core was photographed both wet and dry. **Drilling information from GCM campaigns** • RC drill holes were logged for various geological attributes, including colour, lithology, oxidation, alteration, visible mineralisation and veining. All holes were logged in full by geologists from APEX. • The diamond holes had a quick log performed, noting the lithology and the visual graphite abundances. The diamond holes will be sent to Core explore technologies in Bassendeen WA for GeoCore X10 analysis which measures geotechnical features, lithology and density values. • Comments on estimates of visual mineralisation: Graphite mineralisation is visually estimated on a metre by metre basis and vary from weak, moderate to strongly mineralised, similar to how alteration is recorded. This estimate is used as a guide only due to the variable nature of mineralisation and actual mineralisation will be determined using laboratory analytical techniques at a certified laboratory. The graphite occurs in bands concordant with foliation in the schist. Identification of the mineralisation is completed on site by APEX geologists.
Sub-sample techniques and sample preparation	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	**Information from HEX and MRL campaigns** **1. RC Drilling**

Criteria	JORC Code Explanation	Commentary
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all 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 samples were marked with unique sequential sample numbers. • RC drilling samples were bagged at the drill site in calico bags with a second outer plastic bag to prevent loss of fines. The sample sizes are considered to be appropriate to the grain size of the material being sampled. • 1m RC drilling samples were submitted to either Actlabs or ALS laboratories in Perth. The samples were riffle split on a 50:50 basis, with one split pulverised and analysed for Total Graphitic Carbon (TGC), Total Carbon (TC) and Total Sulphur (TS) using a LECO Furnace, and the other split held in storage. • For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected. Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident. • Sample preparation: 1. Coarse crush using a jaw crushed to better than 70% passing 6mm. 2. For samples exceeding 3kg received mass, riffle split using a Jones Riffle Splitter 50:50 3. Pulverise up to 3kg of coarse crushed material to better than 85% passing 75µm particle size 4. Small aliquot (~10g) taken for assay. **2. Diamond Core** • Diamond drill core was cut into half core (used for metallurgical testing) and the remaining half sawn into quarter core using diamond blade core-saw. Quarter core was used for samples and duplicates. Core cutting was carried out by ALS in Perth. • Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident. • Sample preparation: 1. Coarse crush using a jaw crushed to better than 70% passing 6mm. 2. For samples exceeding 3kg received mass, riffle split using a Jones Riffle Splitter 50:50

Criteria	JORC Code Explanation	Commentary
		3. Pulverise up to 3kg of coarse crushed material to better than 85% passing 75µm particle size 4. Small aliquot (~10g) taken for assay. • Sampling procedures and sample preparation represent industry good practice: **Drilling information from GCM campaigns** • The drill samples were either collected as a 4m composite or a 1m sample. This was determined based on visual graphite mineralisation observed during the logging process. If visual graphite mineralisation was noted, the 1m sample that was collected through the cone splitter mounted to a vertical cyclone was submitted for analysis. The samples were collected as approximately 2 to 3 kg sub-sample splits. • The sample sizes and analysis size are considered appropriate to correctly represent the mineralisation based on the style of mineralisation, sampling methodology and assay value ranges for the commodities of interest. • Quality Control on the RC drill rig included insertion of duplicate samples (5%) to test lab repeatability, insertion of standards (5%) to verify lab assay accuracy and cleaning and inspection of sample assembly. A standard or duplicate was inserted every 20th sample. • The diamond core is yet to be cut and submitted to the laboratory. Samples will be submitted to ALS, Perth for analysis.
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.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	**Information from HEX and MRL campaigns** • The assaying and laboratory procedures used are appropriate for the material tested. • Sampling was guided by Hexagon and MRL's protocols and QA/QC procedures. • For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected. • Field duplicates were taken from the coarse reject of processed diamond core samples at a rate of 4 every 100 samples, standards at a rate of 4 every 100 samples and blanks at 2 every 100 samples. • Statistical analysis of standards, blanks and duplicates during the QAQC process showed that the data was satisfactory.

Criteria	JORC Code Explanation	Commentary
		• No issues were identified with sampling reliability • QA/QC checks show that all samples are within acceptable limits. No adjustments to assay data have been made based on the analysis of duplicates, standards and blanks. • Standards from ALS laboratory were found to be acceptable. • Duplicate analysis was completed and no sampling issues were identified. • CSA verified several graphite intersections in core and RC chip samples during a visit to Hexagon's Joondalup warehouse during January 2015. • During a site visit in October 2015, a geological consultant from CSA verified that the diamond drilling, geological logging and sampling practices were of industry standard. The consultant also verified graphite intersections in core samples. • No external verification was completed on data collected during 2018. However, the same sample protocols were adopted • Analysis from one pair of twin holes drilled at Hexagon's Longtom resource noted a lower graphite content in the RC samples when compared with diamond core. It is suggested that RC samples are biased due to the loss of fine material. The majority of samples used in the estimation for Emperor are diamond core. • The Hexagon database is hosted in a SQL backend database, ensuring that data is validated as it is captured and exports are produced regularly. Assay results are merged into the database from the lab certificates limiting transcription or mapping errors from occurring. No adjustments have been made to the results **Information from GCM campaigns** • The RC samples to be sent to the laboratory will be crushed and pulverised prior to analysis via C-IR18 analytical method. Graphitic carbon is determined by digesting the sample in 50% HCl to evolve carbonate as CO_2. Residue is filtered, washed, dried and then roasted at 425C. The roasted residue is analysed for carbon by oxidation, induction furnace and infrared spectroscopy (ALS code C- IR18) and total carbon and sulfur analysis by induction IR (ME-IR08). • The analytical methods and procedures are appropriate for this style of mineralisation.

Criteria	JORC Code Explanation	Commentary
		• ALS inserts its own quality control standards and blanks at set frequencies and monitors the precision of the analyses. ALS performs repeat analyses at random intervals to test lab accuracy. • Laboratory procedures are within industry standards and are appropriate for the commodity of interest. • Industry certified standards were inserted in the RC chip sample stream every 20 samples, and field duplicates were collected every 50 samples. Only industry certified base metal standard were used. All standards will be scrutinized to ensure they fell within acceptable tolerances. • The diamond core is yet to be cut and submitted to the 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.*	**Information from HEX and MRL campaigns** • QA/QC checks show that all samples are within acceptable limits. No adjustments to assay data have been made based on the analysis of duplicates, standards and blanks. • Standards from ALS laboratory were found to be acceptable. • Duplicate analysis was completed and no sampling issues were identified. • CSA verified several graphite intersections in core and RC chip samples during a visit to Hexagon's Joondalup warehouse during January 2015. • During a site visit in October 2015, a geological consultant from CSA verified that the diamond drilling, geological logging and sampling practices were of industry standard. The consultant also verified graphite intersections in core samples. • No external verification was completed on data collected during 2018. However, the same sample protocols were adopted • Analysis from one pair of twin holes drilled at Hexagon's Longtom resource noted a lower graphite content in the RC samples when compared with diamond core. It is suggested that RC samples are biased due to the loss of fine material. The majority of samples used in the estimation for Emperor are diamond core. • The Hexagon database is hosted in a SQL backend database, ensuring that data is validated as it is captured and exports are produced regularly. Assay results are merged into the database from the lab certificates limiting transcription or mapping errors from occurring.

Criteria	JORC Code Explanation	Commentary
		• No adjustments have been made to the results. **Information from GCM campaigns** • Consultant geologists, from APEX Geoscience Australia Pty Ltd were involved in the logging of the RC drilling. APEX was involved in the whole process including drill hole supervision, chip sample collection and will be involved in importing the assay results. Drill hole logs will be inspected to verify the correlation of mineralised zones between assay results and lithology/alteration/mineralisation. The entire chain of custody is supervised by APEX. • The drill hole data was logged using MX Deposit software and will be imported into a database for long term storage and validation.
Location of Data points	• *Accuracy and quality of surveys used to locate drillholes (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.*	**Information from HEX and MRL campaigns** • 45 Collars were surveyed using Differential GPS by a surveyor from Savannah Nickel mines for the 2015 program and a contract surveyor (MNG survey) from Broome. All 2018 drill hole collars were surveyed by MNG Survey using a Differential GPS. The degree of accuracy of drill hole collar location and RL is estimated to be within 0.1m for DGPS. 3 collars were surveyed using a handheld Garmin 62S and Garmin 76c Global Positioning System (GPS) with a typical ±5 metres accuracy. • Topography from contours generated from a Lidar survey was used to validate collar points and assign RL values to the 3 holes surveyed by GPS that had an RL >2m different to the topography. • Downhole surveys completed for all holes where possible (48 holes). EZshot survey data was used where downhole surveys were not successful. All holes used in the resource have been downhole surveyed using a gyro by ABIM Solutions. • The map projection used is the Australia Geodetic MGA 94 Zone 52. **Information from GCM campaigns** • RC and DD drill hole locations are picked up using a handheld Garmin GPS, considered to be accurate to ± 5 m. • Downhole surveys have been completed at 30 m stations (and start and end of hole) using a downhole gyroscopic survey tool (AXIS). The holes

Criteria	JORC Code Explanation	Commentary
		have been largely straight thus far. • All coordinates are recorded in MGA Zone 52 datum GDA94. Topographic control is provided by a the two previously completed VTEM surveys and handheld GPS elevations.
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.*	• Drill spacing on an approximate 40m by 40m grid throughout the majority of the deposit, dropping to 40m across strike x 80m along strike to the south of the deposit. • GCM drilling conforms with historical drilling lines and visibly mineralised surface mineralisation. • The completed drill spacing in conjunction with the historic RC drilling is spaced close enough to confirm continuity of mineralisation and is sufficient to support the definition of a mineral resource, and the classifications applied under the 2012 JORC code.
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 generally drilled dipping at -60° targeting the fold hinge and limbs. • Diamond drill core has been orientated using a Reflex ACE tool 9Act II), with α and β angles measured and positioned using a Kenometer. • The RC drill holes were drilled at near perpendicular to the strike of the graphitic schist horizons. • GCM23DD003 was drilled at 231º which is just off the optimal orientation of 258º that is perpendicular to mineralisation. • The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias. There may be a slight increase in reported thickness.
Sample Security	• *The measures taken to ensure sample security.*	**Information from HEX and MRL campaigns** • Unique sample number was retained during the whole process • RC samples were placed into calico bags and then into plastic bags prior to being put into bulka bags on pallets. The bulka bags were then transported by road to ALS laboratories in Perth. Preparation was completed by ALS in Perth and then transferred through internal ALS systems to ALS Brisbane, Vancouver and Ireland for analysis • Diamond core was sent to ALS in Perth for cutting and preparation and then send to Nagrom in Perth for analysis.

Criteria	JORC Code Explanation	Commentary
		• Drill core transported to ALS in Perth by road train in stacked core trays, secured to pallets with metal strapping. • The sample security is considered to be adequate. **Information from GCM campaigns** • The sample security consists of the RC chip samples being collected from the field into pre-numbered calico bags and diamond core trays, loaded for transport directly from site via Bruce Avery Transport. Bruce Avery Transport then delivered the samples to the laboratory. The chain of custody for samples from collection to delivery at the laboratory is handled by APEX Geoscience Australia personnel. • The sample submission will be submitted by email to the lab, where the sample counts and numbers will be checked by laboratory staff.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Sampling techniques and data collected methods have been audited by CSA during a site visit in October 2015 • Field data is managed by an independent data management consultancy Rocksolid Solutions. • All data collected was subject to internal review • The Emperor resource has been externally audited by Optiro in May 2017 • No audits or reviews were completed on work completed in 2018. • No audits or reviews were completed on work completed in 2023. • GCM has independently reviewed all data compiled to date and found it is of satisfactory quality.

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.*	• These tenements are held by McIntosh Resources Pty Ltd who is a wholly owned subsidiary of NH3 Clean Energy Limited (NH3), formerly Hexagon Energy Materials Limited (HXG). • Green Critical Minerals Ltd (GCM) has the right to earn up to an 80% interest in McIntosh from Hexagon Energy Materials Limited (HXG) • HXG entered into a joint venture arrangement with Mineral Resources Ltd (MRL) who are the managers of exploration on the project. • There are no known impediments.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The East Kimberley has been largely explored for base metals and diamonds with no active previous exploration for graphite. Graphite had been noted by Gemutz during regional mapping in the Mabel Downs area for the BMR in 1967, by Rugless mapping and RAB drilling in the vicinity of Melon Patch bore, to the east of the Great Northern Highway in 1993 and has been located during nickel exploration by Australian Anglo American Ltd, Panoramic Resources Ltd and Thundelarra Resources Ltd over the last 20 years.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The McIntosh Graphite Project graphite schist horizons occur in the high grade terrain of the Halls Creek Mobile Zone of Western Australia. • The host stratigraphy is the Tickalara Metamorphic which extend for approximately 130 km along the western side of the major Halls Creek Fault. The metamorphic rocks reach granulite metamorphic facies under conditions of high-temperature and high pressure although the metamorphic grade in the McIntosh Graphite Project area appears to be largely upper amphibolite facies with the presence of key minerals such as sillimanite and evidence of original cordierite. • Hexagon and GCM have identified potential graphite schist horizons based on GSWA mapping and EM anomalism over a strike length in excess of 15km within the project area, with potential for an additonal 35km strike length of graphite bearing material from lower order EM anomalism.
Drill hole Information	• *A summary of all information material to the*	• All drill hole information has been reported previously in announcements.

Criteria	JORC Code explanation	Commentary
	understanding of the exploration results including a tabulation of the following information for all Material drillholes: • *easting and northing of the drillhole collar* • *elevation or RL (elevation above sea level in metres) of the drillhole 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.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Data compiled in excel and validated in Datashed by an external data management consultancy. • RC samples were all 1m in length, • Diamond core samples vary between 1m and 2m samples. All diamond core collected in 2018 are sampled on 1m intervals. • Metal equivalents are not reported as this is an industrial mineral project where the mineral properties define grade (e.g. flake size and purity). • A nominal 3% Total Graphitic Carbon cut-off has been applied in the determination of significant intercepts
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • • *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature*	• Mineralised widths at Emperor are estimated to be typically between 5m and 70m, compared with RC samples of 1m width. There is a very close relationship between the graphitic schist unit and Total Graphitic Carbon (TGC%) assays. The presence of graphitic schist is clearly evident in both

Criteria	JORC Code explanation	Commentary
	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.*	the RC chips and diamond drill core so that the assay widths can be clearly related to the geological logs. • The graphitic schist horizon has been interpreted as an anticlinal fold. Angled drill holes (generally 60o) have targeted the mineralised unit with the priority to intersect the limbs perpendicular to the strike of the graphitic schist horizon, although in some areas this was not possible and holes were drilled down dip. However interpreted EM data and the width of intersections where holes were drilled perpendicular to the unit have allowed for a good indication of unit thickness to be made and applied in areas where the information is not available.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	• All maps and sections have been previously provided in other announcements.
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.*	• Exploration results have been reported using a nominal 2% TGC cut off, over a minimum interval length of 3m. Internal dilution of no more than 2m sub 3% TGC has been incorporated. • A table containing visual estimations of graphite mineralisation and locations has been included in previous releases.
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.*	• The September 2014 VTEM Supermax and 2016 XCite electromagnetic survey over the McIntosh Flake Graphite Project identified numerous high priority anomalies. Five of these were previously identified by induced polarisation (IP) and confirmed to be flake graphite schist by geological field mapping, petrographic analysis, rock chip sampling and exploration drilling.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• A prefeasibility study is being undertaken to determine the viability of Emperor as an operational pit.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in the preceding section 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.*	• Primary data was captured into spreadsheet format by the supervising geologist, validated and sent to Rocksolid to load into the McIntosh database. • Any errors identified by Rocksolid were sent to MRL geology for rectification. • Database extracted as an .mdb access file from Datashed and validated before importing into Surpac.
Site Visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• Numerous site visits were completed by S. Tomlinson during the 2016 and 2018 drilling period. The diamond and RC drill rigs were inspected, sampling procedures checked, RC chips and diamond core logged. • GCM personnel conducted site visits during the most recent 2023 drilling campaign. • The drill hole locations were in positions as per the database
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.*	• Geological interpretation based on lithology logging, structural logging, geochemical sampling, prospect scale surface mapping and modelled VTEM data collected during the 2014 VTEM Supermax survey. • Drill coverage to ~40m x 40m. • Mineralisation wireframe produced based on soft 3% TGC cut-off grade delineating ore/waste boundary. Internal dilution in the main mineralised envelope has been modelled as three domains. Modelling of mafic intrusive bodies was also completed and used to constrain mineralisation. • The base of oxidation and was modelled as part of the Emperor resource. • Confidence in the grade and geological continuity is reflected in the Mineral Resource classification.
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 Emperor resource extends 550m north- northwest to south-southeast. The mineralisation occurs within an anticline of the hosting graphite schist units ranging in thickness between 5 and 70m. • Mineralisation is open along strike and at depth along the fold limbs.

Criteria	JORC Code explanation	Commentary
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 (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	• The resource was modelled using Geovia's Surpac v6.9 modelling software. • Drill hole sample data was flagged from interpretations of the top and base of the mineralisation horizon. Internal dilution intervals were also coded. • Mineralised sample length was composited to 1m down hole length. • Top grade cuts were not applied • Total Graphitic Carbon (TGC) estimated by Ordinary Kriging (OK) for mineralised domain. Sulfur (S) estimated by OK for mineralised domain. • Density was assigned based on the average of mineralised material by water emersion technique. • Statistical analysis was completed to investigate low correlation variances, boundary conditions between domains, fresh/oxide, extrapolation distance, variogram ranges, KNA, parent block size, sub-cell, constraints used for volume model, variable search orientation, sample numbers used, discretisation, validation. • TGC mineralisation continuity was interpreted from variogram analyses to have a horizontal range of 105m. S range used was 120m. • The anticline was unfolded to provide the estimation ranges. The strike and dip used were assigned based on mineralised wireframes. • Indicated resources have been defined in the centre of the deposit where material was estimated in the first pass estimation. • Inferred material occurs in the northern and southern limits of the deposit where drilling data is sparser, but still sufficient to assume continuity of mineralisation. • The maximum extrapolation distance is 40 m along strike and 40 m across strike. • Grade estimation was into parent blocks of 20 mE by 20 mN by 5 mRL. Block size was selected based on kriging neighbourhood analysis. Sub blocking of 2.5mE by 5mN by • 2.5mRL was used for volume calculations. • Estimation was carried out using ordinary kriging at the parent block scale. • The search ellipses were oriented within the plane of the mineralisation. • Three estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two

Criteria	JORC Code explanation	Commentary
		times the initial search and the third search was three times the initial search, with reduced sample numbers required for estimation. • Approximately 85% of the block grades were estimated in the first pass, 14% for second pass and 1% for third pass for mineralised envelope for TGC. • The estimated TGC block model grades were visually validated against the input drillhole data, comparisons were carried out against the drillhole data and by northing, easting and elevation slices. • There is no production data and so no reconciliation has taken place.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The Emperor deposit predominantly sits below the water table. • Moisture content has not been tested
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Based on a statistical analysis of drill data and the results of recent metallurgical variability test programs, lower cut-off grade of 2.0% total graphitic carbon was used for determining mineralised material at the Emperor deposit.
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.*	• It is assumed that extraction will be by open pit mining and that the mineralisation is economic to exploit to currently modelled depths. • Mining factors such as dilution and ore loss have not been applied. • No assumptions about minimum mining widths or dilution have been made.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.*	• Extensive batch, bench and pilot scale test work has been undertaken on samples from the Emperor and Wahoo deposits over a period spanning greater than 10 years. These have included comminution testing, process development testing and variability flotation testing. These programs have been conducted by Hexagon and GCM and have consistently produced very similar results. The work was conducted at ALS Perth, Australia and SGS Lakefield, Canada. • A bulk pilot plant study was undertaken by ALS in 2017 on 2.3 tonnes of ore sourced from the Emperor deposit. This pilot test work produced 95kg of

Criteria	JORC Code explanation	Commentary
		concentrate at an average grade of 96.6% LOI and an average graphite recovery of 95.9%. • Additional metallurgical test work has produced a >97% graphite concentrate from a process of crushing, grinding and floating of material from the McIntosh Graphite Project. See results of metallurgical test work conducted by ALS Global in Adelaide and Perth in announcement released 18 January 2016 (HEX) and announcement 21 November 2023 (GCM). • Metallurgical testwork on Emperor material shows that the sulphides present are easily liberated from the graphite by flotation. • The results from metallurgical testwork have been considered for Mineral Resource classification.
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.*	• No assumptions have been made regarding waste and process residue • Environmental studies are being completed as part of the McIntosh Pre-Feasibility study. • In 2018, static leach testwork have been carried out on over 150 non graphitic rock samples from the Emperor deposit. Samples containing >1% total sulphur values in fresh rock, were shown to be Potentially Acid Forming
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.*	• Dry density was assigned a value of 2.85 (fresh) and 2.65 (oxide) based on 245 dried core samples and water emersion technique carried out by SGS. • Geophysical gamma density data was also obtained but has not been included in the resource.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density,

Criteria	JORC Code explanation	Commentary
	• *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) as criteria. • The results from metallurgical testwork have been considered for Mineral Resource classification. Metallurgical testwork data confirms data obtained from the adjacent prospect. • Measured Mineral Resources - none defined. • Indicated resources have been defined in the centre of the deposit where material was estimated in the first pass estimation. • Inferred material occurs in the northern and southern limits of the deposit where drilling data is sparser, but still sufficient to assume continuity of mineralisation. Confidence for the resource in these areas is also from the VTEM survey completed over the area. • The classification considers all available data and quality of the estimate and reflects the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The resource estimate has been peer reviewed by independent consultants Optiro • CSA carried out a site visit in 2015 and review of drilling practices. • GCM has also conducted extensive reviews of all data.
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.* • *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.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012 Edition). • The mineral resource is a global estimate of tonnes and grade. • The confidence intervals have been based on a block informing information. • Relative tonnages and grade above the nominated cut-off grades for TGC are provided in the body of this report. Volumes of the collated blocks sub-set by mineralisation domains were multiplied by the dry density value to derive the tonnages. The contained graphite values were calculated by multiplying the TGC grades (%) by the estimated tonnage. • No production data is available to reconcile results with.

Appendix 2: **JORC Code, 2012 Edition - Table 1 for the Wahoo Resource Estimate – From February 2019 and amended February 2025**

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 mineralization 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*	**1. Reverse Circulation** • RC drilling used high pressure air and a cyclone with a rotary splitter. • Samples were collected at one-metre intervals. • All graphitic intervals were submitted for analyses. • Duplicate and standards analysis were completed and no issues identified with sampling reliability. • Samples were sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane, Vancouver and Ireland for Total Graphitic Carbon (TGC) analyses. • All samples were pulverised to better than 85% passing 75µm with a 10g aliquot taken for assay. • Sampling was guided by Hexagon and MRL's protocols and QA/QC procedures. • RC drilling samples of 3 to 5kg weight were shipped to the laboratory in calico bags; samples were pulverised and milled for assay. **2. Diamond Drilling** • Prior to 2018, Drill samples were collected based on geology, varying in thickness from 0.1 m to 2m intervals. Sampling was completed so samples could be composited to one metre intervals within the geological units. • In 2018 PQ3 drill core samples were collected at one-metre intervals. • All graphitic intervals were submitted for analyses. • Core samples were quarter split by ALS using a diamond bladed saw and sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane, Vancouver and Ireland for Total Graphitic Carbon (TGC) analyses.

Criteria	JORC Code Explanation	Commentary
	commodities or mineralization types (eg submarine nodules) may warrant disclosure of detailed information	• All samples were pulverised to better than 85% passing 75µm with a 10g aliquot taken for assay. • Duplicate samples, CRM standards and blank material (washed quartz sand) were used during the drill programs. Duplicates were collected after each 50 samples. Standards were inserted for samples ending in *00,*20,*40,*60 and *80 and blanks for samples ending in *01,*21,*41,*61 and *81. Sampling was guided by Hexagon and MRL's protocols and QA/QC procedures.
Drilling Techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	**1. Reverse Circulation** • Prior to 2018; 26 holes for 2,203 metres were completed • In 2018; 19 RC holes have been completed for 1,443 metres. • All RC drilling was completed with face sampling hammers and collected through a cyclone. Sample recovery was estimated as a percentage of the expected sample, sample state recorded (dry, moist or wet), samples tested with 10:1 HCl acid for carbonates and graphite surface float. • RC drilling was completed by Egan drilling using an X400 drill rig, United Drilling Services using a DE840 drill rig and by Mt Magnet Drilling using a Hydco 1300 drill rig. **2. Diamond Drilling** **Pre 2018** • A total of 11 holes for 1257.8m were completed. HQ_3 core was collected using a 3m core barrel and drilled by Terra Drilling using a Hanjin Powerstar 7000 track mounted rig. Core orientation was recorded using a Reflex EZ Shot instrument. **2018** • One RC pre-collar was drilled in preparation for a PQ_3 diamond tail, for a total of 40.6m. • Seven diamond holes for 464.1 metres were completed • PQ_3 core was collected using a 1.5m core barrel. • Drilling was completed by Mt Magnet Drilling using a Hydco 650 drill rig. Core was not orientated.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	**1. RC Drilling** • A face sampling hammer was used to reduce contamination at the face.

Criteria	JORC Code Explanation	Commentary
	• *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.*	• 1m drill chip samples, weighing between 3-5kg were collected in sequentially numbered bags. • Split samples were recovered from a cyclone and rig-mounted cone splitter. The sample recovery and physical state were recorded. • Every interval drilled is represented in an industry standard chip tray that provides a check for sample continuity down hole. **2. Diamond drilling** • Core recoveries were measured for each run between core blocks and measurements recorded.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All RC and diamond drilling was logged for geology in the field by qualified geologists. Lithological and mineralogical data was recorded for all drill holes using a coding system developed specifically for the Project. Primary and secondary lithologies are recorded in addition to texture, structure, colour, grain size, alteration type and intensity, estimates of mineral quantities, graphite intensity and sample recovery. The oxidation zone is also recorded. • No adjustments have been made to any assay data. • Geological logging is qualitative in nature. • Diamond drill logging also recorded recovery, structure and geotechnical data. • Diamond core was orientated using the Reflex orientation tool. PQ core collected in 2018 was not orientated. • All core was orientated and marked up in preparation for cutting. • Core was photographed both wet and dry.
Sub-sample techniques and sample preparation	• *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.*	**1. RC Drilling** • All samples were marked with unique sequential sample number. • RC drilling samples were bagged at the drill site in calico bags with a second outer plastic bag to prevent loss of fines. The sample sizes are considered to be appropriate to the grain size of the material being sampled. • 1m RC drill samples were submitted to ALS laboratories in Perth. The samples were riffle split on a 50:50 basis, with one split pulverised and analysed for Total Graphitic Carbon (TGC), Total Carbon (TC) and Total Sulphur (TS) using a LECO Furnace, and the other split held in storage. • For RC samples, standards and field duplicates were inserted at an

Criteria	JORC Code Explanation	Commentary
	• *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.*	approximate rate of 1 in every 20 samples collected. Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident. • Sample preparation: 1. Coarse crush using a jaw crushed to better than 70% passing 6mm. 2. For samples exceeding 3kg received mass, riffle split using a Jones Riffle Splitter 50:50. 3. Pulverise up to 3kg of coarse crushed material to better than 85% passing 75µm particle size 4. Small aliquot (~10g) taken for assay. **2. Diamond Core** • Diamond drill core was cut into half core (retained for metallurgical testing) and the remaining half sawn into quarter core using diamond blade core-saw. Quarter core was used for samples and duplicates. Core cutting prior to 2018 was carried out by Westernex in Perth. In 2018 core cutting was carried out by ALS in Perth. • Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident. • Sample preparation: 1. Coarse crush using a jaw crushed to better than 70% passing 6mm. 2. For samples exceeding 3kg received mass, riffle split using a Jones Riffle Splitter 50:50 3. Pulverise up to 3kg of coarse crushed material to better than 85% passing 75µm particle size 4. Small aliquot (~10g) taken for assay. • Sampling procedures and sample preparation represent industry good practice.
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.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable*	• The assaying and laboratory procedures used are appropriate for the material tested. • Sampling was guided by Hexagon and MRL’s protocols and QA/QC procedures. • For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected. • Field duplicates were taken from the coarse reject of processed diamond

Criteria	JORC Code Explanation	Commentary
	levels of accuracy (i.e. lack of bias) and precision have been established.	core samples at a rate of 4 every 100 samples, standards at a rate of 4 every 100 samples and blanks at 2 every 100 samples. • Statistical analysis of standards, blanks and duplicates during the QAQC process showed that the data was satisfactory. • No issues were identified with sampling reliability
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.*	• Hexagon QA/QC checks show that all samples are within acceptable limits. No adjustments to assay data have been made based on the analysis of duplicates, standards and blanks. • During a site visit in October 2015, a geological consultant from CSA verified that the diamond drilling, geological logging and sampling practices were of industry standard. The same practices were used for the Wahoo drilling in 2018. • No external verification was completed on data collected during 2018. • The Hexagon database is hosted in a SQL backend database, ensuring that data is validated as it is captured and exports are produced regularly. Assay results are merged into the database from the lab certificates limiting transcription or mapping errors from occurring. The same practices above were adopted in 2018. • No adjustments have been made to the results.
Location of Data points	• *Accuracy and quality of surveys used to locate drillholes (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.*	• 23 drill collars were surveyed by MNG Survey using a Differential GPS. The degree of accuracy of drill hole collar location and RL is estimated to be within 0.1m for DGPS. • Topography from contours generated from a Lidar survey was used to validate collar points and assign RL values to the 3 holes surveyed by GPS that had an RL >2m different to the topography. • All holes used in the resource have been downhole surveyed using a north seeking gyro by ABIM Solutions. • The map projection used is the Australia Geodetic MGA 94 Zone 52.
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*	• Drill spacing on an approximate 40m by 20m grid across the deposit. • Geological interpretation and mineralisation continuity analysis indicates that data spacing is sufficient for definition of a Mineral Resource.

Criteria	JORC Code Explanation	Commentary
	procedure(s) and classifications applied. • *Whether sample compositing has been applied.*	
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 generally drilled dipping at -60° perpendicular to the graphitic schist units. • Diamond drill core has been orientated using a Reflex ACE tool 9Act II), with α and β angles measured and positioned using a Kenometer. • PQ core collected in 2018 was not orientated. • The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.
Sample Security	• *The measures taken to ensure sample security.*	• Unique sample numbers were retained during the whole process. • RC samples were placed into calico bags and then into plastic bags prior to being put into bulka bags on pallets. The bulka bags were then transported by road to ALS laboratories in Perth. Preparation was completed by ALS in Perth and then transferred through internal systems to ALS Brisbane, Vancouver and Ireland for analysis • Diamond core was sent to ALS in Perth for cutting and preparation. Then transferred through internal systems to ALS Brisbane, Vancouver and Ireland for analysis. • Drill core was transported to ALS in Perth by road train in stacked core trays, secured to pallets with metal strapping. • The sample security is considered to be adequate.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Sampling techniques and data collection methods have been audited by CSA during a site visit in October 2015. These same practices were adopted in 2018. • Field data is managed by an independent data management consultancy Rocksolid Solutions. • All data collected was subject to internal review • No audits or reviews were completed on work completed in 2018. • GCM has also conducted extensive reviews of all data.

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.*	• Drilling at the Wahoo deposit is located on exploration lease E80/3906. This tenement is held by McIntosh Resources Pty Ltd who is a wholly owned subsidiary of NH3 Clean Energy Limited, formerly Hexagon Resources Limited (HXG). • Green Critical Minerals Ltd (GCM) has the right to earn up to an 80% interest in McIntosh from Hexagon Energy Materials Limited (HXG) • HXG entered into a joint venture arrangement with Mineral Resources Ltd (MRL) who were the managers of exploration on the project.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The East Kimberley has been largely explored for base metals and diamonds with no active previous exploration for graphite. Graphite had been noted by Gemutz during regional mapping in the Mabel Downs area for the BMR in 1967, by Rugless mapping and RAB drilling in the vicinity of Melon Patch bore, to the east of the Great Northern Highway in 1993 and has been located during nickel exploration by Australian Anglo American Ltd, Panoramic Resources Ltd and Thundelarra Resources Ltd over the last 20 years.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The McIntosh Graphite Project graphite schist horizons occur in the high grade terrain of the Halls Creek Mobile Zone of Western Australia. • The host stratigraphy is the Tickalara Metamorphic which extend for approximately 130 km along the western side of the major Halls Creek Fault. The metamorphic rocks reach granulite metamorphic facies under conditions of high-temperature and high pressure although the metamorphic grade in

Criteria	JORC Code explanation	Commentary
		the McIntosh Graphite Project area appears to be largely upper amphibolite facies with the presence of key minerals such as sillimanite and evidence of original cordierite. • Hexagon and GCM have identified potential graphite schist horizons based on GSWA mapping and EM anomalism over a strike length in excess of 15km within the project area, with potential for an additonal 35km strike length of graphite bearing material from lower order EM anomalism. • The McIntosh areas contain graphite and include multiple exploration targets and minerals resources including Mackerel, Cobia, Barracuda, Emperor, Mahi Mahi, Rockcod, Trevally and Marlin.

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 drillholes:*
	  ◦ *easting and northing of the drillhole collar*
	  ◦ *elevation or RL (elevation above sea level in metres) of the drillhole 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.*
		RC Drilling
		• Prior to 2018; 26 holes for 2,203 metres were completed
		• In 2018 ;19 RC holes have been completed for 1,443 metres.
		Diamond Drilling
		Pre 2018
		• A total of 11 holes for 1257.8m were completed HQ3 core was collected using a 3m core barrel and drilled by Terra Drilling using a Hanjin Powerstar 7000 track mounted rig. Core orientation was recorded using a Reflex EZ Shot instrument.
		2018
		• One RC pre-collar was drilled in preparation for a PQ3 diamond tail, for a total of 40.6m.
		• Seven diamond holes for 464.1 metres were completed
		• Hole locations tabulated and reported in previous MRE reports.
		• All drill hole information has been reported previously in announcements.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for*	• Data compiled in excel and validated in Datashed by an external data management consultancy. • RC samples were all 1m in length, • Diamond core samples vary between 1m and 2m samples. All diamond core collected in 2018 are sampled on 1m intervals. • Metal equivalents are not reported as this is an industrial mineral project where the mineral properties define grade (e.g. flake size and purity).

Criteria	JORC Code explanation	Commentary
	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.*	• A nominal 3% Total Graphitic Carbon cut-off has been applied in the determination of significant intercepts.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • • *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.*	• Mineralised widths at Wahoo are estimated to be typically between 5m and 15m, compared with RC samples of 1m width. There is a very close relationship between the graphitic schist unit and Total Graphitic Carbon (TGC%) assays. The presence of graphitic schist is clearly evident in both the RC chips and diamond drill core so that the assay widths can be clearly related to the geological logs. • The modelled graphitic schist units have been interpreted as the west limb of a syncline feature striking north-east. Angled drill holes (generally 60o) have targeted the mineralised unit with the priority to intersect perpendicular to the strike of the graphitic schist horizon. • Interpreted EM data and the width of intersections where holes were drilled perpendicular to the unit have allowed for a good indication of unit thickness to be made and applied in areas where the information is not available
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.*	• All maps and sections have been previously provided in other announcements.
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.*	• A table containing visual estimations of graphite mineralisation and locations has been included in previous releases. • Exploration results have been reported using a nominal 2% TGC cut off, over a minimum interval length of 3m. Internal dilution of no more than 2m sub 3% TGC has been incorporated.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical*	• The September 2014 VTEM Supermax survey over the McIntosh Flake Graphite Project covered a total of 642 line kilometres and identified a total of 12 high-priority anomalies. Five of these were previously identified by

Criteria	JORC Code explanation	Commentary
	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.	induced polarisation (IP) and historical electromagnetic (EM) techniques and confirmed to be flake graphite schist by geological field mapping, petrographic analysis, rock chip sampling and exploration drilling. • VTEM geophysical work was carried out by Geotech Limited with the data validated and processed by Southern Geoscience Consultants (SGC).
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• A prefeasibility study is being undertaken to determine the viability of Wahoo as an operational pit. • An EM anomaly remains un-tested directly west of the Wahoo deposit. Drill testing is recommended.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in the preceding section 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.*	• Primary data was captured into spreadsheet format by the supervising geologist, validated and subsequently loaded into Hexagon's database. • Database extracted as an .mdb access file from Datashed and validated before importing into Surpac. • Additional data validation by MRL; included checking for out of range assay data and overlapping or missing intervals.
Site Visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• Numerous site visits were completed by S. Tomlinson during the 2016 and 2018 drilling period. The diamond and RC drill rigs were inspecting, sampling procedures checked, RC chips and diamond core logged. • Chris Handley visited the McIntosh drilling program between August and October 2018 and observed and supervised the geological logging, sampling and associated QA/QC practices. The Competent Person also observed and supervised the drilling to ensure that representative samples were being collected. Chris Handley inspected the ALS Perth laboratory prior to the commencement of the analytical work. • The drill hole locations were in positions as per the database • Site visits were undertaken by GCM personnel during the 2023 drilling campaign.

Criteria	JORC Code explanation	Commentary
		• No site visits have been undertaken by current GCM personnel due to no drilling occurring since 2023.
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.*	• Geological interpretation based on lithology logging, structural logging, geochemical sampling, prospect scale surface mapping and modelled VTEM data collected during the 2014 VTEM Supermax survey. • Drill coverage to ~40m x 20m. • Mineralisation wireframes are based on lithology and a soft 1% TGC cut-off grade to delineate ore/waste boundaries. Five mineralised domains were identified and divided into zones above and below the base of oxidation. • No alternative interpretations were identified. • Confidence in the grade and geological continuity is reflected in the Mineral Resource classification.
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 Wahoo resource consists of multiple graphite units over an area extending 350m WSW-ENE. The mineralisation follows the bedding of the hosting graphite schist units ranging in thickness between 5 and 15m.
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-*	• The resource was modelled using Micromine 2018 SP4 modelling software. • Drill hole samples were flagged with wire frame domain codes. • Top grade cuts were not applied. • Ordinary Kriging ("OK") interpolation was selected as the estimation method as it allows the measured spatial continuity to be incorporated into the estimate and is appropriate for the nature of the mineralisation. • Five separate geological / mineralisation domains were used to control estimation of TGC%. These domains were further separated into zones occurring above and below the oxidation front prior to the estimation of S%. • Analysis of sample lengths indicated that compositing to 1m was necessary. • Directional variograms were modelled by domain using traditional variograms. Nugget values are moderate (around 20%) and structure ranges up to 120m for TGC and 200m for S. • Variography was carried out on flagged samples below the oxidation front. • The flagged samples were unfolded relative their domains prior to carrying

Criteria	JORC Code explanation	Commentary
	grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	out variography. • Domains with limited samples used the variography from Domain 4. • Search ellipse sizes for the estimation were based primarily on a combination of the variography and the trends of the wire framed mineralised zones. Hard boundaries were applied between all estimation domains. • The primary search ellipse radius for all mineralised domains was set at 80% of the total semivariogram sill: 22m(TGC%) and 80m(S%) along strike, 12m(TGC%) and 30m(S%) across strike and 4.5m(TGC%) and 2.4m(S%) vertically using "unfolded" coordinates. A minimum of 8 samples and a maximum of 20 samples were required in the search pass; a minimum of two drill holes was required. A maximum of 4 samples per drill hole was used. Where blocks were not informed in the first pass, a second search ellipse was used with a radius set at 95% of the total semivariogram sill: 57m(TGC%) and 140m(S%) along strike, 52m(TGC%) and 53m(S%) across strike and 5.7m vertically using "unfolded" coordinates. A minimum of 4 samples and a maximum of 20 samples were required in the search pass; a minimum of one drill hole was required. A maximum of 4 samples per drill hole was used. Where blocks were not informed in the second pass a third search ellipse was used with a radius set at 100% of the total semivariogram sill: 120m(TGC%) and 200m(S%) along strike, 110m(TGC%) and 74.4m(S%) across strike and 12m(TGC%) and 6m(S%) vertically using "unfolded" coordinates. A minimum of 2 samples and a maximum of 20 samples were required in the search pass; a minimum of one drill hole was required. A maximum of 4 samples per drill hole was used. • TGC and S percent were estimated by OK. • Block size was 10m (E-W) by 20m (N-S) by 2.5m (Vertical) with sub-cells to 1m x 2m x 0.5m. • Flake size values and distribution within the domains were not available for the estimation and as such have not been assigned to the block model. • Density was assigned based on the average of downhole geophysical data using a Geovista Dual density logging tool. • Previous Indicated and Inferred Mineral Resource estimates were published

Criteria	JORC Code explanation	Commentary

		by Hexagon in May 2017.
		• Validation of the final resource has been carried out in a number of ways, including:
		  ○ Drill Hole Section Comparison;
		  ○ Comparison by Mineralisation Zone;
		  ○ Swathe Plot Validation;
		  ○ Model versus Composites by Domain.
		• All modes of validation have produced acceptable results.
		• There is no production data and so no reconciliation has taken place.
		• Sulphur was estimated into the model, as sulphide minerals have the potential to affect metallurgical processes for recovering graphite. The available metallurgical testwork results indicate that the sulphide minerals do not present any issues in recovering graphite

Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The Wahoo deposit predominantly sits below the water table. • Moisture content has not been tested Tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Based on a statistical analysis of drill data and the results of recent metallurgical variability test programs, lower cut-off grade of 2.0% total graphitic carbon was used for determining mineralised material at the Wahoo deposit.
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.*	• Mining factors such as dilution and ore loss have not been applied. • Based on the orientations, thicknesses and depths to which the TGC mineralised domains have been modelled, plus their estimated grades for TGC and S, the expected mining method is open pit mining.
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*	• Extensive batch, bench and pilot scale test work has been undertaken on samples from the Emperor and Wahoo deposits over a period spanning greater than 10 years. These have included comminution testing, process development testing and variability flotation testing. These programs have

Criteria	JORC Code explanation	Commentary
	extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.	been conducted by Hexagon and GCM and have consistently produced very similar results. The work was conducted at ALS Perth, Australia and SGS Lakefield, Canada. • A bulk pilot plant study was undertaken by ALS in 2017 on 2.3 tonnes of ore sourced from the Emperor deposit. This pilot test work produced 95kg of concentrate at an average grade of 96.6% LOI and an average graphite recovery of 95.9%. • Additional metallurgical test work has produced a >97% graphite concentrate from a process of crushing, grinding and floating of material from the McIntosh Graphite Project. See results of metallurgical test work conducted by ALS Global in Adelaide and Perth in announcement released 18 January 2016 (HEX) and announcement 21 November 2023 (GCM). • Metallurgical testwork on Emperor material shows that the sulphides present are easily liberated from the graphite by flotation. • The results from metallurgical testwork have been considered for Mineral Resource classification. • Flake size of concentrate has been determined to salability of product.
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.*	• No assumptions have been made regarding waste and process residue • Environmental studies are being completed as part of the McIntosh Pre-Feasibility study. • In 2018, static leach testwork have been carried out on over 150 non graphitic rock samples from the Emperor deposit. Samples containing >1% total sulphur values in fresh rock, were shown to be Potentially Acid Forming. The geological setting of Wahoo is seen as analogous to Emperor. Testing of Wahoo non-graphitic rock types is has yet to be completed.
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*	• Dry density was assigned a value of 2.85 (fresh) and 2.65 (oxide) based on 53 dried core samples and water emersion technique carried out by ALS.

Criteria	JORC Code explanation	Commentary
	alteration zones within the deposit. *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Wahoo Mineral Resource has been classified in the Indicated category, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). • A range of criteria has been considered in determining this classification including: o Geological continuity; o Data quality; o Drill hole spacing; o Modelling technique; o Estimation properties including search strategy, kriging variance, number of informing data and average distance of data from blocks. o Metallurgical confidence in flake size distribution. • The Competent Person endorses the final results and classification.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No audits have been completed on the 2019 resource estimate. • Visual and statistical validation of the model indicates that the model contains no fatal flaws.
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.* • *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.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012 Edition). • The resource estimate is considered to reflect local estimation of grade. • The confidence intervals have been based on a block informing information. • Relative tonnages and grade above the nominated cut-off grades for TGC are provided in the body of this report. Volumes of the collated blocks sub-set by mineralisation domains were multiplied by the dry density value to derive the tonnages. The contained graphite values were calculated by multiplying the TGC grades (%) by the estimated tonnage.

Criteria	JORC Code explanation	Commentary
		• No production data is available to reconcile results with.

***Appendix 3*: JORC Code, 2012 Edition - Table 1 for the Wahoo and Emperor Resource Estimate May 2025**

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 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, the Ore Reserves.*	• The Mineral Resources were originally reported by Hexagon using a 3% TGC cutoff. These have been update by GCM using a 2% cutoff and include additional drilling by GCM. • All mineral resources are inclusive of the ore reserves.
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 CP has not been to site. With the existence of a detailed PFS report by Hexagon and the familiarity the CP has with the area it was decided to delay the site visit until there is more that can be seen on the ground aside from the terrain and drill bags.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• All elements of the study are at PFS level of assessment or FS level. Mine design for Emperor is at FS level with only some additional geotech work at Wahoo required to bring that to FS level. • The concentrator plant design and comminution studies are at PFS level.
Cut-off parameters	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	• Emperor has been estimated using ordinary kriging techniques. After the model was regularized to a suitable SMU (2.5 x 5.0 x 2.5 x, y z) the ore grade was multiplied by 0.9 and a block adjustment variable was included to increase the tonnes. These two steps accounted for ore loss and dilution with the results compared to the resource model being around 5.7% ore loss and 5% dilution.

Criteria	JORC Code explanation	Commentary
	• *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• Lerch Grossman open pit optimisations were done using indicated resources only. • The mining method is open cut excavator mining. A separate study was done to best size machines and personnel rosters. • The resultant pit designs were staged and used in a schedule to generate a cashflow model to confirm all ore is positive for cashflow and therefore to generate a reserve. • The resource classification consists of Indicated and Inferred. The Inferred Resource has not been evaluated or included in the Ore Reserve. • No minimum mining widths have been specifically applied but all cutbacks are greater than 50m width. Above and below mining may be a concern at times so this will need to be managed in the project execution phase and with short term planning. • Optimisation sensitivities have been done which show that the most important factor is the pit slope angles. The extensive geotech work done on Emperor mostly removes that risk but it shows that more geotechnical analysis is required on Wahoo.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*	• The ore will be processed via standard comminution and flotation concentration to produce a graphitic concentrate. • The technology is well tested and employed in key graphite production centres internationally. Also, the equipment used in the plant is mature and has been used in other commodities for over 100 years. • Extensive batch, bench and pilot scale test work has been undertaken on samples from the Emperor and Wahoo deposits over a period spanning greater than 10 years. These have included comminution testing, variability testing and process flow sheet design criteria testing. These tests have been conducted by Hexagon and GCM and have consistently produced very similar results. All these tests and results have been used to design the current process flow sheet used in this PFS. • High and lower grade domains of mineralisation have been modelled, however the deposit grades are generally very similar: between 3% and 5% TGC. Otherwise no metallurgical effects related to regional variability have been identified.

Criteria	JORC Code explanation	Commentary
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• A bulk pilot plant study was undertaken by ALS in 2017 on 2.3 tonnes of ore sourced from the Emperor deposit. This pilot test work produced 95kg of concentrate at an average grade of 96.6% LOI and an average graphite recovery of 95.9%. • The key assumptions used in this PFS are a graphite recovery of 96% to produce a concentrate grading 95% TGC based on a mass pull of approximately 4% of the feed mass. • Metallurgical test work on Emperor material shows that sulphides are present and are easily liberated from the graphite by flotation. • No other deleterious elements of any note have been detected. • Metallurgical test work will continue as further studies progress.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• Comprehensive baseline flora and fauna environmental field surveys have been undertaken across the McIntosh Graphite Project area between 2013 and 2018. These were conducted by Hexagon and included: ○ terrestrial flora and fauna (including invertebrates) ○ subterranean fauna ○ targeted bat assessment ○ targeted Gouldian Finch ○ short-ranged endemic invertebrate fauna ○ hydrology. • The key environmental issues are: ○ Water run-off, flooding and erosion from cyclonic rainfall events which will be addressed through significant site and drainage works; and ○ Encapsulated storage on impermeable membranes of PAF tailings material from each of the deposits. This has been addressed by allocation of capital to the tailing's storage facility construction and an ongoing allowance for further dam wall lifts etc. As part of a DF study, GCM plans to investigate the use of an Integrated Waste Landform Tailing Storage Facility (IWLTSF) to appropriately store mine waste tailings. ○ Encapsulated storage on impermeable membranes of PAF waste rock material from each of the deposits mine waste. This has been addressed by allocation of capital to the waste pad preparation and an ongoing allowance for rehandling and other activities. As part of the

Criteria	JORC Code explanation	Commentary
		DFS GCM plans to investigate other lower cost and more effective waste rock storage solutions.
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.*	• Infrastructure for the project will be required to be installed prior to extraction of the Ore Reserve. Plant, services, accommodation, access and internal roads have been sourced, costed and designed by Wave International.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *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.*	• Mine operating costs are based on detailed analysis of haulage distances and monthly total movement targets supplied by Minero Consulting based on extensive data from current projects and suppliers. • Mine administration and ancillary costs have been based on current market levels provided by Wave International. • Processing costs include allowances for crushing, beneficiation, processing, administration and transport have been provided by Wave International. • Deleterious elements are not a factor. • Transport and port handling costs have been provided by Wave International. • Royalties for WA State and Native title have been applied to the concentrate.
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.*	• Flake graphite concentrate production for revenue calculations is based on the mine schedule and modifying factors applied. • The Company has assumed an FOB price of US$1,112/tonne of standard concentrate and US$3,058/tonne of micronized product at exchange rate of 1AUD to US$0.65. This is based on a price range from detailed industry analysis by Lone Star Tech Minerals USA. This price is not regarded as conservative or as optimistic. • McIntosh concentrate does not contain any notable deleterious elements, so no penalties have been applied.
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.*	• Natural flake graphite provides for a more comprehensive range of end-uses than synthetic graphite including rapidly growing markets including batteries, polymers, engineered products, specialty lubricants, and flexible graphite products. The current market demand for natural graphite powders has

Criteria	JORC Code explanation	Commentary
	• *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.*	stabilised over the past 18 months with various macroeconomic forces including Chinese restrictions on graphite powder exports, slowing demand for EV's, and additional tariffs in process from the US has created an opportunity for ex-China natural graphite projects that are not focused on EV's. Green Critical Minerals plan focuses on filling the shortfall of ASTM Mesh fine grades for a number of applications that have been left out of the EV hype narrative and these applications are seeing a growth of 2% to 5% year over year. These include lubricants, rubber, automotive, lead acid battery, thermal battery, consumer goods, and aerospace. • Green Critical Minerals has developed a progressive production facility plant to entry the graphite market focusing on traditional applications and introduction of downstream graphite products to a wide range of applications; all without adding downward pressure on graphite powder pricing and adversely affecting market supply / demand equilibrium. As of Q1-2025, only two new natural graphite projects have come online over the past 8 years that remains in production called NextSource (17,000 Mt Nameplate) and South Star Battery-Brazil (5,000 Mt Nameplate); both projects incorporating a demonstration plant philosophy, similar to that employed by GCM. • Average sales pricing (ASP) or median pricing is used for reference by Green Critical Minerals to create a fundamental understanding of traditional and advanced downstream graphite pricing potential and to develop product average price points for financial modelling. Downstream graphite pricing intelligence is not available on the open market as this level pricing is part of a customer's IP and no end user will share or disseminate any internal pricing information with a third party marketing firm for publication. All pricing developed by Lone Star Tech Minerals-USA is based on a large number of data points from long term contacts and relationships developed over decades across a wide range of markets, applications, and global organisations. GCM has decided on using a conservate sales price of US$1,112 for standard graphite flake concentrate and US$3,058 for micronized concentrate.
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.*	• The Ore Reserve estimate is supported by a financial model that has been prepared to a Pre-Feasibility level. The model covers the current 33 year life of the Project. The key economic inputs comprise:

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>

- *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*

</td><td>

<table>
<tr><th>Model Input</th><th>Value</th><th>Comment</th></tr>
<tr><td>Escalation and Inflation</td><td>2%</td><td>Reflecting current market conditions</td></tr>
<tr><td>State Royalty</td><td>5%</td><td>Levied on FOB sales value</td></tr>
<tr><td>Corporate Tax rate</td><td>30%</td><td>Current legislation</td></tr>
<tr><td>Discount Rate</td><td>8%</td><td>A discount rate of 8.00% is applied to nominal cash flows, which is appropriate given the project's risk profile and industry norms.</td></tr>
<tr><td>Funding - Equity</td><td>100%</td><td>A simple opening assumption.</td></tr>
</table>

- All major cost inputs have been supplied by contractors, suppliers and consultants.
- Sensitivity analysis has been completed for the 3 main Project value drivers; commodity price, operating costs and Capital costs.
- The financial analysis shows a pre-tax NPV8% of A$ 340 million and a post-tax NPV8% of A$ 235 million. The following table presents resultant post-tax NPV8% when key inputs are varied buy 10%:

Sensitivity Table

<table>
<tr><th>Case</th><th>NPV</th><th>Change vs Base</th></tr>
<tr><td>Base case</td><td>234,915</td><td>-</td></tr>
<tr><td>Price + 10%</td><td>290,608</td><td>55,693</td></tr>
<tr><td>Price - 10%</td><td>179,157</td><td>(55,758)</td></tr>
<tr><td>OPEX + 10%</td><td>208,473</td><td>(26,442)</td></tr>
<tr><td>OPEX - 10%</td><td>261,301</td><td>26,386</td></tr>
<tr><td>CAPEX + 10%</td><td>229,131</td><td>(5,784)</td></tr>
<tr><td>CAPEX - 10%</td><td>240,700</td><td>5,784</td></tr>
<tr><td>High Inflation</td><td>394,857</td><td>159,942</td></tr>
<tr><td>No Inflation</td><td>64,731</td><td>(170,184)</td></tr>
<tr><td>FX + 10%</td><td>290,608</td><td>55,693</td></tr>
<tr><td>FX - 10%</td><td>179,157</td><td>(55,758)</td></tr>
</table>

</td></tr>
<tr><td>Social</td><td>

- *The status of agreements with key stakeholders*

</td><td>

- Heritage and environmental surveys have been completed over the

</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	and matters leading to social licence to operate.Resources into varying confidence categories. • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	main working areas and further work on extended areas is planned. • GCM is working towards Land Use Agreements with Traditional Owners (TO) as part of the normal WA Mining Licence application and approval process. It enjoys positive working relationships with local stakeholder groups and has conducted drilling operations recently with the support of key stakeholders.
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.*	• The approvals required for the commencement of mining at the mine are ongoing. Based on information provided there should be no reason as to a change in this status. • Mining Lease applications have been previously submitted and approved by other companies in the immediate area and GCM is working through that approval process.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral*	• Classification of the ore reserve is based on the mineral resource classification with all indicated ore within the mine plan converting to probable reserves. • There is no measured resource to convert to proven reserves. • Inferred resources within the pit design are used in the mining schedule. These comprise around 6.5% of the total ore inventory.

Criteria	JORC Code explanation	Commentary
	Resources (if any).	• The result appropriately reflects the competent persons view of the deposit and project.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The combined study teams of Wave International, Mine Planning Services and Green Critical Minerals have reviewed all parts of the inputs to the mine planning process and subsequent reserves. This includes weekly meetings and detailed review of all parts of the study document prior to signoff and completion.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence*	• The open pit designs, mining schedule, process plant design and all associated infrastructure are to a minimum of PFS level with much of it at FS level of accuracy. • The CP believes that the modifying factors applied adequately account for the risk and uncertainty associated with the mineral resource estimates and the subsequent conversion to a reserve. • There is always a degree of uncertainty in the commodity price but the optimisation sensitivity work showed that the staged designs provide steps that can be matched to the project economics. For this reason the project should be reviewed with detailed optimisation and design work prior to each new mining stage starting which could be every 5 years or more.

Criteria	JORC Code explanation	Commentary
	of the estimate should be compared with production data, where available.	