MAGNETITE MINES
High Grade Iron Ore Concentrate

ASX Announcement

5 July 2021

Positive PFS Results for Razorback High Grade Iron Ore Concentrate Project

Highlights:

- Pre Feasibility Study completed and scope defined for Definitive Feasibility Study
- PFS supports declaration of a maiden ore reserve of 473mt based on a 12.8Mtpa plant throughput, backed by PFS level or AACE Class 4 capital cost estimates and/or third-party service proposals[1]
- Optimisation of the processing plant configuration with a nominal 15.5Mtpa feed plant utilising three grinding stages, three stage magnetic separation and flotation to generate a premium grade magnetite concentrate with 67.5 - 68.5% Fe content
- Non-process infrastructure and transport studies confirm preferred scope for operating inputs and initial route selection to load annual production of between 2 and 3 Mtpa of high grade concentrate on to Cape size vessels
- Initial capital investment of US$429-$506M (A$572-$675M) resulting in optimised case results of NPV of A$669M and 20% IRR for selected go-forward case at long run average prices (post tax, ungeared)
- Preparation for a prompt commencement of Definitive Feasibility Study is well advanced with further drilling, testwork, metallurgical investigation and engineering workplans in progress

Magnetite Mines Limited (Magnetite Mines or the Company) today announced the results of the Pre Feasibility Study (PFS) for development of its 100% owned Razorback High Grade Iron Ore Concentrate Project (the Project or Razorback) and is now proceeding with the Definitive Feasibility Study (DFS).

The PFS has confirmed the opportunity for a high return, long life, initial development of the large scale Razorback resource which leverages the advantages of resource scale, low stripping ratio, available infrastructure, low cost sustainable power and leading product quality.

The PFS reviewed a range of options based on the inherent advantages of the Project's resource to develop an optimised, go-forward scope:

- Mining and geology: Extensive mining studies have confirmed feasible schedules close to average resource grade underpinning the 473Mt Probable Ore Reserve. A gridded geological model confirmed the potential grade and recovery uplift from selective mining, which will be the focus of DFS geological and geo-metallurgical investigations.

- Metallurgy and process plant estimates: The Company has generated a preferred flowsheet and plant layout which has significant advantages in efficiency and separation over the conventional configuration used in the scoping study estimates. The inclusion of fine grinding and flotation allows efficient production of high product quality concentrate. The final scale of the preferred go-forward option is plant feed of approximately 15.5Mtpapa with ability to process up to 20% DTR with a capacity of up to 3.1Mtpa concentrate.
- Power: The Company has looked at a range of power supply arrangements, investigating a range of generating sources and possible transmission mechanisms. The go-forward scope is based on a 132KV line connecting to the existing South Australian power grid, with further work to be undertaken around sourcing of the electricity during DFS as we work towards a low emissions footprint for the project.
- Transport: A range of transport options were reviewed, confirming that there are a range of low capital and operating cost options available using existing transport networks.

The table below summarises the results of the PFS work. All cases are based entirely on Reserves, and demonstrate the Project is technically robust and has the potential to generate strong financial returns. The 'Reference Case' is based on a 12.8Mtpa feed concentrator (for which capital estimates have been developed to AACE Class 4 standard) for approximately 2Mtpa of high grade concentrate. The 'Plant Optimisation Case' uses operating and capital estimates for an optimised concentrator layout with a feed of 15.5Mtpa (for which capital estimates have been developed by Hatch to AACE Class 5 standard). The 'Head Grade Improvement Case' is based on higher mining rates with a head grade upgrade from selective mining or ore sorting (with capital estimates also to Class 5) for approximately 2.7Mtpa of high grade concentrate and this is the selected go-forward case for DFS.

Table 1. Key Metrics - 2021 PFS at 62% iron ore reference prices of $110 and $150

Key Financial and Production Metrics	Unit	Reference Case		Plant Optimisation Case		Head Grade Improvement Case	
Iron ore price (62% Fe)	US$/t	110	150	110	150	110	150
LOM Ore mined (100% reserves)	Mt	472.7	472.7	461.4	461.4	472.7	472.7
LOM Concentrate produced	Mt	68.6	68.6	67.6	67.6	63.2	63.2
Strip ratio	t:t	0.16	0.16	0.10	0.10	0.16	0.16
Mining rate	Mtpa	20	20	18	18	25	25
Operation life	Years	37	37	30	30	23	23
Plant feed	Mtpa	12.8	12.8	15.5	15.5	15.5	15.5
LOM yield	%	14.5%	14.5%	14.7%	14.7%	18.2%	18.2%
Average product	Mtpa	1.9	1.9	2.2	2.2	2.7	2.7
Class of plant estimate	AACE	4	4	5	5	5	5
Capital estimate	A$m	572	572	665	665	675	675
Post tax NPV	**A$m**	**296**	**1,005**	**520**	**1,233**	**669**	**1,544**
Post tax IRR	**%**	**14%**	**26%**	**17%**	**27%**	**20%**	**33%**
All in breakeven 62% Fe price	US$/t	66	66	58	58	54	54
Payback	Years	5.9	3.1	4.9	2.8	5.0	2.3
Average net cashflow (post tax)	A$m	73	138	105	184	141	237

Note: NPVs in real terms as at 30 June 2022 using 8% post tax real discount rate, ungeared basis.

The financial results are positive in all cases (see table 1). The Project has been optimised at the long run average prices for the 62% iron ore fines reference price in real terms, that is US$110/CFRt (the average of the last 10 years is US$98/CFRt in nominal terms or US$110/CFRt adjusted for inflation) at an exchange rate of 75 cents. The price adjustment used for the high grade Razorback concentrate is US$25/CFRt based on typical historic grade and quality adjustments.

Results are also shown at $150/CFRt for the 62% reference price.

At more recent price levels, the project would generate even stronger returns. For comparison, in the six months to the end of June 2021, the 62% fines price has averaged some US$184/CFRt and the 65% fines about $213, representing a premium of about $10 per % Fe, near record levels.

The PFS was prepared to AACE or PFS standards and included a total capital expenditure contingency averaging 23%.

Magnetite Mines Limited CEO Mr. Peter Schubert said:

"The PFS is a significant milestone for the Company, and defines our optimised go forward scope, which has been developed following rigorous and methodical testing of various options. The resulting scope meets our objectives of practical scale, capital efficiency, attractive returns, high quality product and an expected low emissions footprint.

The economic results are attractive and provide an excellent basis to continue towards development. The Head Grade Improvement Case for the project generates returns of 20% post tax IRR at long run prices of US$110 /CFRt (62% Fe basis) or 33% post tax IRR at US$150/CFRt (62% Fe basis). Once built, the business will continue to generate returns after all costs and sustaining capital down to a trough price of $54/CFRt (62% Fe basis) in our selected go-forward case for DFS (Head Grade Improvement Case) and generate outstanding returns for shareholders at today's price levels.

This small scale startup allows for a practical development of a long life, high quality business with a targeted date for first ore on ship at the end of 2024.

I would like to congratulate the Magnetite Mines executive team and our project partners for their diligence and professional inputs, working with us to complete a comprehensive, thorough and detailed PFS for the Project.

We look forward to working with all our stakeholders to build a sustainable and viable long-term project that will bring a range of social and economic benefits."

Forward Looking Statements

This announcement contains "forward-looking information" that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the PFS, the Company's business strategy, plan, development, objectives, performance, outlook, growth, cashflow, projections, targets and expectations, mineral resources, ore reserves, results of exploration and related expenses. Generally, this forward looking information can be identified by the use of forward-looking terminology such as, 'anticipate', 'project', 'target', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different.

The Company believes the forward-looking information in this announcement is based on reasonable grounds having regard to the fact all production targets and forecast financial information are underpinned by a 100% Probable Ore Reserves. However, neither the Company nor any other person makes or gives any representation, assurance or guarantee that the production targets or expected outcomes in this announcement will ultimately be achieved. The forward looking information in this announcement is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information. Such risks include but are not limited to future prices and demand of iron and other metals; foreign exchange rates; availability of funding; results of further optimisation activities (including further exploration and metallurgical work); changes in project parameters as plans continue to be refined; failure of plant; equipment or processes to operate as anticipated; possible variations of ore grade or recovery rates; accident, labour disputes and other risks of the mining industry; delays in obtaining governmental approvals or financing or in the completion of development or construction activities and general business, economic, competitive, political and social uncertainties.

A number of key steps need to be completed in order to achieve production at the Project. Many of these steps are referred to in this announcement. Investors should note if there are delays associated with completing those steps, or completion of the steps does not yield the anticipated results, the actual estimated production and forecast financial information may differ materially from the PFS results presented in this announcement.

These risks are not exhaustive of the factors that may affect or impact forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information. The Company disclaims any intent or obligations to revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

Production Targets

The production targets and forecast financial information derived from the production targets referred to in this announcement is based 100% on Probable Ore Reserves. No Inferred Mineral Resources have been used in the schedules. The production target estimates on all years are based 100% on Probable Ore Reserves. The Ore Reserve and Mineral Resource estimates underpinning the production target were prepared by a Competent Person in accordance with the JORC Code 2012 and all relevant details are set out in this announcement.

MAGNETITE MINES RAZORBACK PROJECT PRE FEASIBILITY STUDY SUMMARY

Magnetite Mines Strategy

The Company's development approach for Razorback is a low capital, staged approach producing an attractive high-grade concentrate and balancing the minimum amount of capital with the requirement to deliver an economic and robust pathway to first ore, using existing infrastructure to reduce upfront capital costs. Razorback's large resources support a scalable project with substantial expansion potential. Connection to the Southeast Australian electricity grid allows access to low cost power with a progressively renewable supply mix and decreasing emissions profile.

Sustainability is at the heart of Magnetite Mine's approach and the Company is committed to building an organisation and project portfolio with sustainability as the core basis of its culture, business planning, stakeholder engagement and approval process. We have commenced the process of developing key ESG outcomes for the DFS programme:

Table 2. Summary of proposed ESG outcomes for DFS programme

Environmental sustainability	Social and community inclusion	Accountable administration	People engagement
- High % green power use - sustainable water sources - low water quality use optionality - low emissions (scope 1,2 and 3)	- informed stakeholders – engage and listen - early First Nations involvement - local opportunities – workforce, supply	- planned ESG framework and reporting system - shared capacity building for First Nations agreement planning	- project culture – team first - pandemic agility - capacity building – supporting individual learning and growth

Context/Background

The presence of significant iron ore deposits in South Australia is well known. As early as 1889, ironstone in the Braemar region was mined and sold to BHP for use as a flux at their lead smelter in Port Pirie. The South Australian Government carried out a detailed study of the Razorback Ridge area during the 1950s and separate studies in the 1960s (Whitten). Magnetite Mines obtained 100% ownership of the EL in late 2009.

Since then, the Company has undertaken three drilling campaigns in the Razorback area. Phase I drilled during early to mid-2010 was approximately 7,000m of RC and diamond drilling to produce a maiden JORC Inferred Resource of 277 million tonnes at 25% Fe. Phase II drilled from January to April 2011 was approximately 8,000m of RC and diamond drilling to increase the total resource to 570 million tonnes at 25% Fe, of which 304 million tonnes at 26% Fe was of Indicated category. Drilling Phase III took place between October 2011 to June 2012, drilled 16,055m of RC and diamond metres. The current Mineral Resource statement from May 2021 stands at 3.0 billion tonnes at 15.8% eDTR (18.2% Fe), with 1.5 billion tonnes at an Indicated Category (Table 3)[6].

In 2013 the Company released a Prefeasibility Study for the Project which outlined production of 4-9Mtpa concentrate, capital of US$1.5B+ including a slurry pipeline to the coast and a gas fired power station. The release of the 2013 PFS coincided with a downturn in iron ore prices and limited work was done on the project for some time.

In 2019 the Company completed a Scoping Study[2] which envisaged a smaller project with lower concentrate production forecasts that, wherever possible utilised existing available infrastructure to minimise capital expenditure. The results were encouraging and in November 2019 the Company announced that it would seek appropriate funding to progress the Project to Pre Feasibility Study.

The Company completed a successful Rights Issue raising $5.95m in October 2020[3]. With this funding in place the Company progressed work on this Pre Feasibility Study for Razorback[4]. In March 2021, the Company was also awarded the Muster Dam tenement package by the South Australian Dept for Energy and Mines (refer Magnetite Mines announcement 1 March 2021)[5].

Location

Magnetite Mines' Project comprises five exploration licences ("EL") covering an area of around 1,520 km^2 of the Braemar Iron Formation in South Australia. The Project is located approximately 40 km south of Yunta, the Barrier Highway and the national rail network; and 125km north of the National Electricity Market/Grid transmission infrastructure at Robertstown.

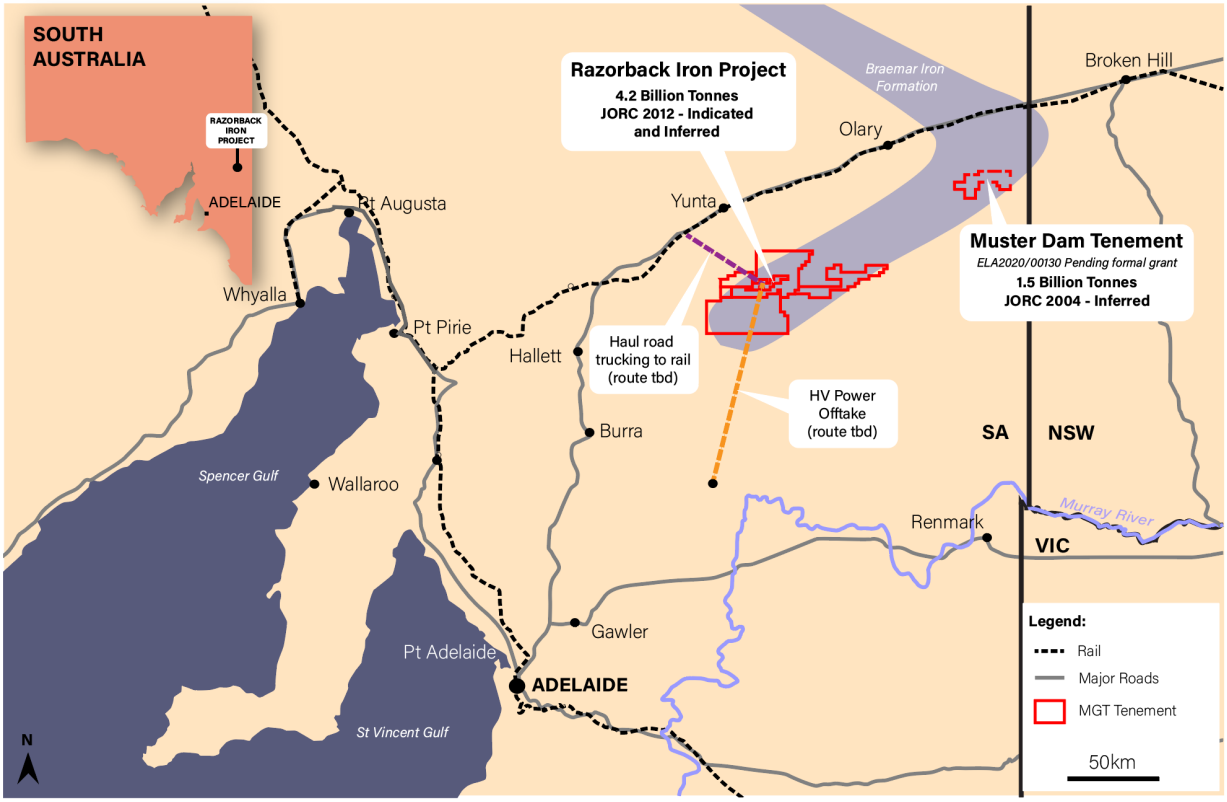


Figure 1. Project Location and Existing Infrastructure

Geology, Ore Reserve and Mineral Resource

The mining and production scenarios on which all PFS cases have been estimated are based on 100% ore material classified as Probable Ore Reserves as per JORC 2012 guidelines and recently declared[1]. The Probable Ore Reserves represent a subset of Indicated Mineral Resources at the Razorback Iron Project release to the public on 24 May 2021[6]. The Probable Ore Reserves estimate was undertaken by mining consultants Orelogy Mine Consulting after consideration of all relevant mining, metallurgical, social, environmental, statutory and financial aspects of the Project. Full details of the Project Probable Ore Reserves can be found at the following ASX announcement link, here.

A summary of the Company Ore Reserves and Mineral Resource estimates are given below:

Table 3. Razorback Iron Project May 2021 Mineral Resource Estimate at 11% eDTR cut-off grade, Widenbar and Associates[6]

Classification	Million Tonnes (Mt, dry)	Mass Rec (eDTR%)	Fe%	SiO_2%	Al_2O_3%	P%	LOI%	Magnetite%
INDICATED	1,500	15.6	18.5	47.9	8.0	0.18	5.4	15.0
INFERRED	1,500	16.0	18.0	48.3	8.2	0.18	5.5	15.9
TOTAL	**3,000**	**15.8**	**18.2**	**48.1**	**8.1**	**0.18**	**5.5**	**15.5**

All figures quoted at an 11% eDTR cut-off. Magnetite Mines Limited is not aware of any new information or data that materially affects the information included in the resource announcement dated 24 May 2021 and all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

Table 4. Razorback Iron Project Ore Reserve estimate[1]

Reserve Classification	Tonnes (Million)	Mass Recovery	Tonnes of Concentrate (Million)
Probable*	472.7	14.5	68.5

**Ore Reserves are a subset of Mineral Resources. The information is this announcement that relates to Ore Reserves is based on and fairly represents information and supporting documentation compiled by Ross Cheyne, BEng (Mining), a competent person who is a fellow of the AusIMM. Mr Cheyne is a director and Principal Mining Consultant of Orelogy Mine Consulting Pty Ltd. Mr Cheyne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and the activities being undertaken to qualify as a competent person as defined the JORC Code 2012. Mr Cheyne consents to the inclusion in this announcement of the matters based on his information in the form and context in which they appear.*

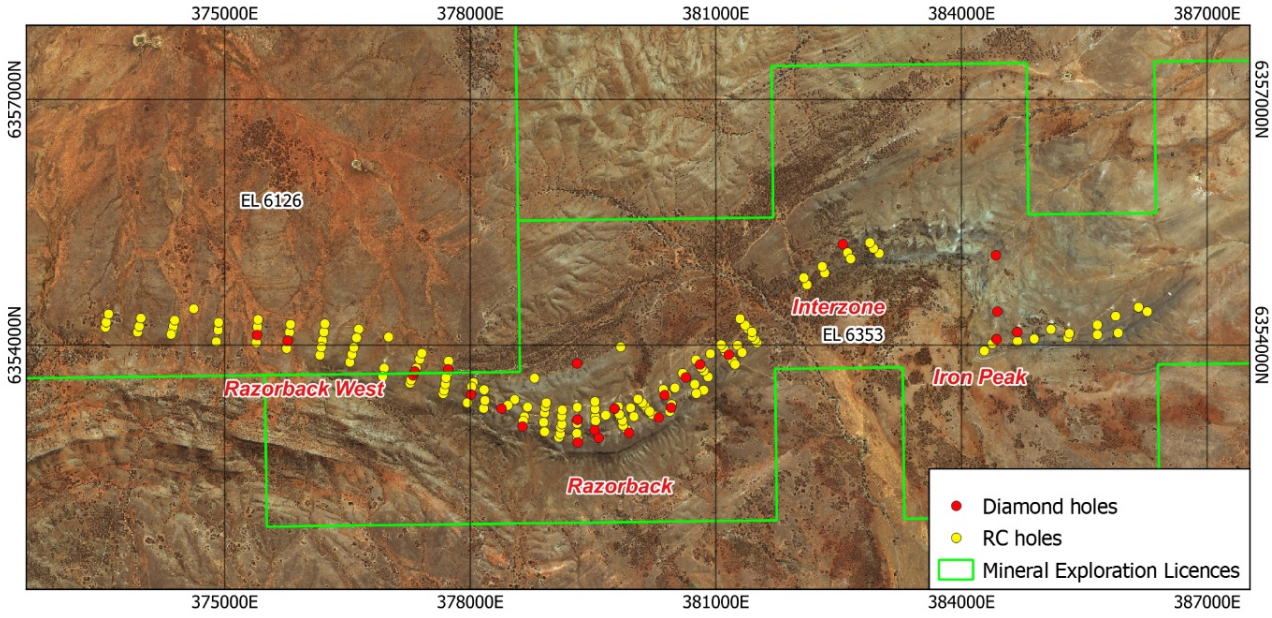


Figure 2. Razorback Iron project drilling, plan view

The Razorback Iron Project covers sedimentary lithologies of the Adelaide Geosyncline, a linear north-south to north-east trending tectonic rift basin comprising sediments deposited during the late Proterozoic and early Cambrian Eras. The host rock to the magnetite at the Razorback Iron Project Neoproterozoic glaciogenic meta-sediment of the Braemar Iron Formation.

The mineralisation within the Braemar Iron Formation forms a simple dipping tabular body with only minor faulting, folding and intrusives. Grades, thickness, dip, and outcropping geometry remain very consistent over kilometres of strike. While the bedded magnetite has the highest in-situ iron content,

typically 19-35% Fe, the tillitic unit, at typically 15-26% Fe is diluted by the inclusion of lithic fragments, such as granite and metasedimentary dropstones.

The Ironback Hill prospect is located 15km to the south of the Razorback Iron Project and holds a JORC (2012) Mineral Resource estimate of 1.2 billion tonnes at 23.2% Fe with no minimum Fe cut-off[7]. The Ironback Hill prospect has not been included in this PFS study.

Table 5. Ironback Hill November 2018 Mineral Resource Estimate at 0% Fe cut-off grade, Widenbar and Associates[7]

Classification	Million Tonnes (Mt, dry)	Fe%	SiO_2%	Al_2O_3%	P%	LOI%	Magnetite%
INFERRED	1,187	23.2	44.1	7.2	0.21	5.4	12.9

Magnetite Mines Limited is not aware of any new information or data that materially affects the information included in the resource announcement dated 20 November 2018 and all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

The combined Mineral Resource estimate for the Company (excluding the pending Muster Dam Iron Project) is 4.2 billion tonnes JORC 2012 Mineral Resources at a combination of Indicated and Inferred classifications. This tonnage is inclusive of the 472.7 million tonnes at Probable Ore Reserve classification recently announced and which serve as the basis for the Reference and optimised cases presented for this PFS.

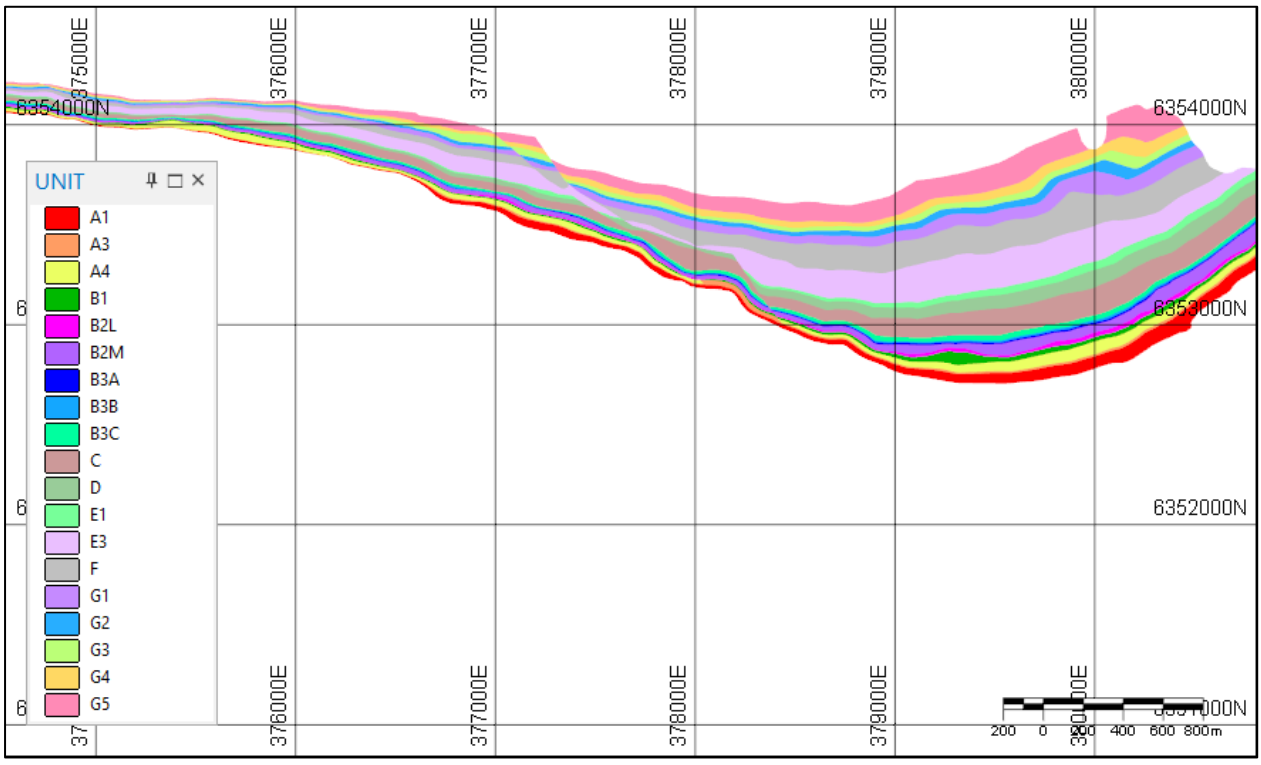


Figure 3. Razorback Geological Unit Plan

Razorback Ridge iron deposit is positioned on the north dipping limb of the Pualco Anticline. Whitten (1970) divided the Braemar Iron Formation at Razorback into seven sedimentary packages, comprising members A to G, with a total thickness ranging from 480m to 780m. Of these, members A, B, D and G are of economic interest and all outcrop or sub-crop at the surface, with member B forming the prominent ridge (see Figure 3).

The two main facies types that make up the ore horizons at Razorback Project are: 1) tillitic / diamictitic ironstone and 2) laminated / bedded ironstone with mineralisation stratiform in nature. While

macroscopically, the two facies are quite different, compositionally the iron-rich components are very similar.

The ironstones are typically fine grained (less than 0.05 mm) and are composed of magnetite, hematite and quartz, with lesser amounts of sericite, chlorite, dolomite, feldspar and apatite. The non-ferruginous bands within the bedded / interlaminated siltstone consist of quartz, biotite, dolomite, plagioclase, sericite and chlorite, with minor amounts of both hematite and magnetite. Laminated ironstones often have well defined laminae, varying in thickness from < 0.5 mm to 50 mm, with the iron rich bands containing between 20% - 80% magnetite and hematite.

Mining

The mining strategy for the Razorback Iron project is consistent with the overall approach of low capital expenditure and low risk with optimisation to reduce costs. This is achieved through a simple, small scale mining operation, using mining contractors at startup to simplify development and leveraging the inherent resource advantages of low strip ratio and short, flat hauls due to orebody geometry and outcropping nature.

The potential for selective mining is a key criterion and a simple truck and shovel operation was selected as a flexible, reliable and selective method of resource extraction. Bulk methods such as electric rope shovels, in-pit crushing and conveying and continuous miners were investigated but not selected.

As part of the PFS, the Company undertook analysis of the orebody characteristics to upgrade the mass recovery of plant feed. This involved modelling the ore body with a gridded seam model, rather than the typical block model and assessing both ore sorting and selective mining approaches to discern between the fine bands of high and low mineralisation across the deposit. This work informed the estimates in the Head Grade Improvement case and forms part of the go-forward scope to be further developed in DFS.

However, a more conservative approach was used for the reserve definition using only the existing DTR analysis library and not using the detailed information developed from the geophysical signature of the resource. Using only this information, a block model was generated and used for reserve definition, but given the data limitations and size of block used (10x5x5m), this model did not allow for assessment of fine-scale selective mining and the resulting reserve grade is similar to the resource average. This work resulted in the 'Reference' and 'Plant Optimised' cases described below.

The selected fleet used a single 350t excavator as primary unit with front end loader (FEL) backup loading medium class (150-190t) rear dump trucks. The 350t excavator class was chosen as the maximum size of excavator that can achieve the 1m of selectivity required to take advantage of the ore body characteristics. Ancillary gear has been sized to a size class appropriate for the excavator productivity and road geometry. During the DFS, as further geological drilling and geometallurgical testing is undertaken, the fleet mix will be reassessed match capacity requirements once selective mining strategies are finalised.

The mining pit shell was based on WHITTLE optimisations using estimated costs and realised pricing for a targeted 30+ year mine-life. The optimisation generated three distinct pit shells within the Razorback deposit: Razorback West, Razorback Central and Razorback East. The optimised shell selected represented a revenue factor of just 0.62, providing a robust basis for the Ore Reserve estimation.

Once the pit shell was selected, final pit designs were generated for the three mining areas for the Reference Case. To facilitate targeting of high value, low strip ore in the early years of the schedule, three approximate internal stages in the Razorback Central pit were developed based on smaller optimisation shells. Maptek's Evolution Strategy™ was utilised to generate the annual LOM schedule which includes an optimised elevated cut-off grade strategy to maximise concentrate production in the early years. This approach results in the stockpiling of a considerable quantity of low-grade ore over the life of the project

in the Reference Case (approx. 100Mt or 20% of total ore feed) which is processed at the end of the mining life. The result is a slightly higher average feed grade of approx. 15.8% eDTR over the first 10 years of the project against a Life of Mine average of 14.5%. Details of the Life of Mine schedule physicals are summarised in Table 6.

Indicative haulage profiles were produced for each mining area and these were analysed using TALPAC™ simulation software to produce truck hours and fuel burn profiles on an annual basis. The plant location was chosen for its proximity to the bulk of the ore body, its suitability for access via the various pits and its access to the concentrate haul road. The locations of the waste dumps were selected based on the proximity to top of pit, location of underlying resource and the slope of the surrounding topography. The low-grade stockpile locations were chosen for their proximity to the process plant.

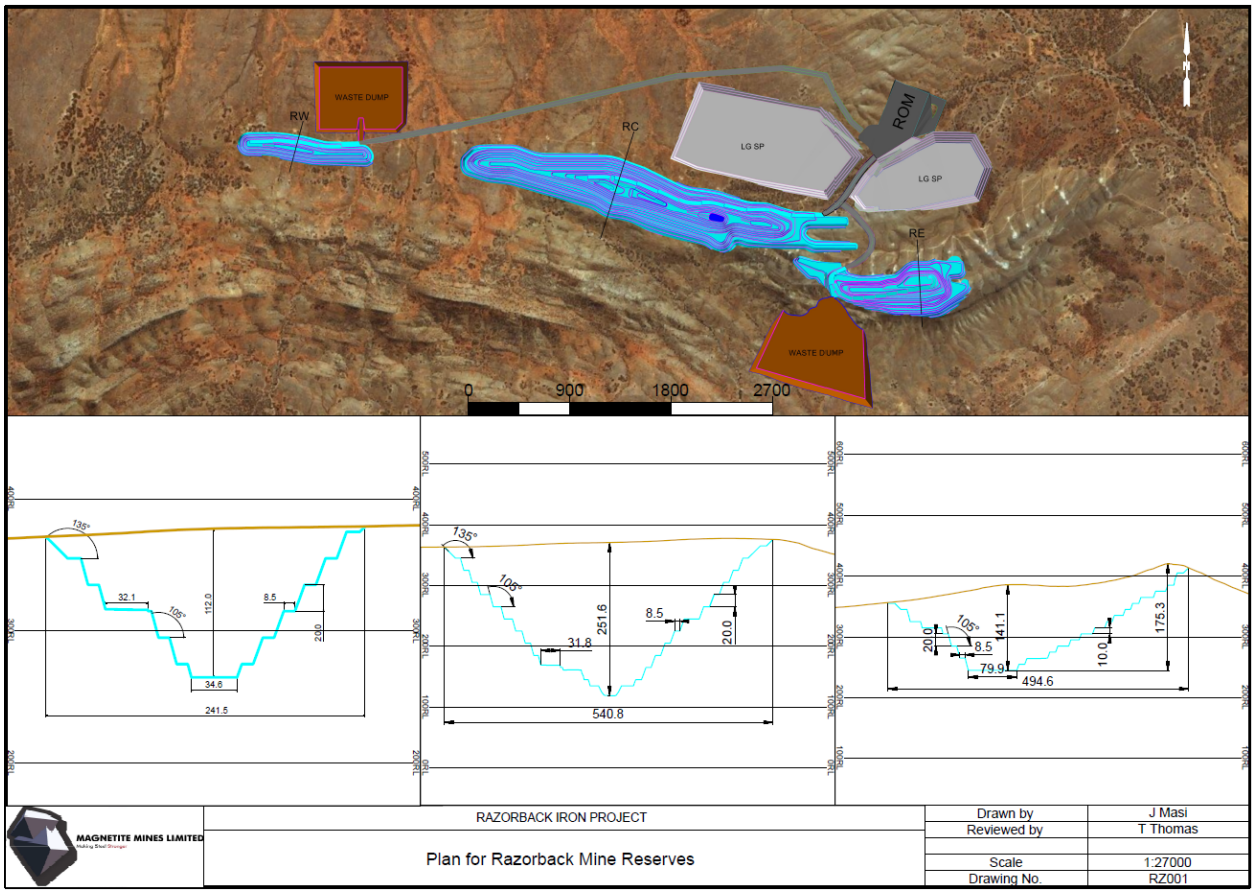


Figure 4. Optimised pit shells with roads, dumps and stockpiles

The optimisation work indicated that the ore body is amenable to a low volume operation with grade that is sensitive to rehandle and stockpiling. Although there is upside from mining above plant feed rate and rehandling higher grade material to feed the plant, the block model used in the Reference Case did not allow for highly selective mining. Consequently, a mining rate of approximately 20Mtpa with some preferential feeding of higher grade material from ore stockpiles formed the Reference Case and the basis for the maiden ore reserve statement.

The selective mining work to date suggests considerable upside, with schedules generated that deliver around 20% DTR for the first five years of mining. While this is not the basis of the current Reference Case, the selective mining case indicates the potential economic upside and it is the intent of the Company to progress selective mining as the preferred mining approach going forward. As the understanding of recoveries within the mineralised units improves (through infill and step out drilling and the associated geometallurgical test work), these results will be firmed up.

Hence, the optimisation of mining beyond the Reference Case includes two approaches:

1. An increase in plant throughput to 15.5Mtpa with mining remaining at about 18Mtpa.
2. An increase in mining rates and the introduction of ore sorting based on a 30% low grade mass rejection (selective mining would have a similar effect) to increase head grade to the larger 15.5Mtpa plant.

Table 6. Summary of estimated case physicals and resource requirements

Life of Mine	Reference Case	Plant Optimised Case	Headgrade Improved Case
Mining Rate	approx. 20Mtpa	approx. 20Mtpa	25Mtpa
Plant Feed Rate	12.8Mtpa	15.5Mtpa	15.5Mtpa
Waste	74,500,239 t	44,598,152 t	74,500,239 t
Ore	472,694,449 t	461,416,684 t	472,694,449 t
Concentrate	68,594,292 t	67,585,733 t	63,168,275 t
Rehandle, Ore	136,838,994 t	32,632,016 t	100,755,862 t
Rehandle, Sorter Reject	0 t	0 t	134,433,145 t
Excavator Hrs	159,641	213,373	230,738
Production Loader Hrs	77,622	-	-
Rehandle Loader Hrs	124,238	54,662	159,889
Truck Hrs (150t class eq.)	1,665,330	1,344,370	1,992,356

Ore Sorting and Selective Mining

Optimisation of the value chain for Razorback is complex, with a heterogeneous, dipping orebody and varying scale economies at different value chain steps. During the PFS, investigations and modelling showed that there is significant potential in accelerating mining activities and realising higher plant feed grades, from some combination of accelerated and selective mining, stockpiles strategy and/or ore sorting.

The Company has been investigating the potential application of a NextOre magnetic resonance analyser (MRA) with ore sorting technology to the Razorback resource. The use of the MRA allows for a high throughput, high accuracy bulk sorting application that is typically added to the front-end of a processing flow sheet to divert waste ores away before processing. This has the effect of improving mining grades by pre-concentrating the ore that will be subject to processing, whilst rejecting significant tonnages of low grade material to tailings via a diversion method such as a chute flop gate or dead box diverter (see Ore Sorting Update Technical Release 11 Dec 2019 https://magnetitemines.com/ore-sorting-update-technical-release/).

On 7 October 2020, the Company announced that it had entered into an agreement with NextOre Pty Ltd (NextOre) to supply a mobile bulk ore sorting plant using a Magnetite Resonance sensor for a trial of the NextOre technology. While the bulk trial was originally scheduled for later in 2021, NextOre and the Company have agreed to reschedule this trial until later in the development schedule to allow for the results of planned infill drilling and metallurgical testwork that are part of the planned DFS to be incorporated in the bulk trial design.

As reported during the PFS and described above, a gridded seam model (Minex model) of the orebody was developed during PFS (see typical cross section below) based on extensive correlation work and review of geophysical logs. While a lower resolution block model was used for reserves, mining schedules run using the gridded same model showed that it is possible to realise head grades consistent with up to 20% DTR for some five years from start of operations.

To assess the impact of improved head grades, results from an ore sorting case have been developed, using an increased mining rate and the block model used for reserves, then applying the previously released ore sorting results to generate improved plant headgrades and mass recoveries. These results are consistent with the analysis earlier in the year on the discrete mineralised bands of the deposit and the gridded seam model. Due to these encouraging results, the go-forward case for Razorback will be based on the higher head grades available from selective mining (Refer p1 Geological Modelling 31 Dec 2020 Quarterly Report https://magnetitemines.com/activities-and-cashflow-reports-31-december-2020/) and ore sorting, which will be investigated further with comprehensive infill drilling of the Razorback orebody planned and designed to inform a selective mining schedule to DFS standards.

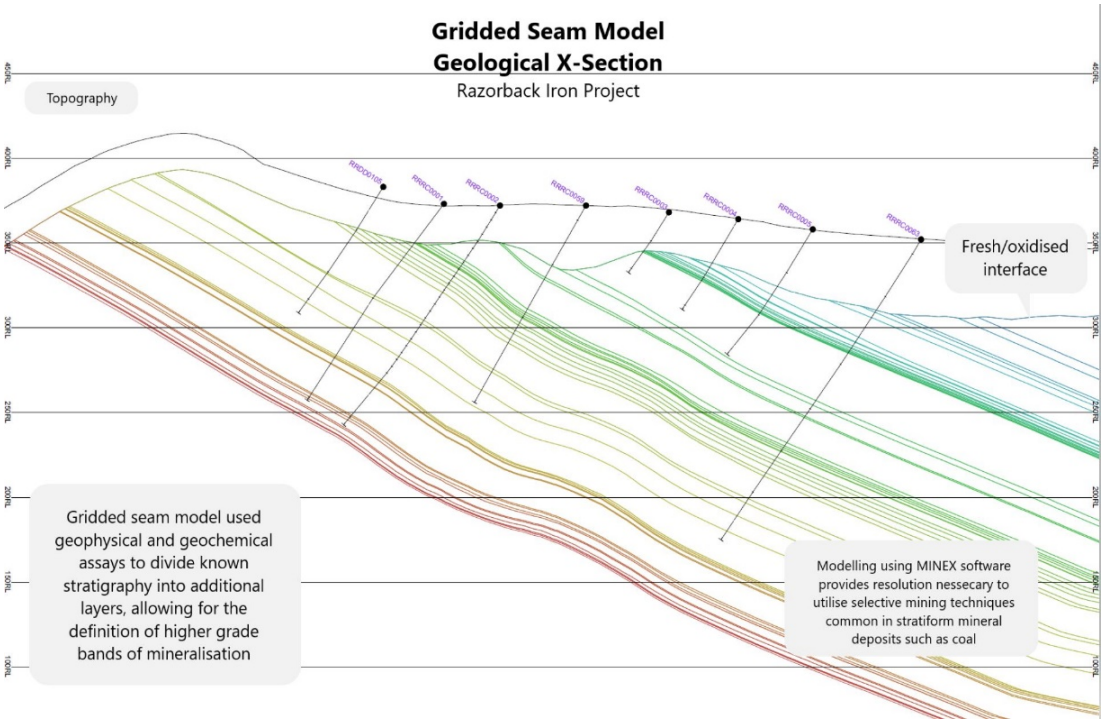


Figure 5. Minex seam model cross-section at the Razorback Iron Project

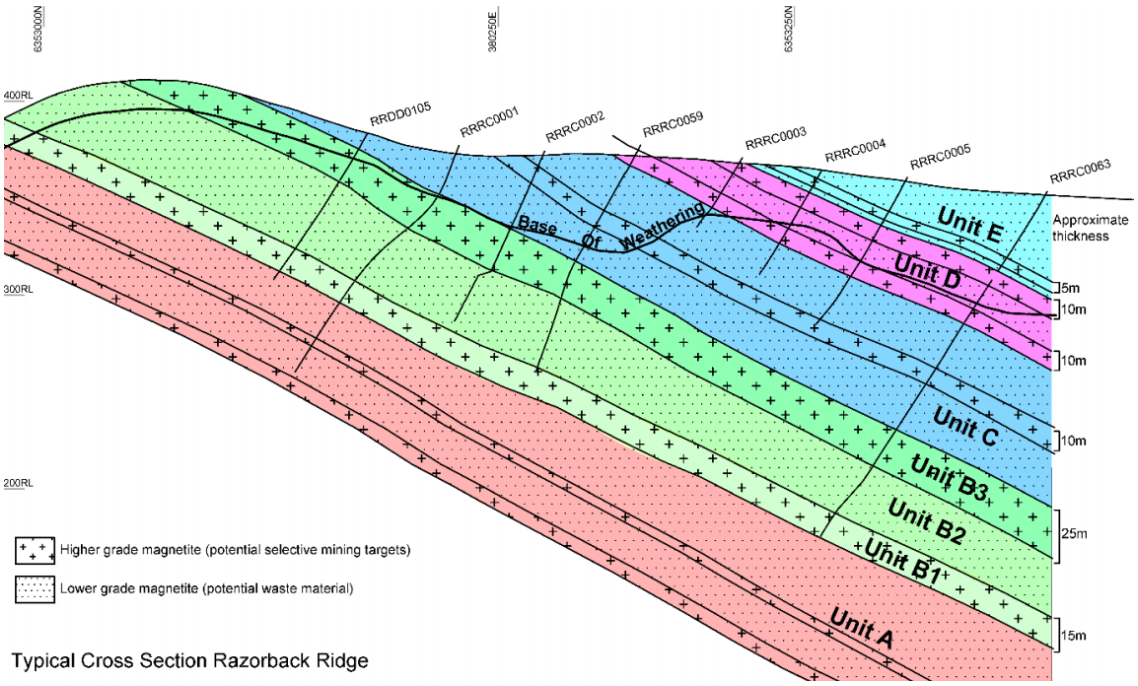


Figure 6. Typical cross section at the Razorback Ridge Prospect highlighting potential selective mining targets

Metallurgy and Processing

For the PFS, in addition to the testwork completed as part of the 2013 PFS and additional high resolution DTR testwork, a comprehensive mineralogical test programme was completed to better understand the mineralogical composition of the Razorback and Iron Peak deposits, complementing the existing data from the previous testwork programme. This was informed by the results of the 2013 PFS study, which was completed for a two-module processing plant for a total of 6.2Mtpa, and an optimised business case for a third module bringing it to 9.3Mtpa.

Designed by the Company's process engineering consultants, the testwork was used to improve the flowsheet. The flowsheet in the 2019 scoping study had three stages of grinding, three stages of magnetic separation and a final cleaning stage with a hydroseparator producing final magnetite concentrate at a grind size of a P80 of 25µm. This is a widely used, low risk flowsheet, but it has significant power requirements and generates a very fine magnetite concentrate with potential filtration and product use issues.

A range of tests were used to generate detailed information about processing characteristics. SEM-EDS work indicated that the purity of the magnetite and hematite is generally high, with only low levels of contaminants. The following conclusions were made from QEMSCAN and DTR analysis:

- The fine-grained nature of the Fe oxides in the feed (P80 of 27µm) eliminated any consideration of coarse magnetic cobbing (coarse rejection of non-magnetics) as only a small amount of mass would be rejected.
- Magnetic liberation levels identified in -1mm samples confirmed that the HPGR product at a P80 of 140µm would be a good target for first stage (rougher) magnetic separation.
- Concentrate output from the rougher separators will then be ground to a P80 of 45µm (ball mill) before feeding to the secondary magnetic separators.
- DTR washing of finely ground samples showed two main groups of particle types present, namely high-grade, fully liberated magnetite particles and low-grade locked magnetite particles. This distribution highlighted the benefit of a different separation process to remove these low-grade particles, leading to the selection of reverse silica flotation on the secondary magnetic concentrate.
- Hence, after flotation, the silica rich flotation concentrate (about 25% of the rougher flotation feed mass) will be ground using fine grinding technology to a P80 of 10µm and passed through a cleaner magnetic separator.
- The rougher flotation Fe rich underflow and cleaner magnetic concentrate will form the final concentrate produced through the processing plant.

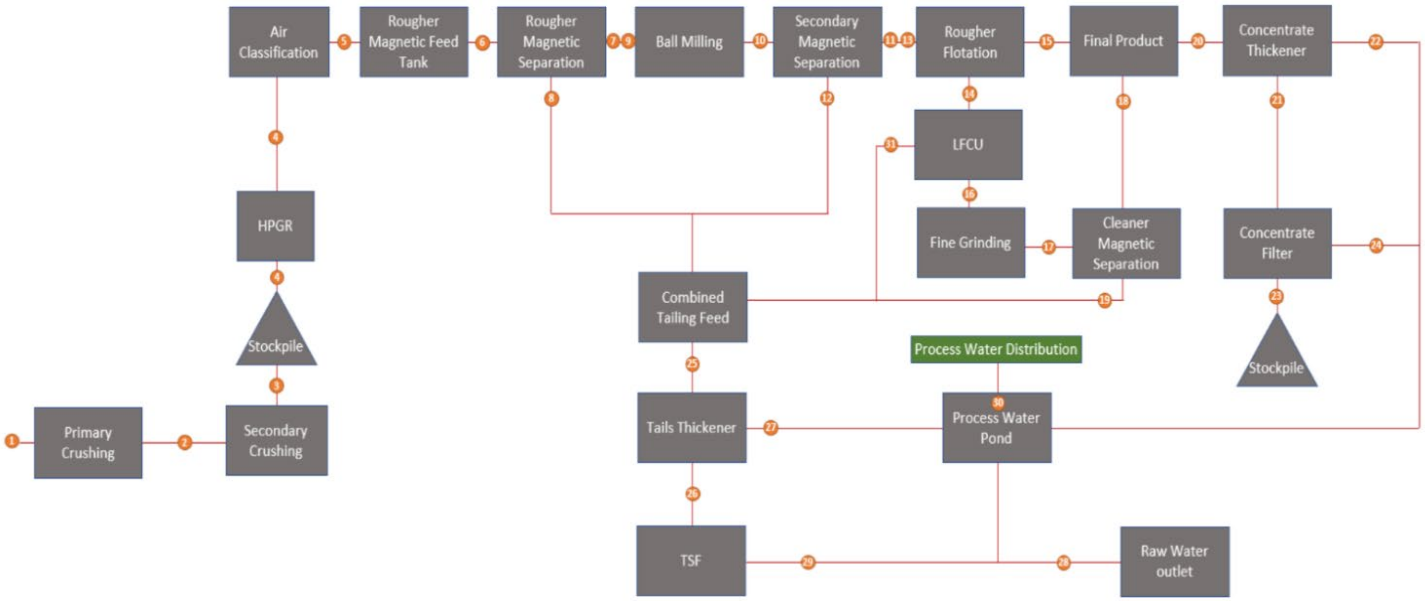


Figure 7. Razorback Iron Project Flowsheet as (Hatch)

The flowsheet resulting from this work is shown in Figure 7 and has a number of advantages. About 90% of the product results from two stages of magnetic separation with a flotation 'cleanup' at a P80 of 45µm and the residual material (about 2% of plant feed) will have an additional fine grinding step (P80 of 10µm) before third stage magnetic separation, generating the remaining 10% of product. Through inclusion of a flotation stage and reserving the third stage grinding for a small percentage of the overall material, the flowsheet generates a high-grade product (67.5%-68.5% Fe) at a coarser grind size compared to the scoping study flowsheet, as well as saving capital and operating cost by reducing the stream size for the tertiary grinding stage. The estimated P80 value for the combined final concentrate is 40µm.

Metallurgical and process engineering work was undertaken to refine the flowsheet. Following the flowsheet development, Hatch completed capital and operating cost estimates for a 12.8Mtpa plant producing a nominal 2Mtpa of product at the resource average recovery, with the deliverables and estimating methodologies used consistent with the AACE Class 4 guidelines (the level of estimate suitable for study or feasibility work).

The selected processing flow sheet produced by Hatch consists of the following comminution and mineral beneficiation processes:

- Crushing Circuit: Consisting of primary gyratory and secondary cone crushers delivering ore to a radial stacker to a coarse ore stockpile.
- High Pressure Grinding Rolls (HPGRs): Primary (dry) grinding via 2 HPGRs operating in series with ore reporting to static/dynamic air classification which will pneumatically deport on-spec product via cyclones and collected in a baghouse.
- Primary Magnetic Separation - Rougher Magnetic Separation (RMS): Consists of single stage counter rotation LIMS units operating at 1200-1600 Gauss.
- Secondary Grinding - Ball Milling: Classification of processed ores to a nominal P80 of 45 microns.
- Secondary Magnetic Separation: Single stage counter rotation LIMS units in the 1100-1250 gauss range.
- Rougher Floatation and LFCU: A series of flotation cells will be used with appropriate reagent addition to facilitate the rejection of non-Fe minerals, (in particular Si) from the secondary magnetic concentrate in order to maximise mass recovery and assist in reaching the desired final product

specification. The Fe rich flotation tails from Rougher Flotation will report directly to the concentrate thickener.

- Fine Grinding: Silica rich flotation concentrate will report to the fine grinding mill. This mill will likely be a high intensity grinding mill (HIGmill) or IsaMill which operate in open circuit and employ a stirred milling action which emphasises particle on particle abrasion and attrition forces, (as opposed to tumbling mills) to facilitate size reduction.
- Cleaner Magnetic separation: Fine grinding product slurry is processed through cleaner magnetic separators. These units operate as triple drum counter rotation LIMS at around 900-1000 gauss field strength.

Table 7. Razorback Iron Project indicative product specifications*

	Recovery	Fe%	SiO_2%	Al_2O_3%	P%	S%
Magnetite product	16%	67.5 - 68.5%	3.9 - 4.6%	0.4 - 0.5%	0.02%	0.003%

Indicative concentrate specifications are based on prior metallurgical testwork and Davis Tube Recovery testwork[6]. Metallurgical and process design studies as completed by Hatch have assumed a 67.5% Fe concentrate product for the AACE Class 4 and 5 process designs. A 68.5% Fe product has been demonstrated in previous bulk metallurgical testwork and may be achievable at processing plant scales pending further testwork [8,9]

Following flowsheet development, the PFS study work looked at a number of configuration options as set out below to ensure an optimal go-forward scope was selected. These activities were investigated further and vendor engagement was undertaken where applicable. The outcomes were costed to a AACE Class 5 level for comparison purposes and evaluated against the Reference Case flowsheet design.

- Overall plant scale
- Hematite recovery
- Comminution approach
    - Sizer vs. gyratory crusher in primary crushing duty
    - SAG Milling vs. two stage HPGR
    - Single stage HPGR vs two stage HPGR
    - Vertical roller mill technology vs two stage HPGR
    - Crusher availability
- Engineering review
    - Steel usage, both quantity and source
- Capital cost to process higher grade feed

To test the effect of scale, a 25.6Mtpa plant estimate was developed and compared to the 12.8Mtpa case. The capital cost of the plant with double the capacity was 91% of double the cost of the reference plant, indicating that capital scale economies are significant, but not substantial. This option was rejected as it offered small gains while being inconsistent with the Company's strategy to develop a relatively low capital cost for initial development.

The reference flowsheet is designed to only recover magnetite material in the ore. Metallurgical testwork showed that the hematite grain size distribution in the DTR non-magnetics is extremely fine grained in nature with 44% of the grains being between 5-10µm in size and that there is only moderate levels of hematite liberation compared to the magnetite with a much higher percentage of locked particles. Studies suggested that it may be possible to add another 2-3% of mass recovery with a hematite circuit. Costing and modelling suggested that the economics of hematite recovery have some potential, but plant complexity would be increased and the additional increment of product would be lower quality than the magnetite product. As a consequence, hematite recovery was not included in the Reference Case, but may be reviewed further as part of future metallurgical investigations.

Various comminution options were reviewed, which did not change the Reference Case selection of primary gyratory and two stage HPGR comminution. Sizers did not offer a particular cost saving over the selected gyratory approach and would be challenged by harder material. HPGR advantages in terms of water use and efficiency led to confirmation as the preferred grinding technology. While a single HPGR (operating in single pass mode) was technically feasible, it would be operating at the top of the design envelope and would not be as flexible as a conventional two stage HPGR. Vertical roller mill (VRM) is a new technology to magnetite processing that could have the potential to significantly improve the grinding of magnetite in a single stage comminution process, but it is not considered proven in this application, so the Company intends to monitor its development.

Initial engineering estimates of steel usage were calculated based on developing a simple cube for the equipment using the equipment footprint and height. This was reviewed and savings were identified from steel sourcing and refined design parameters which were incorporated in the optimised case.

The team developed an approach to increase plant operating hours from 65% (5,700 hour per year) to 75% (6,570 hours per year) through a combination of operating, design and maintenance initiatives. To accommodate the effect of increased head grade from natural operational variability, selective mining and/or ore sorting, Hatch estimated the cost of modifications at the 'back end' of the plant to accommodate a mass recovery of 20% DTR.

The Optimised Case incorporates the effect of these last three elements, ie inclusion of measures to increase operating hours, modifications to accept 20% DTR material and improved steel estimates, resulting in estimates to AACE Class 5 for a plant with a capacity to process up to 15.5Mtpa feed at 20% DTR.

Project Infrastructure

Site Access and Haul Road

Bis Industries was engaged as part of its road haulage study to estimate the cost of a Site Access and Haul road. Site access would be via the Barrier Highway and a new access road/haul approximately 44km in length. Various routes were examined based on sustainability and technical factors.

The road design is suitable for construction traffic access, road haulage and daily operational traffic. This will include an all-weather road that allows truck speeds of up to 80 km/h, and safe two way truck operations that accommodates up to 3Mtpa of product haulage and a minimum ten year life.

A final route will be selected during the DFS phase after accurate LIDAR Survey results have been received and the haul road can be mapped accurately and optimised.

Power Supply

For the power supply component of the PFS, GHD was engaged to undertake a power options study to supply the initial forecast 40MW load at Razorback and to assist the Company in its discussions with ElectraNet, the South Australian power transmission utility regarding connecting the mine site to the existing network by the most cost-effective transmission line.

A total of eight alternative power supply options were considered for the Project. These included ElectraNet 132 kV and also 275kV supply from the Belalie substation, near Jamestown to the Southwest as well as a number of 132kV options from Robertstown/North West Bend region to the South. In addition, an alternative supply from the SAPN network at North West bend and an indicative offer from Neoen's Goyder Connex renewable project were considered.

The preferred option is the ElectraNet 132kV supply from Robertstown Substation, a route of approximately 130km. Despite it being slightly longer to the Project than Belalie (100km), this option was selected because (i) 132kV was considered sufficient for the Project and had significant capacity redundancy for future expansion; (ii) the need for a 275 - 132 kV step down transformer is avoided; (iii) ease of connection at Robertstown Substation; and (iv) the potential to utilise an existing transmission line easement in the Robertstown area. This resulted in the preferred option having the lowest all up estimated capital cost.

The transmission line will connect to a new 132/11kV substation to service the mine site (including processing plant, MIA, and camp).

Based on this preferred option ElectraNet provided an Indicative Pricing Estimate (accuracy of +/- 30%) to build the transmission line connecting the Project to the South Australian grid via the Robertstown Station. The cost of this was to be recouped through a long-term Annual Transmission Service tariff paid by the Company over a 25 year period (that is, with this option selected for PFS, no capital is required for the transmission line).

For the energy component of the power cost a forecast demand profile for the Project was built up using concentrate forecast production, Process Plant consumption estimates prepared by Hatch and Non Process Infrastructure assumptions prepared by GHD. This resulted in a detailed demand profile which had a maximum load of 35.9MW and allowed for planned fortnightly half day shut downs during shift changes.

Consultants were then engaged to provide a forecast Delivered Energy Cost Analysis over a 10-year period based on this assumed load profile. Taking into account forecast ElectraNet TUOS charges, AEMO Market and Other charges, an assumed EITE Exemption and Renewable Energy Charges and the Annual Grid Consumption cost the consultants forecast an "all up" energy charge to the Robertstown Substation of approximately $60/MWh for the first four years of production based on wholesale market estimates in May 2021.

The emissions intensity of the proposed grid supply is 0.43 tCO_2e/MWh[1] (Scope 2 Emissions) representing the current South Australian electricity generation mix. A less advanced indicative proposal has been provided to Magnetite Mines that provides for a renewable component of up to 90% of the Project load. This alternative will be progressed during the DFS stage.

Non Process Infrastructure

GHD was engaged to provide capital and operating expenditure estimates for all Non-Plant Infrastructure (NPI). These cost estimates were to a AACE Class 4 standard. The major items in this scope were:

- Mine administration area, primarily consisting of office blocks
- Mine worker accommodation
- Heavy and light vehicle maintenance facilities, including tyre change and wash down bay
- Provision for utilities on site including waste water, potable water and power

In addition to the major items listed above, civil infrastructure was also allowed for.

[1] October 2020 National Greenhouse Account Factors

The scope provided for work facilities is consistent with typical well-developed Australian mine sites, with optimisation around timing of expenditure and refining rates used in the estimates.

All items included in the NPI scope were for the purpose of supporting the major operations at site, that is the mining and processing. NPI development was staged, with weather proofing roads, hardstands and carparks, as well as discretionary camp facilities (such as a wet mess and indoor gym) deferred until after initial startup. Camp facilities were based on an even time, week-on-week-off roster. In the contractor cases, estimates were adjusted for third party provision supply of facilities included in contractor quotes.

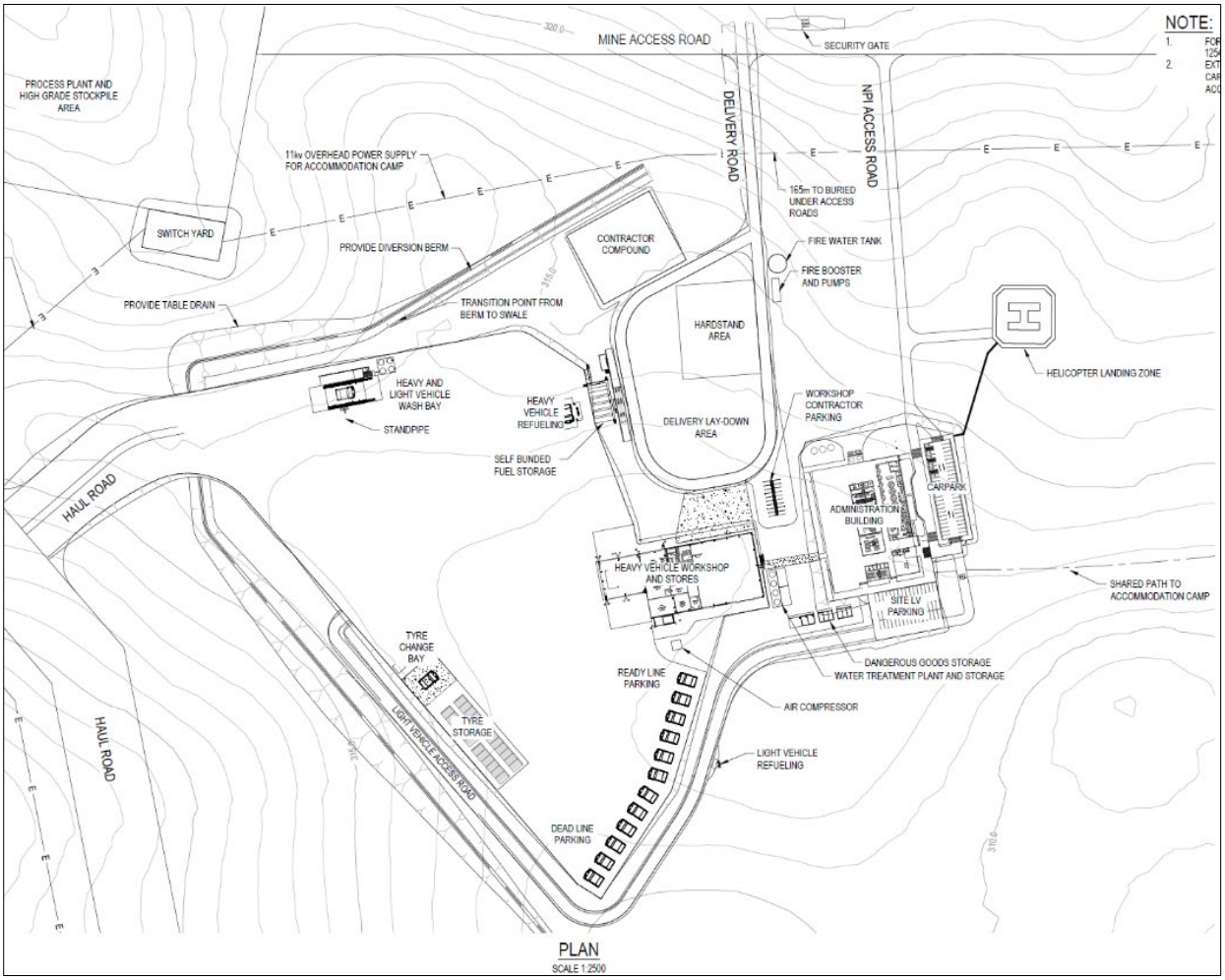


Figure 8. Non Process Infrastructure – Schematic Drawing

Tailings Storage Facility

The Razorback Iron Project will produce a significant quantity of tailings due to the mass recovery of the ore body, so the safety and efficiency of tailings storage and water recovery were a key PFS focus. All solutions considered were designed by Hatch to a preliminary level with the intent for the final solution to be designed to best industry practice and meet 2019 ANCOLD standards. There are advantages to managing tailings at Razorback when compared to other sites:

- Fast settling time; tailings are expected to settle to a dry density of 1.4 to 1.5t/m^3 in 3 to 5 hours
- Sloping topography increases embankment storage efficiency
- Potential storage locations are all on the opposite side of the ridge line to mine infrastructure and pits decreases consequence rating
- Low toxicity; tailings are non-acid generating and leaching of dissolved metals and metalloids is low

The storage of tailings will utilise both mining waste rock and coarse tailings to construct the embankment. A bespoke embankment was considered, using both coarse and fine sand filters with a clay liner, bulk earthworks for the embankment and single spigot discharge with water recovery from a decant pond and seepage pond. While effective, an alternative approach using a starter embankment built from coarse waste rock and then building over this with the 140µm coarse tailings fraction from the concentrator offered a number of advantages. This was engineered to a class 4 AACE estimate and demonstrated to generate lower life of mine costs overall, even though the startup capital is similar.

Further test work will be undertaken during the DFS to improve the understanding of the tailings characteristics and thus improve the precision of all TSF management strategies and designs, with safe storage a paramount objective.

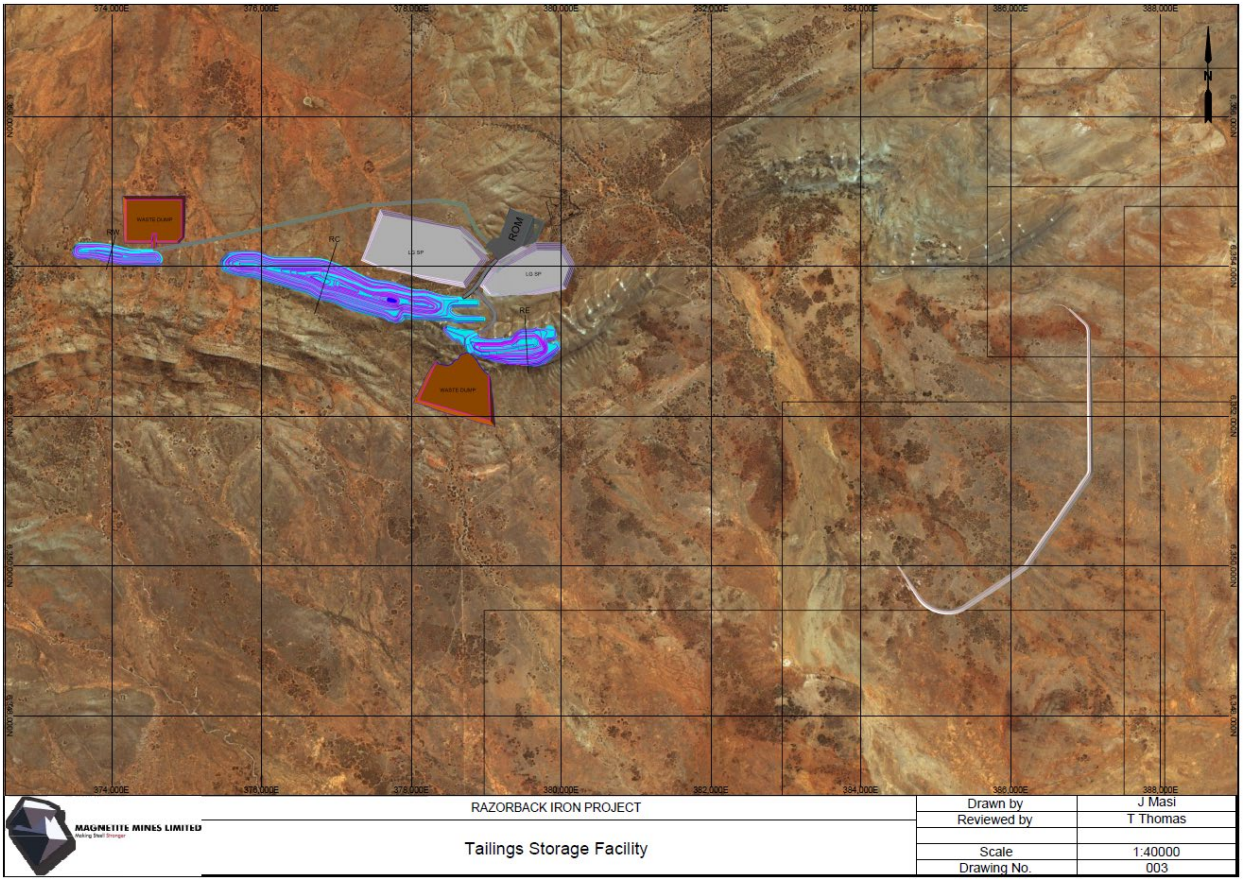


Figure 9. Schematic Tailings Storage Facility Plan

Water Supply

Water is required for processing and mining activities at the Razorback Iron Project. The Project is in an isolated region of South Australia where rainfall is significantly less than evapotranspiration rates. Water demand is primarily based on compensating for the water loss that occurs through the retention of moisture in the process plant tailings. Studies assessing the availability of ground water near or adjacent to proposed mining activities at the Project have been undertaken by Eco Logical Australia and Water Technology.

Based on a wet tailings TSF and wet processing plant a total raw water supply is estimated at 4.8 to 5.6 Giga litres per year for the Mining Cases. Together with assumed potable water and mining related water usage a total of 5 to 5.8 giga litres per year have been assumed for the Mining Cases.

Table 8. Razorback Iron Project Water Supply Options

Water Demand	Reference Case Estimate	Optimised Cases (incl. Ore Sorting)
Process Water	4.8 GL/a	5.6 GL/a
Potable Water	0.1 GL/a	0.1 GL/a
Mining and Dust Control	0.1 GL/a	0.1 GL/a
TOTAL	**5 GL/a**	**5.8 GL/a**

A number of water supply options have been investigated since 2011. Recently Eco Logical Australia[10] and Water Technology[2] were engaged to identify suitable groundwater targets. Eco Logical Australia undertook a review of past hydrogeological assessments and bore data available within the tenement package area. The study identified a total of 5 areas for prospective bore fields related to:

- Paleoproterozoic Adelaide Geosyncline fractured rock aquifer;
- Neogene fluvial sediments associated with Manunda Creek; and
- Tertiary-age Murray Basin sedimentary deposits

Regional groundwater resources have been modelled, targeting a minimum of 10 GL/a (cumulatively) at approximately 6000 mg/l TDS (well above the WHO potable water limit of 1200 mg/l TDS and at the higher end of sustainable stock palatability). Two priority areas have been identified for further drill testing to define aquifer quality, volume and sustainability of supply. Fifteen test production bore locations have been identified within the two priority areas, with twelve of these to be the subject of groundwater exploration drilling. A drill programme to test the aquifers has been formulated and is planned for commencement in Q3 2021. The environmental and stakeholder impacts of any potential bore fields will be defined and management strategies proposed as part of ongoing environmental impact assessment-related testwork.

In addition to the above studies, hydrology and hydrogeological specialists Water Technology identified potential targets for 5, 10 and 20 GL/a water supply options. The Water Technology study identified the possibility of sustainable yields of 0.05 – 9.0 GL/a within 15km of the proposed mine, and 10 to 20 GL/a water supplies at distances greater than 40km from the mine site. The study completed by Water Technology concluded that hydrogeological options have the potential to supply 5 GL/a.

Product Transport and Logistics

To optimise the transport scope various options for road haul, rail haul and shipping were reviewed. The final combination of road and rail haul was chosen for its overall economic efficiency which includes loading into Cape size vessels to ensure a competitive FOB netback.

The infrastructure selected for road haul is a dedicated, unsealed haul road from the concentrator to a rail siding at either Yunta, Paratoo or Hillgrange. These locations have been selected for their existing rail signalling infrastructure so that capital expenditure at the rail load point can be minimised. The haul road will also be used for site access.

Bis Industries conducted a Mine to Rail Logistics and Infrastructure Study for the Project to determine the optimum equipment configuration and provide commercial pricing for contracted haulage and rail loading on a long term basis.

The equipment required for road haul is a combination of on-road prime movers with a triple, off-road wagon set in train. The wagons will be side-tippers. At the rail siding will be a stockpile pad where two front-end loaders will be used to load the trains. Loaders will load trains at a nominal rate of 2250t/hr. Road haul workshops and admins rooms will be in the vicinity of the Razorback Iron workshop. There is

significant spare capacity for additional traffic on the haul road, should plant mass recovery improve, or plant throughput increase.

The infrastructure required for rail haul is a single track siding, adjacent to the existing rail infrastructure at either of the three preselected locations. Concentrate will be moved by diesel locomotives train sets (depending on wagon load) with bottom dump wagons. 4-7 train cycles per week are expected (depending on utilisation requirements), delivering approx. 9,900t per cycle. This train schedule has been developed through consultation with ARTC and also an RFP process involving various rail haulage providers which was conducted to obtain competitive rates.

The selected PFS approach to port operations is the Port of Whyalla which has the benefit of existing rail access infrastructure and trans-shipment operations into Capesize vessels offering significant savings compared to smaller Panamax ships. There is capacity for material storage at the port to satisfy the loading of Capesize vessels in conjunction with the rail capacity over the current rail infrastructure. The use of bottom dumper wagons will require modest infrastructure upgrades at Whyalla. Significant economies of scale exist with this operation and an increase in throughput from either the Company or other projects may reduce the operating costs. The Company has received an indicative proposal from SIMEC outlining the terms under which receipt, storage and transhipment of concentrate would occur. Other port options have been reviewed and development will continue to be monitored in DFS.

Marketing and Pricing

Steel is the most widely used metal in modern society. It is the primary building material and indicator for industrialisation, urbanisation and economic wealth. Recent growth in steel use has been driven by industrialisation in China and future growth is expected to be driven by other developing economies, in particular India and south-east Asia. Globally, steel intensity of the developing regions remains comparatively low and highlights the potential upside for steel demand as developing regions industrialise.

China, the largest global producer of steel and largest consumer and importer of iron ore, is in the process of restructuring its steelmaking industry to reduce pollution, cut excess steelmaking capacity and improve efficiency and safety.

Operational efficiency in steelmaking requires the use of higher-quality feedstock. Quality higher-grade, lower-impurity feedstock produces more steel for each tonne used, with the added benefit of reducing steelmaking costs and emissions. China's government-led initiative of reducing emissions and waste from steelmaking is one factor leading to the escalation of price differentials for quality between high- and low-grade iron ore products.

Iron ore is priced against indices. Since the breakdown of bilaterally negotiated annual producer prices in 2010, the Platts 62% IODEX has been a major physical market pricing reference for seaborne iron ore fines delivered into China, based on a standard specification with 62% iron, 2.25% alumina, 4% silica and 0.09% phosphorus, sizing of 90% less than 10mm basis CFR Qingdao, 14-56 days forward, published daily. This reference is used typically to price fines from Australia.

However, higher grade products are no longer typically priced against IODEX. In 2018, Vale announced its intent to price all Carajás and pellet sales on Fastmarkets/Metal Bulletin 65% Fe Iron Ore Index, nominally 65% iron, 1.5% alumina, 1.7% silica and 0.08% phosphorus, sizing of 90% less than 10mm and less than 30% below 0.15mm, basis CFR Qingdao, within 10 weeks forward. Concentrates can also be priced against the Fastmarkets/Metal Bulletin 66% Fe Concentrate Iron Ore Index, nominally 66% iron, 0.5-2% alumina, 4.5-9% silica and 0.02-0.06% phosphorus, sizing of 80% less than 0.15mm and maximum 20% below 0.05mm, basis CFR Qingdao, within 8 weeks forward, published weekly. Both of these indices have been published for a shorter period than the IODEX.

No iron ore product exactly meets the IODEX or other index specification, so to derive a price estimate for a particular iron product, it is necessary not only to select an index to price against, but also to assess levels of deleterious components, particularly silica, alumina and phosphorus as well as sizing, origin and commercial terms.

The base index selected for project valuation is the IODEX 62%, as this remains the most liquid and widely referenced index with the longest history. The average 62% Fe price for the last 10 years has been US$98 (in nominal terms), which when adjusted by the US CPI to the valuation date gives a real terms index of US$110.

The Razorback high grade concentrate (see expected specification above) is expected to receive a significant premium over the 62% index. The average premium for 65% fines over the 62% index has been $13 (last 7 years), $15 (last 3 years) or $19 (1 year). The 66% concentrate index has been above or below the 65% fines index through time, but has averaged a $2 premium since initial publication. The expected Razorback concentrate has significantly higher iron content, lower alumina and much lower phosphorus than either the 65% specification or the midrange of the 66% concentrate and therefore can be expected to realize a further premium on either index through time. Given this, a grade and product premium has been applied of $25 or 23% above the 62% price. Cape size shipping costs of US$10/wmt were used based on the cost of the longer haul from Whyalla applied to historical freight rates from the Pilbara to North China.

Cost and Financial Analysis

The concentrator accounts for much of the capital cost required for development. The initial estimate was developed by Hatch at the scale used for the 2019 scoping study, that is 12.8mtpa feed and 2Mtpa outcome at 15.6% yield, which matched DTR resource average at the time. This fully built up estimate was completed at AACE Class 4 standard and included full allowance for indirects (including engineering and construction supervision) plus an additional contingency of 23% on both direct and indirect costs across the complete development scope.

Concentrator optimisation resulted in the inclusion of measures to increase operating hours and improved steel estimates (which resulted in savings) and modifications to plant design to accept higher grade feed. This work resulted in estimate prepared by Hatch to AACE Class 5 for a plant with a capacity to process up to 15.5Mtpa feed at 20% DTR. Hatch also developed estimates for tailings facilities.

Capital estimates for the onsite Non Process Infrastructure (including the water borefield) were completed to AACE Class 4 Standards by GHD. Other capital estimates were received from service providers notably Electranet (Transmission Line), Bis Industries (Haul Road Construction, Haulage and Train Loading) and SIMEC (Port).

Three cases were assessed. The Reference Case reflects the initial scoping study assumptions. The Plant Optimised case uses the estimates for the larger capacity 15.5Mtpa feed concentrator and the same mining rates as Reserves (resulting in a lower head grade and yield). The Improved Headgrade case uses the estimates of sorting recovery and grade uplift with a higher mining rates to demonstrate the potential impact of mining and pre-concentration optimisation.

Table 9. Initial estimated project capital – all A$M

Case	Reference Case	Plant optimised	Headgrade Improved	Consultant
Capital Estimate Class	Class 4	Class 5	Class 5	
Direct costs (A$m)				
Contractor mobilisation	9	9	9	Contractor
Mining fleet	0	5	5	Contractor
Plant	271	327	327	Hatch
Ore sorter	0	0	5	NextOre
Tailings Storage Facility	38	38	38	Hatch
Non-Process Infrastructure	12	13	16	GHD
Power	*	*	*	ElectraNet
Water borefield	30	30	30	GHD
Haul road	18	18	18	Bis Industries
Rail and port	6	6	6	Bis Industries/SIMEC
Land acquisition & environmental offsets	7	7	7	Eco Logical Australia
Sub-Total (Directs, A$m)	**392**	**453**	**461**	
Indirect costs				
EPCM & other indirect costs	75	89	89	
Contingency	106	123	125	
Total (A$m)	**572**	**665**	**675**	
US$/t capital intensity (First 5 years)	212	207	185	

Note: Consultants relied on a range of inputs, including from other sources to prepare capital estimates.

Operating cost estimates were compiled by the Company based on commercial quotations or third party estimates. Contract mining costs were derived from third party estimates and reviewed by Orelogy (these costs were used in the reserves and Plant Optimised cases). The Improved Headgrade case assumes a shift to owner operator after five years and costs were built up from first principles with capital from supplier quotes (and reviewed by Orelogy).

For concentrator operations, Hatch estimated non-labour plant operating costs and power estimates were based on consultant forecasts. The company compiled an estimated labour cost following benchmarking of employee numbers and using Hatch labour estimates. Powerline and transport operating costs were based on submissions from experienced road, rail, port and shipping service providers.

Table 10. Estimated Cost Element Summary

Cost element (LOM Avg)	Reference Case	Plant optimised	Headgrade Improved
Mining (A$/t material moved)	3.03	3.01	1.81
Crushing, Sorting & Processing (A$/feed tonne)	4.48	4.41	4.61
Other (A$/feed tonne)	0.87	0.73	0.76
G&A (A$/feed tonne)	0.86	0.83	1.39
Transport, port & demurrage (A$/wmt con)	24.4	22.6	21.9

The financial analysis applied the prices, capital and operating costs estimated above using the physical schedules generated by Orelogy. The project was modelled in real terms with a flat exchange rate of 0.75 USD per AUD. The project was evaluated using a conventional ungeared cashflow model with allowance for tax, sustaining capital (1.5% of initial installed capital base after year 4) and working capital with the NPV determined as at July 2022. The model was run for reserves only with no terminal value or allowance for resource conversion or expansion. The Double Depreciating Balance methodology was used for the calculation of tax depreciation, with a 10% rate applied to Plant & Equipment, 5% applied to Infrastructure, Building and Mining and 20% applied to other spend. A closure cost of A$30m was estimated by the Company and has been applied in the final year of operation. A real after-tax weighted average cost of capital of 8% has been used to estimate NPV. Key Macroeconomic assumptions in the model are shown in the table below:

Table 11: Macro-economic assumptions used in modelling the Razorback Iron project

Item	Unit	Value
Iron Ore Price (Fe 62%)	USD/dry t	US$110/t
Product premium	USD/ dry t	US$25/t
Exchange rate	AUD/USD	0.75
Discount rate (real)	%	8%
Corporate tax rate	%	30%

The breakeven price is that flat 62% reference price which, if applied after first ore with appropriate premium, results in a zero NPV (that is, covers all costs and generates a 8% real after tax return on sustaining capital).

Table 12: Razorback Iron Project assumptions and results

Item	**Unit**	**Reference**	**Plant optimised**	**Headgrade Improved**
Processing capacity (nameplate)	Mt per annum	12.8	15.5	15.5
Concentrate grade	% Fe	67.5	67.5	67.5
LOM concentrate produced	Mt (dry)	68.6	67.6	63.2
Average LOM annual concentrate production	Mt per annum (dry)	1.9	2.2	2.7
Average concentrate production years 1-5	Mt per annum (dry)	2.0	2.4	2.7
LOM Ore mined	Mt (wet)	473	461	473
Strip ratio	Waste : Ore	0.16	0.10	0.16
Mine Life (processing)	Years	37	30	23
Post tax NPV @ 8%	A$ million	296	520	669
Post Tax IRR	%	14%	17%	20%
All in breakeven 62% price	US$/t	66	58	54
Post tax payback period	Years	5.9	4.9	5.0

The financial results reflect two major constraints. Only the JORC reserves of 473Mt were used in mining schedules and plant scale was limited to ensure capital was less than about US$0.5B. Were additional capital to be applied, analysis during PFS shows that the resulting expansion or acceleration, together with life extension, would further enhance returns. There remains scope to enhance project returns by scaling up the project further.

An alternative method of enhancing returns is to retain the same plant footprint and use pre-concentration, in the form of selective mining or ore sorting, to enhance headgrade and concentrator output. Accordingly, the selected upside scenario combines a 25Mtpa mining rate, a 15.5mtpa nameplate plant capacity with a 30% mass rejection and 27% eDTR uplift sort applied prior to the processing plant in most years.

The selected go-forward case for DFS is the 15.5Mtpa feed concentrator case with allowance for up to 20% DTR feed (which generates up to 3.3Mtpa concentrate wet). This will be combined with selective mining and/or ore sorting, with the mining and pre-concentration scope to be finalised once infill drilling and further metallurgical testwork is completed during DFS.

The graphs below summarises the project cashflows as modelled on an annual and cumulative bass in the Improved Headgrade case:

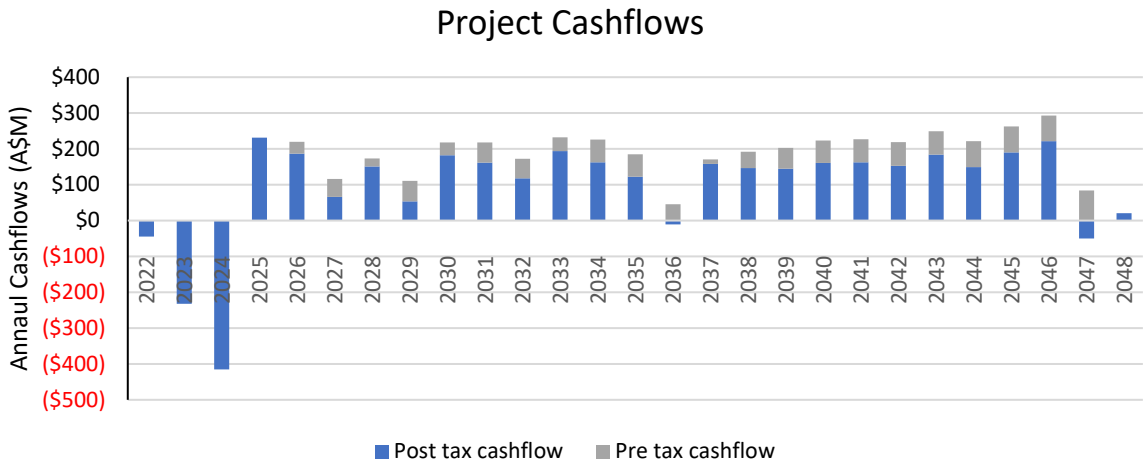


Figure 10 : Pre and post-tax project cashflows

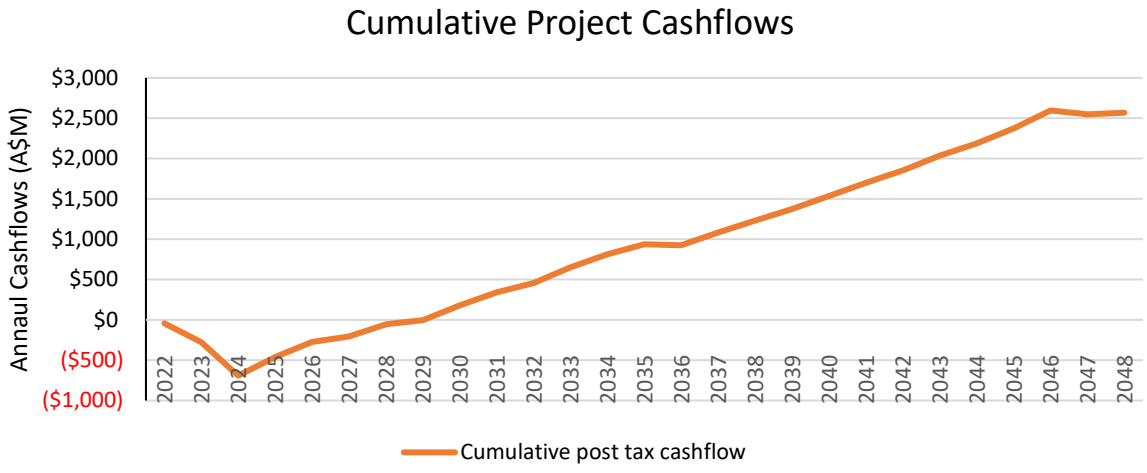


Figure 61: Cumulative project cashflows

Sensitivities

Project valuations are shown in Table 12 under a variety of changes to assumed inputs:

Table 13. Sensitivity Analysis

Valuation (A$m)	Reference		Plant Optimised		Headgrade Improved	
Base Valuation	**296**		**520**		**669**	
Rec'd Fe price USD (+/-)10%	56	535	248	791	373	964
FX (+/-10%)	96	540	293	797	422	971
Total Opex (+/-10%)	123	469	341	699	486	852
Initial Capital (+/- 10%)	245	347	460	579	609	729

Risks

As part of the PFS preparation, risk workshops were held to assess risks to the project and the business and to ensure mitigation plans were in place. The major risks identified were common to most mining projects, such as access to key project resources (such as land, water, transport and power), approvals, project management and product handling. There were no risks identified that the team considered could not be managed with appropriate mitigation. These risks are addressed in the development work programme for the project and detailed mitigating plans are scheduled for development during DFS.

There are also a number of opportunities that will be the focus of work at the start of DFS:

- Resources/geology. Planned drilling and testwork programmes have the potential to increase the level of indicated resources and support selective mining improvement.
- Mining. The Reference Case is based on minimal application of selective mining. The application of selective mining was investigated in detail during PFS based on geophysical work and will be included in future mining studies and reserves updates as more data is gathered.
- Processing. Capital cost, operating costs and recoveries will all be assessed as part of the planned metallurgical testwork programme at DFS.
- Transport. A number of road, rail and port options were examined as part of PFS work and review of promising lower cost options will continue.
- Community and infrastructure. The project has been based on a fully funded standalone basis, without any community, government or other support programmes and without looking at the benefit of cooperative initiatives. The PFS has identified social and economic benefits that could form the basis of mutually beneficial cooperative development programmes.

Funding

The Company believes there is a reasonable basis to assume the necessary funding for the Project will be obtained as and when required. The Company has been able to raise funding to date for its exploration and development in order to progress the Project.

The Company's market capitalisation at the time of this release is approximately A$250 million. Furthermore, the Company is well funded with approximately A$16m in net cash available.

The Company intends engaging with debt and equity capital providers in parallel with production of the DFS to minimise the time taken to complete fund raising activities following release of the DFS, scheduled for Q3 2022 and to take advantage of the iron ore market where current spot pricing is approximately USD$100 above the historic price assumptions used in the forecast cashflow model.

The positive outcomes delivered by the PFS provide confidence to the Board in the ability of the Company to fund the next stage of development through conventional mining project financing methods, but the normal risks for the raising of capital will apply to the Company, such as the state of equity capital and debt markets, the status of approvals required to advance the Project and the price of iron ore.

Regulatory Approvals, Government and Stakeholder Engagement

The regulatory approvals process for the Razorback Iron Project is defined in the *SA Mining Act 1971* (*Mining Act*). An approvals methodology has been established with a Mining Lease Proposal to be prepared to support the approval for development of mining, processing and non-process site infrastructure. The development of non-mining infrastructure, such as the haul road and transmission line, will also be included within the consents sought under the *Mining Act*.

The Company has been working with the South Australian Government through the Department of Energy and Mining (DEM) to plan primary approvals and land access. DEM has been supportive of the project and, through an appointed Case Manager, has been facilitating the approvals process and supporting cross-government engagement through the PFS works.

Baseline environmental studies have been initiated during the PFS programme, building on results from previous studies completed as part of the 2013 PFS. Key baseline studies currently indicate limited potential for listed flora or fauna species within the mining project area, while first phase waste rock and tailings characterisation work demonstrates that all waste types and tailings are non-acid forming and have limited metal leachate potential.

Once baseline studies are complete, an environmental impact assessment will be undertaken with broad stakeholder engagement supporting a robust approvals programme.

The Ngadjuri People are the Native Title claimants (ref SC2011/002), Traditional Owners and cultural custodians of the Project area, and for the majority of planned non-mining infrastructure corridors (i.e. transmission line). Early discussions with the nominated representative of the Ngadjuri Nation Aboriginal Corporation have identified the need to form appropriate cultural heritage management protocols for the Project, as well as to develop a suitable Native Title agreement that supports the parties' shared ambitions for the Project.

The Project area is mainly covered by pastoral land uses that are reliant on local and regional surface water catchments and some groundwater extraction. Pastoral landholders may have a direct or indirect role or interest in the project, and a broad engagement programme will provide clear information about the project, its benefits and its impacts. As part of the PFS programme, a first stage land access strategy has been developed to establish a pathway for priority land access activities.

Forthcoming activities to progress the primary mining approvals programme include completing baseline environmental studies; commencing land access negotiations, and the commencement of formal discussions with Ngadjuri representatives on the development of a suitable agreement to support Project development and cultural heritage management planning.

Execution

The Company has prepared the PFS Capital Cost Estimate for the Project assuming a conventional Engineering, Procurement, Construction, Management (EPCM) delivery model.

For DFS, the Owner's Team will be enhanced using a blend of experienced full time and contracted professionals for the purpose of delivering the Project DFS and then managing Project Delivery. Specialist leads within the Owner's Team will manage the various parts of the DFS programme and supervise appropriate specialist engineering firms, consultants and suppliers. Scopes will be set for these specialists such that the DFS will be prepared to a level and standard that is a suitable basis for lenders and other financial institutions to use for considering the provision of debt and or equity finance for the project. Detailed proposals have already been received from engineering consultancy firms for key components of this work and evaluation is underway.

From a construction and delivery perspective the Project DFS will be broadly subdivided into three study areas:

(i) Process Plant. This is the largest proportion of the Capital Cost Estimate and the most challenging from a technical perspective with many cross discipline interfaces. The Process Plant Study will be completed to a level of design that will allow a competitive tender for the design and construction of this work to be let to a specialist mining process plant constructor.

(ii) Non Process Infrastructure including the Haul Road and Rail Siding. This subset of the Project Works can be engineered in discrete packages suitable for small to medium sized civil and building contractors on a design and construct or construct only basis.

(iii) The Transmission Line is a major component of Project Infrastructure and will be managed separately. Depending on the selected delivery model a single engineering consultancy will be appointed to manage the delivery of the Transmission Line. Preliminary work on defining the route and required easements for the Transmission Line has already commenced.

Whilst the Project is of moderate size it does have a number of interfaces and dependencies so comprehensive project planning and controls will be implemented to the Owner's Team, supported by specialist planning engineers.

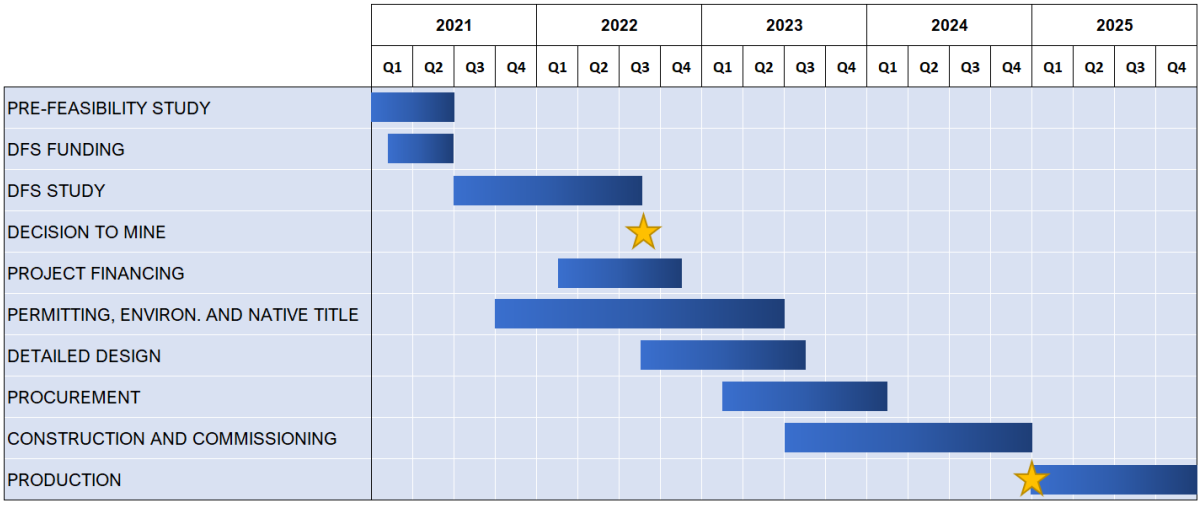
Forward Work Plan/ Next Steps

The Company is currently assembling its Owner's Team and project consultants in preparation for commencement of the DFS. The key items of work which are being immediately progressed include definition of the preferred go forward case for the plant (plant capacity 15.5Mtpa feed at 20% DTR). The metallurgical recoveries, selective mining and ore sorting assumptions will be further advanced before detailed DFS level engineering commences. A detailed drilling and metallurgical test programme is underway with permits under application and drilling due to commence in Q3. This work comprises:

- Additional drilling and investigation of the deposit to allow for upgrading of a sufficient quantity of the Mineral Resource to the Measured and/or Indicated categories.
- Additional diamond drilling of the deposit to generate fully representative samples for geotechnical test work
- Hydrogeological drilling to determine definitive design parameters for the water supply bore field, pit dewatering (if required) and groundwater modelling
- Definitive metallurgical test work suitable to provide the basis of detailed design for the process plant with an interim reporting of results for the purposes of the PFS.

An indicative timeline for the development of the Project is shown below in Table 14 which estimates first production will commence in Q4 2024. The timeline will be updated as further activities are undertaken.

Table 14. Gantt chart showing indicative project schedule



This report has been authorised for release to the market by the board.

For further information contact:

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References (ASX Announcements):

1. 30/06/21 - Maiden Ore Reserve for the Razorback Iron Project
2. 07/11/19 - Positive Razorback Scoping Study Results
3. 02/10/20 - Results of Renounceable Rights Issue
4. 18/06/21 - Commencement of PFS and Appointment of Expert Advisors
5. 01/03/21 - Muster Dam Iron Project Tenements awarded to Magnetite Mines
6. 24/05/21 - Razorback Iron Ore Project Mineral Resource Upgrade
7. 20/11/18 - Ironback Hill Deposit - JORC 2012 Resource Update
8. 27/06/16 - Test work achieves concentrate above 68% Fe
9. 13/09/16 - Metallurgical Update – Positive Results
10. 14/09/20 - Permitting and Environmental Studies Initiated

Appendix 1 – List of Contributors

Company	Description	Contribution
Hatch	Hatch is a global multidisciplinary management, engineering and development consultancy.	Metallurgical and mineralogical review
		Process Design and Engineering & Optimisation
		Tailings Storage Facility Design and Review
GHD	GHD are a global professional services company providing engineering, construction and architectural expertise.	Non-Process Infrastructure
		Campground Design
		Rail transport appraisal
		Powerline Appraisal
		Borefield Appraisal
PSM	PSM are specialist geotechnical and water services for mining and civil industries internationally	Tailings Storage Facility Design and Review
Bis Industries	Bis provide innovative haulage, materials handling, automation and specialised equipment solutions across a diverse range of commodities to the global mineral resources sector.	Road haulage infrastructure and pathway analysis
Orelogy Mine Consulting	Orelogy have extensive operational and consulting experience in a range of different commodities throughout the world. Orelogy have a proven track record in applying world class technical solutions to mining projects at both the feasibility and operational phase.	Pit Optimisation
		Mine Design
		Scheduling
		Mining cost modelling
Electranet	ElectraNet is an electricity transmission specialist providing safe and future-focused energy solutions.	Powerline Appraisal
Eco Logical Australia	Eco Logical Australia is a multi-disciplinary environmental consultancy providing innovative, high quality professional services.	Permitting and approvals pathway
		Environmental gap analysis and reporting
		Borefield design and hydrological modelling
		Groundwater drill programme design
Water Technology	Water Technology provides scientific insight and strategic recommendations to manage surface water, groundwater, waterways, coastal and marine challenges.	Step-out borefield design and hydrological modelling
		Groundwater drill programme design
MBGS	McElroy Bryan Geological Services (MBGS) are geological consultancy group that specialise in coal and stratiform ore bodies providing high quality service to the Australian and international coal and metalliferous mining industry.	Geological modelling and review
		Geophysical review modelling
		MINEX geological modelling - selective mining

Company	Description	Contribution
Dr. Richard Peck	A mineral processing engineer with over 30 year's international experience in operations, design and commissioning of various mineral processing plant including magnetite.	Metallurgical and process design review
Richard Harmsworth	Mr Harmsworth was Chief Geologist for Rio Tinto's Hamersley Iron operations ion the Pilbara in the 1980's and later worked in their Resource Development and New Business groups. He was subsequently Chief Geologist for Sphere Minerals Limited for their magnetite exploration and development programs in Northern Mauritania.	Geological and geometallurgical review
Widenbar Associates	Widenbar & Associates provides consulting expertise in database management, conventional and geostatistical resource evaluation, and mine optimisation, planning and scheduling.	Mineral Resource estimate modelling
NextOre	NextOre is a joint venture between CSIRO, RFC Ambrian, and Advisian Digital formed for the purpose of deploying innovative technologies into the mining and minerals processing sector using their Magnetic Resonance (MR) ore sorting technology.	Heterogeneity modelling
		MR testwork
GRS	Mr. Fallon is a geophysicist with extensive mineral and coal exploration experience. He has been involved in extensive precious, base metal and coal exploration and mining projects, focussing on the application of geophysical techniques to operating mines.	Geophysical modelling and review
		Geological modelling with MBGS
Bureau Veritas	Accredited laboratory provides testing, inspection, certification, and verification services.	Mineralogical and Textural analysis
ALS Global	Accredited laboratory provides testing, inspection, certification, and verification services.	DTR, DTR liberation testwork
Colin McLelland	Mr. McLelland is a financial analyst and consultant.	Financial modelling and project financial analysis