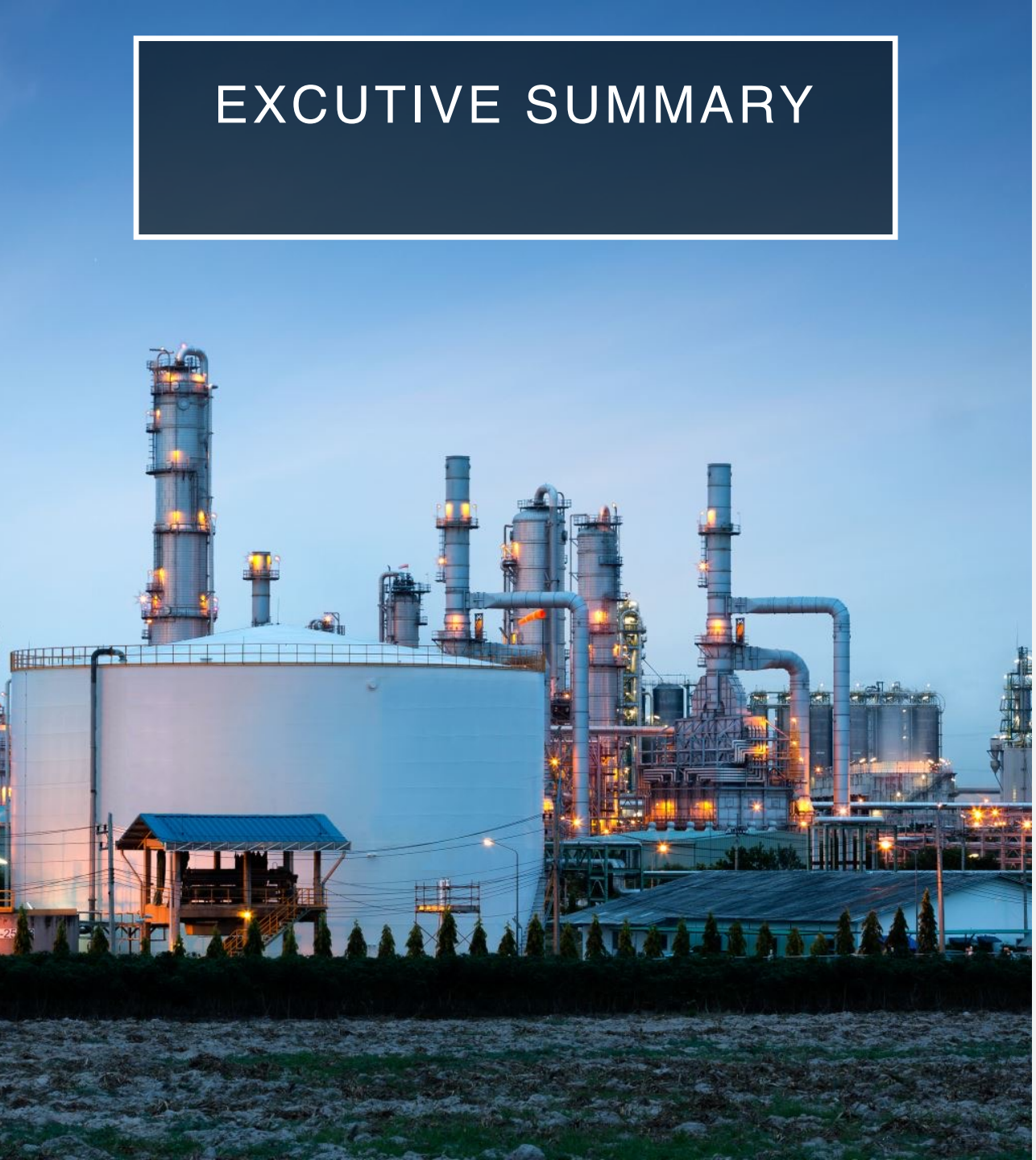
MAOSEN AUSTRALIA

# THE GIFFEN WELL PROJECT - HOT BRIQUETTED IRON(HBI) OVERVIEW

The Future of Green Steel and Carbon Neutrality

Prensented By Maosen Australia Pty Ltd

# EXCUTIVE SUMMARY



- The world's steel makers and iron ore importers are experiencing a structural change in the iron and steel industry. Stricter environmental regulations and aggressive air pollution reduction targets, the introduction of carbon emission trading, the need to save on energy requirements, and the cut of overcapacity of blast furnaces, along with an imminent increase in scrap steel supply, will result in a significant increase in steel production using Electric Arc Furnaces (EAFs). Consequently, consistent high-quality iron ore concentrates, pellets, and hot briquetted iron (HBI) will be highly sought after by the global market as feed for EAF production.
- Magnetite iron ore concentrates offer a significant advantage over Direct Shipping Ore (DSO) hematite iron ore in meeting the above requirements due to their consistently high iron ore grade. Further processing of magnetite concentrates into iron ore pellets and HBI will produce high-quality feed for both blast furnaces, which currently dominate steel production, and EAF production, which is quickly expanding. Premium iron ore pellets and HBI are in undersupply globally, and the supply-demand gap will become significantly larger in the years ahead.
- Maosen Australia Pty Ltd (Maosen) owns 100% of two quality magnetite deposits in South Australia. It is currently looking to develop the first of these, the Giffen Well Magnetite Deposit, into a fully integrated mining, beneficiation, pelletizing, and HBI manufacturing operation to produce 5 million tonnes per annum of HBI product to supply steel manufacturers. The magnetite ore at Giffen Well is of premium grade (517Mt at an average in situ Fe grade of 32.5%), which, when taking into account other lower-grade magnetite projects in South Australia and a lower mining royalty rate in South Australia compared to competitors in Western Australia, presents the Giffen Well Project with a unique advantage of lower operating costs, a longer mine life, a higher investment return, and lower investment risk than other magnetite competitors.

# PROJECT OVERVIEW

## BACKGROUND:

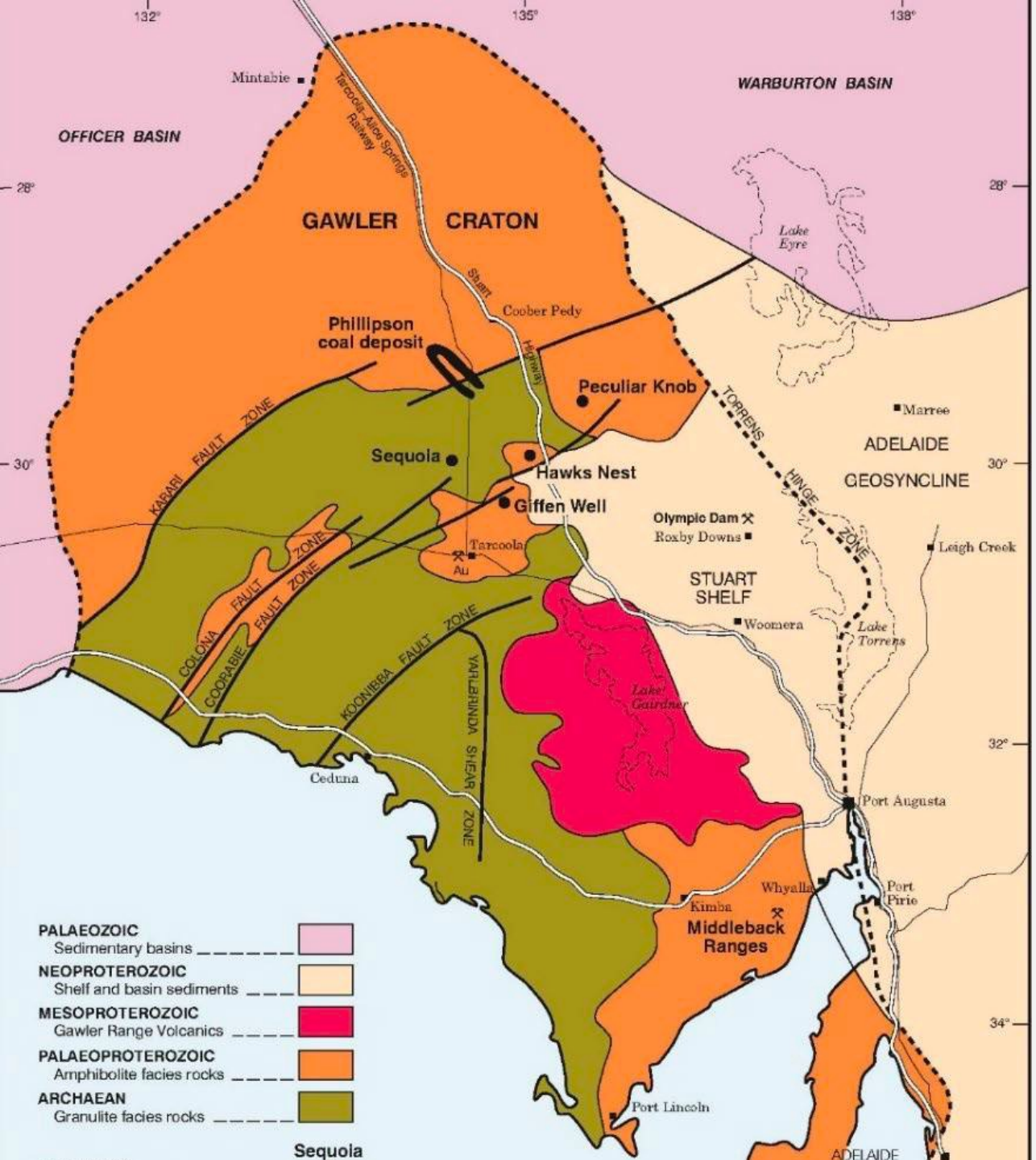
Maosen was awarded the Giffen Well exploration tenement in 2007 following its relinquishment by the South Australian Steel and Energy Initiative (SASE) project joint venture. In January 2012, WPG Resources Limited, an ASX-listed company at that time, entered into a Heads of Agreement (HOA) with Maosen for the exclusive right to explore the tenement for a period of twelve months. WPG conducted a drilling program in 2012, comprising 2,116 meters, and composite samples were taken and David Tube Recovery (DTR) tested, producing encouraging metallurgical results, with mass recoveries exceeding 40% resulting in high-quality concentrate grades of greater than 68% Fe. These drill results were added to previous exploration work conducted by SASE to determine a JORC-compliant Mineral Resource for Giffen Well of 689 Mt with an average grade of 31.4% Fe over three distinct mineral zones. The Resource was broken down into oxide (107.2Mt) and BIF (581.85Mt) material and classified into 427.67Mt Indicated and 261.37Mt Inferred categories.

WPG also completed a pre-feasibility study (PFS) of producing 5 million tonnes of iron ore concentrate (68% iron grade) from the treatment of 13 million tonnes of magnetite ore per annum. The PFS study aimed at the development of an iron ore mine at Giffen Well and included details of mining, beneficiation, and transport, including auxiliaries.

In May 2013, WPG cancelled its plans to develop the Giffen Well Project, citing uncertain market conditions, and the project subsequently remained under Maosen's control. Since reverting back to Maosen's control, additional drilling and metallurgical testwork have been undertaken, resulting in an upgrade of the JORC Mineral Resource. Further studies have also been conducted with respect to the business plan model for the project.

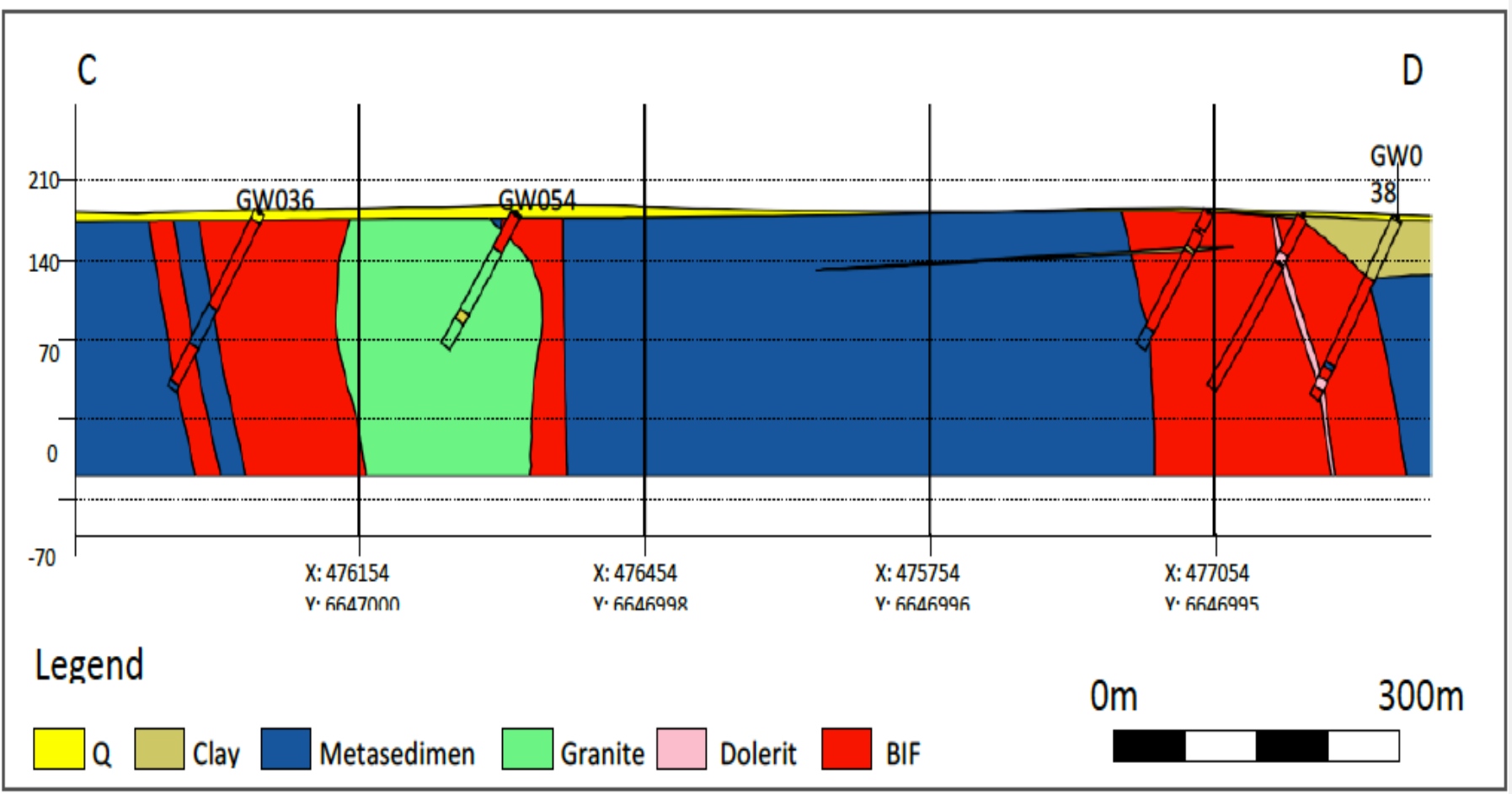

## PREMIUM LOCATION

- The Giffen Well Project is situated on the Bulgunnia Pastoral lease in central South Australia, 720 kilometers northwest of Adelaide, 190 kilometers southeast of Coober Pedy, and 50 kilometers north of Tarcoola. The Project area is encompassed by a single exploration license, EL 6205, and is entirely owned by Maosen
- The Giffen Well Project is also situated within the traditional lands of the Antakarinja Matu-Yankunytjatjara people, who are the native title holders. Maosen has signed an exploration agreement with them




## GIFFEN WELL GEOLOGY

- The Giffen Well Project forms part of the Mount Woods Inlier of the Gawler Craton. Rocks in this area consist of a sequence of Paleoproterozoic to Mesoproterozoic age metasedimentary units and clay, which have been intruded by granite and porphyry. Weakly metamorphosed metasediments represent the basement lithologies.




Typical cross section of the Giffen Well Project

**Spefic BIF Domains Area**

- The Giffen Well Project is comprised of three BIF (banded iron formation) domains: EBIF, WBIF1, and WBIF2.
- EBIF is located at the easternmost part of the Project area, and it spans over 3.5 km in length, with a width of 100-300 m and a depth of over 200 m. It strikes northeast with sub-vertical dip angles.
- WBIF1 is situated at the westernmost part of the Project area. It strikes northeast in the southern section of the area, then turns northwest in the northern part, with a nearly vertical dip. It spans over 1 km in length, with a width ranging from 50 m to over 150 m and a depth of over 200 m. The WBIF1 is dislocated in the central part by the granite intrusion.
- WBIF2 is located to the east of WBIF1. It spans over 300 m in length, with a width ranging from 20 m to over 100 m and a depth of over 200 m. It strikes northeast with nearly vertical dip and becomes thinner in the southern part of the tenure area. The WBIF2 is also dislocated by the granite intrusion in the central part."

| Category | Domain | WPG (2012) | | SRK (2021) | | |
|---|---|---|---|---|---|---|
| | | Tonnes | Head Fe | Tonnes | Head Fe | Conc Fe |
| | | Mt | % | Mt | % | % |
| Indicated | EBIF | 361.88 | 31.64 | 252.20 | 33.32 | 69.21 |
| Inferred | | | | | | |
| | EBIF | 62.32 | 32.27 | 143.60 | 32.78 | 69.16 |
| | WBIF1 | 135.08 | 28.80 | 120.99 | 30.52 | 69.32 |
| | WBIF2 | 22.57 | 31.13 | - | - | - |
| | **Subtotal** | **219.97** | **30.02** | **264.59** | **31.74** | **69.23** |
| | | | | | | |
| **Total** | | **581.85** | **31.03** | **516.79** | **32.51** | **69.22** |

**Table 1 - Mineral Resource comparison (BIF only)**

| Ore Type | Domain | WPG (2012) | | SRK (2021) | | |
|---|---|---|---|---|---|---|
| | | Tonnes | Head Fe | Tonnes | Head Fe | Conc Fe |
| | | Mt | % | Mt | % | % |
| Oxide | EBIF | 81.86 | 31.95 | 81.86 | 31.95 | |
| | WBIF1 | 20.89 | 38.52 | 20.89 | 38.52 | |
| | WBIF2 | 4.44 | 39.95 | 4.44 | 39.95 | |
| | **Subtotal** | **107.19** | **33.56** | **107.19** | **33.56** | |
| Primary (BIF) | | | | | | |
| | EBIF | 424.20 | 31.73 | 395.80 | 33.12 | 69.19 |
| | WBIF1 | 135.08 | 28.80 | 120.99 | 30.52 | 69.32 |
| | WBIF2 | 22.57 | 31.13 | - | - | - |
| | **Subtotal** | **581.85** | **31.03** | **516.79** | **32.51** | **69.22** |
| | | | | | | |
| **Total** | | **689.05** | **31.42** | **623.98** | **32.69** | |

# SRK MINERAL RESOURCE ESTIMATE

- In 2021, Maosen commissioned SRK Consulting to update the JORC Mineral Resource estimate for the BIF primary material, using the results from recent drilling conducted by Maosen as well as previous work by WPG and SASE.
- SRK applied a more conservative methodology for resource determination, the overall BIF material was reduced by 11.2% to 516.79 Mt, with a lower proportion classified as Indicated Resources but with an increase in the Fe grade. When the oxide material is included, the total Mineral Resource for Giffen Well is currently estimated at 623.98 Mt, with 318.0 Mt classified as Indicated Resources and 305.98 Mt as Inferred Resources.

# MINING

- The Giffen Well ore body is planned to be mined using a conventional open pit method to the base of the current resource, although mineralization is likely to continue beyond this depth. The proposed ultimate pit will be 4 km long by 600 m wide at the surface and mined in 2 stages (cutbacks) to achieve consistent ore and waste movement and vertical advance rates.
- The PFS, considered the construction and operation of a single large open pit and associated waste rock dump and tailings dam that would mine, on average, 13 Mt of magnetite ore, 1.3 Mt of oxide ore, and 10.6 Mt of waste per annum. Mine design work for the PFS shows that over 385 Mt of magnetite and 77 Mt of oxide (hematite) ore could be economically mined from the eastern, main orebody at a strip ratio of approximately 0.69:1 (waste:ore) in open cut to a depth of 190 meters. A minimum mine life of over 30 years can be achieved at this rate of production and will generate 5 Mtpa of saleable magnetite concentrate at an estimated quality grade of 68% Fe. The project also has the potential to produce an additional 0.37 Mtpa of hematite concentrate at an estimated grade of 60% Fe.
- Maosen is now contemplating a significantly larger mining operation, with mining volumes of 24 Mtpa ore throughput, and mine design work to support this proposed scale of operation is to be undertaken.

Table 4.3 Recommended pit slope design parameters for conceptual pit design.

| Geological Unit | Weathering Horizon | Max. BFA (deg.) | BH (m) | Min. BW (m) | Max. IRSH (m) | Max. IRSA (deg.) |
|---|---|---|---|---|---|---|
| Quaternary sediments | | 37 | 10 | 6.5 | - | - |
| | Completely Weathered | 45 | 10 | 6.5 | | 31.2 |
| | Moderately Weathered | 55 | 10 | 6.5 | 80 | 36.5 |
| | Fresh | 70 | 10 | 6.5 | | 44.6 |

Notes:

- 15m geotechnical benches where ramps do not constrain the maximum inter ramp slope height.

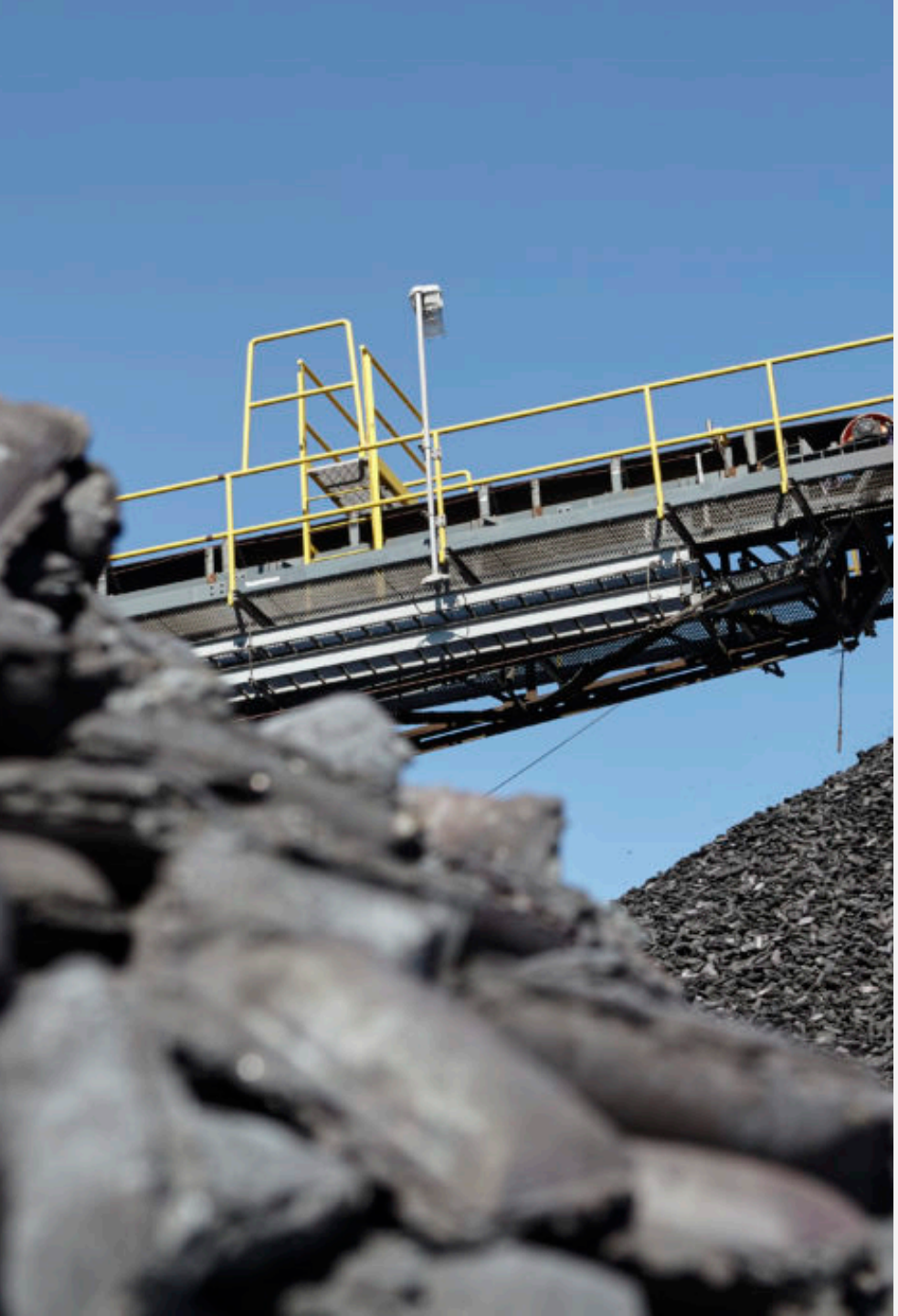
# AMC MINING STUDY REPORT

## AMC Mining Assumptions:

**A$4.0 / tonne rock at surface. Limited free dig at surface, some clay majority of mined material will require blasting.**

**A$0.05 increase in cost per 10m of depth.**

**Mining recovery: 97% (3% ore lost into waste stream), similar to other magnetite. (Mining dilution: 3% (waste into ore stream).**



## AMC Processing Assumptions:

- Base scenario: Conventional magnetite processing plant per 2013 study.
- Operating Cost: A$15/tonne ore feed.
- Basis: 2013 study had 13.0 Mtpa ore feed producing 5 Mtpa concentrate for estimated A$20/tonne concentrate, which equating to A$7.7/tonne fee.
- In 10 years, cost has likely doubled. Hence A$15/t.
- Process recovery: Feed tonnes multiplied by DTR multiplied by 0.97 = concentrate tonnes。x DTR x 97%。

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## AMC Process Plant to Market Assumptions:

Base scenario:

- concentrate from plant loaded into road trains。
- Road trains haul to rail loading facility (siding) - At a certain project throughput and project duration, the capital cost of constructing a rail spur from the plant direct to the existing rail corridor would be justified.
- Rail haulage in wagons to port facility.
- Transfer into ship at port facility.
- Transshipment on water into bulk carrier.
- Rail: A$25/ton
- ne concentrate (based on scaling A$15/t cost for another project with 200km distance to 500km).
- Port handling: A$6.50 /tonne concentrate. Sea Freight: A$13.50 /tonne concentrate (this assumes transshipment).
- Royalties: 5% State SA Govt Royalty - 0.75% Native Title (assumption).
- Combined selling cost: A$55/tonne concentrate.

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## AMC Process Plant to Market Assumptions:

### Basis: 2023 recent spot Iron Ore Price

- Base 62% Price, 120 US$/tonne concentrate.
- Additional Premium percentage above 62%, $5.0 USD/tonne concentrate per 1%.
- Price for 68.5% , $152.5 USD/tonne concentrate.
- Exchange rate: 0.70 USD TO AUD, basis: recent. Not based on consensus
- Assumes acceptable product with no high impurities that would be attract penalties.
- A$217.8/tonne concentrate rounding up to A$ 220 /tonne concentrate.

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## AMC Scenarios Considered (limiting by resource category or area)

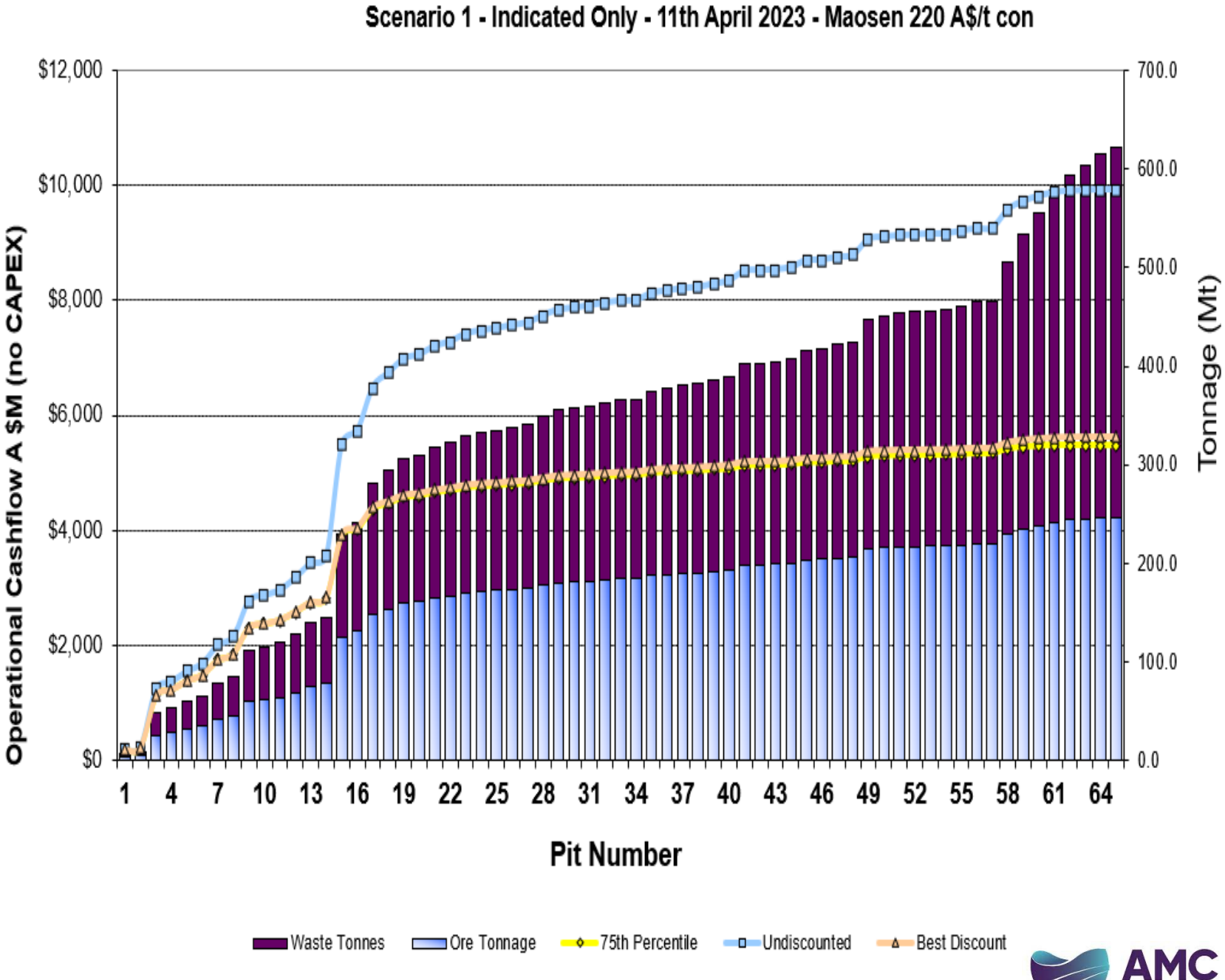
- Indicated Only resource
- Indicated + Inferred Resource
- Indicated + Inferred + Unclassified (all mineralised)
- Eastern Banded Iron Formation Only (Indicated + Inferred)

## AMC Sensitivity Run on parameters

- Slope Angle (45, 40, 35 overall)
- Revenue (+/- 25%)
- Operating costs (+ 50% /- 25%)

## AMC Results

- Indicated Only Resource, 10% discount rate applied.

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# AMC SPLIT OF OPERATING COSTS

| #Scenario | | Slope Angle | Final Pit Floor | Depth | Life | Rock | Waste | Input to process | Grade input mill, Fe | Grade input mill, Si O2 | Grade input mill, Davis Tube Recovery | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | mRL | (m) | Years | Mt | Mt | Mt | % | % | % | t:t |
| 1 | Indicated Only | 45 all walls | -40 | 220 | 19.0 | 623 | 376 | 247 | 32.7% | 38.0% | 41.1% | 1.53 |
| 2 | Indicated + Inferred | 45 all walls | -40 | 220 | 38.7 | 1,347 | 843 | 504 | 31.9% | 38.8% | 40.4% | 1.67 |
| 3 | Indicated + Inferred + Unclassified | 45 all walls | -40 | 220 | 39.3 | 1,365 | 854 | 511 | 31.8% | 38.8% | 40.0% | 1.67 |
| 4 | Eastern deposit only (Indicated+Inferred) ( | 45 all walls | -40 | 220 | 29.7 | 1,098 | 712 | 386 | 32.5% | 37.1% | 41.3% | 1.85 |

| Mining | Processing | Plant to | Total | Income | Cashflow | Best Case | Worst Case | Best and Worst Case | Percentile | Income/Cost ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | AUS$M | |
| -2,600 | -3,699 | -5,407 | -11,706 | 21,629 | 9,922 | 5,629 | 4,997 | 5,313 | 5,471 | 1.85 |
| -5,728 | -7,553 | -10,841 | -24,123 | 43,365 | 19,242 | 5,482 | 3,630 | 4,556 | 5,019 | 1.80 |
| -5,801 | -7,663 | -10,914 | -24,378 | 43,656 | 19,279 | 5,482 | 3,496 | 4,489 | 4,986 | 1.79 |
| -4,665 | -5,788 | -8,498 | -18,951 | 33,991 | 15,040 | 5,211 | 3,757 | 4,484 | 4,847 | 1.79 |

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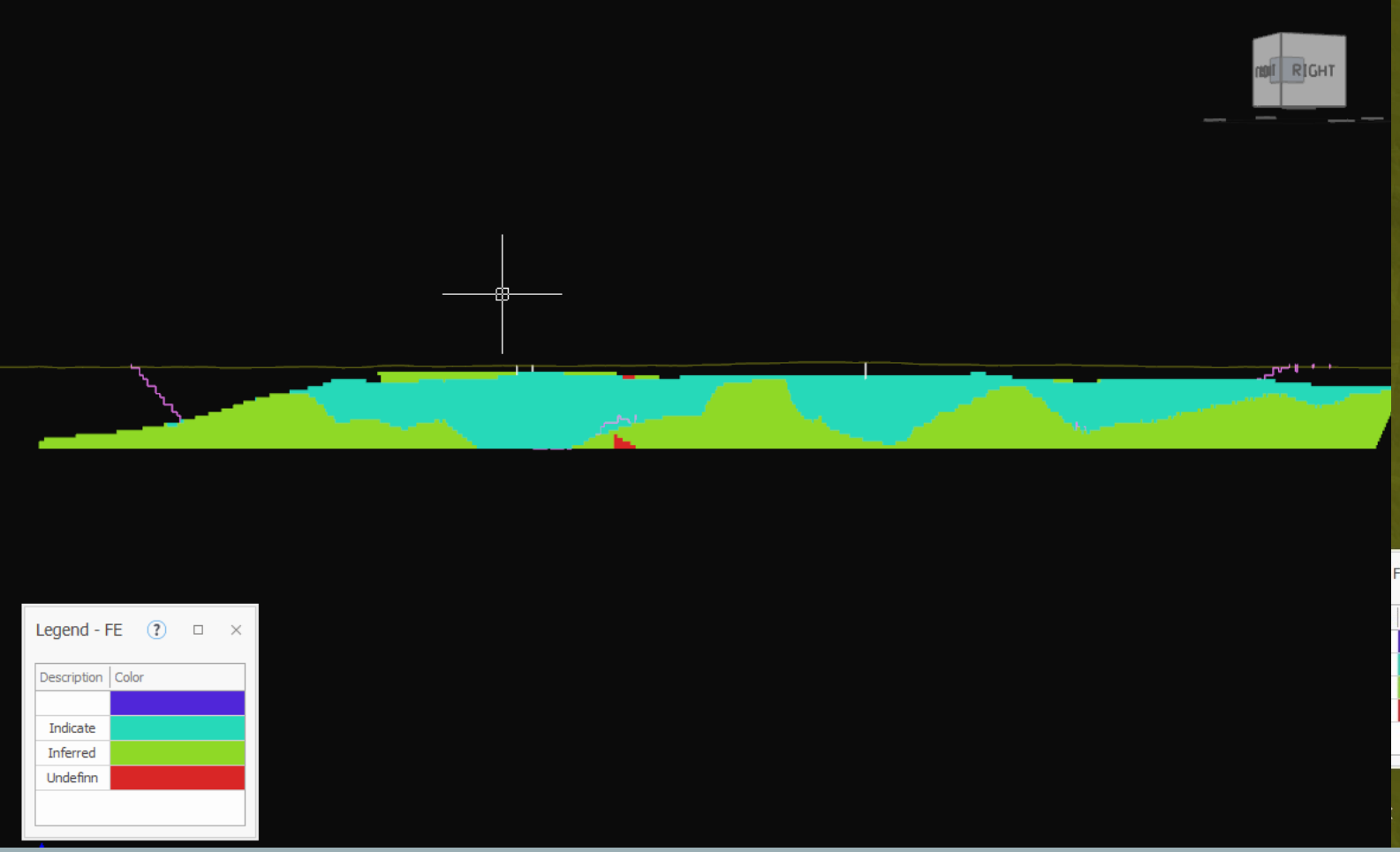



# AMC PIT INDICATED RESOURCE

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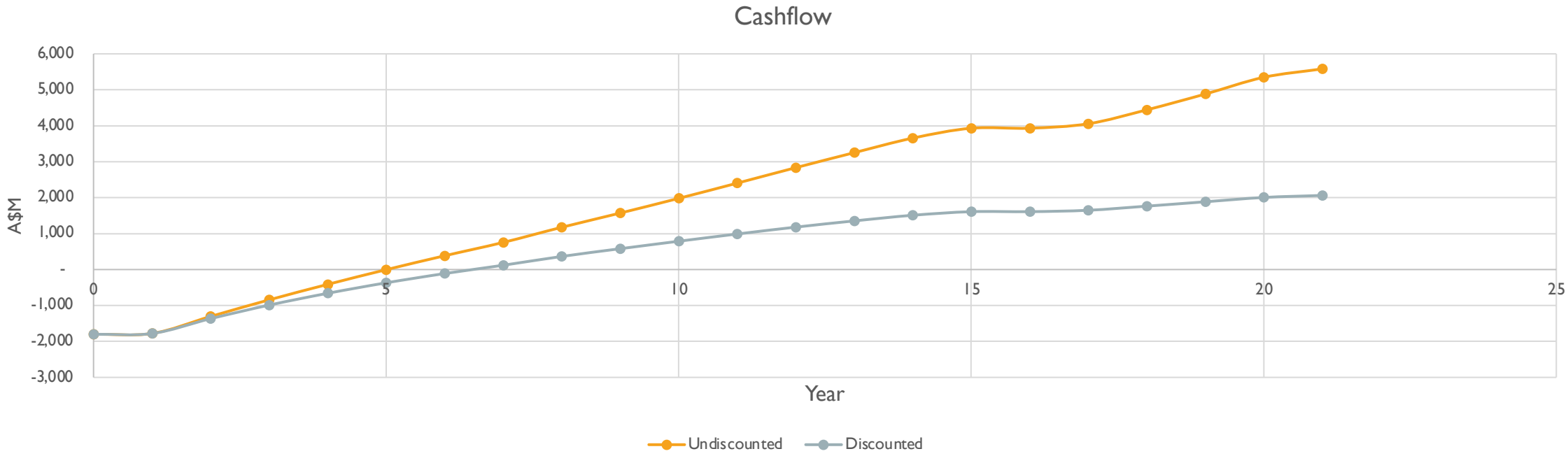


# AMC 1ST PASS CONCEPT SCHEDULE

**NOT FROM ACTUAL PIT DESIGN, JUST WHITTLE SHELL PUSHBACKS, 10% DISC RATE**

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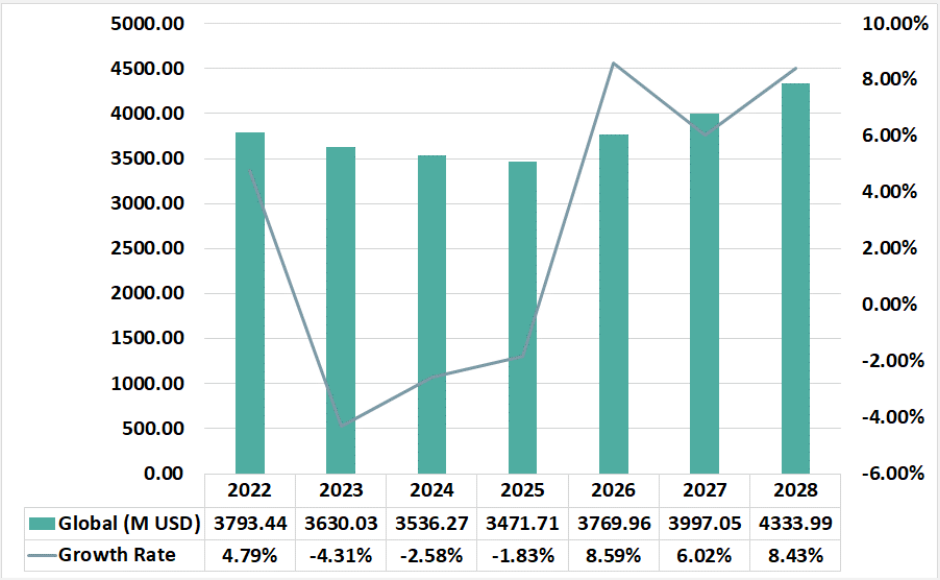
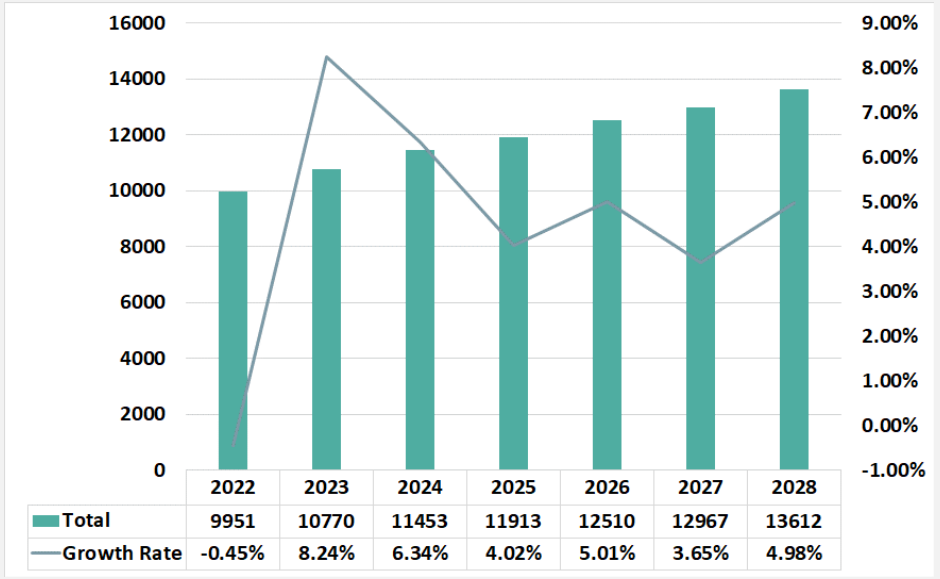



| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|
| Global (M USD) | 3793.44 | 3630.03 | 3536.27 | 3471.71 | 3769.96 | 3997.05 | 4333.99 |
| Growth Rate | 4.79% | -4.31% | -2.58% | -1.83% | 8.59% | 6.02% | 8.43% |




| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|
| Total | 9951 | 10770 | 11453 | 11913 | 12510 | 12967 | 13612 |
| Growth Rate | -0.45% | 8.24% | 6.34% | 4.02% | 5.01% | 3.65% | 4.98% |

# GLOBAL HBI MARKET OVERVIEW

According to the publication "Global HBI Market Research Report (Status and Outlook)" by Maia Research, the total market size for HBI is predicted to increase from $US2,009M to $US4,334M over the period of 2017 to 2028. Total sales are estimated to increase from 8,160Ktpa to 13,612Ktpa during the same period. The report also indicates that the current average selling price for HBI by major manufacturers ranges between $US375 and $415 per tonne.

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# STRENGTHENED TEAM

Rohan Gleeson – Project Manager

Rohan dual-qualified Geologist and Mining Engineer with 14 years' industry experience working in Australia and Papua New Guinea. His experience has been in mining industry working on greenfields and mine development projects. He experienced with resource modelling and estimation as well as geotechnical analysis and modelling. He has extensive experience in the Approvals process and enjoy the challenge of a Mine Start-up

Rohan is a member of the Australian Institute of Mining and Metallurgy, the Society of Economic Geologists and the Australian Institute of Company Directors.

# STRENGTHENED TEAM

## Steven Russo –Non-Exective Director

Steven brings more than 25 years of experience providing us with audit, risk, and technical advisory services, including independent accountant and expert reports.

He lectures for the Department of State Development on financial modelling specific to NDIS providers and NFP organisations.

Steven has presented and Chaired many professional development sessions for the ICAA, IPA and the Law Society on various topics surrounding Self Managed Superannuation Funds (SMSFs), the Not-For-Profit (NFP) industry and statutory trust accounts.

The types of entities that Steven has provided extensive external audit and advisory services to include State Government, Parliament of South Australia, Australian subsidiaries of multinational companies, listed public companies, Semi-Government organisations, Registered Clubs, NFPs, Cooperatives and SMSFs.

## Dr John Parker – Non-Exective Director

John is a geologist, geophysicist and manager with extensive local and international experience and knowledge of the geology, mineral deposits and mineralizing systems in the Precambrian.

Dr Parker was formerly Chief Geologist with the mapping branch of the South Australian Geological Survey and responsible for the mapping and publication of geological maps throughout South Australia. In the late 1980's he initiated the first geological mapping GIS in Australia, a system that has subsequently been developed to become the global leading GIS, SARIG.

Dr Parker has spent the last 26 years in mineral exploration as Director and Principal Geologist for Geosurveys Australia Pty Ltd including 11 years as Managing Director of Lincoln Minerals Limited and Australian Graphite Pty Ltd.

He has made a major contribution to the identification and delineation of graphite, iron ore, copper, lead, zinc, nickel, gold and other mineral resources and prospects in South Australia and has an in-depth knowledge of the global iron ore and graphite industries. He is a JORC qualified Competent Person in iron, graphite, copper and base metals.

Dr Parker was a former Fulbright Post-Doctoral Fellow where he worked on Lake Superior-style banded iron formations at the Minnesota Geological Survey. He has worked internationally in Indonesia, Sri Lanka, Mauritius, Macedonia, Namibia, Algeria and Antarctica.

Mr Parker is a member of the Board's Audit and Risk Committee and Remuneration and Nomination Committee.


Mr. Max WU

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